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Technical Specification

**Universal Mobile Telecommunications System (UMTS);
UTRAN Iur interface Radio Network Subsystem
Application Part (RNSAP) signalling
(3GPP TS 25.423 version 5.12.0 Release 5)**

Reference

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Contents

Foreword

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1 Scope

The present document specifies the radio network layer signalling procedures of the control plane between RNCs in UTRAN, between RNC in UTRAN and BSS in GERAN Iu mode and between BSSs in GERAN Iu mode.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1]   3GPP TS 23.003: "Numbering, addressing and identification".

[2]   3GPP TS 25.413: "UTRAN Iu Interface RANAP Signalling".

[3]   3GPP TS 25.426: "UTRAN Iur and Iub Interface Data Transport & Transport Layer Signalling for DCH Data Streams".

[4]   3GPP TS 25.427: "UTRAN Iur and Iub Interface User Plane Protocols for DCH Data Streams".

[5]   3GPP TS 25.435: "UTRAN Iub interface User Plane Protocols for Common Transport Channel Data Streams".

[6]   3GPP TS 25.104: "UTRA (BS) FDD; Radio transmission and Reception".

[7]   3GPP TS 25.105: "UTRA (BS) TDD; Radio Transmission and Reception".

[8]   3GPP TS 25.211: "Physical Channels and Mapping of Transport Channels onto Physical Channels (FDD)".

[9]   3GPP TS 25.212: "Multiplexing and Channel Coding (FDD)".

[10]   3GPP TS 25.214: "Physical Layer Procedures (FDD)".

[11]   3GPP TS 25.215: "Physical Layer – Measurements (FDD)".

[12]   3GPP TS 25.221: "Physical Channels and Mapping of Transport Channels onto Physical Channels (TDD)".

[13]   3GPP TS 25.223: "Spreading and Modulation (TDD)".

[14]   3GPP TS 25.225: "Physical Layer – Measurements (TDD)".

[15]   3GPP TS 25.304: "UE Procedures in Idle Mode"

[16]   3GPP TS 25.331: "RRC Protocol Specification".

[17]   3GPP TS 25.402: "Synchronisation in UTRAN, Stage 2".

[18]   ITU-T Recommendation X.680 (12/97): "Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation".

[19]   ITU-T Recommendation X.681 (12/97): "Information technology - Abstract Syntax Notation One (ASN.1): Information object specification".

[20]   ITU-T Recommendation X.691 (12/97): "Information technology - ASN.1 encoding rules - Specification of Packed Encoding Rules (PER)".

[21]   3GPP TS 25.213: "Spreading and modulation (FDD)".

[22]   3GPP TS 25.224: "Physical Layer Procedures (TDD)".

[23]   3GPP TS 25.133: "Requirements for support of Radio Resource management (FDD)".

[24]   3GPP TS 25.123: "Requirements for support of Radio Resource management (TDD)".

[25]   3GPP TS 23.032: "Universal Graphical Area Description (GAD)".

[26]   3GPP TS 25.302: "Services Provided by the Physical Layer".

[27]   3GPP TS 25.213: "Spreading and modulation (FDD)".

[28]   3GPP TR 25.921: "Guidelines and Principles for Protocol Description and Error Handling".

[29]   GSM TS 05.05: "Digital cellular telecommunications system (Phase 2+); Radio transmission and reception".

[30]   ICD-GPS-200: "Navstar GPS Space Segment/Navigation User Interface".

[31]   RTCM-SC104: "RTCM Recommended Standards for Differential GNSS Service (v.2.2)".

[32]   3GPP TS 25.425: "UTRAN Iur and Iub Interface User Plane Protocols for Common Transport Channel data streams ".

[33]   IETF RFC 2460 "Internet Protocol, Version 6 (IPv6) Specification".

[34]   IETF RFC 768 "User Datagram Protocol", (8/1980)

[35]   3GPP TS 25.424: " UTRAN Iur Interface Data Transport & Transport Signalling for Common Transport Channel Data Streams ".

[36]   3GPP TS 44.118: "Mobile radio interface layer 3 specification; Radio Resource Control (RRC) Protocol Iu mode".

[37]   3GPP TR 43.930: "Iur-g interface; Stage 2".

[38]   3GPP TS 48.008: "Mobile-services Switching Centre - Base Station System (MSC - BSS) interface; Layer 3 specification".

[39]   3GPP TS 43.051: "GSM/EGDE Radio Access Network; Overall description - Stage 2".

[40]   3GPP TS 25.401: "UTRAN Overall Description".

[41]   3GPP TS 25.321: "MAC protocol specification".

[42]   3GPP TS 25.306: "UE Radio Access capabilities".

[43]   3GPP TS 25.101: " User Equipment (UE) radio transmission and reception (FDD)".

[44]   IETF RFC 2474 "Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers".

[45]   IETF RFC 2475 "An Architecture for Differentiated Services".

[46]   3GPP TS 25.222: "Multiplexing and Channel Coding (TDD)".

3　　Definitions, Symbols and Abbreviations

3.1　　Definitions

For the purposes of the present document, the following terms and definitions apply:

Elementary Procedure: RNSAP protocol consists of Elementary Procedures (EPs). An Elementary Procedure is a unit of interaction between two RNCs. An EP consists of an initiating message and possibly a response message. Two kinds of EPs are used:

- **Class 1:** Elementary Procedures with response (success or failure);

- **Class 2:** Elementary Procedures without response.

For Class 1 EPs, the types of responses can be as follows:

Successful

- A signalling message explicitly indicates that the elementary procedure has been successfully completed with the receipt of the response.

Unsuccessful

- A signalling message explicitly indicates that the EP failed.

Class 2 EPs are considered always successful.

Prepared Reconfiguration: A Prepared Reconfiguration exists when the Synchronised Radio Link Reconfiguration Preparation procedure has been completed successfully. The Prepared Reconfiguration does not exist any more after either of the procedures Synchronised Radio Link Reconfiguration Commit or Synchronised Radio Link Reconfiguration Cancellation has been completed.

UE Context: The UE Context contains the necessary information for the DRNC/DBSS to communicate with a specific UE. The UE Context is created by the Radio Link Setup procedure or by the Uplink Signalling Transfer procedure when the UE makes its first access in a cell controlled by the DRNS/DBSS. The UE Context is deleted by the Radio Link Deletion procedure, by the Common Transport Channel Resources Release procedure, or by the Downlink Signalling Transfer procedure when neither any Radio Links nor any common transport channels are established towards the concerned UE. The UE Context is identified by the SCCP Connection for messages using connection oriented mode of the signalling bearer and the D-RNTI for messages using connectionless mode of the signalling bearer, unless specified otherwise in the procedure text.

Distant RNC Context: The Distant RNC context is created by the first Common Measurement Initiation Procedure or Information Exchange Initiation Procedure initiated by one RNC/BSS and requested from another RNC/BSS. The Distant RNC Context is deleted after the Common Measurement Termination, the Common Measurement Failure, the Information Exchange Termination or the Information Exchange Failure procedure when there is no more Common Measurement and no more Information to be provided by the requested RNC/BSS to the requesting RNC/BSS. The Distant RNC Context is identified by an SCCP connection as, for common measurements and information exchange, only the connection oriented mode of the signalling bearer is used.

Signalling radio bearer 2: The signalling radio bearer 2 is used by the UE to access a GERAN cell in order to perform RRC procedures [36].

3.2　　Symbols

Void.

3.3　　Abbreviations

For the purposes of the present document, the following abbreviations apply:

A-GPS　　　　　Assisted-GPS

ALCAP	Access Link Control Application Part
ASN.1	Abstract Syntax Notation One
BER	Bit Error Rate
BLER	Block Error Rate
BSS	Base Station Subsystem
CBSS	Controlling BSS
CCCH	Common Control Channel
CCPCH	Common Control Physical Channel
CCTrCH	Coded Composite Transport Channel
CFN	Connection Frame Number
C-ID	Cell Identifier
CM	Compressed Mode
CN	Core Network
CPCH	Common Packet Channel
CPICH	Common Pilot Channel
CRNC	Controlling RNC
DBSS	Drift BSS
C-RNTI	Cell Radio Network Temporary Identifier
CS	Circuit Switched
CTFC	Calculated Transport Format Combination DCH Dedicated Channel
DGPS	Differential GPS
DL	Downlink
DPC	Downlink Power Control
DPCCH	Dedicated Physical Control Channel
DPCH	Dedicated Physical Channel
DPDCH	Dedicated Physical Data Channel
DRAC	Dynamic Radio Access Control
DRNC	Drift RNC
DRNS	Drift RNS
D-RNTI	Drift Radio Network Temporary Identifier
DRX	Discontinuous Reception
DSCH	Downlink Shared Channel
Ec	Energy in single Code
EDSCHPC	Enhanced Downlink Shared Channel Power Control
EP	Elementary Procedure
FACH	Forward Access Channel
FDD	Frequency Division Duplex
FN	Frame Number
FP	Frame Protocol
GERAN	GSM EDGE Radio Access Network
GA	Geographical Area
GAI	Geographical Area Identifier
GPS	Global Positioning System
GRA	GERAN Registration Area
GSM	Global System Mobile
HSDPA	High Speed Downlink Packet Access
HW	Hardware
IB	Information Block
ID	Identity or Identifier
IE	Information Element
IMSI	International Mobile Subscriber Identity
IP	Internet Protocol
IPDL	Idle Period DownLink
ISCP	Interference Signal Code Power
LAC	Location Area Code
LCR	Low Chip Rate (1.28 Mcps)
LCS	Location Services
MAC	Medium Access Control
MS	Mobile Station
NAS	Non Access Stratum
No	Reference Noise
NRT	Non Real Time

O&M	Operation and Maintenance
P(-)CCPCH	Primary CCPCH
PCH	Paging Channel
OTD	Observed Time Difference
P(-)CPICH	Primary CPICH
PCPCH	Physical Common Packet Channel
PCS	Personal Communication Services
PDSCH	Physical Downlink Shared Channel
PDU	Protocol Data Unit
PhCH	Physical Channel
PICH	Paging Indication Channel
Pos	Position or Positioning
PRACH	Physical Random Access Channel
PS	Packet Switched
QE	Quality Estimate
RAC	Routing Area Code
RACH	Random Access Channel
RAN	Radio Access Network
RANAP	Radio Access Network Application Part
RB	Radio Bearer
RL	Radio Link
RLC	Radio Link Control
RLS	Radio Link Set
RM	Rate Matching
RNC	Radio Network Controller
RNS	Radio Network Subsystem
RNSAP	Radio Network Subsystem Application Part
RNTI	Radio Network Temporary Identifier
RRC	Radio Resource Control
RT	Real Time
RSCP	Received Signal Code Power
SBSS	Serving BSS
Rx	Receive or Reception
Sat	Satellite
SCCP	Signalling Connection Control Part
S(-)CCPCH	Secondary CCPCH
SCH	Synchronisation Channel
SCTD	Space Code Transmit Diversity
SDU	Service Data Unit
SF	System Frame
SFN	System Frame Number
SHCCH	Shared Control Channel
SIR	Signal-to-Interference Ratio
SNA	Shared Network Area
SRB2	Signalling radio bearer 2
SRNC	Serving RNC
SRNS	Serving RNS
S-RNTI	Serving Radio Network Temporary Identifier
SSDT	Site Selection Diversity Transmission
STTD	Space Time Transmit Diversity
TDD	Time Division Duplex
TF	Transport Format
TFCI	Transport Format Combination Indicator
TFCS	Transport Format Combination Set
TFS	Transport Format Set
TGCFN	Transmission Gap Connection Frame Number
ToAWE	Time of Arrival Window Endpoint
ToAWS	Time of Arrival Window Startpoint
TPC	Transmit Power Control
TrCH	Transport Channel
TS	Time Slot
TSG	Technical Specification Group

TSTD	Time Switched Transmit Diversity
TTI	Transmission Time Interval
TX	Transmit or Transmission
UARFCN	UTRA Absolute Radio Frequency Channel Number
UDP	User Datagram Protocol
UC-ID	UTRAN Cell Identifier
UE	User Equipment
UL	Uplink
UMTS	Universal Mobile Telecommunications System
URA	UTRAN Registration Area
U-RNTI	UTRAN Radio Network Temporary Identifier
USCH	Uplink Shared Channel
UTRA	Universal Terrestrial Radio Access
UTRAN	Universal Terrestrial Radio Access Network

4 General

4.1 Procedure Specification Principles

The principle for specifying the procedure logic is to specify the functional behaviour of the DRNC/CRNC exactly and completely. The SRNC functional behaviour is left unspecified. The Physical Channel Reconfiguration procedure and Reset procedure are an exception from this principle.

The following specification principles have been applied for the procedure text in subclause 8:

- The procedure text discriminates between:

    1) Functionality which "shall" be executed

    The procedure text indicates that the receiving node "shall" perform a certain function Y under a certain condition. If the receiving node supports procedure X but cannot perform functionality Y requested in the REQUEST message of a Class 1 EP, the receiving node shall respond with the message used to report unsuccessful outcome for this procedure, containing an appropriate cause value.

    2) Functionality which "shall, if supported" be executed

    The procedure text indicates that the receiving node "shall, if supported," perform a certain function Y under a certain condition. If the receiving node supports procedure X, but does not support functionality Y, the receiving node shall proceed with the execution of the EP, possibly informing the requesting node about the not supported functionality.

- Any required inclusion of an optional IE in a response message is explicitly indicated in the procedure text. If the procedure text does not explicitly indicate that an optional IE shall be included in a response message, the optional IE shall not be included. For requirements for including *Criticality Diagnostics* IE, see section 10. For examples on how to use the *Criticality Diagnostics* IE, see Annex C.

4.2 Forwards and Backwards Compatibility

The forwards and backwards compatibility of the protocol is assured by a mechanism in which all current and future messages, and IEs or groups of related IEs, include ID and criticality fields that are coded in a standard format that will not be changed in the future. These parts can always be decoded regardless of the standard version.

4.3 Source Signalling Address Handling

The sender of an RNSAP messages shall include the Source Signalling Address, i.e. the Signalling Address of the sending node.

4.4   Specification Notations

For the purposes of the present document, the following notations apply:

[FDD]   This tagging of a word indicates that the word preceding the tag "[FDD]" applies only to FDD. This tagging of a heading indicates that the heading preceding the tag "[FDD]" and the section following the heading applies only to FDD.

[TDD]   This tagging of a word indicates that the word preceding the tag "[TDD]" applies only to TDD, including 3.84Mcps TDD and 1.28Mcps TDD. This tagging of a heading indicates that the heading preceding the tag "[TDD]" and the section following the heading applies only to TDD, including 3.84Mcps TDD and 1.28Mcps TDD.

[3.84Mcps TDD] This tagging of a word indicates that the word preceding the tag "[3.84Mcps TDD]" applies only to 3.84Mcps TDD. This tagging of a heading indicates that the heading preceding the tag "[3.84Mcps TDD]" and the section following the heading applies only to 3.84Mcps TDD.

[1.28Mcps TDD] This tagging of a word indicates that the word preceding the tag "[1.28Mcps TDD]" applies only to 1.28Mcps TDD. This tagging of a heading indicates that the heading preceding the tag "[1.28Mcps TDD]" and the section following the heading applies only to 1.28Mcps TDD.

[FDD - …]   This tagging indicates that the enclosed text following the "[FDD - " applies only to FDD. Multiple sequential paragraphs applying only to FDD are enclosed separately to enable insertion of TDD specific (or common) paragraphs between the FDD specific paragraphs.

[TDD - …]   This tagging indicates that the enclosed text following the "[TDD - " applies only to TDD including 3.84Mcps TDD and 1.28Mcps TDD. Multiple sequential paragraphs applying only to TDD are enclosed separately to enable insertion of FDD specific (or common) paragraphs between the TDD specific paragraphs.

[3.84Mcps TDD - …]   This tagging indicates that the enclosed text following the "[3.84Mcps TDD - " applies only to 3.84Mcps TDD. Multiple sequential paragraphs applying only to 3.84Mcps TDD are enclosed separately to enable insertion of FDD and TDD specific (or common) paragraphs between the 3.84Mcps TDD specific paragraphs.

[1.28Mcps TDD - …]   This tagging indicates that the enclosed text following the "[1.28Mcps TDD - " applies only to 1.28Mcps TDD. Multiple sequential paragraphs applying only to 1.28Mcps TDD are enclosed separately to enable insertion of FDD and TDD specific (or common) paragraphs between the 1.28Mcps TDD specific paragraphs.

Procedure   When referring to an elementary procedure in the specification, the Procedure Name is written with the first letters in each word in upper case characters followed by the word "procedure", e.g. Radio Link Setup procedure.

Message   When referring to a message in the specification, the MESSAGE NAME is written with all letters in upper case characters followed by the word "message", e.g. RADIO LINK SETUP REQUEST message.

IE   When referring to an information element (IE) in the specification, the *Information Element Name* is written with the first letters in each word in upper case characters and all letters in Italic font followed by the abbreviation "IE", e.g. *Transport Format Set* IE.

Value of an IE   When referring to the value of an information element (IE) in the specification, the "Value" is written as it is specified in subclause 9.2 enclosed by quotation marks, e.g. "Abstract Syntax Error (Reject)" or "SSDT Active in the UE".

5 RNSAP Services

5.1 RNSAP Procedure Modules

The Iur interface RNSAP procedures are divided into four modules as follows:

1. RNSAP Basic Mobility Procedures;

2. RNSAP DCH Procedures;

3. RNSAP Common Transport Channel Procedures;

4. RNSAP Global Procedures.

The Basic Mobility Procedures module contains procedures used to handle the mobility within UTRAN, within GERAN and between UTRAN and GERAN.

The DCH Procedures module contains procedures that are used to handle DCHs, DSCHs, and USCHs between two RNSs. If procedures from this module are not used in a specific Iur, then the usage of DCH, DSCH, and USCH traffic between corresponding RNSs is not possible.

The Common Transport Channel Procedures module contains procedures that are used to control common transport channel data streams (excluding the DSCH and USCH) over Iur interface.

The Global Procedures module contains procedures that are not related to a specific UE. The procedures in this module are in contrast to the above modules involving two peer CRNCs/CBSSs.

5.2 Parallel Transactions

Unless explicitly indicated in the procedure specification, at any instance in time one protocol peer shall have a maximum of one ongoing RNSAP DCH procedure related to a certain UE.

6 Services Expected from Signalling Transport

The signalling transport shall provide two different service modes for the RNSAP.

1. Connection oriented data transfer service. This service is supported by a signalling connection between two RNCs. It shall be possible to dynamically establish and release signalling connections based on the need. Each active UE shall have its own signalling connection. The signalling connection shall provide in sequence delivery of RNSAP messages. RNSAP shall be notified if the signalling connection breaks.

2. Connectionless data transfer service. RNSAP shall be notified in case a RNSAP message did not reach the intended peer RNSAP entity.

7 Functions of RNSAP

The RNSAP protocol provides the following functions:

- Radio Link Management. This function allows the SRNC to manage radio links using dedicated resources in a DRNS;

- Physical Channel Reconfiguration. This function allows the DRNC to reallocate the physical channel resources for a Radio Link;

- Radio Link Supervision. This function allows the DRNC to report failures and restorations of a Radio Link;

- Compressed Mode Control [FDD]. This function allows the SRNC to control the usage of compressed mode within a DRNS;

- Measurements on Dedicated Resources. This function allows the SRNC to initiate measurements on dedicated resources in the DRNS. The function also allows the DRNC to report the result of the measurements;

- DL Power Drifting Correction [FDD]. This function allows the SRNC to adjust the DL power level of one or more Radio Links in order to avoid DL power drifting between the Radio Links;

- DCH Rate Control. This function allows the DRNC to limit the rate of each DCH configured for the Radio Link(s) of a UE in order to avoid congestion situations in a cell;

- CCCH Signalling Transfer. This function allows the SRNC and DRNC to pass information between the UE and the SRNC on a CCCH controlled by the DRNS;

- GERAN Signalling Transfer. This function allows the SBSS and DBSS, the SRNC and DBSS or the SBSS and DRNC to pass information between the UE/MS and the SRNC/SBSS on an SRB2/CCCH controlled by the DBSS/DRNC;

- Paging. This function allows the SRNC/SBSS to page a UE in a URA/GRA or a cell in the DRNS;

- Common Transport Channel Resources Management. This function allows the SRNC to utilise Common Transport Channel Resources within the DRNS (excluding DSCH resources for FDD);

- Relocation Execution. This function allows the SRNC/SBSS to finalise a Relocation previously prepared via other interfaces;

- Reporting of General Error Situations. This function allows reporting of general error situations, for which function specific error messages have not been defined.

- DL Power Timeslot Correction [TDD]. This function enables the DRNS to apply an individual offset to the transmission power in each timeslot according to the downlink interference level at the UE.

- Measurements on Common Resources. This function allows an RNC/BSS to request from another RNC/BSS to initiate measurements on Common Resources. The function also allows the requested RNC/BSS to report the result of the measurements.

- Information Exchange. This function allows an RNC to request from another RNC the transfer of information. The function also allows the requested RNC to report the requested information.

- Resetting the Iur. This function is used to completely or partly reset the Iur interface.

The mapping between the above functions and RNSAP elementary procedures is shown in the Table 1.

Table 1: Mapping between functions and RNSAP elementary procedures

Function	Elementary Procedure(s)
Radio Link Management	a) Radio Link Setup b) Radio Link Addition c) Radio Link Deletion d) Unsynchronised Radio Link Reconfiguration e) Synchronised Radio Link Reconfiguration Preparation f) Synchronised Radio Link Reconfiguration Commit g) Synchronised Radio Link Reconfiguration Cancellation h) Radio Link Pre-emptioni) Radio Link Activation j) Radio Link Parameter Update
Physical Channel Reconfiguration	Physical Channel Reconfiguration
Radio Link Supervision	a) Radio Link Failure b) Radio Link Restoration
Compressed Mode Control [FDD]	a) Radio Link Setup b) Radio Link Addition c) Compressed Mode Command d) Unsynchronised Radio Link Reconfiguration e) Synchronised Radio Link Reconfiguration Preparation f) Synchronised Radio Link Reconfiguration Commit g) Synchronised Radio Link Reconfiguration Cancellation
Measurements on Dedicated Resources	a) Dedicated Measurement Initiation b) Dedicated Measurement Reporting c) Dedicated Measurement Termination d) Dedicated Measurement Failure
DL Power Drifting Correction [FDD]	Downlink Power Control
DCH Rate Control	a) Radio Link Setup b) Radio Link Addition c) Unsynchronised Radio Link Reconfiguration d) Synchronised Radio Link Reconfiguration Preparation e) Radio Link Congestion
CCCH Signalling Transfer	a) Uplink Signalling Transfer b) Downlink Signalling Transfer
GERAN Signalling Transfer	a) GERAN Uplink Signalling Transfer b) Downlink Signalling Transfer
Paging	Paging
Common Transport Channel Resources Management	a) Common Transport Channel Resources Initiation b) Common Transport Channel Resources Release
Relocation Execution	Relocation Commit
Reporting of General Error Situations	Error Indication
Measurements on Common Resources	a) Common Measurement Initiation b) Common Measurement Reporting c) Common Measurement Termination d) Common Measurement Failure
Information Exchange	a) Information Exchange Initiation b) Information Reporting c) Information Exchange Termination d) Information Exchange Failure
DL Power Timeslot Correction [TDD]	Downlink Power Timeslot Control
Reset	Reset

7.1 RNSAP functions and elementary procedures for Iur-g.

The functions and RNSAP elementary procedures, which are applicable on the Iur-g interface are shown in the Table 1A.

Table 1A: RNSAP elementary procedures applicable on the Iur-g interface

Function	Elementary Procedure(s)
GERAN Signalling Transfer	a) GERAN Uplink Signalling Transfer b) Downlink Signalling Transfer
Paging	Paging
Relocation Execution	Relocation Commit
Reporting of General Error Situations	Error Indication
Measurements on Common Resources	a) Common Measurement Initiation b) Common Measurement Reporting c) Common Measurement Termination d) Common Measurement Failure
Information Exchange	a) Information Exchange Initiation b) Information Reporting c) Information Exchange Termination d) Information Exchange Failure

Note: In the connection with the functions related to the GERAN and UTRAN, the term RNC shall refer to RNC/BSS.

8 RNSAP Procedures

8.1 Elementary Procedures

In the following tables, all EPs are divided into Class 1 and Class 2 EPs.

Table 2: Class 1 Elementary Procedures

Elementary Procedure	Initiating Message	Successful Outcome	Unsuccessful Outcome
		Response message	Response message
Radio Link Setup	RADIO LINK SETUP REQUEST	RADIO LINK SETUP RESPONSE	RADIO LINK SETUP FAILURE
Radio Link Addition	RADIO LINK ADDITION REQUEST	RADIO LINK ADDITION RESPONSE	RADIO LINK ADDITION FAILURE
Radio Link Deletion	RADIO LINK DELETION REQUEST	RADIO LINK DELETION RESPONSE	
Synchronised Radio Link Reconfiguration Preparation	RADIO LINK RECONFIGURATION PREPARE	RADIO LINK RECONFIGURATION READY	RADIO LINK RECONFIGURATION FAILURE
Unsynchronised Radio Link Reconfiguration	RADIO LINK RECONFIGURATION REQUEST	RADIO LINK RECONFIGURATION RESPONSE	RADIO LINK RECONFIGURATION FAILURE
Physical Channel Reconfiguration	PHYSICAL CHANNEL RECONFIGURATION REQUEST	PHYSICAL CHANNEL RECONFIGURATION COMMAND	PHYSICAL CHANNEL RECONFIGURATION FAILURE
Dedicated Measurement Initiation	DEDICATED MEASUREMENT INITIATION REQUEST	DEDICATED MEASUREMENT INITIATION RESPONSE	DEDICATED MEASUREMENT INITIATION FAILURE
Common Transport Channel Resources Initialisation	COMMON TRANSPORT CHANNEL RESOURCES REQUEST	COMMON TRANSPORT CHANNEL RESOURCES RESPONSE	COMMON TRANSPORT CHANNEL RESOURCES FAILURE
Common Measurement Initiation	COMMON MEASUREMENT INITIATION REQUEST	COMMON MEASUREMENT INITIATION RESPONSE	COMMON MEASUREMENT INITIATION FAILURE
Information Exchange Initiation	INFORMATION EXCHANGE INITIATION REQUEST	INFORMATION EXCHANGE INITIATION RESPONSE	INFORMATION EXCHANGE INITIATION FAILURE
Reset	RESET REQUEST	RESET RESPONSE	

Table 3: Class 2 Elementary Procedures

Elementary Procedure	Initiating Message
Uplink Signalling Transfer	UPLINK SIGNALLING TRANSFER INDICATION
GERAN Uplink Signalling Transfer	GERAN UPLINK SIGNALLING TRANSFER INDICATION
Downlink Signalling Transfer	DOWNLINK SIGNALLING TRANSFER REQUEST
Relocation Commit	RELOCATION COMMIT
Paging	PAGING REQUEST
Synchronised Radio Link Reconfiguration Commit	RADIO LINK RECONFIGURATION COMMIT
Synchronised Radio Link Reconfiguration Cancellation	RADIO LINK RECONFIGURATION CANCEL
Radio Link Failure	RADIO LINK FAILURE INDICATION
Radio Link Restoration	RADIO LINK RESTORE INDICATION
Dedicated Measurement Reporting	DEDICATED MEASUREMENT REPORT
Dedicated Measurement Termination	DEDICATED MEASUREMENT TERMINATION REQUEST
Dedicated Measurement Failure	DEDICATED MEASUREMENT FAILURE INDICATION
Downlink Power Control [FDD]	DL POWER CONTROL REQUEST
Compressed Mode Command [FDD]	COMPRESSED MODE COMMAND
Common Transport Channel Resources Release	COMMON TRANSPORT CHANNEL RESOURCES RELEASE REQUEST
Error Indication	ERROR INDICATION
Downlink Power Timeslot Control [TDD]	DL POWER TIMESLOT CONTROL REQUEST
Radio Link Pre-emption	RADIO LINK PREEMPTION REQUIRED INDICATION
Radio Link Congestion	RADIO LINK CONGESTION INDICATION
Common Measurement Reporting	COMMON MEASUREMENT REPORT
Common Measurement Termination	COMMON MEASUREMENT TERMINATION REQUEST
Common Measurement Failure	COMMON MEASUREMENT FAILURE INDICATION
Information Reporting	INFORMATION REPORT
Information Exchange Termination	INFORMATION EXCHANGE TERMINATION REQUEST
Information Exchange Failure	INFORMATION EXCHANGE FAILURE INDICATION
Radio Link Parameter Update	RADIO LINK PARAMETER UPDATE INDICATION

8.2 Basic Mobility Procedures

8.2.1 Uplink Signalling Transfer

8.2.1.1 General

The procedure is used by the DRNC to forward a Uu message received on the CCCH to the SRNC.

This procedure shall use the connectionless mode of the signalling bearer.

8.2.1.2 Successful Operation
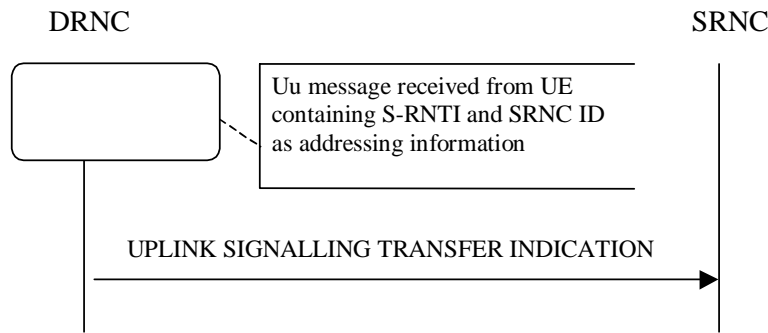
Figure 1: Uplink Signalling Transfer procedure, Successful Operation

When the DRNC receives an Uu message on the CCCH in which the UE addressing information is U-RNTI, i.e. S-RNTI and SRNC-ID, DRNC shall send the UPLINK SIGNALLING TRANSFER INDICATION message to the SRNC identified by the SRNC-ID received from the UE.

If at least one URA Identity is being broadcast in the cell where the Uu message was received (the accessed cell), the DRNC shall include a URA Identity for this cell in the *URA ID* IE, the *Multiple URAs Indicator* IE indicating whether or not multiple URA Identities are being broadcast in the accessed cell, and the RNC Identity of all other RNCs that are having at least one cell within the URA where the Uu message was received in the *URA Information* IE in the UPLINK SIGNALLING TRANSFER INDICATION message.

The DRNC shall include in the message the C-RNTI that it allocates to identify the UE in the radio interface in the accessed cell. If there is no valid C-RNTI for the UE in the accessed cell, the DRNS shall allocate a new C-RNTI for the UE. If the DRNS allocates a new C-RNTI it shall also release any C-RNTI previously allocated for the UE.

If the DRNS has any RACH, [FDD - CPCH], and/or FACH resources allocated for the UE identified by the U-RNTI in another cell than the accessed cell in which the Mac SDU sizes, flow control settings (including credits) and/or transport bearer are different from those in the old cell, then the DRNS shall not include the *Common Transport Channel Resources Initialisation Not Required* IE in the UPLINK SIGNALLING TRANSFER INDICATION message. In addition the DRNS shall release these RACH, [FDD - CPCH,] and/or FACH resources in old cell.

If the DRNS has any RACH, [FDD - CPCH], and/or FACH resources allocated for the UE identified by the U-RNTI in another cell than the accessed cell in which the Mac SDU sizes, flow control settings (including credits) and transport bearer are the same as in the old cell, there is no need for Common Transport Channel Resources Initialisation to be initiated. In that case, DRNC may include the *Common Transport Channel Resources Initialisation Not Required* IE in the UPLINK SIGNALLING TRANSFER INDICATION message. In addition, the DRNS shall move these RACH, [FDD - CPCH,] and/or FACH resources to the new cell. If no Common Transfer Channel Resources Initialisation procedure is executed, the currently applicable Mac SDU sizes, flow control settings (including credits) and transport bearer shall continue to be used while the UE is in the new cell.

If no context exists for this UE in the DRNC, the DRNC shall create a UE Context for this UE, allocate a D-RNTI for the UE Context, and include the *D-RNTI* IE and the identifiers for the CN CS Domain and CN PS Domain that the DRNC is connected to in the UPLINK SIGNALLING TRANSFER INDICATION message. These CN Domain Identifiers shall be based on the LAC and RAC respectively of the cell where the message was received from the UE.

Depending on local configuration in the DRNS, it may include the geographical co-ordinates of the cell, represented either by the *Cell GAI* IE or by the *Cell GA Additional Shapes* IE, in which the Uu message was received in the UPLINK SIGNALLING TRANSFER INDICATION message. If the DRNC includes the *Cell GA Additional Shapes* IE in the UPLINK SIGNALLING TRANSFER INDICATION message, it shall also include the *Cell GAI* IE.

[FDD - The DRNC shall include the *DPC Mode Change Support Indicator* IE in the UPLINK SIGNALLING TRANSFER INDICATION message if the accessed cell supports DPC mode change.]

The DRNC shall include [FDD - the *Cell Capability Container FDD* IE] [3.84Mcps TDD - the *Cell Capability Container TDD* IE] [1.28Mcps TDD - the *Cell Capability Container TDD LCR* IE] in the UPLINK SIGNALLING TRANSFER INDICATION message if the accessed cell supports any functionalities listed in [FDD - 9.2.2.D] [3.84Mcps TDD - 9.2.3.1a] [1.28Mcps TDD - 9.2.3.1b].

If available, the DRNC shall include the *SNA Information* IE for the concerned cell.

When receiving the *SNA Information* IE, the SRNC should use it to restrict cell access based on SNA information. See also [40] for a broader description of the SNA access control.

8.2.1.3   Abnormal Conditions

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8.2.1A   GERAN Uplink Signalling Transfer

8.2.1A.1   General

The procedure is used by the DBSS to forward an Um message received on the SRB2 to the SBSS/SRNC. The procedure is also used by the DRNC to forward a Uu message received on the CCCH to the SBSS.

This procedure shall use the connectionless mode of the signalling bearer.

8.2.1A.2   Successful Operation
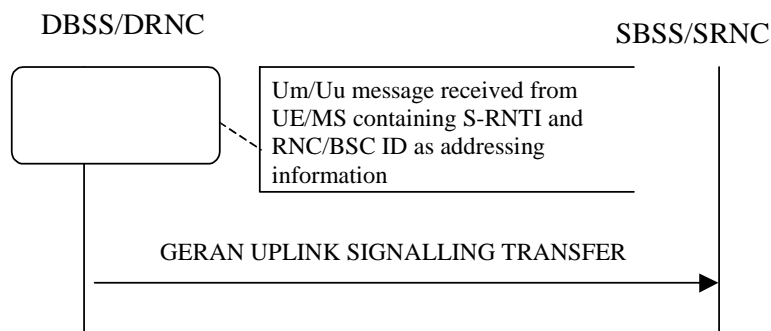
Figure 1A: GERAN Uplink Signalling Transfer procedure, Successful Operation

When the DBSS receives an Um message on the SRB2 in which the MS addressing information is G-RNTI, i.e. S-RNTI and BSC-ID, DBSS shall send the GERAN UPLINK SIGNALLING TRANSFER INDICATION message to the SBSS/SRNC identified by the BSC-ID received from the MS.

Alternatively, when the DRNC receives an Uu message on the CCCH in which the UE addressing information is U-RNTI, i.e. S-RNTI and SRNC-ID, and in which the SRNC-ID points to a GERAN BSS, the DRNC shall send the GERAN UPLINK SIGNALLING TRANSFER INDICATION message to the SBSS identified by SRNC-ID received from the UE.

If at least one GRA/URA Identity is being broadcast in the cell where the Um/Uu message was received (the accessed cell), the DBSS/DRNC shall include a GRA/URA Identity for this cell in the *URA ID* IE, the *Multiple URAs Indicator* IE indicating whether or not multiple GRA/URA Identities are being broadcast in the accessed cell, and the RNC/BSS Identity of all other RNC/BSSs that are having at least one cell within the GRA/URA where the Um/Uu message was received in the *URA Information* IE in the GERAN UPLINK SIGNALLING TRANSFER INDICATION message.

If no context exists for this UE/MS in the DBSS/DRNC, the DBSS/DRNC shall create a UE Context for this UE/MS, allocate a D-RNTI for the UE Context, and include the *D-RNTI* IE and the identifiers for the CN CS Domain and CN PS Domain that the DBSS/DRNC is connected to in the GERAN UPLINK SIGNALLING TRANSFER INDICATION message. These CN Domain Identifiers shall be based on the LAC and RAC respectively of the cell where the message was received from the UE/MS.

8.2.1A.3   Abnormal Conditions

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8.2.2 Downlink Signalling Transfer

8.2.2.1 General

The procedure is used by the SRNC to request to the DRNC the transfer of a Uu message on the CCCH in a cell. When used, the procedure is in response to a received Uplink Signalling Transfer procedure.

This procedure shall use the connectionless mode of the signalling bearer.

8.2.2.1.1 Downlink Signalling Transfer for Iur-g

The procedure is used by the SRNC/SBSS to request to the DBSS the transfer of an Um message on the SRB2 in a cell.

The procedure is used by the SBSS to request to the DRNC the transfer of a Uu message on the CCCH in a cell.

8.2.2.2 Successful Operation

Figure 2: Downlink Signalling Transfer procedure, Successful Operation

The procedure consists of the DOWNLINK SIGNALLING TRANSFER REQUEST message sent by the SRNC to the DRNC.

The message contains the Cell Identifier (C-ID) contained in the received UPLINK SIGNALLING TRANSFER INDICATION message and the D-RNTI.

Upon receipt of the message, the DRNC shall send the L3 Information on the CCCH in the cell indicated by the *C-ID* IE to the UE identified by the *D-RNTI* IE.

If the *D-RNTI Release Indication* IE is set to "Release D-RNTI" and the DRNS has no dedicated resources (DCH, [TDD - USCH,] and/or DSCH) allocated for the UE, the DRNS shall release the D-RNTI, the UE Context and any RACH, [FDD - CPCH,] and FACH resources and any C-RNTI allocated to the UE Context upon receipt of the DOWNLINK SIGNALLING TRANSFER REQUEST message.

If the *D-RNTI Release Indication* IE is set to "Release D-RNTI" and the DRNS has dedicated resources allocated for the UE, the DRNS shall only release any RACH, [FDD - CPCH,] and FACH resources and any C-RNTI allocated to the UE Context upon receipt of the DOWNLINK SIGNALLING TRANSFER REQUEST message.

8.2.2.2.1 Successful Operation for Iur-g

The procedure consists of the DOWNLINK SIGNALLING TRANSFER REQUEST message sent by the SRNC/SBSS to the DBSS or by the SBSS to the DRNC.

The message contains the Cell Identifier (C-*ID*) contained in the received UPLINK SIGNALLING TRANSFER INDICATION message and the D-RNTI.

Upon receipt of the message, the DBSS shall send the L3 Information on the SRB2 in the cell indicated by the *C-ID* IE to the UE/MS identified by the *D-RNTI* IE.

Upon receipt of the message, the DRNC shall send the L3 Information on the CCCH in the cell indicated by the *C-ID* IE to the UE/MS identified by the *D-RNTI* IE.

8.2.2.3 Abnormal Conditions

If the user identified by the *D-RNTI* IE has already accessed another cell controlled by the DRNC than the cell identified by the *C-ID* IE in the DOWNLINK SIGNALLING TRANSFER REQUEST message, the message shall be ignored.

8.2.2.3.1 Abnormal Conditions for Iur-g

If the user identified by the *D-RNTI* IE has already accessed another cell controlled by the DRNC/DBSS than the cell identified by the *C-ID* IE in the DOWNLINK SIGNALLING TRANSFER REQUEST message, the message shall be ignored.

If the DRNC receives from the SBSS the DOWNLINK SIGNALLING TRANSFER REQUEST message, in which the *D-RNTI Release Indication* IE is set to "not Release D-RNTI", the DRNC shall ignore this IE and release the D-RNTI.

If the DBSS receives from the SBSS/SRNC the DOWNLINK SIGNALLING TRANSFER REQUEST message, in which the *D-RNTI Release Indication* IE is set to "not Release D-RNTI", the DBSS shall ignore this IE and release the D-RNTI.

8.2.3 Relocation Commit

8.2.3.1 General

The Relocation Commit procedure is used by source RNC to execute the Relocation. This procedure supports the Relocation procedures described in [2].

This procedure shall use the signalling bearer mode specified below.

8.2.3.2 Successful Operation

Figure 3: Relocation Commit procedure, Successful Operation

The source RNC sends the RELOCATION COMMIT message to the target RNC to request the target RNC to proceed with the Relocation. When the UE is utilising one or more radio links in the DRNC the message shall be sent using the connection oriented service of the signalling bearer and no further identification of the UE Context in the DRNC is required. If on the other hand, the UE is not utilising any radio link the message shall be sent using the connectionless service of the signalling bearer and the *D-RNTI* IE shall be included in the message to identify the UE Context in the DRNC.

Upon receipt of the RELOCATION COMMIT message from the source RNC the target RNC finalises the Relocation. If the message contains the transparent *RANAP Relocation Information* IE the target RNC shall use this information when finalising the Relocation.

8.2.3.2.1 Successful Operation for Iur-g

The source RNC/BSS sends the RELOCATION COMMIT message to the target RNC/BSS to request the target RNC/BSS to proceed with the Relocation.

The message shall be sent using the connectionless service of the signalling bearer and the *D-RNTI* IE shall be included in the message to identify the UE/MS context in the DBSS.

Upon receipt of the RELOCATION COMMIT message from the source RNC/BSS, the target RNC/BSS finalises the Relocation. If the message contains the transparent *RANAP Relocation Information* IE the target RNC/BSS shall use this information when finalising the Relocation.

8.2.3.3 Abnormal Conditions

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8.2.4 Paging

8.2.4.1 General

This procedure is used by the SRNC to indicate to a CRNC that a UE shall be paged in a cell or URA that is under the control of the CRNC.

This procedure shall use the connectionless mode of the signalling bearer.

8.2.4.2 Successful Operation

Figure 4: Paging procedure, Successful Operation

The procedure is initiated with a PAGING REQUEST message sent from the SRNC to the CRNC.

If the message contains the *C-ID* IE, the CRNC shall page in the indicated cell. Alternatively, if the message contains the *URA-ID* IE, the CRNC shall page in all cells that it controls in the indicated URA.

If the PAGING REQUEST message includes the *CN Originated Page to Connected Mode UE* IE, the CRNC shall include the information contained in the *CN Originated Page to Connected Mode UE* IE when paging the UE.

The CRNC shall calculate the Paging Occasions from the *IMSI* IE and the *DRX Cycle Length Coefficient* IE according to specification in ref. [15] and apply transmission on PICH and PCH accordingly.

8.2.4.2.1 Successful Operation for Iur-g

The procedure is initiated with a PAGING REQUEST message sent from the SBSS to the CRNC/CBSS or from the SRNC to the CBSS.

If the message contains the *URA-ID* IE, the CRNC/CBSS shall page in all cells that it controls in the indicated URA/GRA.

If the PAGING REQUEST message includes the *CN Originated Page to Connected Mode UE* IE, the CRNC/CBSS shall include the information contained in the *CN Originated Page to Connected Mode UE* IE when paging the UE.

The CBSS shall calculate the Paging Occasions from the *IMSI* IE and the *GERAN DRX Cycle Length Coefficient* IE according to specification in ref. [36] and apply transmission on PCCCH or PACCH accordingly.

8.2.4.3 Abnormal Conditions

8.2.4.3.1 Abnormal Conditions for Iur-g

If the DRNC receives a PAGING REQUEST message from the SBSS, which contains the *C-ID* IE, the message shall be ignored.

If the DBSS receives a PAGING REQUEST message from the SBSS/SRNC, which contains the *C-ID* IE, the message shall be ignored.

8.3 DCH Procedures

8.3.1 Radio Link Setup

8.3.1.1 General

This procedure is used for establishing the necessary resources in the DRNS for one or more radio links.

The connection-oriented service of the signalling bearer shall be established in conjunction with this procedure.

8.3.1.2 Successful Operation
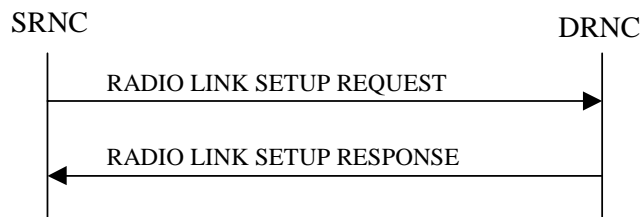
Figure 5: Radio Link Setup procedure: Successful Operation

When the SRNC makes an algorithmic decision to add the first cell or set of cells from a DRNS to the active set of a specific UE-UTRAN connection, the RADIO LINK SETUP REQUEST message is sent to the corresponding DRNC to request establishment of the radio link(s). The Radio Link Setup procedure is initiated with this RADIO LINK SETUP REQUEST message sent from the SRNC to the DRNC.

Upon receipt of the RADIO LINK SETUP REQUEST message, the DRNS shall reserve the necessary resources and configure the new RL(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

The DRNS shall prioritise resource allocation for the RL(s) to be established according to Annex A.

If the RADIO LINK SETUP REQUEST message includes the *Allowed Queuing Time* IE the DRNS may queue the request for a time period not to exceed the value of the *Allowed Queuing Time* IE before starting to execute the request.

Transport Channels Handling:

> **DCH(s):**
>
> [TDD - If the *DCH Information* IE is present in the RADIO LINK SETUP REQUEST message, the DRNS shall configure the new DCHs according to the parameters given in the message.]
>
> If the RADIO LINK SETUP REQUEST message includes a *DCH Information* IE with multiple *DCH Specific Info* IEs, then the DRNS shall treat the DCHs in the *DCH Information* IE as a set of co-ordinated DCHs.
>
> If the *DCH Specific Info* IE includes the *Unidirectional DCH Indicator* IE set to "Uplink DCH only', the DRNS shall ignore the *Transport Format Set* IE for the downlink for this DCH. As a consequence this DCH is not included as a part of the downlink CCTrCH.
>
> [TDD - If the *DCH Specific Info* IE includes the *Unidirectional DCH Indicator* IE set to "Downlink DCH only', the DRNS shall ignore the *Transport Format Set* IE for the uplink for this DCH. As a consequence this DCH is not included as a part of the uplink CCTrCH.]
>
> [FDD - For each DCH which do not belong to a set of co-ordinated DCHs, and which includes a *QE-Selector* IE set to "selected", the DRNS shall use the Transport channel BER from that DCH for the QE in the UL data frames. If no Transport channel BER is available for the selected DCH, the DRNS shall use the Physical channel BER for the QE, ref. [4]. If the *QE-Selector* IE is set to "non-selected", the DRNS shall use the Physical channel BER for the QE in the UL data frames, ref. [4].]

For a set of co-ordinated DCHs, the DRNS shall use the Transport channel BER from the DCH with the *QE-Selector* IE set to "selected" for the QE in the UL data frames, ref. [4]. [FDD - If no Transport channel BER is available for the selected DCH, the DRNS shall use the Physical channel BER for the QE, ref. [4]. If all DCHs have *QE-Selector* IE set to "non-selected", the DRNS shall use the Physical channel BER for the QE, ref. [4].] [TDD - If no Transport channel BER is available for the selected DCH, the DRNS shall use 0 for the QE, ref. [4].]

The DRNS shall use the included *UL DCH FP Mode* IE for a DCH or a set of co-ordinated DCHs as the DCH FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs.

The DRNS shall use the included *ToAWS* IE for a DCH or a set of co-ordinated DCHs as the Time of Arrival Window Startpoint in the user plane for the DCH or the set of co-ordinated DCHs.

The DRNS shall use the included *ToAWE* IE for a DCH or a set of co-ordinated DCHs as the Time of Arrival Window Endpoint in the user plane for the DCH or the set of co-ordinated DCHs.

The *Frame Handling Priority* IE defines the priority level that should be used by the DRNS to prioritise between different frames of the data frames of the DCHs in the downlink on the radio interface in congestion situations once the new RL(s) have been activated.

The *Traffic Class* IE may be used to determine the transport bearer characteristics to apply between DRNC and Node B for the related DCH or set of co-ordinated DCHs.

If the *TNL QoS* IE is included for a DCH or a set of co-ordinated DCHs and if ALCAP is not used, the *TNL QoS* IE may be used by the DRNS to determine the transport bearer characteristics to apply in the uplink for the related DCH or set of co-ordinated DCHs. The DRNC should ignore the *Traffic Class* IE if the *TrCH Source Statistics Descriptor* IE indicates the value 'RRC'.

If the *DCH Information* IE contains a *DCH Specific Info* IE which includes the *Guaranteed Rate Information* IE, the DRNS shall treat the included IEs according to the following:

- If the *Guaranteed Rate Information* IE includes the *Guaranteed UL Rate* IE, the DRNS shall apply the Guaranteed Rate in the uplink of this DCH. The DRNS may decide to request the SRNC to limit the user rate of the uplink of the DCH at any point in time. The DRNS may request the SRNC to reduce the user rate of the uplink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to only reduce the user rate between the maximum bit rate and the guaranteed bit rate. If the *DCH Specific Info* IE in the *DCH Information* IE does not include the *Guaranteed UL Rate* IE, the DRNS shall not limit the user rate of the uplink of the DCH.

- If the *Guaranteed Rate Information* IE includes the *Guaranteed DL Rate* IE, the DRNS shall apply the Guaranteed Rate in the downlink of this DCH. The DRNS may decide to request the SRNC to limit the user rate of the downlink of the DCH at any point in time. The DRNS may request the SRNC to reduce the user rate of the downlink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to only reduce the user rate between the maximum bit rate and the guaranteed bit rate. If the *DCH Specific Info* IE in the *DCH Information* IE does not include the *Guaranteed DL Rate* IE, the DRNS shall not limit the user rate of the downlink of the DCH.

DSCH(s):

If the *DSCH Information* IE is included in the RADIO LINK SETUP REQUEST message, the DRNC shall establish the requested DSCHs [FDD - on the RL indicated by the PDSCH RL ID IE]. If the *Transport Layer Address* IE and *Binding ID* IE are included in the *DSCH Information* IE the DRNC may use the transport layer address and the binding identifier received from the SRNC when establishing a transport bearer for the DSCH. In addition, the DRNC shall send a valid set of *DSCH Scheduling Priority* IE and *MAC-c/sh SDU Length* IE parameters to the SRNC in the RADIO LINK SETUP RESPONSE message. If the *PDSCH RL ID* IE indicates a radio link in the DRNS, then the DRNC shall allocate a DSCH-RNTI to the UE Context and include the *DSCH-RNTI* IE in the RADIO LINK SETUP RESPONSE message.

If the *DSCH Information* IE is included in the RADIO LINK SETUP REQUEST message, the DRNS may use the *Traffic Class* IE to determine the transport bearer characteristics to apply between DRNC and Node B for the related DSCHs.

The DRNC shall include the *DSCH Initial Window Size* IE in the RADIO LINK SETUP RESPONSE message for each DSCH, if the DRNS allows the SRNC to start transmission of MAC-c/sh SDUs before the DRNS has allocated capacity on user plane as described in [32].

[TDD - USCH(s)]:

[TDD - The DRNS shall use the list of RB Identities in the *RB Info* IE in the *USCH information* IE to map each *RB Identity* IE to the corresponding USCH. If the *Transport Layer Address* IE and *Binding ID* IE are included in the *USCH Information* IE the DRNC may use the transport layer address and the binding identifier received from the SRNC when establishing a transport bearer for the USCH.]

[TDD - If the *USCH Information* IE is included in the RADIO LINK SETUP REQUEST message, the DRNS may use the *Traffic Class* IE to determine the transport bearer characteristics to apply between DRNC and Node B for the related USCHs.]

[TDD - If the *USCH Information* IE is included in the RADIO LINK SETUP REQUEST message and contains the *TNL QoS* IE, and if ALCAP is not used, the DRNS may use the *TNL QoS* IE to determine the transport bearer characteristics to apply in the uplink for the related USCH.]

[TDD - If the *USCH Information* IE is included in the RADIO LINK SETUP REQUEST message, the DRNS shall establish the requested USCHs, and the DRNC shall provide the [3.84 Mcps TDD - *USCH Information Response* IE] [1.28 Mcps TDD - USCH Information Response LCR IE] in the RADIO LINK SETUP RESPONSE message.]

[TDD - CCTrCH Handling]:

[TDD - If the *UL CCTrCH Information* IE is present in the RADIO LINK SETUP REQUEST message, the DRNS shall configure the new UL CCTrCH(s) according to the parameters given in the message.]

[1.28Mcps TDD - If the *UL CCTrCH Information LCR* IE includes the *TDD TPC Uplink Step Size* IE, the DRNS shall configure the uplink TPC step size according to the parameters given in the message.]

[TDD - If the *DL CCTrCH Information* IE is present in the RADIO LINK SETUP REQUEST message, the DRNS shall configure the new DL CCTrCH(s) according to the parameters given in the message.]

[TDD - If the *TPC CCTrCH List* IE is present in the RADIO LINK SETUP REQUEST message, the DRNS shall configure the identified UL CCTrCHs with TPC according to the parameters given in the message.]

HS-DSCH:

If the *HS-DSCH Information* IE is present in the RADIO LINK SETUP REQUEST message, then:

- The DRNS shall setup the requested HS-PDSCH resources on the Serving HS-DSCH Radio Link indicated by the *HS-PDSCH RL ID* IE.

- The DRNC shall include the *HARQ Memory Partitioning* IE in the [FDD – *HS-DSCH FDD Information Response* IE] [TDD – *HS-DSCH TDD Information Response* IE] in the RADIO LINK SETUP RESPONSE message.

- The DRNC shall allocate an HS-DSCH-RNTI to the UE Context and include the *HS-DSCH-RNTI* IE in the RADIO LINK SETUP RESPONSE message.

- The DRNC shall include in the RADIO LINK SETUP RESPONSE message the *Binding ID* IE and *Transport Layer Address* IE for establishment of transport bearer for every HS-DSCH MAC-d flow being established.

- If the RADIO LINK SETUP REQUEST message includes the *Transport Layer Address* IE and *Binding ID* IE in the *HS-DSCH Information* IE for an HS-DSCH MAC-d flow, then the DRNC may use the transport layer address and the binding identifier received from the SRNC when establishing a transport bearer for the concerned HS-DSCH MAC-d flow.

- The DRNS may use the *Traffic Class* IE for a specific HS-DSCH MAC-d flow to determine the transport bearer characteristics to apply between DRNC and Node B.

- If the RADIO LINK SETUP REQUEST message includes the *MAC-hs Guaranteed Bit Rate* IE for a Priority Queue in the *HS-DSCH MAC-d Flows Information* IE in the *HS-DSCH Information* IE, then

the DRNS shall use this information to optimise MAC-hs scheduling decisions for the related HSDPA Priority Queue.

- If the RADIO LINK SETUP REQUEST message includes the *Discard Timer* IE for a Priority Queue in the *HS-DSCH MAC-d Flows Information* IE in the *HS-DSCH Information* IE, then the DRNS shall use this information to discard out-of-date MAC-hs SDUs from the related HSDPA Priority Queue.

- The DRNC shall include the *HS-DSCH Initial Capacity Allocation* IE in the [FDD – *HS-DSCH FDD Information Response* IE] [TDD – *HS-DSCH TDD Information Response* IE] in the RADIO LINK SETUP RESPONSE message for every HS-DSCH MAC-d flow being established, if the DRNS allows the SRNC to start transmission of MAC-d PDUs before the DRNS has allocated capacity on user plane as described in [32].

- [FDD - If the RADIO LINK SETUP REQUEST message includes the *HS-SCCH Power Offset* IE in the *HS-DSCH Information* IE, then the DRNS may use this value to determine the HS-SCCH power. The HS-SCCH Power Offset should be applied for any HS-SCCH transmission to this UE.]

- [FDD - The DRNC shall include the *Measurement Power Offset* IE in the *HS-DSCH Information Response* IE in the RADIO LINK SETUP RESPONSE message.]

- [FDD - The DRNS shall allocate HS-SCCH codes corresponding to the HS-DSCH and the DRNC shall include the *HS-SCCH Specific Information Response* IE in the *HS-DSCH FDD Information Response* IE in the RADIO LINK SETUP RESPONSE message.]

- [TDD - The DRNS shall allocate HS-SCCH parameters corresponding to the HS-DSCH and the DRNC shall include the [3.84Mcps TDD - *HS-SCCH Specific Information Response* IE] [1.28Mcps TDD - *HS-SCCH Specific Information Response LCR* IE] in the *HS-DSCH TDD Information Response* IE in the RADIO LINK SETUP RESPONSE message.]

- [TDD - The DRNC shall include the [3.84 Mcps TDD - *HS-PDSCH Timeslot Specific Information* IE] [1.28 Mcps TDD - *HS-PDSCH Timeslot Specific Information LCR* IE] in the *HS-DSCH Information Response* IE in the RADIO LINK SETUP RESPONSE message.]

- [FDD - The DRNC shall include the *HS-PDSCH And HS-SCCH Scrambling Code* IE in the *HS-DSCH FDD Information Response* IE in the RADIO LINK SETUP RESPONSE message.]

Physical Channels Handling:

[FDD - Compressed Mode]:

[FDD - If the RADIO LINK SETUP REQUEST message includes the *Transmission Gap Pattern Sequence Information* IE, the DRNS shall store the information about the Transmission Gap Pattern Sequences to be used in the Compressed Mode Configuration. This Compressed Mode Configuration shall be valid in the DRNS until the next Compressed Mode Configuration is configured in the DRNS or the last Radio Link is deleted.]

[FDD - If the RADIO LINK SETUP REQUEST message includes the *Transmission Gap Pattern Sequence Information* IE and the *Active Pattern Sequence Information* IE, the DRNS shall use the information to activate the indicated Transmission Gap Pattern Sequence(s) in the new RL. The received *CM Configuration Change CFN* IE refers to latest passed CFN with that value. The DRNS shall treat the received *TGCFN* IEs as follows:]

- [FDD - If any received *TGCFN* IE has the same value as the received *CM Configuration Change CFN* IE, the DRNS shall consider the concerned Transmission Gap Pattern Sequence as activated at that CFN.]

- [FDD - If any received *TGCFN* IE does not have the same value as the received *CM Configuration Change CFN* IE but the first CFN after the CM Configuration Change CFN with a value equal to the *TGCFN* IE has already passed, the DRNS shall consider the concerned Transmission Gap Pattern Sequence as activated at that CFN.]

- [FDD - For all other Transmission Gap Pattern Sequences included in the *Active Pattern Sequence Information* IE, the DRNS shall activate each Transmission Gap Pattern Sequence at the first CFN after the CM Configuration Change CFN with a value equal to the *TGCFN* IE for the Transmission Gap Pattern Sequence.]

[FDD - If the *Downlink Compressed Mode Method* IE in one or more Transmission Gap Pattern Sequence is set to "SF/2" in the RADIO LINK SETUP REQUEST message, the DRNS shall include the *Transmission Gap Pattern Sequence Scrambling Code Information* IE in the RADIO LINK SETUP RESPONSE message indicating for each DL Channelisation Code whether the alternative scrambling code shall be used or not.]

[FDD - DL Code Information]:

[FDD - When more than one DL DPDCH are assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to [8]. When *p* number of DL DPDCHs are assigned to each RL, the first pair of DL Scrambling Code and FDD DL Channelisation Code Number corresponds to "*PhCH number 1*", the second to "*PhCH number 2"*, and so on until the *p*th to "*PhCH number p*".]

[FDD – Phase Reference Handling]:

[FDD – If the RADIO LINK SETUP REQUEST message includes the *UE Support Of Dedicated Pilots For Channel Estimation* IE, the DRNC shall assume that dedicated pilots may be used for channel estimation for DCH or DSCH.]

[FDD – If the RADIO LINK SETUP REQUEST message includes the *UE Support Of Dedicated Pilots For Channel Estimation Of HS-DSCH* IE, the DRNC shall assume that dedicated pilots may be used for channel estimation for HS-DSCH.]

[FDD – If Primary CPICH is not to be used as a Phase Reference for this Radio Link, the DRNC shall include the *Primary CPICH Usage For Channel Estimation* IE set to the value "Primary CPICH shall not be used" in the RADIO LINK SETUP RESPONSE message.]

General:

[FDD - If the *Propagation Delay* IE is included, the DRNS may use this information to speed up the detection of UL synchronisation on the Uu interface.]

[FDD - If the received *Limited Power Increase* IE is set to "Used", the DRNS shall, if supported, use Limited Power Increase according to ref. [10] subclause 5.2.1 for the inner loop DL power control.]

[FDD - If the RADIO LINK SETUP REQUEST message does not include the *Length of TFCI2* IE and the *Split type* IE is present with the value "Hard", then the DRNS shall assume the length of the TFCI (field 2) is 5 bits.]

[FDD - If the RADIO LINK SETUP REQUEST message includes *Split Ty*pe IE, then the DRNS shall apply this information to the new configuration of TFCI.]

[FDD - If the RADIO LINK SETUP REQUEST message includes the *Length of TFCI2* IE, the DRNS shall apply this information to the length of TFCI(field 2).]

[TDD - If the RADIO LINK SETUP REQUEST message includes the *Maximum Number of DL Physical Channels per Timeslot* IE the DRNC shall take this value into account when allocating physical resources, otherwise the DRNC can assume that this UE capability is consistent with the other signalled UE capabilities.]

[1.28Mcps TDD - If the RADIO LINK SETUP REQUEST message includes the *Support for 8PSK* IE within the *DL Physical Channel Information* IE *or UL Physical Channel Information* IE, the DRNC shall take this into account in the specified direction when allocating physical resources, otherwise the DRNC can assume that this UE does not support 8PSK resource allocation.]

Radio Link Handling:

Diversity Combination Control:

[FDD - The *Diversity Control Field* IE indicates for each RL except for the first RL whether the DRNS shall combine the RL with any of the other RLs or not.

- If the *Diversity Control Field* IE is set to "May" (be combined with another RL), the DRNS shall decide for any of the alternatives.

- If the *Diversity Control Field* IE is set to "Must", the DRNS shall combine the RL with one of the other RL.

- If the *Diversity Control Field* IE is set to "Must not", the DRNS shall not combine the RL with any other existing RL.

When an RL is to be combined, the DRNS shall choose which RL(s) to combine it with.]

[FDD - In the RADIO LINK SETUP RESPONSE message, the DRNC shall indicate for each RL with the Diversity Indication in the *RL Information Response* IE whether the RL is combined or not.]

- [FDD - In case of not combining with a RL previously listed in the RADIO LINK SETUP RESPONSE message or for the first RL in the RADIO LINK SETUP RESPONSE message, the DRNC shall include in the *DCH Information Response* IE in the RADIO LINK SETUP RESPONSE message the *Binding ID* IE and *Transport Layer Address* IE for the transport bearer to be established for each DCH of this RL.]

- [FDD - Otherwise in case of combining, the *RL ID* IE indicates (one of) the RL(s) previously listed in this RADIO LINK SETUP RESPONSE message with which the concerned RL is combined.]

[TDD - The DRNC shall always include in the RADIO LINK SETUP RESPONSE message both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each DCH, DSCH and USCH of the RL.]

In the case of a set of co-ordinated DCHs requiring a new transport bearer the *Binding ID* IE and the *Transport Layer Address* IE shall be included in the RADIO LINK SETUP RESPONSE message for only one of the DCHs in the set of co-ordinated DCHs.

[FDD -Transmit Diversity]:

[FDD - If the cell in which the RL is being set up is capable to provide Close loop Tx diversity, the DRNC shall include the *Closed Loop Timing Adjustment Mode* IE in the RADIO LINK SETUP RESPONSE message indicating the configured Closed loop timing adjustment mode of the cell.]

[FDD - When the *Diversity Mode* IE is set to "STTD", "Closed loop mode1", or "Closed loop mode2", the DRNC shall activate/deactivate the Transmit Diversity for each Radio Link in accordance with the *Transmit Diversity Indicator* IE].

DL Power Control:

[FDD - If both the *Initial DL TX Power* IE and *Uplink SIR Target* IE are included in the message, the DRNS shall use the indicated DL TX Power and Uplink SIR Target as initial value. If the value of the *Initial DL TX Power* IE is outside the configured DL TX power range, the DRNS shall apply these constrains when setting the initial DL TX power. The DRNS shall also include the configured DL TX power range defined by *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK SETUP RESPONSE message. The DRNS shall not transmit with a higher power than indicated by the *Maximum DL TX Power* IE or lower than indicated by the *Minimum DL TX Power* IE on any DL DPCH of the RL except during compressed mode, when the δP_{curr}, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power for the associated compressed frame.]

[FDD - If both the *Initial DL TX Power* and the *Uplink SIR Target* IEs are not included in the RADIO LINK SETUP REQUEST message, then DRNC shall determine the initial Uplink SIR Target and include it in the *Uplink SIR Target* IE in the RADIO LINK SETUP RESPONSE message.]

[TDD - The DRNC shall use the *Uplink SIR Target CCTrCH* IEs in the RADIO LINK SETUP RESPONSE message to indicate for any UL CCTrCH an Uplink SIR Target value in case this is deviating from the value included in the *Uplink SIR Target* IE specified for the Radio Link. If in any [3.84Mcps TDD - *UL CCTrCH Information* IE] [1.28Mcps TDD - *UL CCTrCH Information LCR* IE] the *Uplink SIR Target CCTrCH* IE is not included, the value of the *Uplink SIR Target* IE shall apply to the respective UL CCTrCH.]

[FDD - If the *Primary CPICH Ec/No* IE is present, the DRNC should use the indicated value when deciding the Initial DL TX Power. If the *Enhanced Primary CPICH Ec/No* IE is present, the DRNC should use the indicated value when deciding the Initial DL Tx Power.]

[TDD - If [3.84Mcps TDD -the *DL Time Slot ISCP Info* IE] [1.28Mcps TDD - the *DL Time Slot ISCP Info LCR* IE] is present, the DRNS should use the indicated value when deciding the Initial DL TX Power for the Radio Link. The DRNS shall use the indicated DL Timeslot ISCP when determining the initial DL power per timeslot as specified in [22], i.e. it shall reduce the DL TX power in those downlink timeslots of the radio

link where the interference is low, and increase the DL TX power in those timeslots where the interference is high, while keeping the total downlink power in the radio link unchanged.]

[TDD - If the *Primary CCPCH RSCP Delta* IE is included, the DRNS should assume that the reported value for Primary CCPCH RSCP is in the negative range as per [24], and the value is equal to the *Primary CCPCH RSCP Delta* IE. If the *Primary CCPCH RSCP Delta* IE is not included and the *Primary CCPCH RSCP* IE is included, the DRNS should assume that the reported value is in the non-negative range as per [24], and the value is equal to the *Primary CCPCH RSCP* IE. The DRNS should use the indicated value when deciding the Initial DL TX Power for the Radio Link.]

[3.84 Mcps TDD - The DL TX power upper and lower limit is configured in the following way: The DRNC shall include the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK SETUP RESPONSE message. If the maximum or minimum power needs to be different for particular DCH type CCTrCHs, the DRNC shall include the value(s) for that CCTrCH in the *CCTrCH Maximum DL TX Power* IE and *CCTrCH Minimum DL TX Power* IE. The DRNS shall not transmit with a higher power than indicated by the appropriate *Maximum DL TX Power* IE/*CCTrCH Maximum DL TX Power* IE or lower than indicated by the appropriate *Minimum DL TX Power* IE/*CCTrCH Minimum DL TX Power* IE on any DL DPCH within each CCTrCH of the RL.]

[1.28 Mcps TDD - The DL TX power upper and lower limit is configured in the following way: The DRNC shall include the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK SETUP RESPONSE message. If the maximum or minimum power needs to be different for particular timeslots within a DCH type CCTrCH, the DRNC shall include the value(s) for that timeslot in the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE within the *DL Timeslot Information LCR* IE. The DRNS shall not transmit with a higher power than indicated by the appropriate *Maximum DL TX Power* IE or lower than indicated by the appropriate *Minimum DL TX Power* IE on any DL DPCH within each timeslot of the RL.]

[1.28McpsTDD - If the *TSTD Support Indicator* IE is present, the DRNS shall apply this information when configuring the transmit diversity for the new radio link.]

[FDD - The DRNS shall start any DL transmission using the indicated DL TX power level (if received) or the decided DL TX power level on each DL channelisation code of a RL until UL synchronisation is achieved on the Uu interface for the concerned RLS or Power Balancing is activated. No inner loop power control or power balancing shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[10] subclause 5.2.1.2) and the power control procedure (see 8.3.15).]

[TDD - The DRNS shall start any DL transmission using the decided DL TX power level on each DL channelisation code and on each Time Slot of a RL until UL synchronisation is achieved on the Uu interface for the concerned RL. No inner loop power control shall be performed during this period. Then after UL synchronisation, the DL power shall vary according to the inner loop power control (see ref. [22] subclause 4.2.3.3).]

[FDD - If the received *Inner Loop DL PC Status* IE is set to "Active", the DRNS shall activate the inner loop DL power control for all RLs. If *Inner Loop DL PC Status* IE is set to "Inactive", the DRNS shall deactivate the inner loop DL power control for all RLs according to ref. [10].]

[FDD - If the *DPC Mode* IE is present in the RADIO LINK SETUP REQUEST message, the DRNC shall apply the DPC mode indicated in the message, and be prepared that the DPC mode may be changed during the lifetime of the RL. If the *DPC Mode* IE is not present in the RADIO LINK SETUP REQUEST message, DPC mode 0 shall be applied (see ref. [10]).]

[FDD - If the RADIO LINK SETUP REQUEST message includes the *DL Power Balancing Information* IE and the *Power Adjustment Type* IE is set to "Common" or "Individual", the DRNS shall activate the power balancing, if activation of power balancing by the RADIO LINK SETUP REQUEST message is supported, according to subclause 8.3.15, using the *DL Power Balancing Information* IE. If the DRNS starts the DL transmission and the activation of the power balancing at the same CFN, the initial power of the power balancing i.e. P_{init} shall be set to the power level indicated by the *Initial DL TX Power* IE (if received) or the decided DL TX power level on each DL channelisation code of a RL based on the *Primary CPICH Ec/No* IE or the *Enhanced Primary CPICH Ec/No* IE.]

[FDD - If activation of power balancing by the RADIO LINK SETUP REQUEST message is supported by the DRNS, the DRNC shall include the *DL Power Balancing Activation Indicator* IE in the *RL Information Response* IE in the RADIO LINK SETUP RESPONSE message.]

Neighbouring Cell Handling:

If there are UMTS neighbouring cell(s) to the cell in which a Radio Link was established then:

- The DRNC shall include in the RADIO LINK SETUP RESPONSE message the *Neighbouring FDD Cell Information* IE and/or *Neighbouring TDD Cell Information* IE in the *Neighbouring UMTS Cell Information* IE for each neighbouring FDD cell and/or TDD cell respectively. In addition, if the information is available, the DRNC shall include in the RADIO LINK SETUP RESPONSE message the *Frame Offset* IE, *Primary CPICH Power* IE, *Cell Individual Offset* IE, *STTD Support Indicator* IE, *Closed Loop Mode1 Support Indicator* IE, *Closed Loop Mode2 Support Indicator* IE, *Coverage Indicator* IE, *Antenna Co-location Indicator* IE and *HCS Prio* IE in the *Neighbouring FDD Cell Information* IE, and the *Frame Offset* IE, *Cell Individual Offset* IE, *DPCH Constant Value* IE, the *PCCPCH Power* IE, *Coverage Indicator* IE, *Antenna Co-location Indicator* IE and *HCS Prio* IE in the *Neighbouring TDD Cell Information* IE or the *Neighbouring TDD Cell Information LCR* IE. If the *Neighbouring TDD Cell Information* IE includes the *Sync Case* IE for the set to "Case1", the DRNC shall include the *Time Slot For SCH* IE in the *Neighbouring TDD Cell Information* IE. If the *Neighbouring TDD Cell Information* IE includes *Sync Case* IE set to "Case2", the DRNC shall include the *SCH Time Slot* IE in the *Neighbouring TDD Cell Information* IE.

- If a UMTS neighbouring cell is not controlled by the same DRNC, the DRNC shall also include in the RADIO LINK SETUP RESPONSE message the *CN PS Domain Identifier* IE and/or *CN CS Domain Identifier* IE which are the identifiers of the CN nodes connected to the RNC controlling the UMTS neighbouring cell.

- If the information is available, the DRNC shall include in the RADIO LINK SETUP RESPONSE message the *DPC Mode Change Support Indicator* IE for each neighbour cell in the *Neighbouring FDD Cell Information* IE.

- The DRNC shall include the *Cell Capability Container FDD* IE, the *Cell Capability Container TDD* IE and/or the *Cell Capability Container TDD LCR* IE if the DRNC is aware that the neighbouring cell supports any functionality listed in 9.2.2.D, 9.2.3.1a and 9.2.3.1b.

- For the UMTS neighbouring cells which are controlled by the DRNC, the DRNC shall report in the RADIO LINK SETUP RESPONSE message the restriction state of those cells, otherwise the *Restriction StateIndicator* IE may be absent. The DRNC shall include in the RADIO LINK SETUP RESPONSE message the *Restriction StateIndicator* IE for the neighbouring cells which are controlled by the DRNC in the *Neighbouring FDD Cell Information* IE, the *Neighbouring TDD Cell Information* IE and the *Neighbouring TDD Cell Information LCR* IE.

- If available, the DRNC shall include the *SNA Information* IE for the concerned neighbouring cells in the *Neighbouring FDD Cell Information* IE, the *Neighbouring TDD Cell Information* IE and the *Neighbouring TDD Cell Information LCR* IE.

If there are GSM neighbouring cells to the cell(s) where a radio link is established, the DRNC shall include in the RADIO LINK SETUP RESPONSE message the *Neighbouring GSM Cell Information* IE for each of the GSM neighbouring cells. If available the DRNC shall include in the RADIO LINK SETUP RESPONSE message the *Cell Individual Offset* IE, and if the *Cell Individual Offset* IE alone cannot represent the value of the offset, the DRNC shall also include the *Extended GSM Cell Individual Offset* IE in the *Neighbouring GSM Cell Information* IE. If available the DRNC shall also include in the RADIO LINK SETUP RESPONSE message the *Coverage Indicator* IE, *Antenna Co-location Indicator* IE and *HCS Prio* IE in the *Neighbouring GSM Cell Information* IE. If available, the DRNC shall also include the *SNA Information* IE for the concerned neighbouring cells in the *Neighbouring GSM Cell Information* IE.

When receiving the *SNA Information* IE in the RADIO LINK SETUP RESPONSE message, the SRNC should use it to restrict cell access based on SNA information. See also [40] for a broader description of the SNA access control.

If there are GERAN neighbouring cells to the cell(s) where a radio link is established, the DRNC shall include the *GERAN Cell Capability* IE in the *Neighbouring GSM Cell Information* IE that is included in the RADIO LINK SETUP RESPONSE message for each of the GERAN cells.

If there are GERAN Iu-mode neighbouring cells to the cell(s) where a radio link is established, the DRNC shall include, if available, the *GERAN Classmark* IE in the *Neighbouring GSM Cell Information* IE that is included in the RADIO LINK SETUP RESPONSE message for each of the GERAN Iu-mode neighbouring

cells. Ref. [39] defines when the transmission of the *GERAN Classmark* IE will be required at the initiation of the Relocation Preparation procedure.

[1.28Mcps TDD - Uplink Synchronisation Parameters LCR]:

[If the *Uplink Synchronisation Parameters LCR* IE is present, the DRNC shall use the indicated values of *Uplink synchronisation stepsize* IE and *Uplink synchronisation frequency* IE when evaluating the timing of the UL synchronisation.]

[1.28Mcps TDD - Uplink Timing Advance Control LCR]:

[1.28Mcps TDD - The DRNC shall include the *Uplink Timing Advance Control LCR* IE in the RADIO LINK SETUP RESPONSE message.]

General:

If the RADIO LINK SETUP REQUEST message includes the *RL Specific DCH Information* IE, the DRNC may use the transport layer address and the binding identifier received from the SRNC when establishing a transport bearer for the DCH or the set of co-ordinated DCHs.

[FDD - If the RADIO LINK SETUP REQUEST message includes the *SSDT Cell Identity* IE and the *S-Field Length* IE, the DRNS shall activate SSDT, if supported, using the *SSDT Cell Identity* IE, *S-Field Length* IE and *SSDT Cell Identity Length* IE.]

[FDD - If the RADIO LINK SETUP REQUEST message includes the *Qth Parameter* IE in addition to the *SSDT Cell Identity* IE, the DRNS shall use the *Qth Parameter* IE, if Qth signalling is supported, when SSDT is activated in the concerned new RL.]

[FDD - If the RADIO LINK SETUP REQUEST message includes the *SSDT Cell Identity for EDSCHPC* IE, the DRNS shall activate enhanced DSCH power control, if supported, using the *SSDT Cell Identity for EDSCHPC* IE and *SSDT Cell Identity Length* IE as well as *Enhanced DSCH PC* IE in accordance with ref. [10] subclause 5.2.2. If the RADIO LINK SETUP REQUEST message includes both *SSDT Cell Identity* IE and *SSDT Cell Identity for EDSCHPC* IE, then the DRNS shall ignore the *SSDT Cell Identity for EDSCHPC* IE. If the enhanced DSCH power control is activated and the *TFCI PC Support Indicator* IE is set to "TFCI PC Mode 2 Supported", the primary/secondary status determination in the enhanced DSCH power control shall be applied to the TFCI power control in DSCH hard split mode.]

[FDD - If the *DRAC Control* IE is set to "requested" in the RADIO LINK SETUP REQUEST message for at least one DCH and if the DRNS supports the DRAC, the DRNC shall include in the RADIO LINK SETUP RESPONSE message the *Secondary CCPCH Info* IE for the FACH in which the DRAC information is sent, for each Radio Link established in a cell where DRAC is active. If the DRNS does not support DRAC, the DRNC shall not provide these IEs in the RADIO LINK SETUP RESPONSE message.]

If no *D-RNTI* IE was included in the RADIO LINK SETUP REQUEST message, the DRNC shall include in the RADIO LINK SETUP RESPONSE message the *D-RNTI* IE, the *CN PS Domain Identifier* IE and/or the *CN CS Domain Identifier* IE for the CN domains (using LAC and RAC of the current cell) to which the DRNC is connected.

[FDD - If the *D-RNTI* IE was included in the RADIO LINK SETUP REQUEST message the DRNC shall include in the RADIO LINK SETUP RESPONSE message the *Primary Scrambling Code* IE, the *UL UARFCN* IE and the *DL UARFCN* IE.]

[TDD - If the *D-RNTI* IE was included in the RADIO LINK SETUP REQUEST message the DRNC shall include in the RADIO LINK SETUP RESPONSE message the *UARFCN* IE, the *Cell Parameter ID* IE and the *SCTD Indicator* IE.]

[3.84Mcps TDD - If the *D-RNTI* IE was included in the RADIO LINK SETUP REQUEST message the DRNC shall include in the RADIO LINK SETUP RESPONSE message the *Sync Case* IE and if the *Sync Case* IE is set to "Case 2", the DRNC shall also include the *SCH Time Slot* IE in the RADIO LINK SETUP RESPONSE message. If the included *Sync Case* IE is set to "Case1", the DRNC shall also include the *Time Slot For SCH* IE.]

[3.84Mcps TDD - The DRNC shall include the *Secondary CCPCH Info TDD* IE in the RADIO LINK SETUP RESPONSE message if at least one *DSCH Information Response* IE or *USCH Information Response* IE is included in the message and at least one DCH is configured for the radio link. The DRNC shall also

include the *Secondary CCPCH Info TDD* IE in the RADIO LINK SETUP RESPONSE message if at least one *DSCH Information Response* IE or *USCH Information Response* IE is included in the message and the SHCCH messages for this radio link will be transmitted over a different secondary CCPCH than selected by the UE from system information.]

[1.28 Mcps TDD - The DRNC shall include the *Secondary CCPCH Info TDD LCR* IE in the RADIO LINK SETUP RESPONSE message if at least one *DSCH Information Response LCR* IE or *USCH Information Response LCR* IE is included in the message and at least one DCH is configured for the radio link. The DRNC shall also include the *Secondary CCPCH Info TDD LCR* IE in the RADIO LINK SETUP RESPONSE message if at least one *DSCH Information Response LCR* IE or *USCH Information Response LCR* IE is included in the message and the SHCCH messages for this radio link will be transmitted over a different secondary CCPCH than selected by the UE from system information.]

For each Radio Link established in a cell in which at least one URA Identity is being broadcast, the DRNC shall include in the *URA Information* IE within the RADIO LINK SETUP RESPONSE message URA Innformation for this cell including the *URA ID* IE, the *Multiple URAs Indicator* IE indicating whether or not multiple URA Identities are being broadcast in the cell, and the *RNC-ID* IEsof all other RNCs that have at least one cell within the URA identified by the *URA ID* IE.

Depending on local configuration in the DRNS, the DRNC may include in the RADIO LINK SETUP RESPONSE message the *UTRAN Access Point Position* IE and the geographical co-ordinates of the cell, represented either by the *Cell GAI* IE or by the *Cell GA Additional Shapes* IE. If the DRNC includes the *Cell GA Additional Shapes* IE in the RADIO LINK SETUP RESPONSE message, it shall also include the *Cell GAI* IE.

If the DRNS need to limit the user rate in the uplink of a DCH due to congestion caused by the UL UTRAN Dynamic Resources (see subclause 9.2.1.79) when starting to utilise a new Radio Link, the DRNC shall include in the RADIO LINK SETUP RESPONSE message the *Allowed UL Rate* IE in the *DCH Information Response* IE for this Radio Link.

If the DRNS need to limit the user rate in the downlink of a DCH due to congestion caused by the DL UTRAN Dynamic Resources (see subclause 9.2.1.79) when starting to utilise a new Radio Link, the DRNC shall include in the RADIO LINK SETUP RESPONSE message the *Allowed DL Rate* IE in the *DCH Information Response* IE for this Radio Link.

If the *Permanent NAS UE Identity* IE is included in the RADIO LINK SETUP REQUEST message, the DRNS shall store the information for the considered UE Context for the life-time of the UE Context.

If the RADIO LINK SETUP REQUEST message includes the *Permanent NAS UE Identity* IE and a *C-ID* IE corresponding to a cell reserved for operator use, the DRNS shall use this information to determine whether it can set up a Radio Link on this cell or not for the considered UE Context.

If the HCS priority information is available in the DRNS, it shall include the *HCS Prio* IE for each of the established RLs in the RADIO LINK SETUP RESPONSE message.

[FDD - If the accessed cell supports TFCI power control, the DRNC shall include the *TFCI PC Support Indicator* IE in the RADIO LINK SETUP RESPONSE message.]

The DRNS shall start receiving on the new RL(s) after the RLs are successfully established.

[FDD - Radio Link Set Handling]:

[FDD - The *First RLS Indicator* IE indicates if the concerned RL shall be considered part of the first RLS established towards this UE. The DRNS shall use the *First RLS Indicator* IE to determine the initial TPC pattern in the DL of the concerned RL and all RLs which are part of the same RLS, as described in [10], section 5.1.2.2.1.2.

[FDD - For each RL not having a common generation of the TPC commands in the DL with another RL, the DRNS shall assign to the RL a unique value for the *RL Set ID* IE which uniquely identifies the RL as an RL Set within the UE Context.]

[FDD - For all RLs having a common generation of the TPC commands in the DL with another RL, the DRNS shall assign to each RL the same value for the *RL Set ID* IE which uniquely identifies these RLs as members of the same RL Set within the UE Context.]

[FDD -The UL oout-of-sync algorithm defined in ref. [10] shall, for each of the established RL Set(s), use the maximum value of the parameters N_OUTSYNC_IND and T_RLFAILURE that are configured in the cells supporting the radio links of the RL Set. The UL in-sync algorithm defined in [10] shall, for each of the established RL Set(s), use the minimum value of the parameters N_INSYNC_IND that are configured in the cells supporting the radio links of the RL Set.]

Response Message:

Upon receipt of the RADIO LINK SETUP REQUEST message, the DRNS allocates the requested type of channelisation codes and other physical channel resources for each RL and assigns a binding identifier and a transport layer address for each DCH, for each set of co-ordinated DCHs and for each DSCH [TDD - and USCH]. This information shall be sent to the SRNC in the RADIO LINK SETUP RESPONSE message when all the RLs have been successfully established.

After sending the RADIO LINK SETUP RESPONSE message the DRNS shall continuously attempt to obtain UL synchronisation on the Uu interface and start reception on the new RL.

For each RL for which the *Delayed Activation* IE is not included in the RADIO LINK SETUP REQUEST message the DRNS shall:

- [FDD - start transmission on the DL DPDCH(s) of the new RL as specified in ref. [4].]

- [TDD - start transmission on the new RL immediately as specified in ref. [4].]

For each RL for which the *Delayed Activation* IE is included in the RADIO LINK SETUP REQUEST message, the DRNS shall:

- if the *Delayed Activation* IE indicates "Separate Indication":

    - not start any DL transmission for the concerned RL on the Uu interface;

- if the *Delayed Activation* IE indicates "CFN":

    - [FDD - start transmission on the DL DPDCH(s) of the new RL as specified in ref. [4], however never before the CFN indicated in the *Activation CFN* IE.]

    - [TDD - start transmission on the new RL at the CFN indicated in the *Activation CFN* IE as specified in ref. [4].]

8.3.1.3   Unsuccessful Operation

SRNC   DRNC

RADIO LINK SETUP REQUEST

RADIO LINK SETUP FAILURE
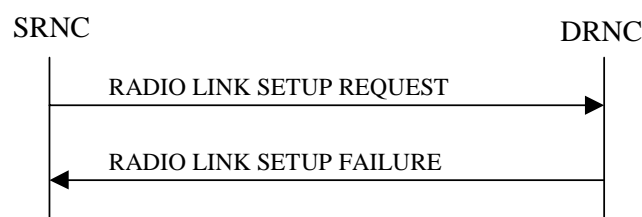
Figure 6: Radio Link Setup procedure: Unsuccessful Operation

If the establishment of at least one radio link is unsuccessful, the DRNC shall respond with a RADIO LINK SETUP FAILURE message. The DRNC shall include in the RADIO LINK SETUP FAILURE message a general *Cause* IE or a *Cause* IE for each failed radio link. The *Cause* IE indicates the reason for failure.

[FDD - If some radio links were established successfully, the DRNC shall indicate this in the RADIO LINK SETUP FAILURE message in the same way as in the RADIO LINK SETUP RESPONSE message.]

[FDD - If the RL identified by the *PDSCH RL ID* IE is a radio link in the DRNS and this RL is successfully established, then the DRNC shall allocate a DSCH-RNTI to the UE Context and include the *DSCH-RNTI* IE in the RADIO LINK SETUP FAILURE message.]

If the RADIO LINK SETUP REQUEST message includes a *C-ID* IE corresponding to a cell reserved for operator use and the *Permanent NAS UE Identity* IE is not present, the DRNC shall reject the procedure and send the RADIO LINK SETUP FAILURE message.

[FDD - If the accessed cell supports TFCI power control, the DRNC shall include the *TFCI PC Support Indicator* IE in the RADIO LINK SETUP FAILURE message.]

[FDD - If the RL identified by the *HS-PDSCH RL ID* IE is a radio link in the DRNS and this RL is successfully established, then the DRNC shall allocate a HS-DSCH-RNTI to the UE Context and include the *HS-DSCH-RNTI* IE and the *HS-DSCH FDD Information Response* IE in the RADIO LINK SETUP FAILURE message.]

Typical cause values are:

Radio Network Layer Causes:

- [FDD - UL Scrambling Code Already in Use];

- DL Radio Resources not Available;

- UL Radio Resources not Available;

- [FDD - Combining Resources not available];

- Combining not Supported

- Requested Configuration not Supported;

- Cell not Available;

- [FDD - Requested Tx Diversity Mode not Supported];

- Power Level not Supported;

- Number of DL codes not supported;

- Number of UL codes not supported;

- Dedicated Transport Channel Type not Supported;

- DL Shared Channel Type not Supported;

- [TDD - UL Shared Channel Type not Supported];

- [FDD - UL Spreading Factor not Supported];

- [FDD - DL Spreading Factor not Supported];

- CM not Supported;

- [FDD - DPC mode change not Supported];

- Cell reserved for operator use;

- Delayed Activation not supported.

Transport Layer Causes:

- Transport Resource Unavailable.

Miscellaneous Causes:

- Control Processing Overload;

- HW Failure;

- Not enough User Plane Processing Resources.

8.3.1.4 Abnormal Conditions

If the DRNC receives either an S-RNTI or a D-RNTI which already has RL(s) established the DRNC shall send the RADIO LINK SETUP FAILURE message to the SRNC, indicating the reason for failure.

[FDD - If the RADIO LINK SETUP REQUEST message includes the *Active Pattern Sequence Information* IE, but the *Transmission Gap Pattern Sequence Information* IE is not present, then the DRNC shall reject the procedure using the RADIO LINK SETUP FAILURE message.]

[FDD - If the RADIO LINK SETUP REQUEST message includes both the *Initial DL TX Power* IE and the *Primary CPICH Ec/No* IE or does not include either of these IEs, then the DRNC shall reject the procedure using the RADIO LINK SETUP FAILURE message.]

If more than one DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected" [TDD - or no DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected"] the DRNS shall rejectthe Radio Link Setup procedure and shall respond with a RADIO LINK SETUP FAILURE message.

[FDD - If only the *Initial DL TX Power* IE or the *Uplink SIR Target* IE is included in the RADIO LINK SETUP REQUEST message, then DRNC shall reject the Radio Link Setup procedure and shall respond with the RADIO LINK SETUP FAILURE message.]

If the RADIO LINK SETUP REQUEST message includes a *DCH Information* IE with multiple *DCH Specific Info* IEs, and if the DCHs in the *DCH Information* IE do not have the same *Transmission Time Interval* IE in the *Semi-static Transport Format Information* IE, then the DRNC shall reject the procedure using the RADIO LINK SETUP FAILURE message.

[FDD - If the RADIO LINK SETUP REQUEST message includes the *Enhanced Primary CPICH Ec/No* IE, but not the *Primary CPICH Ec/No* IE, then the DRNC shall reject the procedure using the RADIO LINK SETUP FAILURE message.]

[FDD - If the RADIO LINK SETUP REQUEST message does not include the *Split Type* IE but includes *TFCI Signalling Mode* IE set to "Split", then the DRNC shall reject the procedure using the RADIO LINK SETUP FAILURE message.]

[FDD - If the RADIO LINK SETUP REQUEST message does not include the *Length of TFCI2* IE but the *Split type* IE is set to "Logical", then the DRNC shall reject the procedure using the RADIO LINK SETUP FAILURE message.]

[FDD - If the RADIO LINK SETUP REQUEST message includes the *Split Type* IE set to the value "Hard" and the *Length Of TFCI2* IE set to the value "1", "2", "5", "8", "9" or "10", then the DRNC shall reject the procedure using the RADIO LINK SETUP FAILURE message.]

[FDD - If the RADIO LINK SETUP REQUEST message does not include the *Split Type* IE but includes the *Length of TFCI2* IE, then the DRNC shall reject the procedure using the RADIO LINK SETUP FAILURE message.]

If the RADIO LINK SETUP REQUEST message includes the *Transport Layer Address* IE and the *Binding ID* IE in the *RL Specific DCH Information* IE included in the *RL Information* IE for a specific RL and the *Diversity Control Field* IE is set to "Must", the DRNC shall reject the Radio Link Setup procedure and the DRNC shall respond with the RADIO LINK SETUP FAILURE message.

If the RADIO LINK SETUP REQUEST message includes the *Transport Layer Address* IE or the *Binding ID* IE, and not both are present for a transport bearer intended to be established, the DRNC shall reject the Radio Link Setup procedure and the DRNC shall respond with the RADIO LINK SETUP FAILURE message.

If the RADIO LINK SETUP REQUEST message includes an *HS-PDSCH RL-ID* IE not referring to one of the radio links to be established, the DRNC shall reject the procedure using the RADIO LINK SETUP FAILURE message.

If the RADIO LINK SETUP REQUEST message contains the *HS-DSCH Information* IE and if the Priority Queues associated with the same *HS-DSCH MAC-d Flow ID* IE have the same *Scheduling Priority Indicator* IE value, the DRNC shall reject the procedure using the RADIO LINK SETUP FAILURE message.

8.3.2 Radio Link Addition

8.3.2.1 General

This procedure is used for establishing the necessary resources in the DRNS for one or more additional RLs towards a UE when there is already at least one RL established to the concerned UE via this DRNS.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The Radio Link Addition procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

[FDD - The Radio Link Addition procedure serves to establish one or more new Radio Links which do not contain the DSCH. If the DSCH shall be moved into a new Radio Link, the Radio Link reconfiguration procedure shall be applied.]

[TDD - The Radio Link Addition procedure serves to establish a new Radio Link with the DSCH and USCH included, if they existed before.]

8.3.2.2 Successful Operation

```
      SRNC                                            DRNC

         |        RADIO LINK ADDITION REQUEST           |
         |--------------------------------------------->|
         |                                              |
         |        RADIO LINK ADDITION RESPONSE          |
         |<---------------------------------------------|
         |                                              |
```
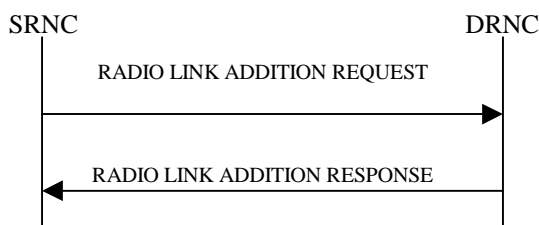
Figure 7: Radio Link Addition procedure: Successful Operation

The procedure is initiated with a RADIO LINK ADDITION REQUEST message sent from the SRNC to the DRNC.

Upon receipt, the DRNS shall reserve the necessary resources and configure the new RL(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

The DRNS shall prioritise resource allocation for the RL(s) to be established according to Annex A.

Transport Channel Handling:

> [3.84 Mcps TDD - The DRNC shall include the *UL/DL DPCH Information* IE within the *UL/DL CCTrCH Information* IE for each CCTrCH that requires DPCHs.]

> [1.28 Mcps TDD - The DRNC shall include the UL/DL DPCH Information LCR IE within the UL/DL CCTrCH Information LCR IE for each CCTrCH that requires DPCHs.]

> **DSCH:**

> [3.84 Mcps TDD - If the radio link to be added includes a DSCH, the DRNC shall include in the RADIO LINK ADDITION RESPONSE message a *DSCH Information Response* IE for each DSCH.]

> [1.28 Mcps TDD - If the radio link to be added includes a DSCH, the DRNC shall include in the RADIO LINK ADDITION RESPONSE message a DSCH Information Response LCR IE for each DSCH.]

> **[TDD - USCH:]**

> [3.84 Mcps TDD - If the radio link to be added includes any USCHs, the DRNC shall include in the RADIO LINK ADDITION RESPONSE message a *USCH Information Response* IE for each USCH.]

> [1.28 Mcps TDD - If the radio link to be added includes any USCHs, the DRNC shall include in the RADIO LINK ADDITION RESPONSE message a USCH Information Response LCR IE for each USCH.]

Physical Channels Handling:

> **[FDD -Compressed Mode]:**

[FDD - If the RADIO LINK ADDITION REQUEST message includes the *Active Pattern Sequence Information* IE, the DRNS shall use the information to activate the indicated (all ongoing) Transmission Gap Pattern Sequence(s) in the new RL. The received *CM Configuration Change CFN* IE refers to the latest passed CFN with that value. The DRNS shall treat the received *TGCFN* IEs as follows:]

- [FDD - If any received *TGCFN* IE has the same value as the received *CM Configuration Change CFN* IE, the DRNS shall consider the concerned Transmission Gap Pattern Sequence as activated at that CFN.]

- [FDD - If any received *TGCFN* IE does not have the same value as the received *CM Configuration Change CFN* IE but the first CFN after the CM Configuration Change CFN with a value equal to the *TGCFN* IE has already passed, the DRNS shall consider the concerned Transmission Gap Pattern Sequence as activated at that CFN.]

- [FDD - For all other Transmission Gap Pattern Sequences included in the *Active Pattern Sequence Information* IE, the DRNS shall activate each Transmission Gap Pattern Sequence at the first CFN after the CM Configuration Change CFN with a value equal to the *TGCFN* IE for the Transmission Gap Pattern Sequence.]

FDD - If the *Active Pattern Sequence Information* IE is not included, the DRNS shall not activate the ongoing compressed mode pattern in the new RLs, but the ongoing pattern in the existing RL shall be maintained.]

[FDD - If some Transmission Gap Pattern sequences using SF/2 method are initialised in the DRNS, the DRNC shall include the *Transmission Gap Pattern Sequence Scrambling Code Information* IE in the *DL Code Information* IE in the RADIO LINK ADDITION RESPONSE message to indicate the Scrambling code change method that it selects for each channelisation code.]

[FDD -DL Code Information]:

[FDD - When more than one DL DPDCH are assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to [8]. When *p* number of DL DPDCHs are assigned to each RL, the first pair of DL Scrambling Code and FDD DL Channelisation Code Number corresponds to "*PhCH number 1*", the second to "*PhCH number 2*", and so on until the *p*th to "*PhCH number p*".]

[TDD - CCTrCH Handling]:

[TDD - If the *UL CCTrCH Information* IE is present, the DRNS shall configure the new UL CCTrCH(s) according to the parameters given in the message.]

[1.28Mcps TDD - If the *UL CCTrCH Information* IE includes the *TDD TPC Uplink Step Size* IE, the DRNS shall configure the uplink TPC step size according to the parameters given in the message, otherwise it shall use the step size configured in other radio link.]

[TDD - If the *DL CCTrCH Information* IE is present, the DRNS shall configure the new DL CCTrCH(s) according to the parameters given in the message.]

[TDD - If the *DL CCTrCH Information* IE includes the *TDD TPC Downlink Step Size* IE, the DRNS shall configure the downlink TPC step size according to the parameters given in the message, otherwise it shall use the step size configured in other radio link.]

[FDD – Phase Reference Handling]:

[FDD – If Primary CPICH is not to be used as a Phase Reference for this Radio Link, the DRNC shall include the *Primary CPICH Usage For Channel Estimation* IE set to the value "Primary CPICH shall not be used" in the RADIO LINK ADDITION RESPONSE message.]

General:

[FDD - The DRNS shall use the provided Uplink SIR Target value as the current target for the inner-loop power control.]

Radio Link Handling:

Diversity Combination Control:

The *Diversity Control Field* IE indicates for each RL whether the DRNS shall combine the new RL with existing RL(s) or not on the Iur.

- If the *Diversity Control Field* IE is set to "May" (be combined with another RL), the DRNS shall decide for any of the alternatives.

- If the *Diversity Control Field* IE is set to "Must", the DRNS shall combine the RL with one of the other RL. When a new RL is to be combined the DRNS shall choose which RL(s) to combine it with.

- If the *Diversity Control Field* IE is set to "Must not", the DRNS shall not combine the RL with any other existing RL.

In the case of not combining a RL with a RL established with a previous Radio Link Setup or Radio Link Addition Procedure or a RL previously listed in the RADIO LINK ADDITION RESPONSE message, the DRNC shall indicate with the Diversity Indication in the *RL Information Response* IE in the RADIO LINK ADDITION RESPONSE message that no combining is done. In this case the DRNC shall include in the *DCH Information Response* IE both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each DCH of the RL in the RADIO LINK ADDITION RESPONSE message.

In the case of combining with a RL established with a previous Radio Link Setup or Radio Link Addition Procedure or with a RL previously listed in this RADIO LINK ADDITION RESPONSE message, the DRNC shall indicate with the Diversity Indication in the *RL Information Response* IE in the RADIO LINK ADDITION RESPONSE message that the RL is combined. In this case, the *RL ID* IE indicates (one of) the previously established RL(s) or a RL previously listed in this RADIO LINK ADDITION RESPONSE message with which the new RL is combined.

[TDD - The DRNC shall always include in the RADIO LINK ADDITION RESPONSE message both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each DSCH and USCH of the RL.]

In the case of a set of co-ordinated DCHs, the DRNC shall include in the RADIO LINK ADDITION RESPONSE message the *Binding ID* IE and the *Transport Layer Address* IE for only one of the DCHs in the set of co-ordinated DCHs.

If the DRNS needs to limit the user rate in the uplink of a DCH due to congestion caused by the UL UTRAN Dynamic Resources (see subclause 9.2.1.79) when starting to utilise a new Radio Link, the DRNC shall include in the RADIO LINK ADDITION RESPONSE message the *Allowed UL Rate* IE in the *DCH Information Response* IE for this Radio Link.

If the DRNS needs to limit the user rate in the downlink of a DCH due to congestion caused by the DL UTRAN Dynamic Resources (see subclause 9.2.1.79) when starting to utilise a new Radio Link, the DRNC shall include in the RADIO LINK ADDITION RESPONSE message the *Allowed DL Rate* IE in the *DCH Information Response* IE for this Radio Link.

[FDD -Transmit Diversity]:

The DRNS shall activate any feedback mode diversity according to the received settings.

[FDD - If the cell in which the RL is being added is capable to provide Close loop Tx diversity, the DRNC shall indicate the Closed loop timing adjustment mode of the cell by includiing the *Closed Loop Timing Adjustment Mode* IE in the RADIO LINK ADDITION RESPONSE message.]

[FDD - When the *Transmit Diversity Indicator* IE is present the DRNS shall activate/deactivate the Transmit Diversity for each new Radio Link in accordance with the *Transmit Diversity Indicator* IE using the diversity mode of the existing Radio Link(s).]

DL Power Control:

[FDD - If the *Primary CPICH Ec/No* IE or the *Primary CPICH Ec/No* IE and the *Enhanced Primary CPICH Ec/No* IE measured by the UE are included for an RL in the RADIO LINK ADDITION REQUEST message, the DRNS shall use this in the calculation of the Initial DL TX Power for this RL. If the *Primary CPICH Ec/No* IE is not present, the DRNS shall set the Initial DL TX Power based on the power relative to the Primary CPICH power used by the existing RLs.]

[TDD - If [3.84Mcps TDD - the *DL Time Slot ISCP Info* IE] [1.28Mcps TDD - the *DL Time Slot ISCP Info LCR* IE] is included in the RADIO LINK ADDITION REQUEST message, the DRNS shall use it in the calculation of the Initial DL TX Power.]

[TDD - If the *Primary CCPCH RSCP Delta* IE is included, the DRNS shall assume that the reported value for Primary CCPCH RSCP is in the negative range as per [24], and the value is equal to the *Primary CCPCH RSCP Delta* IE. If the *Primary CCPCH RSCP Delta* IE is not included and the *Primary CCPCH RSCP* IE is included, the DRNS shall assume that the reported value is in the non-negative range as per [24], and the value is equal to the *Primary CCPCH RSCP* IE. The DRNS shall use it in the calculation of the Initial DL TX Power.]

[TDD - If the *Primary CCPCH RSCP* IE, *Primary CCPCH RSCP Delta* IE, [3.84Mcps TDD - and the *DL Time Slot ISCP Info* IE] [1.28Mcps TDD - and the *DL Time Slot ISCP Info LCR* IE] are not present, the DRNS shall set the Initial DL TX Power based on the power relative to the Primary CCPCH power used by the existing RL.]

[FDD - The Initial DL TX Power shall be applied until UL synchronisation is achieved on the Uu interface for that RLS or Power Balancing is activated. No inner loop power control or power balancing shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref. [10] subclause 5.2.1.2) and the power control procedure (see 8.3.7).]

[TDD - The Initial DL TX Power shall be applied until UL synchronisation is achieved on the Uu interface for that RL. No inner loop power control shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref. [22] subclause 4.2.3.3).]

[3.84 Mcps TDD - The DL TX power upper and lower limit is configured in the following way: The DRNC shall include the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK ADDITION RESPONSE message. If the maximum or minimum power needs to be different for particular DCH type CCTrCHs, the DRNC shall include the value(s) for that CCTrCH in the *CCTrCH Maximum DL TX Power* IE and *CCTrCH Minimum DL TX Power*. The DRNS shall not transmit with a higher power than indicated by the appropriate *Maximum DL TX Power* IE/*CCTrCH Maximum DL TX Power* IE or lower than indicated by the appropriate *Minimum DL TX Power* IE/*CCTrCH Minimum DL TX Power* IE on any DL DPCH within each CCTrCH of the RL.]

[1.28 Mcps TDD - The DL TX power upper and lower limit is configured in the following way: The DRNC shall include the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK ADDITION RESPONSE message. If the maximum or minimum power needs to be different for particular timeslots within a DCH type CCTrCH, the DRNC shall include the value(s) for that timeslot in the *Maximum DL TX Power* IE and *Minimum DL TX Power* within the *DL Timeslot Information LCR* IE. The DRNS shall not transmit with a higher power than indicated by the appropriate *Maximum DL TX Power* IE or lower than indicated by the appropriate *Minimum DL TX Power* IE on any DL DPCH within each timeslot of the RL.]

[FDD - If the *DPC Mode* IE is present in the RADIO LINK ADDITION REQUEST message, the DRNC shall apply the DPC mode indicated in the message, and be prepared that the DPC mode may be changed during the lifetime of the RL. If the *DPC Mode* IE is not present in the RADIO LINK ADDITION REQUEST message, DPC mode 0 shall be applied (see ref. [10]).]

The DRNC shall provide the configured *Maximum DL TX Power* IE and *Minimum DL TX Power* IE for every new RL to the SRNC in the RADIO LINK ADDITION RESPONSE message. The DRNS shall not transmit with a higher power than indicated by the *Maximum DL TX Power* IE or lower than indicated by the *Minimum DL TX Power* IE on any DL DPCH of the RL [FDD - except during compressed mode, when the δP_{curr}, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power for the associated compressed frame.]

[FDD - If the power balancing is active with the Power Balancing Adjustment Type of the UE Context set to "Individual" in the existing RL(s) and the RADIO LINK ADDITION REQUEST message includes the *DL Reference Power* IE, the DRNS shall activate the power balancing and use the *DL Reference Power* IE for the power balancing procedure in the new RL(s), if activation of power balancing by the RADIO LINK ADDITION REQUEST message is supported by the DRNS, according to subclause 8.3.15. In this case, the DRNC shall include the *DL Power Balancing Activation Indicator* IE in the *RL Information Response* IE in the RADIO LINK ADDITION RESPONSE message. If the DRNS starts the DL transmission and the activation of the power balancing at the same CFN, the initial power of the power balancing, i.e. P_{init} shall be set to the power level which is calculated based on the *Primary CPICH Ec/No* IE or the *Enhanced Primary*

CPICH Ec/No IE (if received), or to the power level which is calculated based on the power relative to the Primary CPICH power used by the existing RLs.]

UL Power Control:

The DRNC shall also provide the configured UL Maximum SIR and UL Minimum SIR for every new RL to the SRNC in the RADIO LINK ADDITION RESPONSE message. These values are taken into consideration by DRNS admission control and shall be used by the SRNC as limits for the UL inner-loop power control target.

Neighbouring Cell Handling:

If there are UMTS neighbouring cell(s) to the cell in which a Radio Link was established then:

- The DRNC shall include in the RADIO LINK ADDITION RESPONSE message the *Neighbouring FDD Cell Information* IE and/or *Neighbouring TDD Cell Information* IE in the *Neighbouring UMTS Cell Information* IE for each neighbouring FDD cell and/or TDD cell respectively. In addition, if the information is available, the DRNC shall include in the RADIO LINK ADDITION RESPONSE message the *Frame Offset* IE, *Primary CPICH Power* IE, *Cell Individual Offset* IE, *STTD Support Indicator* IE, *Closed Loop Mode1 Support Indicator* IE, *Closed Loop Mode2 Support Indicator* IE, *Coverage Indicator* IE, *Antenna Co-location Indicator* IE and *HCS Prio* IE in the *Neighbouring FDD Cell Information* IE, and the *Frame Offset* IE, *Cell Individual Offset* IE, *DPCH Constant Value* IE and the *PCCPCH Power* IE, *Coverage Indicator* IE, *Antenna Co-location Indicator* IE and *HCS Prio* IE in the *Neighbouring TDD Cell Information* IE or the *Neighbouring TDD Cell Information LCR* IE. If the *Neighbouring TDD Cell Information* IE includes the *Sync Case* IE set to "Case1", the DRNC shall include the *Time SlotFor SCH* IE in the *Neighbouring TDD Cell Information* IE. If the *Neighbouring TDD Cell Information* IE includes the *Sync Case* IE set to "Case2", the DRNC shall include the *SCH Time Slot* IE in the *Neighbouring TDD Cell Information* IE.

- If a UMTS neighbouring cell is not controlled by the same DRNC, the DRNC shall also include in the RADIO LINK ADDITION RESPONSE message the *CN PS Domain Identifier* IE and/or *CN CS Domain Identifier* IE which are the identifiers of the CN nodes connected to the RNC controlling the UMTS neighbouring cell.

- [FDD - The DRNC shall include in the RADIO LINK ADDITION RESPONSE message the *DPC Mode Change Support Indicator* IE for each neighbour cell in the *Neighbouring FDD Cell Information* IE if this information is available.]

- The DRNC shall include the *Cell Capability Container FDD* IE, the *Cell Capability Container TDD* IE and/or the *Cell Capability Container TDD LCR* IE if the DRNC is aware that the neighbouring cell supports any functionality listed in 9.2.2.D, 9.2.3.1a and 9.2.3.1b.

- For the UMTS neighbouring cells which are controlled by the DRNC, the DRNC shall report in the RADIO LINK SETUP RESPONSE message the restriction state of those cells, otherwise *Restriction State Indicator* IE may be absent. The DRNC shall include the *Restriction State Indicator* IE for the neighbouring cells which are controlled by the DRNC in the *Neighbouring FDD Cell Information* IE, the *Neighbouring TDD Cell Information* IE and the *Neighbouring TDD Cell Information LCR* IE.

- If available, the DRNC shall include the *SNA Information* IE for the concerned neighbouring cells in the *Neighbouring FDD Cell Information* IE, the *Neighbouring TDD Cell Information* IE and the *Neighbouring TDD Cell Information LCR* IE.

If there are GSM neighbouring cells to the cell(s) in which a radio link is established, the DRNC shall include the *Neighbouring GSM Cell Information* IE in the RADIO LINK ADDITION RESPONSE message for each of the GSM neighbouring cells. If available the DRNC shall include the *Cell Individual Offset* IE, and if the *Cell Individual Offset* IE alone cannot represent the value of the offset, the DRNC shall also include the *Extended GSM Cell Individual Offset* IE in the *Neighbouring GSM Cell Information IE*. If available the DRNC shall also include the *Coverage Indicator* IE, *Antenna Co-location Indicator* IE and *HCS Prio* IE in the *Neighbouring GSM Cell Information* IE. If available, the DRNC shall also include the *SNA Information* IE for the concerned neighbouring cells in the *Neighbouring GSM Cell Information* IE.

When receiving the *SNA Information* IE in the RADIO LINK ADDITION RESPONSE message, the SRNC should use it to restrict cell access based on SNA information. See also [40] for a broader description of the SNA access control.

If there are GERAN neighbouring cells to the cell(s) where a radio link is established, the DRNC shall include the *GERAN Cell Capability* IE in the *Neighbouring GSM Cell Information* IE that is included in the RADIO LINK ADDITION RESPONSE message for each of the GERAN cells.

If there are GERAN Iu-mode neighbouring cells to the cell(s) where a radio link is established, the DRNC shall include, if available, the *GERAN Classmark* IE in the *Neighbouring GSM Cell Information* IE that is included in the RADIO LINK ADDITION RESPONSE message for each of the GERAN Iu-mode neighbouring cells. Ref. [39] defines when the transmission of the *GERAN Classmark* IE will be required at the initiation of the Relocation Preparation procedure.

[1.28Mcps TDD - Uplink Synchronisation Parameters LCR]:

[1.28Mcps TDD - If the *Uplink Synchronisation Parameters LCR* IE is present, the DRNC shall use the indicated values of *Uplink synchronisation stepsize* IE and *Uplink synchronisation frequency* IE when evaluating the timing of the UL synchronisation.]

[1.28Mcps TDD - Uplink Timing Advance Control LCR]:

[1.28Mcps TDD - The DRNC shall include the *Uplink Timing Advance Control LCR* IE in the RADIO LINK ADDITION RESPONSE message.]

General:

If the RADIO LINK ADDITION REQUEST message includes the *RL Specific DCH Information* IE, the DRNC may use the transport layer address and the binding identifier received from the SRNC when establishing a transport bearer for the DCH or the set of co-ordinated DCHs.

[FDD - If the RADIO LINK ADDITION REQUEST message contains an *SSDT Cell Identity* IE, the DRNS shall, if supported, activate SSDT for the concerned new RL using the indicated SSDT Cell Identity.]

[FDD - If the RADIO LINK ADDITION REQUEST message includes the *Qth Parameter* IE in addition to the *SSDT Cell Identity* IE, the DRNS shall use the *Qth Parameter* IE, if Qth signalling is supported, when SSDT is activated in the concerned new RL.]

Depending on local configuration in the DRNS, the DRNC may include in the RADIO LINK ADDITION RESPONSE message the *UTRAN Access Point Position* IE and the geographical co-ordinates of the cell, represented either by the *Cell GAI* IE or by the *Cell GA Additional Shapes* IE. If the DRNC includes the *Cell GA Additional Shapes* IE in the RADIO LINK ADDITION RESPONSE message, it shall also include the *Cell GAI* IE.

For each Radio Link established in a cell in which at least one URA Identity is being broadcast, the DRNC shall include in the RADIO LINK ADDITION RESPONSE message a URA Information for this cell including the *URA ID* IE, the *Multiple URAs Indicator* IE indicating whether or not multiple URA Identities are being broadcast in the cell, and the *RNC-ID* IEs of all other RNCs that have at least one cell within the URA identified by the *URA ID* IE.

[FDD - If the UE has been allocated one or several DCH controlled by DRAC and if the DRNS supports the DRAC, the DRNC shall include in the RADIO LINK ADDITION RESPONSE message the *Secondary CCPCH Info* IE for the FACH in which the DRAC information is sent, for each Radio Link established in a cell in which DRAC is active. If the DRNS does not support DRAC, the DRNC shall not provide these IEs in the RADIO LINK ADDITION RESPONSE message.]

[3.84Mcps TDD - The DRNC shall include the *Secondary CCPCH Info TDD* IE in the RADIO LINK ADDITION RESPONSE message if at least one *DSCH Information Response* IE or *USCH Information Response* IE is included in the message and at least one DCH is configured for the radio link. The DRNC shall also include the *Secondary CCPCH Info TDD* IE in the RADIO LINK ADDITION RESPONSE message if at least one *DSCH Information Response* IE or *USCH Information Response* IE is included in the message and the SHCCH messages for this radio link will be transmitted over a different secondary CCPCH than selected by the UE from system information.]

[1.28 Mcps TDD - The DRNC shall include the *Secondary CCPCH Info TDD LCR* IE in the RADIO LINK ADDITION RESPONSE message if at least one *DSCH Information Response LCR* IE or *USCH Information Response LCR* IE is included in the message and at least one DCH is configured for the radio link. The DRNC shall also include the *Secondary CCPCH Info TDD LCR* IE in the RADIO LINK ADDITION RESPONSE message if at least one *DSCH Information Response LCR* IE or *USCH Information Response*

LCR IE is included in the message and the SHCCH messages for this radio link will be transmitted over a different secondary CCPCH than selected by the UE from system information.]

If the *Permanent NAS UE Identity* IE is present in the RADIO LINK ADDITION REQUEST message, the DRNS shall store the information for the considered UE Context for the lifetime of the UE Context.

If the RADIO LINK ADDITION REQUEST message includes a *C-ID* IE corresponding to a cell reserved for operator use and the Permanent NAS UE Identity is available in the DRNC for the considered UE Context, the DRNC shall use this information to determine whether it can add the Radio Link on this cell or not.

If the HCS priority information is available in the DRNS, it shall include the *HCS Prio* IE for each of the established RLs in the RADIO LINK ADDITION RESPONSE message.

[FDD - If the accessed cell supports TFCI power control, the DRNC shall include the *TFCI PC Support Indicator* IE in the RADIO LINK ADDITION RESPONSE message.]

The DRNS shall start receiving on the new RL(s) after the RLs are successfully established.

[FDD - Radio Link Set Handling]:

[FDD - For each RL not having a common generation of the TPC commands in the DL with another RL, the DRNS shall assign to the RL a unique value for the *RL Set ID* IE which uniquely identifies the RL as an RL Set within the UE Context.]

[FDD - For all RLs having a common generation of the TPC commands in the DL with another new or existing RL, the DRNS shall assign to each RL the same value for the *RL Set ID* IE which uniquely identifies these RLs as members of the same RL Set within the UE Context.]

[FDD - After addition of the new RL(s), the UL out-of-sync algorithm defined in ref. [10] shall, for each of the previously existing and newly established RL Set(s), use the maximum value of the parameters N_OUTSYNC_IND and T_RLFAILURE that are configured in the cells supporting the radio links of the RL Set. The UL in-sync algorithm defined in [10] shall, for each of the established RL Set(s), use the minimum value of the parameters N_INSYNC_IND that are configured in the cells supporting the radio links of the RL Set.]

Response message:

If all requested RLs are successfully added, the DRNC shall respond with a RADIO LINK ADDITION RESPONSE message.

After sending the RADIO LINK ADDITION RESPONSE message the DRNS shall continuously attempt to obtain UL synchronisation on the Uu interface.

For each RL for which the *Delayed Activation* IE is not included in the RADIO LINK ADDITION REQUEST message the DRNS shall:

-    [FDD - start transmission on the DL DPDCH(s) of the new RL as specified in ref. [4].]

-    [TDD - start transmission on the new RL immediately as specified in ref. [4].]

For each RL for which the *Delayed Activation* IE is included in the RADIO LINK ADDITION REQUEST message, the DRNS shall:

-    if the *Delayed Activation* IE indicates "Separate Indication":

  -    not start any DL transmission for the concerning RL on the Uu interface;

-    if the *Delayed Activation* IE indicates "CFN":

  -    [FDD - start transmission on the DL DPDCH(s) of the new RL as specified in ref. [4], however never before the CFN indicated in the *Activation CFN* IE.]

-    [TDD - start transmission on the new RL at the CFN indicated in the *Activation CFN* IE as specified in ref. [4].]

8.3.2.3 Unsuccessful Operation
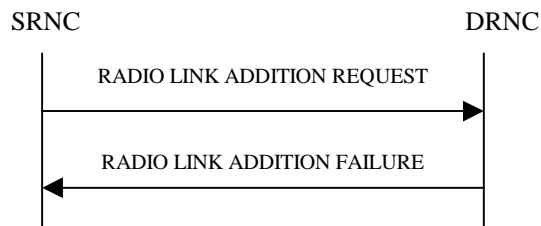
Figure 8: Radio Link Addition procedure: Unsuccessful Operation

If the establishment of at least one RL is unsuccessful, the DRNC shall respond with a RADIO LINK ADDITION FAILURE message. DRNC shall include in the RADIO LINK ADDITION FAILURE message a general *Cause* IE or a *Cause* IE for each failed radio link. The *Cause* IE indicates the reason for failure.

[FDD - If some RL(s) were established successfully, the DRNC shall indicate this in the RADIO LINK ADDITION FAILURE message in the same way as in the RADIO LINK ADDITION RESPONSE message.]

[FDD - If the accessed cell supports TFCI power control, the DRNC shall include the *TFCI PC Support Indicator* IE in the RADIO LINK ADDITION FAILURE message.]

Typical cause values are:

Radio Network Layer Causes:

- DL Radio Resources not Available;

- UL Radio Resources not Available;

- Combining Resources not Available;

- Combining not Supported

- Cell not Available;

- [FDD - Requested Tx Diversity Mode not Supported];

- Power Level not Supported;

- CM not Supported;

- Reconfiguration CFN not Elapsed;

- Number of DL Codes not Supported;

- Number of UL codes not Supported;

- [FDD - DPC mode change not Supported];

- Cell reserved for operator use;

- Delayed Activation not supported.

Transport Layer Causes:

- Transport Resource Unavailable.

Miscellaneous Causes:

- Control Processing Overload;

- HW Failure;

- Not enough User Plane Processing Resources.

8.3.2.4 Abnormal Conditions

If the RADIO LINK ADDITION REQUEST message includes a *C-ID* IE corresponding to a cell reserved for operator use and the Permanent NAS UE Identity is not available in the DRNC for the considered UE Context, the DRNC shall reject the procedure for this particular Radio Link and send the RADIO LINK ADDITION FAILURE message.

[FDD - If the RADIO LINK ADDITION REQUEST message includes the *Transmission Gap Pattern Sequence Status* IEs in the *Active Pattern Sequence Information* IE and it does not address exactly all ongoing compressed mode patterns the DRNS shall reject the Radio Link Addition procedure and shall respond with a RADIO LINK ADDITION FAILURE message with the *Cause* IE value "Invalid CM settings".]

[FDD - If the RADIO LINK ADDITION REQUEST message is used to establish a new RL without compressed mode when compressed mode is active for the existing RL(s) (as specified in subclause 8.3.2.2), and if at least one of the new RLs is to be established in a cell that has the same UARFCN (both UL and DL) as at least one cell with an already existing RL, the DRNS shall reject the Radio Link Addition procedure and shall respond with a RADIO LINK ADDITION FAILURE message with the cause value "Invalid CM settings".]

[FDD - If the power balancing is active with the Power Balancing Adjustment Type of the UE Context set to "Individual" in the existing RL(s) and if the *DL Reference Power* IEs are included in the *RL Information* IE but the *DL Reference Power* IE is not present for each RL in the *RL Information* IE, the DRNC shall reject the Radio Link Addition procedure and shall respond with a RADIO LINK ADDITION FAILURE message.]

[FDD - If the RADIO LINK ADDITION REQUEST message includes the *DL Reference Power* IEs in the *RL Information* IE but the power balancing is not active in the existing RL(s) or the power balancing is active with the Power Balancing Adjustment Type of the UE Context set to "Common" in the existing RL(s), the DRNC shall reject the Radio Link Addition procedure and shall respond with a RADIO LINK ADDITION FAILURE message with the cause value "Power Balancing status not compatible".]

[FDD - If the RADIO LINK ADDITION REQUEST message includes the *Enhanced Primary CPICH Ec/No* IE, but not the *Primary CPICH Ec/No* IE, then the DRNC shall reject the procedure using the RADIO LINK ADDITION FAILURE message.]

If the RADIO LINK ADDITION REQUEST message includes the *Transport Layer Address* IE and the *Binding ID* IE in the *RL Specific DCH Information* IE included in the *RL Information* IE for a specific RL and the *Diversity Control Field* IE is set to "Must", the DRNC shall reject the Radio Link Addition procedure and respond with the RADIO LINK ADDITION FAILURE message.

If the RADIO LINK ADDITION REQUEST message includes the *Transport Layer Address* IE or the *Binding ID* IE, and not both are present for a transport bearer intended to be established, the DRNC shall reject the Radio Link Addition procedure and respond with the RADIO LINK ADDITION FAILURE message.

8.3.3 Radio Link Deletion

8.3.3.1 General

The Radio Link Deletion procedure is used to release the resources in a DRNS for one or more established radio links towards a UE.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The Radio Link Deletion procedure may be initiated by the SRNC at any time after establishing a Radio Link.

8.3.3.2 Successful Operation

SRNC   DRNC

RADIO LINK DELETION REQUEST

RADIO LINK DELETION RESPONSE
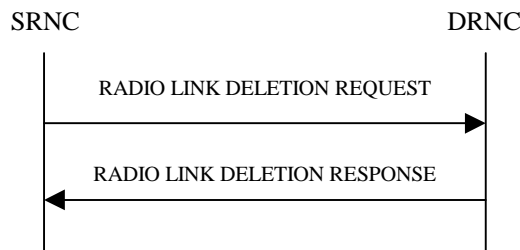
Figure 9: Radio Link Deletion procedure, Successful Operation

The procedure is initiated with a RADIO LINK DELETION REQUEST message sent from the SRNC to the DRNC.

Upon receipt of this message, the DRNS shall delete the radio link(s) identified by the *RL ID* IE(s) in the message, shall release all associated resources and shall respond to the SRNC with a RADIO LINK DELETION RESPONSE message.

If the radio link(s) to be deleted represent the last radio link(s) for the UE in the DRNS and if the UE is not using any common resources in the DRNS, then the DRNC shall release the UE Context.

[FDD - After deletion of the RL(s), the UL out-of-sync algorithm defined in ref. [10] shall for each of the remaining RL Set(s) use the maximum value of the parameters N_OUTSYNC_IND and T_RLFAILURE that are configured in the cells supporting the radio links of the RL Set. The UL in-sync algorithm defined in ref. [10] shall for each of the remaining RL Set(s) use the minimum value of the parameters N_INSYNC_IND that are configured in the cells supporting the radio links of the RL Set.]

8.3.3.3 Unsuccessful Operation

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8.3.3.4 Abnormal Conditions

If the RL indicated by the *RL ID* IE does not exist, the DRNC shall respond with the RADIO LINK DELETION RESPONSE message.

8.3.4 Synchronised Radio Link Reconfiguration Preparation

8.3.4.1 General

The Synchronised Radio Link Reconfiguration Preparation procedure is used to prepare a new configuration of Radio Link(s) related to one UE-UTRAN connection within a DRNS.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The Synchronised Radio Link Reconfiguration Preparation procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.4.2 Successful Operation

SRNC   DRNC

RADIO LINK RECONFIGURATION PREPARE

RADIO LINK RECONFIGURATION READY
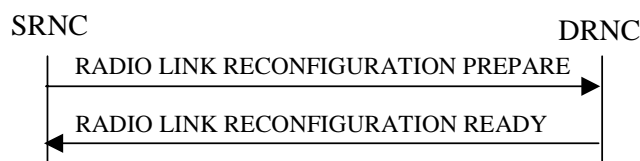
Figure 10: Synchronised Radio Link Reconfiguration Preparation procedure, Successful Operation

The Synchronised Radio Link Reconfiguration Preparation procedure is initiated by the SRNC by sending the RADIO LINK RECONFIGURATION PREPARE message to the DRNC.

Upon receipt, the DRNS shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Allowed Queuing Time* IE the DRNS may queue the request the time corresponding to the value of the *Allowed Queuing Time* IE before starting to execute the request.

The DRNS shall prioritise resource allocation for the RL(s) to be modified according to Annex A.

DCH Modification:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCHs To Modify* IEs, the DRNS shall treat them each as follows:

- If the *DCHs To Modify* IE includes multiple *DCH Specific Info* IEs then the DRNS shall treat the DCHs in the *DCHs To Modify* IE as a set of co-ordinated DCHs. The DRNS shall include these DCHs in the new configuration only if it can include all of them in the new configuration.

- If the *DCHs To Modify* IE includes the *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs to be modified, the DRNS shall apply the new FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- If the *DCHs To Modify* IE includes the *ToAWS* IE for a DCH or a set of co-ordinated DCHs to be modified, the DRNS shall apply the new ToAWS in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- If the *DCHs To Modify* IE includes the *ToAWE* IE for a DCH or a set of co-ordinated DCHs to be modified, the DRNS shall apply the new ToAWE in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- If the *DCHs To Modify* IE contains a *DCH Specific Info* IE which includes the *Frame Handling Priority* IE for a DCH to be modified, the DRNS should store this information for this DCH in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

- If the *DCHs To Modify* IE contains a *DCH Specific Info* IE which includes the *Traffic Class* IE for a DCH to be modified, the DRNS should store this information for this DCH in the new configuration. The *Traffic Class* IE may be used to determine the transport bearer characteristics to apply between DRNC and Node B for the related DCH or set of co-ordinated DCHs. The DRNC should ignore the *Traffic Class* IE if the *TrCH Source Statistics Descriptor* IE indicates the value 'RRC'.

- If the *DCHs To Modify* IE contains a *DCH Specific Info* IE which includes the *Transport Format Set* IE for the UL of a DCH to be modified, the DRNS shall apply the new Transport Format Set in the Uplink of this DCH in the new configuration.

- If the *DCHs to Modify* IE includes the *TNL QoS* IE for a DCH or a set of co-ordinated DCHs to be modified and if ALCAP is not used, the DRNS may store this information for this DCH in the new configuration. The *TNL QoS* IE may be used to determine the transport bearer characteristics to apply in the uplink for the related DCH or set of co-ordinated DCHs.

- If the *DCHs To Modify* IE contains a *DCH Specific Info* IE which includes the *Transport Format Set* IE for the DL of a DCH to be modified, the DRNS shall apply the new Transport Format Set in the Downlink of this DCH in the new configuration.

- If the *DCHs To Modify* IE contains a *DCH Specific Info* IE which includes the *Allocation/Retention Priority* IE, the DRNS shall apply the new Allocation/Retention Priority to this DCH in the new configuration according to Annex A.

- [FDD - If the *DCHs To Modify* IE contains a *DRAC Control* IE set to "requested" and if the DRNS supports the DRAC, the DRNC shall include in the RADIO LINK RECONFIGURATION READY message the *Secondary CCPCH Info* IE for the FACH in which the DRAC information is sent, for each Radio Link established in a cell in which DRAC is active. If the DRNS does not support DRAC, DRNC shall not provide these IEs in the RADIO LINK RECONFIGURATION READY message.]

- [TDD - If the *DCHs To Modify* IE includes the *CCTrCH ID* IE for the UL, the DRNS shall map the DCH onto the referenced UL CCTrCH in the new configuration.]

- [TDD - If the *DCHs To Modify* IE includes the *CCTrCH ID* IE for the DL, the DRNS shall map the DCH onto the referenced DL CCTrCH in the new configuration.]

- If the *DCHs To Modify* IE contains a *DCH Specific Info* IE which includes the *Guaranteed Rate Information* IE, the DRNS shall treat the included IEs according to the following:

  - If the *Guaranteed Rate Information* IE includes the *Guaranteed UL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the uplink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate in the uplink of the DCH at any point in time after activating the new configuration. The DRNS may request the SRNC to reduce the user rate of the uplink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to reduce the user rate between the maximum bit rate and the guaranteed bit rate.

  - If the *Guaranteed Rate Information* IE includes the *Guaranteed DL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the downlink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate in the downlink of the DCH at any point in time after activating the new configuration. The DRNS may request the SRNC to reduce the user rate of the downlink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to reduce the user rate between the maximum bit rate and the guaranteed bit rate.

DCH Addition:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCHs To Add* IEs, the DRNS shall treat them each as follows:

- The DRNS shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message and include these DCH in the new configuration.

- If the *DCH Information* IE includes a *DCHs To Add* IE with multiple *DCH Specific Info* IEs, the DRNS shall treat the DCHs in the *DCHs To Add* IE as a set of co-ordinated DCHs. The DRNS shall include these DCHs in the new configuration only if it can include all of them in the new configuration.

- If the *DCH Specific Info* IE includes the *Unidirectional DCH Indicator* IE set to "Uplink DCH only', the DRNS shall ignore the *Transport Format Set* IE for the downlink for this DCH. As a consequence this DCH is not included as a part of the downlink CCTrCH.

- [TDD - If the *DCH Specific Info* IE includes the *Unidirectional DCH Indicator* IE set to "Downlink DCH only', the DRNS shall ignore the *Transport Format Set* IE for the uplink for this DCH. As a consequence this DCH is not included as a part of the uplink CCTrCH.]

- [FDD - For each DCH which do not belong to a set of co-ordinated DCHs and which includes a *QE-Selector* IE set to "selected", the DRNS shall use the Transport channel BER from that DCH for the QE in the UL data frames. If no Transport channel BER is available for the selected DCH, the DRNS shall use the Physical channel BER for the QE, ref. [4]. If the *QE-Selector* IE is set to "non-selected", the DRNS shall use the Physical channel BER for the QE in the UL data frames, ref. [4].]

- For a set of co-ordinated DCHs, the DRNS shall use the Transport channel BER from the DCH with the *QE-Selector* IE set to "selected" for the QE in the UL data frames, ref. [4]. [FDD - If no Transport channel BER is available for the selected DCH, the DRNS shall use the Physical channel BER for the QE, ref. [4]. If all DCHs have the *QE-Selector* IE set to "non-selected", the DRNS shall use the Physical channel BER for the QE, ref. [4]. [TDD - If no Transport channel BER is available for the selected DCH, the DRNS shall use 0 for the QE, ref. [4].]

- The DRNS should store the *Frame Handling Priority* IE received for a DCH to be added in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the Uu interface in congestion situations within the DRNS once the new configuration has been activated.

- If the *TNL QoS* IE is included for a DCH or a set of co-ordinated DCHs and if ALCAP is not used, the DRNS may use this information to determine the transport bearer characteristics to apply for the uplink for the related DCH or set of co-ordinated DCHs.

- The DRNS should store the *Traffic Class* IE received for a DCH to be added in the new configuration. The *Traffic Class* IE may be used to determine the transport bearer characteristics to apply between DRNC and Node B for the related DCH or set of co-ordinated DCHs. The DRNC should ignore the *Traffic Class* IE if the *TrCH Source Statistics Descriptor* IE indicates the value 'RRC'.

- The DRNS shall use the included *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs to be added as the new FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- The DRNS shall use the included *ToAWS* IE for a DCH or a set of co-ordinated DCHs to be added as the new Time of Arrival Window Startpoint in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- The DRNS shall use the included *ToAWE* IE for a DCH or a set of co-ordinated DCHs to be added as the new Time of Arrival Window Endpoint in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- [TDD - The DRNC shall include the *Secondary CCPCH Info TDD* IE in the RADIO LINK RECONFIGURATION READY message if at least one DSCH or USCH exists in the new configuration.]

- [FDD - If the *DRAC Control* IE is set to "requested" in the *DCH Specific Info* IE for at least one DCH and if the DRNS supports the DRAC, the DRNC shall indicate in the RADIO LINK RECONFIGURATION READY message the *Secondary CCPCH Info* IE for the FACH in which the DRAC information is sent, for each radio link supported by a cell in which DRAC is active. If the DRNS does not support DRAC, the DRNC shall not provide these IEs in the RADIO LINK RECONFIGURATION READY message.]

- If the *DCHs To Add* IE contains a *DCH Specific Info* IE which includes the *Guaranteed Rate Information* IE, the DRNS shall treat the included IEs according to the following:

  - If the *Guaranteed Rate Information* IE includes the *Guaranteed UL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the uplink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate of the uplink of the DCH at any point in time after activating the new configuration. The DRNS may request the SRNC to reduce the user rate of the uplink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to reduce the user rate between the maximum bit rate and the guaranteed bit rate. If the *DCH Specific Info* IE in the *DCHs To Add* IE does not include the *Guaranteed UL Rate* IE, the DRNS shall not limit the user rate of the uplink of the DCH.

  - If the *Guaranteed Rate Information* IE includes the *Guaranteed DL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the downlink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate of the downlink of the DCH at any point in time after activating the new configuration. The DRNS may request the SRNC to reduce the user rate of the downlink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to reduce the user rate between the maximum bit rate and the guaranteed bit rate. If the *DCH Specific Info* IE in the *DCHs To Add* IE does not include the *Guaranteed DL Rate* IE, the DRNS shall not limit the user rate of the downlink of the DCH.

- [TDD - The DRNS shall apply the *CCTrCH ID* IE (for the DL) in the Downlink of this DCH in the new configuration.]

- [TDD - The DRNS shall apply the *CCTrCH ID* IE (for the UL) in the Uplink of this DCH in the new configuration.]

DCH Deletion:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCH To Delete*, the DRNS shall not include the referenced DCHs in the new configuration.

If all of the DCHs belonging to a set of co-ordinated DCHs are requested to be deleted, the DRNS shall not include this set of co-ordinated DCHs in the new configuration.

Physical Channel Modification:

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes an *UL DPCH Information* IE, the DRNS shall apply the parameters to the new configuration as follows:]

- [FDD - If the *UL DPCH Information* IE includes the *Uplink Scrambling Code* IE, the DRNS shall apply this Uplink Scrambling Code to the new configuration.]

- [FDD - If the *UL DPCH Information* IE includes the *Min UL Channelisation Code Length* IE, the DRNS shall apply the new Min UL Channelisation Code Length in the new configuration. The DRNS shall apply the contents of the *Max Number of UL DPDCHs* IE (if it is included) in the new configuration.]

- [FDD - If the *UL DPCH Information* IE includes the *TFCS* IE, the DRNS shall use the *TFCS* IE for the UL when reserving resources for the uplink of the new configuration. The DRNS shall apply the new TFCS in the uplink of the new configuration.]

- [FDD - If the *UL DPCH Information* IE includes the *UL DPCCH Slot Format* IE, the DRNS shall apply the new Uplink DPCCH *Slot Format* to the new configuration.]

- [FDD - If the *UL DPCH Information* IE includes the *UL SIR Target* IE, the DRNS shall use the value for the UL inner loop power control when the new configuration is being used.]

- [FDD - If the *UL DPCH Information* IE includes the *Puncture Limit* IE, the DRNS shall apply the value in the uplink of the new configuration.]

- [FDD - If the *UL DPCH Information* IE includes the *Diversity Mode* IE, the DRNS shall apply diversity according to the given value.]

- [FDD - If the *UL DPCH Information* IE includes an *SSDT Cell Identity Length* IE and/or an *S-Field Length* IE, the DRNS shall apply the values in the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes a *DL DPCH Information* IE, the DRNS shall apply the parameters to the new configuration as follows:]

- [FDD - If the *DL DPCH Information* IE includes the *Number of DL Channelisation Codes* IE, the DRNS shall allocate given number of Downlink Channelisation Codes per Radio Link and apply the new Downlink Channelisation Code(s) to the new configuration. Each Downlink Channelisation Code allocated for the new configuration shall be included in the RADIO LINK RECONFIGURATION READY message within the *DL Code Information* IE as a *FDD DL Channelisation Code Number* IE when sent to the SRNC. If some Transmission Gap Pattern sequences using "SF/2" method are already initialised in the DRNS, DRNC shall include the *Transmission Gap Pattern Sequence Scrambling Code Information* IE in the RADIO LINK RECONFIGURATION READY message in case the DRNS selects to change the Scrambling code change method for one or more DL Channelisation Code.]

- [FDD - When more than one DL DPDCH are assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to [8]. When *p* number of DL DPDCHs are assigned to each RL, the first pair of DL Scrambling Code and FDD DL Channelisation Code Number corresponds to "*PhCH number 1*", the second to "*PhCH number 2*", and so on until the *p*th to "*PhCH number p*".]

- [FDD - If the *DL DPCH Information* IE includes the *TFCS* IE, the DRNS shall use the *TFCS* IE for the DL when reserving resources for the downlink of the new configuration. The DRNS shall apply the new TFCS in the Downlink of the new configuration.]

- [FDD - If the *DL DPCH Information* IE includes the *DL DPCH Slot Format* IE, the DRNS shall apply the new slot format used in DPCH in DL.]

- [FDD - If the *DL DPCH Information* IE includes the *TFCI Signalling Mode* IE, the DRNS shall apply the new signalling mode of the TFCI.]

- [FDD - If the *DL DPCH Information* IE includes the *Multiplexing Position* IE, the DRNS shall apply the new parameter to define whether fixed or flexible positions of transport channels shall be used in the physical channel.]

- [FDD - If the *DL DPCH Information* IE includes the *Limited Power Increase* IE set to "Used", the DRNS shall, if supported, use Limited Power Increase according to ref. [10] subclause 5.2.1 for the inner loop DL power control in the new configuration.]

- [FDD - If the *DL DPCH Information* IE includes the *Limited Power Increase* IE set to "Not Used", the DRNS shall not use Limited Power Increase for the inner loop DL power control in the new configuration.]

- [FDD - If the RADIO LINK RECONFIGURATION PREPARE message does not include the *Length of TFCI2* IE and the *Split type* IE is present with the value "Hard", then the DRNS shall assume the length of the TFCI (field 2) is 5 bits.]

- [FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes *Split Ty*pe IE, then the DRNS shall apply this information to the new configuration of TFCI.]

- [FDD - If the *DL DPCH Information* IE includes the *Length of TFCI2* IE, the DRNS shall apply this information to the length of TFCI(field 2) in the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transmission Gap Pattern Sequence Information* IE, the DRNS shall store the new information about the Transmission Gap Pattern Sequences to be used in the new Compressed Mode Configuration. Any Transmission Gap Pattern Sequences already existing in the previous Compressed Mode Configuration are replaced by the new sequences once the new Compressed Mode Configuration has been activated. This new Compressed Mode Configuration shall be valid in the DRNS until the next Compressed Mode Configuration is configured in the DRNS or until the last Radio Link is deleted.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transmission Gap Pattern Sequence Information* IE and the *Downlink Compressed Mode Method* IE in one or more Transmission Gap Pattern Sequence within the *Transmission Gap Pattern Sequence Information* IE is set to "SF/2", the DRNC shall include the *Transmission Gap Pattern Sequence Scrambling Code Information* IE in the RADIO LINK RECONFIGURATION READY message indicating for each Channelisation Code whether the alternative scrambling code shall be used or not].

[TDD - UL/DL CCTrCH Modification]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes any *UL CCTrCH To Modify* IEs or *DL CCTrCH To Modify* IEs, then the DRNS shall treat them each as follows:]

- [TDD - If any of the *UL CCTrCH To Modify* IEs or *DL CCTrCH To Modify* IEs includes any of the *TFCS* IE, *TFCI coding* IE, *Puncture limit* IE, or *TPC CCTrCH ID* IEs the DRNS shall apply these as the new values, otherwise the previous values specified for this CCTrCH are still applicable.]

- [TDD - If any of the following listed DPCH information IEs are modified in the new prepared configuration, the DRNC shall include in the RADIO LINK RECONFIGURATION READY message the IEs indicating the new values: *Repetition Period* IE, *Repetition Length* IE, *TDD DPCH Offset* IE, [3.84Mcps TDD - *UL Timeslot Information* IE,] [1.28Mcps TDD - *UL Timeslot Information LCR* IE,] [3.84Mcps TDD - *DL Timeslot Information* IE,] [1.28Mcps TDD - *DL Timeslot Information LCR* IE,] [3.84Mcps TDD - *Midamble Shift And Burst Type* IE,] [1.28Mcps TDD - *Midamble Shift LCR* IE,] *TFCI Presence* IE, [3.84Mcps TDD - *TDD Channelisation Code* IE,] [1.28Mcps TDD - and/or *TDD Channelisation Code LCR* IE,] [1.28Mcps TDD - *TDD UL DPCH Time Slot Format LCR* IE or *TDD DL DPCH Time Slot Format LCR* IE].]

- [1.28Mcps TDD - If the *UL CCTrCH To Modify* IE includes the *UL SIR Target* IE, the DRNS shall use the value for the UL inner loop power control according [12] and [22] in the new configuration.]

- [TDD - If any of the *DL CCTrCH To Modify* IEs includes any *TPC CCTrCH ID* IEs, the DRNS shall apply these as the new values, otherwise the previous values specified for this CCTrCH are still applicable.]

- [1.28Mcps TDD - If the *UL CCTrCH to Modify* IE includes the *TDD TPC Uplink Step Size* IE, the DRNS shall apply this value to the uplink TPC step size in the new configuration.]

- [TDD - If the *DL CCTrCH to Modify* IE includes the *TDD TPC Downlink Step Size* IE, the DRNS shall apply this value to the downlink TPC step size in the new configuration.]

[TDD - UL/DL CCTrCH Addition]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes any *UL CCTrCH To Add* IEs or *DL CCTrCH To Add* IEs, the DRNS shall include this CCTrCH in the new configuration.]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCHs to Add* IEs, the DRNC shall include in the RADIO LINK RECONFIGURATION READY message the DPCH information in [3.84Mcps TDD - *UL DPCH to be Added* IE/*DL DPCH to be Added* IEs] [1.28Mcps TDD - *UL DPCH to be Added LCR* IE/*DL DPCH to be Added LCR* IEs] [3.84Mcps TDD - If no UL DPCH is active before a reconfiguration which adds an UL DPCH, and if a valid Rx Timing Deviation measurement is known in DRNC, then the DRNC shall include the *Rx Timing Deviation* IE in the RADIO LINK RECONFIGURATION READY message].]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *TDD TPC Downlink Step Size* IE within a *DL CCTrCH To Add* IE, the DRNS shall set the TPC step size of that CCTrCH to that value, otherwise the DRNS shall use the same value as the lowest numbered DL CCTrCH in the current configuration.]

[1.28Mcps TDD - The DRNS shall use the *UL SIR Target* IE in the *UL CCTrCH To Add* IE as the UL SIR value for the inner loop power control for this CCTrCH according [12] and [22] in the new configuration.]

[TDD - If any of the *DL CCTrCH To Add* IEs includes any *TPC CCTrCH ID* IEs, the DRNS shall configure the identified UL CCTrCHs with TPC according to the parameters given in the message.]

[1.28Mcps TDD - If the *UL CCTrCH To Add* IE includes *TDD TPC Uplink Step Size* IE, the DRNS shall apply the uplink TPC step size in the new configuration.]

[TDD - UL/DL CCTrCH Deletion]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes any *UL CCTrCH To Delete* IEs *or DL CCTrCH To Delete* IEs, the DRNS shall remove this CCTrCH in the new configuration, and the DRNC shall include in the RADIO LINK RECONFIGURATION READY message corresponding *UL DPCH to be Deleted* IEs and *DL DPCH to be Deleted* IEs.]

SSDT Activation/Deactivation:

- [FDD - If the *RL Information* IE includes the *SSDT Indication* IE set to "SSDT Active in the UE", then in the new configuration the DRNS shall activate SSDT, if supported, using the *SSDT Cell Identity* IE in *RL Information* IE, and the *SSDT Cell Identity Length* IE in *UL DPCH Information* IE.]

- [FDD - If the *RL Information* IE includes the *Qth Parameter* IE and the *SSDT Indication* IE set to "SSDT Active in the UE", the DRNS shall use the *Qth Parameter* IE, if Qth signalling is supported, when SSDT is activated in the new configuration.]

- [FDD - If the *RL Information* IE includes the *SSDT Indication* IE set to "SSDT not Active in the UE", the DRNS shall deactivate SSDT in the new configuration.]

DL Power Control:

- [FDD - If the *RL Information* IE includes the *DL Reference Power* IEs and power balancing is active, DRNS shall update the reference power of the power balancing in the indicated RL(s), if updating of power balancing parameters by the RADIO LINK RECONFIGURATION PREPARE message is supported, at the CFN in the RADIO LINK RECONFIGURATION COMMIT message, according to subclause 8.3.15, using the *DL Reference Power* IE. If the CFN modulo the value of the *Adjustment Period* IE is not equal to 0, the power balancing continues with the old reference power until the end of the current adjustment period, and the updated reference power shall be used from the next adjustment period.]

[FDD - If updating of power balancing parameters by the RADIO LINK RECONFIGURATION PREPARE message is supported by the DRNS, the DRNC shall include the *DL Power Balancing Updated Indicator* IE in the *RL Information Response* IE for each affected RL in the RADIO LINK RECONFIGURATION READY message.]

DSCH Addition/Modification/Deletion:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DSCH To Add*, *DSCH To Modify* or *DSCH To Delete* IEs, then the DRNS shall use this information to add/modify/delete the indicated DSCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs.

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DSCH To Add* IE, then the DRNS shall use the *Allocation/Retention Priority* IE*, Scheduling Priority Indicator* IE and *TrCH Source Statistics Descriptor* IE to define a set of DSCH Priority classes each of which is associated with a set of supported MAC-c/sh SDU lengths.

The DRNC shall include in the RADIO LINK RECONFIGURATION READY message both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each added DSCH.

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DSCH To Add* IE, then the DRNS may use the *Traffic Class* IE to determine the transport bearer characteristics to apply between DRNC and Node B for the related DSCHs.

[FDD - If the *DSCHs To Add* IE includes the *Enhanced DSCH PC* IE, the DRNS shall activate enhanced DSCH power control in accordance with ref. [10] subclause 5.2.2, if supported, using either:]

- [FDD - the *SSDT Cell Identity for EDSCHPC* IE in the *RL Information* IE, if the *SSDT Cell Identity* IE is not included in the *RL Information* IE or]

- [FDD - the *SSDT Cell Identity* IE in the *RL Information* IE, if both the *SSDT Cell Identity* IE and the *SSDT Cell Identity for EDSCHPC* are included in the *RL Information* IE.]

[FDD - together with the *SSDT Cell Identity Length* IE in *UL DPCH Information* IE, and *Enhanced DSCH PC* IE, in the new configuration.]

[FDD - If the enhanced DSCH power control is activated and the TFCI PC Mode 2 is supported, the primary/secondary status determination in the enhanced DSCH power control shall be applied to the TFCI power control in DSCH hard split mode.]

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DSCH To Modify* IE, then the DRNS shall treat them each as follows:

- The DRNC shall include in the RADIO LINK RECONFIGURATION READY message both the *Transport Layer Address* IE and the *Binding ID* IE for any new transport bearer to be established for each modified DSCH.

- [FDD - If the *DSCH To Modify* IE includes any *DSCH Info* IEs, then the DRNS shall treat them each as follows:]

    - [FDD - If the *DSCH Info* IE includes any of the *Allocation/Retention Priority* IE, *Scheduling Priority Indicator* IE or *TrCH Source Statistics Descriptor* IE, the DRNS shall use them to update the set of DSCH Priority classes each of which is associated with a set of supported MAC-c/sh SDU lengths.]

    - [FDD - If the *DSCH Info* IE includes any of the *Transport Format Set* IE or *BLER* IE, the DRNS shall apply the parameters to the new configuration.]

    - [FDD - If the DSCH Info IE includes the *Traffic Class* IE, the DRNS may use this information to determine the transport bearer characteristics to apply between DRNC and Node B for the related DSCHs.]

- [FDD - If the *DSCH To Modify* IE includes the *PDSCH RL ID* IE, then the DRNS shall use it as the new DSCH RL identifier.]

- [FDD - If the indicated PDSCH RL ID is in the DRNS and there was no DSCH-RNTI allocated to the UE Context, the DRNC shall allocate a DSCH-RNTI to the UE Context and include the *DSCH-RNTI* IE in the RADIO LINK RECONFIGURATION READY message.]

- [FDD - If the indicated PDSCH RL ID is in the DRNS and there was a DSCH-RNTI allocated to the UE Context, the DRNC shall allocate a new DSCH-RNTI to the UE Context, release the old DSCH-RNTI and include the *DSCH-RNTI* IE in the RADIO LINK RECONFIGURATION READY message.]

- [FDD - If the indicated PDSCH RL ID is not in the DRNS and there was a DSCH-RNTI allocated to the UE Context, the DRNC shall release this DSCH-RNTI.]

- [FDD - If the *DSCH To Modify* IE includes the *Transport Format Combination Set* IE, then the DRNS shall use it as the new Transport Format Combination Set associated with the DSCH.]

- [TDD - If the *DSCHs To Modify* IE includes the *CCTrCH ID* IE, then the DRNS shall map the DSCH onto the referenced DL CCTrCH.]

- [TDD - If the *DSCHs To Modify* IE includes any of the *Allocation/Retention Priority* IE, *Scheduling Priority Indicator* IE or *TrCH Source Statistics Descriptor* IE, the DNRS shall use them to update the set of DSCH Priority classes each of which is associated with a set of supported MAC-c/sh SDU lengths.]

- [TDD - If the *DSCHs To Modify* IE includes any of the *Transport Format Set* IE or *BLER* IE, the DRNS shall apply the parameters to the new configuration.]

- [TDD - If the *DSCHs To Modify* IE includes the *Traffic Class* IE, the DRNS may use this information to determine the transport bearer characteristics to apply between DRNC and Node B for the related DSCHs.]

- [FDD - If the *DSCHs To Modify* IE includes the *Enhanced DSCH PC Indicator* IE set to "Enhanced DSCH PC Active in the UE ", the DRNS shall activate enhanced DSCH power control in accordance with ref. [10] subclause 5.2.2, if supported, using either:]

- [FDD - the *SSDT Cell Identity for EDSCHPC* IE in *RL Information* IE, if the *SSDT Cell Identity* IE is not included in the *RL Information* IE or]

- [FDD - the *SSDT Cell Identity* IE in the *RL Information* IE, if both the *SSDT Cell Identity* IE and the *SSDT Cell Identity for EDSCHPC* are included in the *RL Information* IE.]

[FDD - together with the *SSDT Cell Identity Length* IE in *UL DPCH Information* IE, and *Enhanced DSCH PC* IE, in the new configuration.]

- [FDD - If the *DSCHs To Modify* IE includes the *Enhanced DSCH PC Indicator* IE set to "Enhanced DSCH PC not Active in the UE", the DRNS shall deactivate enhanced DSCH power control in the new configuration.]

[FDD - If the enhanced DSCH power control is activated and the TFCI PC Mode 2 is supported, the primary/secondary status determination in the enhanced DSCH power control shall be applied to the TFCI power control in DSCH hard split mode.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes a *DSCHs To Delete* IE requesting the deletion of all DSCH resources for the UE Context, then the DRNC shall release the DSCH-RNTI allocated to the UE Context, if there was one.]

[3.84 Mcps TDD - The DRNC shall include the *Secondary CCPCH Info TDD* IE in the RADIO LINK RECONFIGURATION READY message if a DSCH is added and at least one DCH exists in the new configuration. The DRNC shall also include the *Secondary CCPCH Info TDD* IE in the RADIO LINK RECONFIGURATION READY message if the SHCCH messages for this radio link will be transmitted over a different secondary CCPCH than selected by the UE from system information.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *Enhanced DSCH PC Indicator* IE set to "Enhanced DSCH PC not Active in the UE", the DRNS shall deactivate enhanced DSCH power control in the new configuration.]

If the requested modifications are allowed by the DRNS and the DRNS has successfully reserved the required resources for the new configuration of the Radio Link(s), it shall respond to the SRNC with the RADIO LINK RECONFIGURATION READY message.

The DRNC shall include the *DSCH Initial Window Size* IE in the RADIO LINK RECONFIGURATION READY message for each DSCH, if the DRNS allows the SRNC to start transmission of MAC-c/sh SDUs before the DRNS has allocated capacity on user plane as described in [32].

[TDD USCH Addition/Modification/Deletion]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes any *USCH To Modify*, *USCH To Add* or *USCH To Delete* IEs, then the DRNS shall use this information to add/modify/delete the indicated USCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs.]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes any *USCH To Add* IE, then, the DRNS shall use the *Allocation/Retention Priority* IE, *Scheduling Priority Indicator* IE and *TrCH Source Statistics Descriptor* IE to define a set of USCH Priority classes each of which is associated with a set of supported MAC-c/sh SDU lengths.]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes any *USCH To Add* IE, then the DRNS may use the *Traffic Class* IE to determine the transport bearer characteristics to apply between DRNC and Node B for the related USCHs.]

[TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes any *USCH To Add* IE, if the *TNL QoS* IE is included and if ALCAP is not used, the DRNS may use the *TNL QoS* IE to determine the transport bearer characteristics to apply for the related USCHs.]

[TDD - The DRNC shall include in the RADIO LINK RECONFIGURATION READY message both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each added USCH.]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes any *USCH To Modify* IE, then the DRNS shall treat them each as follows:]

- [TDD - If the *USCH To Modify* IE includes any of the Allocation/Retention Priority IE, Scheduling Priority Indicator IE or TrCH Source Statistics Descriptor IE, the DNRS shall use them to update the set of USCH Priority classes.]

- [TDD - If the *USCH To Modify* IE includes any of the *CCTrCH ID* IE, *Transport Format Set* IE, *BLER* IE or *RB Info* IE, the DRNS shall apply the parameters to the new configuration.]

- [TDD - If the *USCHs To Modify* IE includes the *Traffic Class* IE, the DRNS may use this information to determine the transport bearer characteristics to apply between DRNC and Node B for the related USCHs.]

- [TDD - The DRNC shall include the *Secondary CCPCH Info TDD* IE in the RADIO LINK RECONFIGURATION READY message if a USCH is added and at least one DCH exists in the new configuration. The DRNC shall also include the *Secondary CCPCH Info TDD* IE in the RADIO LINK RECONFIGURATION READY message if the SHCCH messages for this radio link will be transmitted over a different secondary CCPCH than selected by the UE from system information.]

- [TDD – if the *TNL QoS* IE is included and if ALCAP is not used, the DRNS may use the *TNL QoS* IE to determine the transport bearer characteristics to apply for the related USCHs.]

- [TDD - The DRNC shall include in the RADIO LINK RECONFIGURATION READY message both the *Transport Layer Address* IE and the *Binding ID* IE for any new transport bearer to be established for each modified USCH.]

RL Information:

[FDD - If the *RL Information* IE includes the *DL DPCH Timing Adjustment* IE, the DRNS shall adjust the timing of the radio link accordingly in the new configuration.]

HS-DSCH Setup:

If the *HS-DSCH Information* IE is present in the RADIO LINK RECONFIGURATION PREPARE message, then:

- The DRNS shall setup the requested HS-PDSCH resources on the Serving HS-DSCH Radio Link indicated by the *HS-PDSCH RL ID* IE.

- The DRNC shall include the *HARQ Memory Partitioning* IE in the [FDD – *HS-DSCH FDD Information Response* IE] [TDD – *HS-DSCH TDD Information Response* IE] in the RADIO LINK RECONFIGURATION READY message.

- The DRNC shall allocate an HS-DSCH-RNTI to the UE Context and include the *HS-DSCH-RNTI* IE in the RADIO LINK RECONFIGURATION READY message.

- The DRNS may use the *Traffic Class* IE for a specific HS-DSCH MAC-d flow to determine the transport bearer characteristics to apply between DRNC and Node B.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *MAC-hs Guaranteed Bit Rate* IE for a Priority Queue in the *HS-DSCH MAC-d Flows Information* IE in the *HS-DSCH Information* IE, then the DRNS shall use this information to optimise MAC-hs scheduling decisions for the related HSDPA Priority Queue.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *Discard Timer* IE for a Priority Queue in the *HS-DSCH MAC-d Flows Information* IE in the *HS-DSCH Information* IE, then the DRNS shall use this information to discard out-of-date MAC-hs SDUs from the related HSDPA Priority Queue.

- The DRNC shall include the *HS-DSCH Initial Capacity Allocation* IE in the [FDD – *HS-DSCH FDD Information Response* IE] [TDD – *HS-DSCH TDD Information Response* IE] in the RADIO LINK RECONFIGURATION READY message for every HS-DSCH MAC-d flow being established, if the DRNS allows the SRNC to start transmission of MAC-d PDUs before the DRNS has allocated capacity on user plane as described in [32].

- [FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *HS-SCCH Power Offset* IE in the *HS-DSCH Information* IE, then the DRNS may use this value to determine the HS-SCCH power. The HS-SCCH Power Offset should be applied for any HS-SCCH transmission to this UE.]

- [FDD - The DRNC shall include the *Measurement Power Offset* IE in the *HS-DSCH Information Response* IE in the RADIO LINK RECONFIGURATION READY message.]

- [FDD - The DRNS shall allocate HS-SCCH codes corresponding to the HS-DSCH and the DRNC shall include the *HS-SCCH Specific Information Response* IE in the *HS-DSCH FDD Information Response* IE in the RADIO LINK RECONFIGURATION READY message.]

- [TDD - The DRNS shall allocate HS-SCCH parameters corresponding to the HS-DSCH and the DRNC shall include the [3.84Mcps TDD - *HS-SCCH Specific Information Response* IE] [1.28Mcps TDD - *HS-SCCH Specific Information Response LCR* IE] in the *HS-DSCH TDD Information Response* IE in the RADIO LINK RECONFIGURATION READY message.]

- [FDD - The DRNC shall include the *HS-PDSCH And HS-SCCH Scrambling Code* IE in the *HS-DSCH FDD Information Response* IE in the RADIO LINK RECONFIGURATION READY message.]

Intra-DRNS Serving HS-DSCH Radio Link Change:

If the RADIO LINK RECONFIGURATION PREPARE message includes the *HS-PDSCH RL ID* IE, this indicates the new Serving HS-DSCH Radio Link:

- The DRNS shall release the HS-PDSCH resources on the old Serving HS-DSCH Radio Link and setup the HS-PDSCH resources on the new Serving HS-DSCH Radio Link.

- The DRNC may include the *HARQ Memory Partitioning* IE in the [FDD – *HS-DSCH FDD Information Response* IE] [TDD – *HS-DSCH TDD Information Response* IE] in the RADIO LINK RECONFIGURATION READY message.

- The DRNC shall allocate a new HS-DSCH-RNTI to the UE Context and include the *HS-DSCH-RNTI* IE in the RADIO LINK RECONFIGURATION READY message.

- If a reset of the MAC-hs is not required the DRNS shall include the *MAC-hs Reset Indicator* IE in the RADIO LINK RECONFIGURATION READY message.

- [FDD - The DRNC shall include the *Measurement Power Offset* IE in the *HS-DSCH Information Response* IE in the RADIO LINK RECONFIGURATION READY message.]

- [FDD - The DRNS shall allocate HS-SCCH codes corresponding to the HS-DSCH and the DRNC shall include the *HS-SCCH Specific Information Response* IE in the *HS-DSCH FDD Information Response* IE in the RADIO LINK RECONFIGURATION READY message.]

- [TDD - The DRNS shall allocate HS-SCCH parameters corresponding to the HS-DSCH and the DRNC shall include the [3.84Mcps TDD - *HS-SCCH Specific Information Response* IE] [1.28Mcps TDD - *HS-SCCH Specific Information Response LCR* IE] in the *HS-DSCH TDD Information Response* IE in the RADIO LINK RECONFIGURATION READY message.]

- [TDD - The DRNC shall include the [3.84 Mcps TDD - *HS-PDSCH Timeslot Specific Information* IE] [1.28 Mcps TDD - *HS-PDSCH Timeslot Specific Information LCR* IE] in the *HS-DSCH Information Response* IE in the RADIO LINK SETUP RESPONSE message.]

- [FDD - The DRNC shall include the *HS-PDSCH And HS-SCCH Scrambling Code* IE in the *HS-DSCH FDD Information Response* IE in the RADIO LINK RECONFIGURATION READY message.]

HS-DSCH Modification:

If the RADIO LINK RECONFIGURATION PREPARE message includes the *HS-DSCH Information To Modify* IE, then:

- The DRNC shall include the *HS-DSCH Initial Capacity Allocation* IE for each HS-DSCH MAC-d flow being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE, if the DRNS allows the SRNC to start transmission of MAC-d PDUs before the DRNS has allocated capacity on user plane as described in [32].

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *Traffic Class* IE in the *HS-DSCH Information To Modify* IE for a specific HS-DSCH MAC-d flow, the DRNS may use this information to determine the transport bearer characteristics to apply between DRNC and Node B.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *MAC-hs Guaranteed Bit Rate* IE in the *HS-DSCH Information To Modify* IE, the DRNS shall use this information to optimise MAC-hs scheduling decisions for the related HSDPA Priority Queue.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *Discard Timer* IE in the *HS-DSCH Information* IE, then the DRNS shall use this information to discard out-of-date MAC-hs SDUs from the related HSDPA Priority Queue.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *MAC-hs Window Size* IE or *T1* IE in the *HS-DSCH Information To Modify* IE, then the DRNS shall use the indicated values in the new configuration for the related HSDPA Priority Queue.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *MAC-d PDU Size Index* IE in the *Modify Priority Queue* choice, the DRNS shall delete the previous list of MAC-d PDU Size Index values for the related HSDPA Priority Queue and use the MAC-d PDU Size Index values indicated in the *MAC-d PDU Size Index* IE in the new configuration.

- [FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *CQI Feedback Cycle k* IE, the *CQI Repetition Factor* IE, the *ACK-NACK Repetition Factor* IE, the *ACK Power Offset* IE, the *NACK Power Offset* IE or the *CQI Power Offset* IE in the *HS-DSCH Information To Modify* IE, then the DRNS shall use the indicated CQI Feedback Cycle k value, the CQI Repetition Factor or the ACK-NACK Repetition Factor, ACK Power Offset, the NACK Power Offset or the CQI Power Offset in the new configuration.]

- [FDD - If the *HS-SCCH Power Offset* IE is included in the *HS-DSCH Information To Modify* IE, the DRNS may use this value to determine the HS-SCCH power. The HS-SCCH Power Offset should be applied for any HS-SCCH transmission to this UE.]

- [TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *TDD ACK NACK Power Offset* IE in the *HS-DSCH Information To Modify* IE, the DRNS shall use the indicated power offset in the new configuration.]

- [FDD - If the *HS-DSCH Information To Modify* IE includes the *HS-SCCH Code Change Grant* IE, then the DRNS may modify the HS-SCCH codes corresponding to the HS-DSCH. The DRNC shall then report the codes which are used in the new configuration specified in the *HS-SCCH Specific Information Response* IE in the RADIO LINK RECONFIGURATION READY message.]

- [TDD - If the *HS-DSCH Information To Modify* IE includes the *HS-SCCH Code Change Grant* IE, then the DRNS may modify the HS-SCCH parameters corresponding to the HS-DSCH. The DRNC shall then report the values for the parameters which are used in the new configuration specified in the [3.84Mcps TDD - *HS-SCCH Specific Information Response* IE] [1.28Mcps TDD - *HS-SCCH Specific Information Response LCR* IE] in the RADIO LINK RECONFIGURATION READY message.]

HS-DSCH MAC-d Flow Addition/Deletion:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *HS-DSCH MAC-d Flows To Add* or *HS-DSCH MAC-d Flows To Delete* IEs, then the DRNS shall use this information to add/delete the indicated HS-DSCH MAC-d flows on the Serving HS-DSCH Radio Link. When an HS-DSCH MAC-d flow is deleted, all its associated Priority Queues shall also be removed.

If the RADIO LINK RECONFIGURATION PREPARE message includes an *HS-DSCH MAC-d Flows To Delete* IE requesting the deletion of all remaining HS-DSCH MAC-d flows for the UE Context, then the DRNC shall delete the HS-DSCH configuration from the UE Context and release the HS-PDSCH resources.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *HS-DSCH MAC-d Flows To Add* IE, then:

- The DRNS may use the *Traffic Class* IE for a specific HS-DSCH MAC-d flow to determine the transport bearer characteristics to apply between DRNC and Node B.

- The DRNC shall include the *HS-DSH Initial Capacity Allocation* IE in the RADIO LINK RECONFIGURATION READY message for every HS-DSCH MAC-d flow being added, if the DRNS allows the SRNC to start transmission of MAC-d PDUs before the DRNS has allocated capacity on user plane as described in [32].

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *MAC-hs Guaranteed Bit Rate* IE in the *HS-DSCH MAC-d Flows To Add* IE, the DRNS shall use this information to optimise MAC-hs scheduling decisions for the related HSDPA Priority Queue.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *Discard Timer* IE in the *HS-DSCH Information* IE, then the DRNS shall use this information to discard out-of-date MAC-hs SDUs from the related HSDPA Priority Queue.

- The DRNC may include the *HARQ Memory Partitioning* IE in the RADIO LINK RECONFIGURATION READY message.

[1.28Mcps TDD - Uplink Synchronisation Parameters LCR]:

[1.28Mcps TDD -If the *Uplink Synchronisation Parameters LCR* IE is present, the DRNC shall use the indicated values of *Uplink synchronisation stepsize* IE and *Uplink synchronisation frequency* IE when evaluating the timing of the UL synchronisation.]

[1.28Mcps TDD - Uplink Timing Advance Control LCR]:

[1.28Mcps TDD - The DRNC shall include the *Uplink Timing Advance Control LCR* IE in the RADIO LINK RECONFIGURATION READY message, if the Uplink Timing Advance Control parameters have been changed.]

[TDD] DSCH RNTI Addition/Deletion

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the PDSCH RL ID IE, then the DRNS shall use it as the new RL identifier for PDSCH and PUSCH.]

- [TDD - If the indicated PDSCH RL ID is in the DRNS and there was no DSCH-RNTI allocated to the UE Context, the DRNC shall allocate a DSCH-RNTI to the UE Context and include the DSCH-RNTI IE in the RADIO LINK RECONFIGURATION READY message.]

- [TDD - If the indicated PDSCH RL ID is in the DRNS and there was a DSCH-RNTI allocated to the UE Context, the DRNC shall allocate a new DSCH-RNTI to the UE Context, release the old DSCH-RNTI and include the DSCH-RNTI IE in the RADIO LINK RECONFIGURATION READY message.]

- [TDD - If the indicated PDSCH RL ID is not in the DRNS and there was a DSCH-RNTI allocated to the UE Context, the DRNC shall release this DSCH-RNTI.]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes a DSCHs to Delete IE and/or a USCHs to Delete IE which results in the deletion of all DSCH and USCH resources for the UE Context, then the DRNC shall release the DSCH-RNTI allocated to the UE Context, if there was one.]

[FDD – Phase Reference Handling]:

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *UE Support Of Dedicated Pilots For Channel Estimation* IE, the DRNC shall assume that dedicated pilots may be used for channel estimation for DCH or DSCH.]

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *UE Support Of Dedicated Pilots For Channel Estimation Of HS-DSCH* IE, the DRNC shall assume that dedicated pilots may be used for channel estimation for HS-DSCH.]

[FDD – If Primary CPICH usage for channel estimation information has been reconfigured, the DRNC shall include the *Primary CPICH Usage For Channel Estimation* IE in the RADIO LINK RECONFIGURATION READY message.]

[FDD – If Secondary CPICH information for channel estimation has been reconfigured, the DRNC shall include the *Secondary CPICH Information Change* IE in the RADIO LINK RECONFIGURATION READY message.]

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes *Phase Reference Update Indicator* IE, DRNC shall modify the channel estimation information according to [10] subclause 4.3.2.1 and set the value(s) in *Primary CPICH Usage For Channel Estimation* IE and/or *Secondary CPICH Information Change* IE in the RADIO LINK RECONFIGURATION READY message accordingly.]

General

If the requested modifications are allowed by the DRNC and the DRNC has successfully reserved the required resources for the new configuration of the Radio Link(s), it shall respond to the SRNC with the RADIO LINK RECONFIGURATION READY message. When this procedure has been completed successfully there exists a Prepared Reconfiguration, as defined in subclause 3.1.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transport Layer Address* IE and *Binding ID* IE in the *DSCHs To Modify* IE, *DSCHs To Add* IE, [TDD - *USCHs To Modify* IE, *USCHs To Add* IE], *HS-DSCH Information* IE, *HS-DSCH Information To Modify* IE, *HS-DSCH MAC-d Flows To Add* IE or in the *RL Specific DCH Information* IEs, the DRNC may use the transport layer address and the binding identifier received from the SRNC when establishing a transport bearer for any Transport Channel or HS-DSCH MAC-d flow being added, or any Transport Channel or HS-DSCH MAC-d flow being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE.

The DRNC shall include in the RADIO LINK RECONFIGURATION READY message the *Transport Layer Address* IE and the *Binding ID* IE for any Transport Channel or HS-DSCH MAC-d flow being added, or any Transport Channel or HS-DSCH MAC-d flow being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE. In the case of a set of co-ordinated DCHs requiring a new transport bearer on the Iur interface, the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE shall be included for only one of the DCHs in the set of co-ordinated DCHs.

In the case of a Radio Link being combined with another Radio Link within the DRNS, the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE shall be included for only one of the combined Radio Links.

Any allowed rate for the uplink of a modified DCH provided for the old configuration will not be valid for the new configuration. If the DRNS needs to limit the user rate in the uplink of a DCH due to congestion caused by the UL UTRAN Dynamic Resources (see subclause 9.2.1.79) in the new configuration for a Radio Link, the DRNC shall include in the RADIO LINK RECONFIGURATION READY message the *Allowed UL Rate* IE in the *DCH Information Response* IE for this Radio Link.

Any allowed rate for the downlink of a modified DCH provided for the old configuration will not be valid for the new configuration. If the DRNS needs to limit the user rate in the downlink of a DCH due to congestion caused by the DL UTRAN Dynamic Resources (see subclause 9.2.1.79) in the new configuration for a Radio Link, the DRNC shall include in the RADIO LINK RECONFIGURATION READY message the *Allowed DL Rate* IE in the *DCH Information Response* IE for this Radio Link.

The DRNS decides the maximum and minimum SIR for the uplink of the Radio Link(s) and the DRNC shall include in the RADIO LINK RECONFIGURATION READY message the *Maximum Uplink SIR* IE and *Minimum Uplink SIR* IE for each Radio Link when these values are changed.

[FDD - If the DL TX power upper or lower limit has been re-configured, the DRNC shall include in the RADIO LINK RECONFIGURATION READY message the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE respectively. The DRNS shall not transmit with a higher power than indicated by the *Maximum DL TX Power* IE or lower than indicated by the *Minimum DL TX Power* IE on any DL DPCH of the RL -except during compressed mode, when the δP_{curr}, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power for the associated compressed frame.]

[3.84 Mcps TDD - If the DL TX power upper or lower limit has been re-configured, the DRNC shall include the new value(s) in the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK RECONFIGURATION READY message. If the maximum or minimum power needs to be different for particular DCH type CCTrCHs, the DRNC shall include the new value(s) for that CCTrCH in the *CCTrCH Maximum DL TX Power* IE and *CCTrCH Minimum DL TX Power*. The DRNS shall not transmit with a higher power than indicated by the appropriate *Maximum DL TX Power* IE/*CCTrCH Maximum DL TX Power* IE or lower than indicated by the appropriate *Minimum DL TX Power* IE/*CCTrCH Minimum DL TX Power* IE on any DL DPCH within each CCTrCH of the RL.]

[1.28 Mcps TDD - If the DL TX power upper or lower limit has been re-configured, the DRNC shall include the new value(s) in the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK RECONFIGURATION READY message. If the maximum or minimum power needs to be different for particular timeslots within a DCH type CCTrCH, the DRNC shall include the new value(s) for that timeslot in the *Maximum DL TX Power* IE and *Minimum DL TX Power* within the *DL Timeslot Information LCR* IE. The DRNS shall not transmit with a higher power than indicated by the appropriate *Maximum DL TX Power* IE or lower than indicated by the appropriate *Minimum DL TX Power* IE on any DL DPCH within each timeslot of the RL.]

[TDD - If the [3.84Mcps TDD - *DL Time Slot ISCP Info* IE][1.28Mcps TDD - *DL Time Slot ISCP Info LCR* IE] is present, the DRNS should use the indicated values when deciding the Initial DL TX Power.]

[TDD - If the *Primary CCPCH RSCP Delta* IE is included, the DRNS shall assume that the reported value for Primary CCPCH RSCP is in the negative range as per [24], and the value is equal to the *Primary CCPCH RSCP Delta* IE. If the *Primary CCPCH RSCP Delta* IE is not included and the *Primary CCPCH RSCP* IE is included, the DRNS shall assume

that the reported value is in the non-negative range as per [24], and the value is equal to the *Primary CCPCH RSCP* IE. The DRNS shall use the indicated values when deciding the Initial DL TX Power.]

8.3.4.3 Unsuccessful Operation

Figure 11: Synchronised Radio Link Reconfiguration Preparation procedure, Unsuccessful Operation

If the DRNS cannot reserve the necessary resources for all the new DCHs of a set of co-ordinated DCHs requested to be added, it shall reject the Synchronised Radio Link Reconfiguration Preparation procedure as having failed.

If the requested Synchronised Radio Link Reconfiguration Preparation procedure fails for one or more RLs, the DRNC shall send the RADIO LINK RECONFIGURATION FAILURE message to the SRNC, indicating the reason for failure for each failed radio link in a *Cause* IE.

Typical cause values are:

Radio Network Layer Causes:

-   UL Scrambling Code Already in Use;

-   DL Radio Resources not Available;

-   UL Radio Resources not Available;

-   Requested Configuration not Supported;

-   Number of DL Codes not Supported;

-   Number of UL Codes not Supported;

-   Dedicated Transport Channel Type not Supported;

-   DL Shared Channel Type not Supported;

-   [TDD - UL Shared Channel Type not Supported];

-   [FDD - UL Spreading Factor not Supported];

-   [FDD - DL Spreading Factor not Supported];

-   CM not Supported;

-   RL Timing Adjustment not Supported.

Miscellaneous Causes:

-   Control Processing Overload;

-   Not enough User Plane Processing Resources.

8.3.4.4 Abnormal Conditions

If only a subset of all the DCHs belonging to a set of co-ordinated DCHs is requested to be deleted, the DRNS shall reject the Synchronised Radio Link Reconfiguration Preparation procedure as having failed and shall send the RADIO LINK RECONFIGURATION FAILURE message to the SRNC.

If more than one DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected" [TDD - or no DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected"] the DRNS shall reject the Synchronised Radio Link

Reconfiguration Preparation procedure and the DRNC shall respond with a RADIO LINK RECONFIGURATION FAILURE message.

[FDD - If the *RL Information* IE includes the *SSDT Indication* IE set to "SSDT Active in the UE" and SSDT is not active in the current configuration, the DRNS shall reject the Synchronised Radio Link Reconfiguration Preparation procedure if the *UL DPCH Information* IE does not include the *SSDT Cell Identity Length* IE. The DRNC shall then respond with a RADIO LINK RECONFIGURATION FAILURE message.]

[FDD - If the *DSCHs To Add* IE includes the *Enhanced DSCH PC* IE and the *DSCH To Modify* IE include the *Enhanced DSCH PC Indicator* IE set to "Enhanced DSCH PC not Active in the UE", then the DRNS shall deactivate enhanced DSCH power control in the new configuration.]

[FDD - If both the *DSCHs To Add* IE and the *DSCH To Modify* IE include *Enhanced DSCH PC* IE, then the DRNS shall ignore the *Enhanced DSCH PC* IE in the *DSCH To Add* IE.]

If the RADIO LINK RECONFIGURATION PREPARE message includes a *DCHs To Modify* IE or *DCHs To Add* IE with multiple *DCH Specific Info* IEs, and if the DCHs in the *DCHs To Modify* IE or *DCHs To Add* IE do not have the same *Transmission Time Interval* IE in the *Semi-static Transport Format Information* IE, then the DRNC shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.

[FDD - If the *RL Information* IE includes the *DL Reference Power* IE, but the power balancing is not active in the indicated RL(s), the DRNS shall reject the Synchronised Radio Link Reconfiguration Preparation procedure as having failed and the DRNC shall respond with the RADIO LINK RECONFIGURATION FAILURE message with the cause value "Power Balancing status not compatible".]

[FDD - If the power balancing is active with the Power Balancing Adjustment Type of the UE Context set to "Common" in the existing RL(s) but the RADIO LINK RECONFIGURATION PREPARE message includes more than one *DL Reference Power* IE, the DRNS shall reject the Synchronised Radio Link Reconfiguration Preparation procedure as having failed and the DRNC shall respond with the RADIO LINK RECONFIGURATION FAILURE message with the cause value "Power Balancing status not compatible".]

[FDD - If the RADIO LINK RECONFIGURATIO PREPARE message does not include the *Split Type* IE but includes *TFCI Signalling Mode* IE set to "Split", then the DRNC shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message does not include the *Length of TFCI2* IE but the *Split type* IE is set to "Logical", then the DRNC shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *Split Type* IE set to the value "Hard" and the *Length Of TFCI2* IE set to the value "1", "2", "5", "8", "9" or "10", then the DRNC shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message does not include the *Split Type* IE but includes the *Length of TFCI2* IE, then the DRNC shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.]

If the RADIO LINK RECONFIGURATION PREPARE message contains the *Transport Layer Address* IE or the *Binding ID* IE when establishing a transport bearer for any Transport Channel or HS-DSCH MAC-d flow being added, or any Transport Channel or HS-DSCH MAC-d flow being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE., and not both are present for a transport bearer intended to be established, the DRNC shall reject the Synchronised Radio Link Reconfiguration Preparation procedure and the DRNC shall respond with a RADIO LINK RECONFIGURATION FAILURE message.

If the RADIO LINK RECONFIGURATION PREPARE message contains any of the *HS-DSCH Information To Modify* IE, *HS-DSCH MAC-d Flows To Add* IE or *HS-DSCH MAC-d Flows To Delete* IE in addition to the *HS-DSCH Information* IE, the DRNC shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.

If the RADIO LINK RECONFIGURATION PREPARE message contains any of the *HS-DSCH Information To Modify* IE, *HS-DSCH MAC-d Flows To Add* IE, *HS-DSCH MAC-d Flows To Delete* IE or *HS-PDSCH RL ID* IE and the Serving HS-DSCH Radio Link is not in the DRNS, the DRNC shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *HS-DSCH Information* IE and does not include the *HS-PDSCH RL-ID* IE, the DRNC shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *HS-DSCH Information To Modify* IE deleting the last remaining Priority Queue of an HS-DSCH MAC-d Flow, the DRNC shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *HS-PDSCH RL-ID* IE indicating a Radio Link not existing in the UE Context, the DRNC shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.

If the RADIO LINK RECONFIGURATION PREPARE message contains any of the *HS-DSCH Information* IE, *HS-DSCH Information To Modify* IE, or *HS-DSCH MAC-d Flows To Add* IE and if in the new configuration the Priority Queues associated with the same *HS-DSCH MAC-d Flow ID* IE have the same *Scheduling Priority Indicator* IE value, the DRNC shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.

8.3.5 Synchronised Radio Link Reconfiguration Commit

8.3.5.1 General

This procedure is used to order the DRNS to switch to the new configuration for the Radio Link(s) within the DRNS, previously prepared by the Synchronised Radio Link Reconfiguration Preparation procedure.

This procedure shall use the signalling bearer connection for the relevant UE Context.

8.3.5.2 Successful Operation

Figure 12: Synchronised Radio Link Reconfiguration Commit procedure, Successful Operation

The DRNS shall switch to the new configuration previously prepared by the Synchronised Radio Link Reconfiguration Preparation procedure at the next coming CFN with a value equal to the value requested by the SRNC in the *CFN* IE (see ref.[17] subclause 9.4) when receiving the RADIO LINK RECONFIGURATION COMMIT message from the SRNC.

[FDD - If the *Active Pattern Sequence Information* IE is included in the RADIO LINK RECONFIGURATION COMMIT message, the *CM Configuration Change CFN* IE in the *Active Pattern Sequence Information* IE shall be ignored by the DRNS.]

When this procedure has been completed the Prepared Reconfiguration does not exist any more, see subclause 3.1.

In the case of a transport channel modification for which a new transport bearer was requested and established, the switch to the new transport bearer shall also take place at the indicated CFN. The detailed frame protocol handling during transport bearer replacement is described in [4], subclause 5.10.1 and in [32], subclause 5.3.1.

[FDD - If the RADIO LINK RECONFIGURATION COMMIT includes the *Active Pattern Sequence Information* IE, the DRNS shall deactivate all the ongoing Transmission Gap Pattern Sequences at the *CFN* IE. From that moment on all Transmission Gap Pattern Sequences included in *Transmission Gap Pattern Sequence Status* IE repetitions shall be started when the indicated *TGCFN* IE elapses. The *CFN* IE and *TGCFN* IE for each sequence refer to the next coming CFN with that value. If the values of the *CFN* IE and the *TGCFN* IE are equal, the concerned Transmission Gap Pattern Sequence shall be started immediately at the CFN with a value equal to the value received in the *CFN* IE.]

8.3.5.3 Abnormal Conditions

If a new transport bearer is required for the new configuration and it is not available at the requested CFN, the DRNS shall initiate the Radio Link Failure procedure.

8.3.6 Synchronised Radio Link Reconfiguration Cancellation

8.3.6.1 General

This procedure is used to order the DRNS to release the new configuration for the Radio Link(s) within the DRNS, previously prepared by the Synchronised Radio Link Reconfiguration Preparation procedure.

This procedure shall use the signalling bearer connection for the relevant UE Context.

8.3.6.2 Successful Operation

SRNC   DRNC

RADIO LINK RECONFIGURATION CANCEL

Figure 13: Synchronised Radio Link Reconfiguration Cancellation procedure, Successful Operation

Upon receipt of the RADIO LINK RECONFIGURATION CANCEL message from the SRNC, the DRNS shall release the new configuration ([FDD - including the new Transmission Gap Pattern Sequence parameters (if existing)]) previously prepared by the Synchronised RL Reconfiguration Preparation procedure and continue using the old configuration. When this procedure has been completed the Prepared Reconfiguration does not exist any more, see subclause 3.1.

8.3.6.3 Abnormal Conditions

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8.3.7 Unsynchronised Radio Link Reconfiguration

8.3.7.1 General

The Unsynchronised Radio Link Reconfiguration procedure is used to reconfigure Radio Link(s) related to one UE-UTRAN connection within a DRNS.

The procedure is used when there is no need to synchronise the time of the switching from the old to the new radio link configuration in the cells used by the UE-UTRAN connection within the DRNS.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The Unsynchronised Radio Link Reconfiguration procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.7.2 Successful Operation

SRNC   DRNC

RADIO LINK RECONFIGURATION REQUEST

RADIO LINK RECONFIGURATION RESPONSE
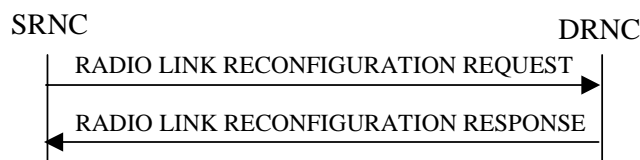
Figure 14: Unsynchronised Radio Link Reconfiguration procedure, Successful Operation

The Unsynchronised Radio Link Reconfiguration procedure is initiated by the SRNC by sending the RADIO LINK RECONFIGURATION REQUEST message to the DRNC.

Upon receipt, the DRNS shall modify the configuration of the Radio Link(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *Allowed Queuing Time* IE the DRNS may queue the request the time corresponding to the value of the *Allowed Queuing Time* IE before starting to execute the request.

The DRNS shall prioritise resource allocation for the RL to be modified according to Annex A.

DCH Modification:

If the RADIO LINK RECONFIGURATION REQUEST message includes any *DCHs To Modify* IEs, then the DRNS shall treat them as follows:

- If the *DCHs To Modify* IE includes multiple *DCH Specific Info* IEs, then the DRNS shall treat the DCHs as a set of co-ordinated DCHs. The DRNS shall include these DCHs in the new configuration only if it can include all of them in the new configuration.

- If the *DCHs To Modify* IE includes the *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs to be modified, the DRNS shall apply the new FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- If the *DCHs To Modify* IE includes the *ToAWS* IE for a DCH or a set of co-ordinated DCHs to be modified, the DRNS shall apply the new ToAWS in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- If the *DCHs To Modify* IE includes the *ToAWE* IE for a DCH or a set of co-ordinated DCHs to be modified, the DRNS shall apply the new ToAWE in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- If the *DCHs To Modify* IE contains a *DCH Specific Info* IE which includes a *Transport Format Set* IE for the UL of a DCH to be modified, the DRNS shall apply the new Transport Format Set in the Uplink of this DCH in the new configuration.

- If the *DCHs To Modify* IE contains a *DCH Specific Info* IE which includes a *Transport Format Set* IE for the DL of a DCH to be modified, the DRNS shall apply the new Transport Format Set in the Downlink of this DCH in the new configuration.

- If the *DCHs To Modify* IE contains a *DCH Specific Info* IE which includes the *Frame Handling Priority* IE, the DRNS should store this information for this DCH in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

- If the *DCH Specific Info* IE includes the *Traffic Class* IE, the DRNC may use this information to determine the transport bearer characteristics to apply between DRNC and Node B for the related DCH or set of co-ordinated DCHs. The DRNC should ignore the *Traffic Class* IE if the *TrCH Source Statistics Descriptor* IE indicates the value 'RRC'.

- If the *TNL QoS* IE is included for a DCH or a set of co-ordinated DCHs and if ALCAP is not used, the DRNS may use this information to determine the transport bearer characteristics to apply for the uplink for the related DCH or set of co-ordinated DCHs.

- If the *DCHs To Modify* IE contains a *DCH Specific Info* IE which includes the *Allocation/Retention Priority* IE, the DRNS shall apply the new Allocation/Retention Priority to this DCH in the new configuration according to Annex A.

- [FDD - If the *DRAC Control* IE is present and set to "requested" in *DCHs To Modify* IE for at least one DCH, and if the DRNS supports the DRAC, the DRNC shall include in the RADIO LINK RECONFIGURATION RESPONSE message the *Secondary CCPCH Info* IE for the FACH in which the DRAC information is sent, for each Radio Link supported by a cell in which DRAC is active.]

- [TDD - If the *DCHs To Modify* IE contains a *DCH Specific Info* IE which includes the *CCTrCH ID* IE for the UL, the DRNS shall map the DCH onto the referenced UL CCTrCH in the new configuration.]

- [TDD - If the *DCHs To Modify* IE contains a *DCH Specific Info* IE which includes the *CCTrCH ID* IE for the DL, the DRNS shall map the DCH onto the referenced DL CCTrCH in the new configuration.]

- If the *DCHs To Modify* IE contains a *DCH Specific Info* IE which includes the *Guaranteed Rate Information* IE, the DRNS shall treat the included IEs according to the following:

  - If the *Guaranteed Rate Information* IE includes the *Guaranteed UL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the uplink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate in the uplink of the DCH at any point in time after activating the new configuration. The DRNS may request the SRNC to reduce the user rate of the uplink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to reduce the user rate between the maximum bit rate and the guaranteed bit rate.

  - If the *Guaranteed Rate Information* IE includes the *Guaranteed DL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the downlink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user in the downlink of the DCH at any point in time after activating the new configuration. The DRNS may request the SRNC to reduce the user rate of the downlink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to reduce the user rate between the maximum bit rate and the guaranteed bit rate.

DCH Addition:

If the RADIO LINK RECONFIGURATION REQUEST message includes any *DCHs To Add* IEs, then the DRNS shall treat them each as follows:

- The DRNS shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message and include these DCH in the new configuration.

- If the *DCHs To Add* IE includes multiple DCH Specific Info IEs then the DRNS shall treat the DCHs in the *DCHs To Add* IE as a set of co-ordinated DCHs. The DRNS shall include these DCHs in the new configuration only if all of them can be in the new configuration.

- If the *DCH Specific Info* IE includes the *Unidirectional DCH Indicator* IE set to "Uplink DCH only', the DRNS shall ignore the *Transport Format Set* IE for the downlink for this DCH. As a consequence this DCH is not included as a part of the downlink CCTrCH.

- [TDD - If the *DCH Specific Info* IE includes the *Unidirectional DCH Indicator* IE set to "Downlink DCH only', the DRNS shall ignore the *Transport Format Set* IE for the uplink for this DCH. As a consequence this DCH is not included as a part of the uplink CCTrCH.]

- [FDD - For each DCH which does not belong to a set of co-ordinated DCHs, and which includes a *QE-Selector* IE set to "selected", the DRNS shall use the Transport channel BER from that DCH for the QE in the UL data frames. If no Transport channel BER is available for the selected DCH, the DRNS shall use the Physical channel BER for the QE, ref. [4]. If the *QE-Selector* IE is set to "non-selected", the DRNS shall use the Physical channel BER for the QE in the UL data frames, ref. [4].]

- For a set of co-ordinated DCHs, the DRNS shall use the Transport channel BER from the DCH with the *QE-Selector* IE set to "selected" for the QE in the UL data frames, ref. [4]. [FDD - If no Transport channel BER is available for the selected DCH, the DRNS shall use the Physical channel BER for the QE, ref. [4]. If all DCHs have the *QE-Selector* IE set to "non-selected", the DRNS shall use the Physical channel BER for the QE, ref. [4].] [TDD - If no Transport channel BER is available for the selected DCH, the DRNS shall use 0 for the QE, ref. [4].]

- The DRNS should store the *Frame Handling Priority* IE received for a DCH to be added in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the Uu interface in congestion situations within the DRNS once the new configuration has been activated.

- The *Traffic Class* IE may be used to determine the transport bearer characteristics to apply between DRNC and Node B for the related DCH or set of co-ordinated DCHs. The DRNC should ignore the *Traffic Class* IE if the *TrCH Source Statistics Descriptor* IE indicates the value 'RRC'.

- If the *TNL QoS* IE is included for a DCH or a set of co-ordinated DCHs and if ALCAP is not used, the DRNS may use this information to determine the transport bearer characteristics to apply for the uplink for the related DCH or set of co-ordinated DCHs.

- The DRNS shall use the included *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs to be added as the new FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- The DRNS shall use the included *ToAWS* IE for a DCH or a set of co-ordinated DCHs to be added as the new Time of Arrival Window Startpoint in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- The DRNS shall use the included *ToAWE* IE for a DCH or a set of co-ordinated DCHs to be added as the new Time of Arrival Window Endpoint in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- [FDD - If the *DRAC Control* IE is set to "requested" in *DCH Specific Info* IE for at least one DCH, and if the DRNS supports the DRAC, the DRNC shall include in the RADIO LINK RECONFIGURATION RESPONSE message the *Secondary CCPCH Info* IE for the FACH in which the DRAC information is sent, for each Radio Link supported by a cell in which DRAC is active. If the DRNS does not support DRAC, the DRNC shall not provide these IEs in the RADIO LINK RECONFIGURATION RESPONSE message.]

- If the *DCH Specific Info* IE includes the *Guaranteed Rate Information* IE, the DRNS shall treat the included IEs according to the following:

    - If the *Guaranteed Rate Information* IE includes the *Guaranteed UL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the uplink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate of the uplink of the DCH at any point in time after activating the new configuration. The DRNS may request the SRNC to reduce the user rate of the uplink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to reduce the user rate between the maximum bit rate and the guaranteed bit rate. If the *DCH Specific Info* IE in the *DCH Information* IE does not include the *Guaranteed UL Rate* IE, the DRNS shall not limit the user rate of the uplink of the DCH.

    - If the *Guaranteed Rate Information* IE includes the *Guaranteed DL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the downlink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate of the downlink of the DCH at any point in time after activating the new configuration. The DRNS may request the SRNC to reduce the user rate of the downlink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to reduce the user rate between the maximum bit rate and the guaranteed bit rate. If the *DCH Specific Info* IE in the *DCH Information* IE does not include the *Guaranteed DL Rate* IE, the DRNS shall not limit the user rate of the uplink of the DCH.

DCH Deletion:

If the RADIO LINK RECONFIGURATION REQUEST message includes any *DCHs To Delete* IEs, the DRNS shall not include the referenced DCHs in the new configuration.

If all of the DCHs belonging to a set of co-ordinated DCHs are requested to be deleted, the DRNS shall not include this set of co-ordinated DCHs in the new configuration.

[FDD - Physical Channel Modification:]

[FDD - If the RADIO LINK RECONFIGURATION REQUEST message includes an *UL DPCH Information* IE, then the DRNS shall apply the parameters to the new configuration as follows:]

- [FDD - If the *UL DPCH Information* IE includes the *TFCS* IE for the UL, the DRNS shall apply the new TFCS in the Uplink of the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION REQUEST message includes a *DL DPCH Information* IE, then the DRNS shall apply the parameters to the new configuration as follows:]

- [FDD - If the *DL DPCH Information* IE includes the *TFCS* IE for the DL, the DRNS shall apply the new TFCS in the Downlink of the new configuration.]

- [FDD - If the *DL DPCH Information* IE includes the *TFCI Signalling Mode* IE for the DL, the DRNS shall apply the new TFCI Signalling Mode in the Downlink of the new configuration.]

- [FDD - If the *DL DPCH Information* IE includes the *Limited Power Increase* IE and the IE is set to "Used", the DRNS shall, if supported, use Limited Power Increase according to ref. [10] subclause 5.2.1 for the inner loop DL power control in the new configuration.]

- [FDD - If the *DL DPCH Information* IE includes the *Limited Power Increase* IE and the IE is set to "Not Used", the DRNS shall not use Limited Power Increase for the inner loop DL power control in the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION REQUEST message includes the *Transmission Gap Pattern Sequence Information* IE, the DRNS shall store the new information about the Transmission Gap Pattern Sequences to be used in the new Compressed Mode configuration. Any Transmission Gap Pattern Sequences already existing in the previous Compressed Mode Configuration are replaced by the new sequences once the new Compressed Mode Configuration has been activated. This new Compressed Mode Configuration shall be valid in the DRNS until the next Compressed Mode Configuration is configured in the DRNS or last Radio Link is deleted.]

[FDD - If the RADIO LINK RECONFIGURATION REQUEST message includes the *Transmission Gap Pattern Sequence Information* IE, and if the *Downlink Compressed Mode Method* in one or more Transmission Gap Pattern Sequence within the *Transmission Gap Pattern Sequence Information* IE is set to "SF/2", the DRNC shall include the *DL Code Information* IE in the RADIO LINK RECONFIGURATION RESPONSE message, without changing any of the DL Channelisation Codes or DL Scrambling Codes, indicating for each DL Channelisation Code whether the alternative scrambling code shall be used or not.]

[TDD - UL/DL CCTrCH Modification]

[TDD - If the RADIO LINK RECONFIGURATION REQUEST message includes any *UL CCTrCH To Modify* IE or *DL CCTrCH To Modify* IE, the DRNS shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message.]

[TDD - If the RADIO LINK RECONFIGURATION REQUEST message includes any *UL CCTrCH Information To Modify* IEs or *DL CCTrCH Information To Modify* IEs which contain a *TFCS* IE, the DRNS shall apply the included *TFCS* IE as the new value(s) to the referenced CCTrCH. Otherwise the DRNS shall continue to apply the previous value(s) specified for this CCTrCH.]

[1.28Mcps TDD - If the *UL CCTrCH To Modify* IE includes *UL SIR Target* IE, the DRNS shall apply this value as the new configuration and use it for the UL inner loop power control according [12] and [22].]

[TDD - UL/DL CCTrCH Deletion]

[TDD - If the RADIO LINK RECONFIGURATION REQUEST message includes any *UL CCTrCH Information To Delete* IEs or *DL CCTrCH Information To Delete* IEs, the DRNS shall not include the referenced CCTrCH in the new configuration.]

DL Power Control:

[FDD - If the RADIO LINK RECONFIGURATION REQUEST message includes the *DL Reference Power Information* IE and the power balancing is active, the DRNS shall update the reference power of the power balancing in the indicated RL(s), if updating of power balancing parameters by the RADIO LINK RECONFIGURATION REQUEST message is supported, using the *DL Reference Power Information* IE in the RADIO LINK RECONFIGURATION REQUEST message. The updated reference power shall be used from the next adjustment period.]

[FDD **-** If updating of power balancing parameters by the RADIO LINK RECONFIGURATION REQUEST message is supported by the DRNS, the DRNC shall include the *DL Power Balancing Updated Indicator* IE in the *RL Information Response* IE for each affected RL in the RADIO LINK RECONFIGURATION RESPONSE message.]

[1.28Mcps TDD - Uplink Synchronisation Parameters LCR]:

[1.28Mcps TDD - If the *Uplink Synchronisation Parameters LCR* IE is present, the DRNC shall use the indicated values of *Uplink synchronisation stepsize* IE and *Uplink synchronisation frequency* IE when evaluating the timing of the UL synchronisation.]

[1.28Mcps TDD - Uplink Timing Advance Control LCR]:

[1.28Mcps TDD - The DRNC shall include the *Uplink Timing Advance Control LCR* IE in the RADIO LINK RECONFIGURATION RESPONSE message, if the Uplink Timing Advance Control parameters have been changed.]

[FDD – Phase Reference Handling]:

[FDD – If the RADIO LINK RECONFIGURATION REQUEST message includes the *UE Support Of Dedicated Pilots For Channel Estimation* IE, the DRNC shall assume that dedicated pilots may be used for channel estimation for DCH or DSCH.]

[FDD – If the RADIO LINK RECONFIGURATION REQUEST message includes the *UE Support Of Dedicated Pilots For Channel Estimation Of HS-DSCH* IE, the DRNC shall assume that dedicated pilots may be used for channel estimation for HS-DSCH.]

HS-DSCH Setup:

If the *HS-DSCH Information* IE is present in the RADIO LINK RECONFIGURATION REQUEST message, then:

- The DRNS shall setup the requested HS-PDSCH resources on the Serving HS-DSCH Radio Link indicated by the *HS-PDSCH RL ID* IE.

- The DRNC shall include the *HARQ Memory Partitioning* IE in the [FDD – *HS-DSCH FDD Information Response* IE] [TDD – *HS-DSCH TDD Information Response* IE] in the RADIO LINK RECONFIGURATION RESPONSE message.

- The DRNC shall allocate an HS-DSCH-RNTI to the UE Context and include the *HS-DSCH-RNTI* IE in the RADIO LINK RECONFIGURATION RESPONSE message.

- The DRNS may use the *Traffic Class* IE for a specific HS-DSCH MAC-d flow to determine the transport bearer characteristics to apply between DRNC and Node B.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *MAC-hs Guaranteed Bit Rate* IE for a Priority Queue in the *HS-DSCH MAC-d Flows Information* IE in the *HS-DSCH Information* IE, then the DRNS shall use this information to optimise MAC-hs scheduling decisions for the related HSDPA Priority Queue.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *Discard Timer* IE for a Priority Queue in the *HS-DSCH MAC-d Flows Information* IE in the *HS-DSCH Information* IE, then the DRNS shall use this information to discard out-of-date MAC-hs SDUs from the related HSDPA Priority Queue.

- The DRNC shall include the *HS-DSCH Initial Capacity Allocation* IE in the [FDD – *HS-DSCH FDD Information Response* IE] [TDD – *HS-DSCH TDD Information Response* IE] in the RADIO LINK RECONFIGURATION RESPONSE message for every HS-DSCH MAC-d flow being established, if the DRNS allows the SRNC to start transmission of MAC-d PDUs before the DRNS has allocated capacity on user plane as described in [32].

- [FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *HS-SCCH Power Offset* IE in the *HS-DSCH Information* IE, then the DRNS may use this value to determine the HS-SCCH power. The HS-SCCH Power Offset should be applied for any HS-SCCH transmission to this UE.]

- [FDD - The DRNS shall allocate HS-SCCH codes corresponding to the HS-DSCH and the DRNC shall include the *HS-SCCH Specific Information Response* IE in the *HS-DSCH FDD Information Response* IE in the RADIO LINK RECONFIGURATION RESPONSE message.]

- [TDD - The DRNS shall allocate HS-SCCH parameters corresponding to the HS-DSCH and the DRNC shall include the [3.84Mcps TDD - *HS-SCCH Specific Information Response* IE] [1.28Mcps TDD - *HS-SCCH Specific Information Response LCR* IE] in the *HS-DSCH TDD Information Response* IE in the RADIO LINK RECONFIGURATION RESPONSE message.]

- [FDD - The DRNC shall include the *HS-PDSCH And HS-SCCH Scrambling Code* IE in the *HS-DSCH FDD Information Response* IE in the RADIO LINK RECONFIGURATION RESPONSE message.]

Intra-DRNS Serving HS-DSCH Radio Link Change:

If the RADIO LINK RECONFIGURATION REQUEST message includes the *HS-PDSCH RL ID* IE, this indicates the new Serving HS-DSCH Radio Link:

- The DRNS shall release the HS-PDSCH resources on the old Serving HS-DSCH Radio Link and setup the HS-PDSCH resources on the new Serving HS-DSCH Radio Link.

- The DRNC may include the *HARQ Memory Partitioning* IE in the [FDD – *HS-DSCH FDD Information Response* IE] [TDD – *HS-DSCH TDD Information Response* IE] in the RADIO LINK RECONFIGURATION RESPONSE message.

- The DRNC shall allocate a new HS-DSCH-RNTI to the UE Context and include the *HS-DSCH-RNTI* IE in the RADIO LINK RECONFIGURATION RESPONSE message.

- If a reset of the MAC-hs is not required the DRNS shall include the *MAC-hs Reset Indicator* IE in the RADIO LINK RECONFIGURATION RESPONSE message.

- [FDD - The DRNC shall include the *Measurement Power Offset* IE in the *HS-DSCH Information Response* IE in the RADIO LINK RECONFIGURATION RESPONSE message.]

- [FDD - The DRNS shall allocate HS-SCCH codes corresponding to the HS-DSCH and the DRNC shall include the *HS-SCCH Specific Information Response* IE in the *HS-DSCH FDD Information Response* IE in the RADIO LINK RECONFIGURATION RESPONSE message.]

- [TDD - The DRNS shall allocate HS-SCCH parameters corresponding to the HS-DSCH and the DRNC shall include the [3.84Mcps TDD - *HS-SCCH Specific Information Response* IE] [1.28Mcps TDD - *HS-SCCH Specific Information Response LCR* IE] in the *HS-DSCH TDD Information Response* IE in the RADIO LINK RECONFIGURATION RESPONSE message.]

- [TDD - The DRNC shall include the [3.84 Mcps TDD - *HS-PDSCH Timeslot Specific Information* IE] [1.28 Mcps TDD - *HS-PDSCH Timeslot Specific Information LCR* IE] in the *HS-DSCH Information Response* IE in the RADIO LINK RECONFIGURATION RESPONSE message.]

- [FDD - The DRNC shall include the *HS-PDSCH And HS-SCCH Scrambling Code* IE in the *HS-DSCH FDD Information Response* IE in the RADIO LINK RECONFIGURATION RESPONSE message.]

HS-DSCH Modification:

If the RADIO LINK RECONFIGURATION REQUEST message includes the *HS-DSCH Information To Modify Unsynchronised* IE, then:

- The DRNC shall include the *HS-DSCH Initial Capacity Allocation* IE for each HS-DSCH MAC-d flow being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE, if the DRNS allows the SRNC to start transmission of MAC-d PDUs before the DRNS has allocated capacity on user plane as described in [32].

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *Traffic Class* IE in the *HS-DSCH Information To Modify Unsynchronised* IE for a specific HS-DSCH MAC-d flow, the DRNS may use this information to determine the transport bearer characteristics to apply between DRNC and Node B.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *MAC-hs Guaranteed Bit Rate* IE in the *HS-DSCH Information To Modify Unsynchronised* IE, the DRNS shall use this information to optimise MAC-hs scheduling decisions for the related HSDPA Priority Queue.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *Discard Timer* IE in the *HS-DSCH Information* IE, then the DRNS shall use this information to discard out-of-date MAC-hs SDUs from the related HSDPA Priority Queue.

- [FDD - If the RADIO LINK RECONFIGURATION REQUEST message includes the *ACK Power Offset* IE, the *NACK Power Offset* IE or the *CQI Power Offset* IE in the *HS-DSCH Information To Modify Unsynchronised* IE, then the DRNS shall use the indicated ACK Power Offset, the NACK Power Offset or the CQI Power Offset in the new configuration.]

- [FDD - If the *HS-SCCH Power Offset* IE is included in the *HS-DSCH Information To Modify Unsynchronised* IE, the DRNS may use this value to determine the HS-SCCH power. The HS-SCCH Power Offset should be applied for any HS-SCCH transmission to this UE.]

- [TDD – If the RADIO LINK RECONFIGURATION REQUEST message includes the *TDD ACK NACK Power Offset* IE in the *HS-DSCH Information To Modify Unsynchronised* IE, the DRNS shall use the indicated power offset in the new configuration.]

HS-DSCH MAC-d Flow Addition/Deletion:

If the RADIO LINK RECONFIGURATION REQUEST message includes any *HS-DSCH MAC-d Flows To Add* or *HS-DSCH MAC-d Flows To Delete* IEs, then the DRNS shall use this information to add/delete the indicated HS-DSCH MAC-d flows on the Serving HS-DSCH Radio Link. When an HS-DSCH MAC-d flow is deleted, all its associated Priority Queues shall also be removed.

If the RADIO LINK RECONFIGURATION REQUEST message includes an *HS-DSCH MAC-d Flows To Delete* IE requesting the deletion of all remaining HS-DSCH MAC-d flows for the UE Context, then the DRNC shall delete the HS-DSCH configuration from the UE Context and release the HS-PDSCH resources.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *HS-DSCH MAC-d Flows To Add* IE, then:

- The DRNS may use the *Traffic Class* IE for a specific HS-DSCH MAC-d flow to determine the transport bearer characteristics to apply between DRNC and Node B.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *Traffic Class* IE in the *HS-DSCH MAC-d Flows To Add* IE for a specific HS-DSCH MAC-d flow, the DRNS may use this information to determine the transport bearer characteristics to apply between DRNC and Node B.

- The DRNC shall include the *HS-DSCH Initial Capacity Allocation* IE in the RADIO LINK RECONFIGURATION RESPONSE message for every HS-DSCH MAC-d flow being added, if the DRNS allows the SRNC to start transmission of MAC-d PDUs before the DRNS has allocated capacity on user plane as described in [32].

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *MAC-hs Guaranteed Bit Rate* IE in the *HS-DSCH MAC-d Flows To Add* IE, the DRNS shall use this information to optimise MAC-hs scheduling decisions for the related HSDPA Priority Queue.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *Discard Timer* IE in the *HS-DSCH Information* IE, then the DRNS shall use this information to discard out-of-date MAC-hs SDUs from the related HSDPA Priority Queue.

General:

If the requested modifications are allowed by the DRNS, and if the DRNS has successfully allocated the required resources and changed to the new configuration, the DRNC shall respond to the SRNC with the RADIO LINK RECONFIGURATION RESPONSE message.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *RL Specific DCH Information* IE, *HS-DSCH Information* IE, *HS-DSCH Information To Modify Unsynchronised* IE or *HS-DSCH MAC-d Flows To Add* IE, the DRNC may use the transport layer address and the binding identifier received from the SRNC when establishing a transport bearer for any Transport Channel or HS-DSCH MAC-d flow being added, or any Transport Channel or HS-DSCH MAC-d flow being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE.

The DRNC shall include the *Transport Layer Address* IE and the *Binding ID* IE in the RADIO LINK RECONFIGURATION RESPONSE message for any Transport Channel or HS-DSCH MAC-d flow being added, or any Transport Channel or HS-DSCH MAC-d flow being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE. The detailed frame protocol handling during transport bearer replacement is described in [4], subclause 5.10.1.

In the case of a set of co-ordinated DCHs requiring a new transport bearer on the Iur interface, the DRNC shall include the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE only for one of the DCHs in the set of co-ordinated DCHs.

In the case of a Radio Link being combined with another Radio Link within the DRNS, the DRNC shall include the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE in the RADIO LINK RECONFIGURATION RESPONSE message for only one of the combined Radio Links.

Any allowed rate for the uplink of a modified DCH provided for the old configuration will not be valid for the new configuration. If the DRNS needs to limit the user rate in the uplink of a DCH due to congestion caused by the UL UTRAN Dynamic Resources (see subclause 9.2.1.79) in the new configuration for a Radio Link, the DRNC shall include in the RADIO LINK RECONFIGURATION RESPONSE message the *Allowed UL Rate* IE in the *DCH Information Response* IE for this Radio Link.

Any allowed rate for the downlink of a modified DCH provided for the old configuration will not be valid for the new configuration. If the DRNS needs to limit the user rate in the downlink of a DCH due to congestion caused by the DL UTRAN Dynamic Resources (see subclause 9.2.1.79) in the new configuration for a Radio Link, the DRNC shall include in the RADIO LINK RECONFIGURATION RESPONSE message the *Allowed DL Rate* IE in the *DCH Information Response* IE for this Radio Link.

The DRNS decides the maximum and minimum SIR for the uplink of the Radio Link(s), and the DRNC shall include in the RADIO LINK RECONFIGURATION RESPONSE message the *Maximum Uplink SIR* IE and *Minimum Uplink SIR* IE for each Radio Link when these values are changed.

[FDD - If the DL TX power upper or lower limit has been re-configured, the DRNC shall include the new value(s) in the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK RECONFIGURATION RESPONSE message. The DRNS shall not transmit with a higher power than indicated by the *Maximum DL TX Power* IE or lower than indicated by the *Minimum DL TX Power* IE on any DL DPCH of the RL except during compressed mode, when the δP_{curr}, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power for the associated compressed frame.]

[3.84 Mcps TDD - If the DL TX power upper or lower limit has been re-configured, the DRNC shall include the new value(s) in the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK RECONFIGURATION RESPONSE message. If the maximum or minimum power needs to be different for particular DCH type CCTrCHs, the DRNC shall include the new value(s) for that CCTrCH in the *CCTrCH Maximum DL TX Power* IE and *CCTrCH Minimum DL TX Power.* The DRNS shall not transmit with a higher power than indicated by the appropriate *Maximum DL TX Power* IE/*CCTrCH Maximum DL TX Power* IE or lower than indicated by the appropriate *Minimum DL TX Power* IE/*CCTrCH Minimum DL TX Power* IE on any DL DPCH within each CCTrCH of the RL.]

[1.28 Mcps TDD - If the DL TX power upper or lower limit has been re-configured, the DRNC shall include the new value(s) in the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK RECONFIGURATION RESPONSE message. If the maximum or minimum power needs to be different for particular timeslots within a DCH type CCTrCH, the DRNC shall include the new value(s) for that timeslot in the *Maximum DL TX Power* IE and *Minimum DL TX Power* within the *DL Timeslot Information LCR* IE. The DRNS shall not transmit with a higher power than indicated by the appropriate *Maximum DL TX Power* IE or lower than indicated by the appropriate *Minimum DL TX Power* IE on any DL DPCH within each timeslot of the RL.]
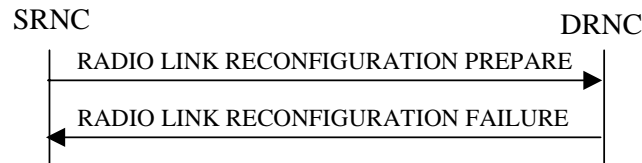
8.3.7.3 Unsuccessful Operation
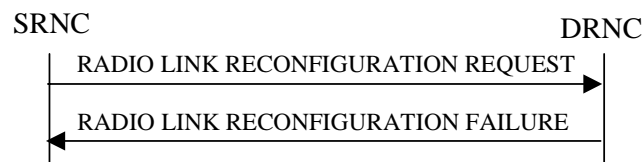
Figure 15: Unsynchronised Radio Link Reconfiguration procedure, Unsuccessful Operation

If the DRNS cannot allocate the necessary resources for all the new DCHs in a set of co-ordinated DCHs requested to be added, it shall reject the Unsynchronised Radio Link Reconfiguration procedure as having failed.

If the requested Unsynchronised Radio Link Reconfiguration procedure fails for one or more Radio Link(s), the DRNC shall send the RADIO LINK RECONFIGURATION FAILURE message to the SRNC, indicating the reason for failure.

Typical cause values are:

Radio Network Layer Causes:

- UL Scrambling Code Already in Use;

- DL Radio Resources not Available;

- UL Radio Resources not Available;

- Requested Configuration not Supported;

- CM not Supported.

Miscellaneous Causes:

- Control Processing Overload;

- Not enough User Plane Processing Resources.

8.3.7.4 Abnormal Conditions

If only a subset of all the DCHs belonging to a set of co-ordinated DCHs is requested to be deleted, the DRNS shall reject the Unsynchronised Radio Link Reconfiguration procedure as having failed, and the DRNC shall send the RADIO LINK RECONFIGURATION FAILURE message to the SRNC.

If more than one DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected" [TDD - or no DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected"], the DRNS shall reject the Unsynchronised Radio Link Reconfiguration procedure, and the DRNC shall respond with a RADIO LINK RECONFIGURATION FAILURE message.

If the RADIO LINK RECONFIGURATION REQUEST message includes a *DCHs To Modify* IE or *DCHs To Add* IE with multiple *DCH Specific Info* IEs, and if the DCHs in the *DCHs To Modify* IE or *DCHs To Add* IE do not have the same *Transmission Time Interval* IE in the *Semi-static Transport Format Information* IE, then the DRNC shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.

[FDD - If the RADIO LINK RECONFIGURATION REQUEST message includes the *DL Reference Power Information* IE, but the power balancing is not active in the indicated RL(s), the DRNS shall reject the Unsynchronised Radio Link Reconfiguration procedure as having failed and the DRNC shall respond the RADIO LINK RECONFIGURATION FAILURE message with the cause value "Power Balancing status not compatible".]

[FDD - If the power balancing is active with the Power Balancing Adjustment Type of the UE Context set to "Common" in the existing RL(s) but the *DL Reference Power Information* IE includes the *Individual DL Reference Power Information* IE, the DRNS shall reject the Unsynchronised Radio Link Reconfiguration procedure as having failed and the DRNC shall respond with the RADIO LINK RECONFIGURATION FAILURE message with the cause value "Power Balancing status not compatible".]

[FDD - If the power balancing is active with the Power Balancing Adjustment Type of the UE Context set to "Individual" in the existing RL(s) but the *DL Reference Power Information* IE includes the *Common DL Reference Power* IE, the DRNS shall reject the Unsynchronised Radio Link Reconfiguration procedure as having failed and the DRNC shall respond with the RADIO LINK RECONFIGURATION FAILURE message with the cause value "Power Balancing status not compatible".]

If the RADIO LINK RECONFIGURATION REQUEST message contains the *Transport Layer Address* IE or the *Binding ID* IE when establishing a transport bearer for any Transport Channel or HS-DSCH MAC-d flow being added, or any Transport Channel or HS-DSCH MAC-d flow being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE., and not both are present for a transport bearer intended to be established, the DRNC shall reject the Unsynchronised Radio Link Reconfiguration procedure, and the DRNC shall respond with a RADIO LINK RECONFIGURATION FAILURE message.

If the RADIO LINK RECONFIGURATION REQUEST message contains any of the *HS-DSCH Information To Modify* IE, *HS-DSCH MAC-d Flows To Add* IE or *HS-DSCH MAC-d Flows To Delete* IE in addition to the *HS-DSCH Information* IE, the DRNC shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.

If the RADIO LINK RECONFIGURATION REQUEST message contains any of the *HS-DSCH Information To Modify* IE, *HS-DSCH MAC-d Flows To Add* IE, *HS-DSCH MAC-d Flows To Delete* IE or *HS-PDSCH RL ID* IE and the Serving HS-DSCH Radio Link is not in the DRNS, the DRNC shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *HS-DSCH Information* IE and does not include the *HS-PDSCH RL-ID* IE, the DRNC shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *HS-PDSCH RL-ID* IE indicating a Radio Link not existing in the UE Context, the DRNS shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.

If the RADIO LINK RECONFIGURATION REQUEST message contains any of the *HS-DSCH Information* IE, *HS-DSCH Information To Modify* IE, or *HS-DSCH MAC-d Flows To Add* IE and if in the new configuration the Priority Queues associated with the same *HS-DSCH MAC-d Flow ID* IE have the same *Scheduling Priority Indicator* IE value, the DRNC shall reject the procedure using the RADIO LINK RECONFIGURATION FAILURE message.

8.3.8 Physical Channel Reconfiguration

8.3.8.1 General

The Physical Channel Reconfiguration procedure is used by the DRNS to request the SRNC to reconfigure one of the configured physical channels.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The DRNS shall not initiate the Physical Channel Reconfiguration procedure if a Prepared Reconfiguration exists as defined in subclause 3.1, or if a Synchronised Radio Link Reconfiguration Preparation procedure, Unsynchronised Radio Link Reconfiguration procedure or Radio Link Deletion procedure is ongoing for the relevant UE context.

8.3.8.2 Successful Operation
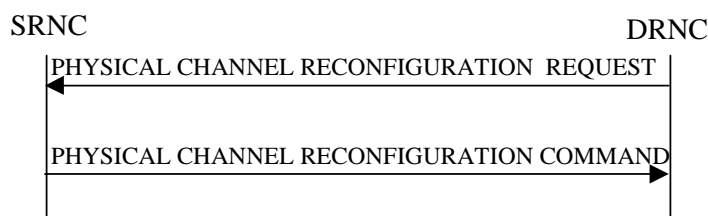
Figure 16: Physical Channel Reconfiguration procedure, Successful Operation

When the DRNC detects the need to modify one of its physical channels, it shall send a PHYSICAL CHANNEL RECONFIGURATION REQUEST to the SRNC.

The PHYSICAL CHANNEL RECONFIGURATION REQUEST message contains the new value(s) of the physical channel parameter(s) of the radio link for which the DRNC is requesting the reconfiguration.

[FDD - If compressed mode is prepared or active and at least one of the downlink compressed mode methods is "SF/2", the DRNC shall include the *Transmission Gap Pattern Sequence Scrambling Code Information* IE in the *DL Code Information* IE in the PHYSICAL CHANNEL RECONFIGURATION REQUEST message indicating for each DL Channelisation Code whether the alternative scrambling code will be used or not if the downlink compressed mode methods "SF/2" is activated.]

[TDD - The SRNC shall apply the new values for any of [3.84Mcps TDD - *UL Code Information* IE, *Midamble Shift And Burst Type* IE,], [1.28Mcps TDD - *UL Code Information LCR* IE, *Midamble Shift LCR* IE], *TDD DPCH Offset* IE, *Repetition Period* IE, *Repetition Length* IE, or *TFCI presence* IE included in the *UL DPCH Information* IE within the PHYSICAL CHANNEL RECONFIGURATION REQUEST message, otherwise the previous values specified for this DPCH shall still apply.]

[TDD - The SRNC shall apply the new values for any of [3.84Mcps TDD - *DL Code Information* IE, *Midamble Shift And Burst Type* IE,] [1.28Mcps TDD - *DL Code Information LCR* IE, *Midamble Shift LCR* IE,] *TDD DPCH Offset* IE *Repetition Period* IE, *Repetition Length* IE, or *TFCI presence* IE included in the *DL DPCH Information* IE within the PHYSICAL CHANNEL RECONFIGURATION REQUEST message, otherwise the previous values specified for this DPCH shall still apply.]

[3.84 Mcps TDD - If the PHYSICAL CHANNEL RECONFIGURATION REQUEST includes *HS-PDSCH Timeslot Specific Information* IE the SRNC shall apply the values of the *Midamble Shift And Burst Type* IE for each HS-PDSCH timeslot.]

[1.28 Mcps TDD - If the PHYSICAL CHANNEL RECONFIGURATION REQUEST includes *HS-PDSCH Timeslot Specific Information LCR* IE the SRNC shall apply the values of the *Midamble Shift LCR* IE for each HS-PDSCH timeslot.]

Upon receipt of the PHYSICAL CHANNEL RECONFIGURATION REQUEST, the SRNC shall decide an appropriate execution time for the change. The SRNC shall respond with a PHYSICAL CHANNEL RECONFIGURATION COMMAND message to the DRNC that includes the *CFN* IE indicating the execution time.

At the CFN, the DRNS shall switch to the new configuration that has been requested, and release the resources related to the old physical channel configuration.

8.3.8.3 Unsuccessful Operation
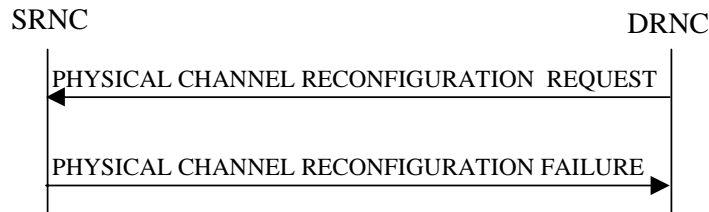
Figure 17: Physical Channel Reconfiguration procedure, Unsuccessful Operation

If the SRNC cannot accept the reconfiguration request it shall send the PHYSICAL CHANNEL RECONFIGURATION FAILURE message to the DRNC, including the reason for the failure in the *Cause* IE.

Typical cause values are:

Radio Network Layer Causes:

- Reconfiguration not Allowed.

8.3.8.4 Abnormal Conditions

While waiting for the PHYSICAL CHANNEL RECONFIGURATION COMMAND message, if the DRNC receives any of the RADIO LINK RECONFIGURATION PREPARE, RADIO LINK RECONFIGURATION REQUEST, or RADIO LINK DELETION REQUEST messages, the DRNC shall abort the Physical Channel Reconfiguration procedure. These messages thus override the DRNC request for physical channel reconfiguration.

When the SRNC receives a PHYSICAL CHANNEL RECONFIGURATION REQUEST message while a Synchronised Radio Link Reconfiguration procedure, Unsynchronised Radio Link Reconfiguration procedure or Radio Link Deletion procedure is ongoing, the SRNC shall ignore the request message and assume that receipt of any of the messages RADIO LINK RECONFIGURATION PREPARE, RADIO LINK RECONFIGURATION REQUEST or RADIO LINK DELETION REQUEST by the DRNC has terminated the Physical Channel Reconfiguration procedure. In this case the SRNC shall not send a PHYSICAL CHANNEL RECONFIGURATION FAILURE message to the DRNC.

8.3.9 Radio Link Failure

8.3.9.1 General

This procedure is started by the DRNS when one or more Radio Links [FDD - or Radio Link Sets][TDD - or CCTrCHs within a Radio Link] are no longer available.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The DRNS may initiate the Radio Link Failure procedure at any time after establishing a Radio Link.

8.3.9.2 Successful Operation
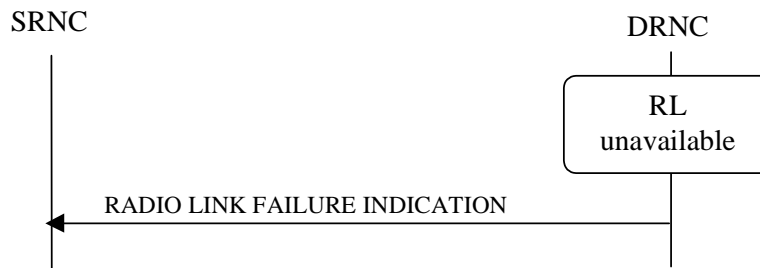
Figure 18: Radio Link Failure procedure, Successful Operation

When the DRNC detects that one or more Radio Link(s) [FDD - or Radio Link Set(s)] [TDD - or CCTrCHs within a Radio Link] are no longer available, it shall send the RADIO LINK FAILURE INDICATION message to the SRNC. The message indicates the failed Radio Link(s) [FDD - or Radio Link Set(s)] [TDD - or CCTrCHs] with the most appropriate cause values defined in the *Cause* IE. If the failure concerns one or more individual Radio Links the DRNC shall include the affected Radio Link(s) using the *RL Information* IE. [FDD - If the failure concerns one or more Radio Link Set(s) the DRNC shall include the affected Radio Link Set(s) using the *RL Set Information* IE.] [TDD - If the failure concerns only the failure of one or more CCTrCHs within in a radio link the DRNC shall include the affected CCTrCHs using the *CCTrCH ID* IE].

When the RL Failure procedure is used to notify loss of UL synchronisation of a [FDD - Radio Link Set] [TDD - Radio Link or CCTrCHs within a Radio Link] on the Uu interface, the RADIO LINK FAILURE INDICATION message shall be sent with the *Cause* IE set to "Synchronisation Failure" when indicated by the UL synchronisation detection algorithm defined in ref. [10] subclause 4.3 and [22] subclause 4.4.2.

[FDD - When the Radio Link Failure procedure is used to indicate permanent failure in one or more Radio Link(s)/Radio Link Set(s) due to the occurrence of an UL or DL frame with more than one transmission gap caused by one or more compressed mode pattern sequences, the DL transmission shall be stopped and the RADIO LINK FAILURE INDICATION message shall be sent with the *Cause Value* IE set to "Invalid CM Settings". After sending the RADIO LINK FAILURE INDICATION message to notify the permanent failure, the DRNS shall not remove the Radio Link(s)/Radio Link Set(s) from the UE Context, or remove the UE Context itself.]

In the other cases the Radio Link Failure procedure is used to indicate that one or more Radio Link(s) [FDD - or Radio Link Set(s)] are permanently unavailable and cannot be restored. After sending the RADIO LINK FAILURE INDICATION message to notify the permanent failure, the DRNS shall not remove the Radio Link from the UE Context, or remove the UE Context itself. When applicable, the allocation retention priorities associated with the transport channels shall be used by the DRNS to prioritise which Radio Links to indicate as unavailable to the SRNC.

Typical cause values are:

Radio Network Layer Causes:

- Synchronisation Failure;

- Invalid CM Settings.

Transport Layer Causes:

- Transport Resources Unavailable.

Miscellaneous Causes:

- Control Processing Overload;

- HW Failure;

- O&M Intervention.

8.3.9.3 Abnormal Conditions

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8.3.10   Radio Link Restoration

8.3.10.1   General

This procedure is used to notify establishment and re-establishment of UL synchronisation of one or more [FDD - RL Set(s)] [TDD - Radio Links or CCTrCH(s) in a Radio Link] on the Uu interface.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The DRNC may initiate the Radio Link Restoration procedure at any time after establishing a Radio Link.

8.3.10.2   Successful Operation

SRNC   DRNC

RADIO LINK RESTORE INDICATION

Figure 19: Radio Link Restoration procedure, Successful Operation

The DRNC shall send the RADIO LINK RESTORE INDICATION message to the SRNC when and as specified by the UL Uu synchronisation detection algorithm defined in ref. [10] subclause 4.3 and [22] subclause 4.4.2. [FDD - The algorithm in ref. [10] shall use the minimum value of the parameters N_INSYNC_IND that are configured in the cells supporting the radio links of the RL Set.]

[TDD - If the re-established UL Uu synchronisation concerns one or more individual Radio Links the DRNC shall include in the RADIO LINK RESTORE INDICATION message the *RL Information* IE to indicate the affected Radio Link(s).] [TDD - If the re-established synchronisation concerns one or more individual CCTrCHs within a radio link the DRNS shall include in the RADIO LINK RESTORE INDICATION message the *RL Information* IE to indicate the affected CCTrCHs.] [FDD - If the re-established UL Uu synchronisation concerns one or more Radio Link Sets the DRNC shall include in the RADIO LINK RESTORE INDICATION message the *RL Set Information* IE to indicate the affected Radio Link Set(s).]

8.3.10.3   Abnormal Conditions

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8.3.11   Dedicated Measurement Initiation

8.3.11.1   General

This procedure is used by an SRNS to request the initiation of dedicated measurements in a DRNS.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The Dedicated Measurement Initiation procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.11.2 Successful Operation

SRNC   DRNC

| DEDICATED MEASUREMENT INITIATION REQUEST |
| DEDICATED MEASUREMENT INITIATION RESPONSE |

Figure 20: Dedicated Measurement Initiation procedure, Successful Operation

The procedure is initiated with a DEDICATED MEASUREMENT INITIATION REQUEST message sent from the SRNC to the DRNC.

Upon receipt, the DRNC shall initiate the requested dedicated measurement according to the parameters given in the DEDICATED MEASUREMENT INITIATION REQUEST message.

If the Dedicated Measurement Object Type is indicated as being "RL" in the DEDICATED MEASUREMENT INITIATION REQUEST message, measurement results shall be reported for all the indicated Radio Links.

[FDD - If the Dedicated Measurement Object Type is indicated as being "RLS" in the DEDICATED MEASUREMENT INITIATION REQUEST message, measurement results shall be reported for all the indicated Radio Link Sets.]

[FDD - If the Dedicated Measurement Object Type is indicated as being "ALL RL" in the DEDICATED MEASUREMENT INITIATION REQUEST message, measurement results shall be reported for all current and future Radio Links within the UE Context.]

[TDD - If the Dedicated Measurement Object Type is indicated as being "ALL RL" in the DEDICATED MEASUREMENT INITIATION REQUEST message, measurement results shall be reported for one existing DPCH per CCTrCH in each used time slot of current and future Radio Links within the UE Context, provided the measurement type is applicable to the respective DPCH.]

[FDD - If the Dedicated Measurement Object Type is indicated as being "ALL RLS" in the DEDICATED MEASUREMENT INITIATION REQUEST message, measurement results shall be reported for all the existing and future Radio Link Sets within the UE Context.]

[TDD - If the *DPCH ID* IE is provided within the RL Information, the measurement request shall apply for the requested physical channel individually. If no *DPCH ID* IE or *HS-SICH ID* IE is provided within the RL Information the measurement request shall apply for one existing DPCH per CCTrCH in each used time slot of the Radio Link, provided the measurement type is applicable to this DPCH.]

[TDD - If the *HS-SICH Information* IE is provided within the RL Information, the measurement request shall apply for the requested physical channel individually.]

[TDD - If the *Dedicated Measurement Type* IE is set to "HS-SICH reception quality ", the DRNS shall initiate measurements of the failed, missed and total HS-SICH transmissions on all of the HS-SICH assigned to this UE Context. If either the failed or missed HS-SICH transmission satisfies the requested report characteristics, the DRNS shall report the result of both failed and missed transmission measurements along with the total number of transmissions.]

Report characteristics

The *Report Characteristics* IE indicates how the reporting of the dedicated measurement shall be performed. See also Annex B.

If the *Report Characteristics* IE is set to "On Demand" and if the *CFN* IE is not provided, the DRNS shall report the measurement result immediately in the DEDICATED MEASUREMENT INITIATION RESPONSE message. If the *CFN* IE is provided, it indicates the frame for which the measurement value shall be provided. The provided measurement value shall be the one reported by the layer 3 filter, referred to as point C in the measurement model [26].

If the *Report Characteristics* IE is set to "Periodic" and if the *CFN* IE is not provided, the DRNS shall immediately and periodically initiate the Dedicated Measurement Reporting procedure for this measurement, with a frequency as

specified by the *Report Periodicity* IE. If the *CFN* IE is provided, the DRNS shall initiate a Dedicated Measurement Reporting procedure for this measurement at the CFN indicated in the *CFN* IE, and shall repeat this initiation periodically thereafter with a frequency as specified by the *Report Periodicity* IE. The provided measurement value shall be the one reported by the layer 3 filter, referred to as point C in the measurement model [26].

If the *Report Characteristics* IE is set to "Event A", the DRNS shall initiate the Dedicated Measurement Reporting procedure when the measured entity rises above the requested threshold, as specified by the *Measurement Threshold* IE, and then stays above the threshold for the requested hysteresis time, as specified by the *Measurement Hysteresis Time* IE. If the *Measurement Hysteresis Time* IE is not included, the DRNC shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE is set to "Event B", the DRNS shall initiate the Dedicated Measurement Reporting procedure when the measured entity falls below the requested threshold, as specified by the *Measurement Threshold* IE, and then stays below the threshold for the requested hysteresis time, as specified by the *Measurement Hysteresis Time* IE. If the *Measurement Hysteresis Time* IE is not included, the DRNC shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE is set to "Event C", the DRNS shall initiate the Dedicated Measurement Reporting procedure when the measured entity rises more than the requested threshold specified by the *Measurement Increase/Decrease Threshold* IE, and only when this rise occurs within the requested rising time specified by the *Measurement Change Time* IE. After reporting this type of event, DRNS shall not initiate the next C event reporting for the same measurement during the subsequent time specified by the *Measurement Change Time* IE.

If the *Report Characteristics* IE is set to "Event D", the DRNS shall initiate the Dedicated Measurement Reporting procedure when the measured entity falls more than the requested threshold specified by the *Measurement Increase/Decrease Threshold* IE, and only when this falls occurs within the requested falling time specified by the *Measurement Change Time* IE. After reporting this type of event, the DRNS shall not initiate the next D event reporting for the same measurement during the subsequent time specified by the *Measurement Change Time* IE.

If the *Report Characteristics* IE is set to "Event E", the DRNS shall initiate the Dedicated Measurement Reporting procedure when the measured entity rises above the *Measurement Threshold 1* IE and stays above the threshold for the *Measurement Hysteresis Time* IE (Report A). When the conditions for Report A are met and if the *Report Periodicity* IE is provided, the DRNS shall initiate the Dedicated Measurement Reporting procedure periodically with the requested report frequency specified by the *Report Periodicity* IE. If the conditions for Report A have been met and the measured entity falls below the *Measurement Threshold 2* IE and stays below the threshold for the *Measurement Hysteresis Time* IE, the DRNS shall initiate the Dedicated Measurement Reporting procedure (Report B) and shall terminate any corresponding periodic reporting. If the *Measurement Threshold 2* IE is not present, the DRNS shall use the value of the *Measurement Threshold 1* IE instead. If the *Measurement Hysteresis Time* IE is not included, the DRNC shall use the value zero as hysteresis times for both Report A and Report B.

If the *Report Characteristics* IE is set to "Event F", the DRNS shall initiate the Dedicated Measurement Reporting procedure when the measured entity falls below the *Measurement Threshold 1* IE and stays below the threshold for the *Measurement Hysteresis Time* IE (Report A). When the conditions for Report A are met and if the *Report Periodicity* IE is provided, the DRNS shall initiate the Dedicated Measurement Reporting procedure periodically with the requested report frequency specified by the *Report Periodicity* IE. If the conditions for Report A have been met and the measured entity rises above the *Measurement Threshold 2* IE and stays above the threshold for the *Measurement Hysteresis Time* IE, the DRNS shall initiate the Dedicated Measurement Reporting procedure (Report B) and shall terminate any corresponding periodic reporting. If the *Measurement Threshold 2* IE is not present, the DRNS shall use the value of the *Measurement Threshold 1* IE instead. If the *Measurement Hysteresis Time* IE is not included, the DRNC shall use the value zero as hysteresis times for both Report A and Report B.

If the *Report Characteristics* IE is not set to "On –Demand", the DRNS is required to perform reporting for a dedicated measurement object, in accordance with the conditions provided in the DEDICATED MEASUREMENT INITIATION REQUEST message, as long as the object exists. If no dedicated measurement object(s) for which a measurement is defined exists any more, the DRNS shall terminate the measurement locally without reporting this to the SRNC.

If at the start of the measurement, the reporting criteria are fulfilled for any of Event A, Event B, Event E or Event F, the DRNS shall initiate the Dedicated Measurement Reporting procedure immediately, and then continue with the measurements as specified in the DEDICATED MEASUREMENT INITIATION REQUEST message.

Higher layer filtering
The *Measurement Filter Coefficient* IE indicates how filtering of the dedicated measurement values shall be performed before measurement event evaluation and reporting.

The averaging shall be performed according to the following formula.

$$F_n = (1-a) \cdot F_{n-1} + a \cdot M_n$$

The variables in the formula are defined as follows:

F_n is the updated filtered measurement result

F_{n-1} is the old filtered measurement result

M_n is the latest received measurement result from physical layer measurements, the unit used for M_n is the same unit as the reported unit in the DEDICATED MEASUREMENT INITIATION RESPONSE, DEDICATED MEASUREMENT REPORT messages or the unit used in the event evaluation (i.e. same unit as for Fn).

$a = 1/2^{(k/2)}$, where k is the parameter received in the *Measurement Filter Coefficient* IE. If the *Measurement Filter Coefficient* IE is not present, *a* shall be set to 1 (no filtering)

In order to initialise the averaging filter, F_0 is set to M_1 when the first measurement result from the physical layer measurement is received.

Response message
If the DRNS was able to initiate the measurement requested by the SRNS it shall respond with the DEDICATED MEASUREMENT INITIATION RESPONSE message. The message shall include the same Measurement ID that was used in the DEDICATED MEASUREMENT INITIATION REQUEST message.

In the case in which the *Report Characteristics* IE is set to "On Demand":

- The DRNC shall include the measurement result in the *Dedicated Measurement Value* IE within the DEDICATED MEASUREMENT INITIATION RESPONSE message.

- If the *CFN Reporting Indicator* IE is set to "FN Reporting Required", the *CFN* IE shall be included in the DEDICATED MEASUREMENT INITIATION RESPONSE message. The reported CFN shall be the CFN at the time when the dedicated measurement value was reported by the layer 3 filter, referred to as point C in the measurement model [26].

- [TDD - If the measurement was made on a particular DPCH, the DEDICATED MEASUREMENT INITIATION RESPONSE message shall include the DPCH ID of that DPCH in the *DPCH ID* IE.]

- [TDD - If the measurement was made on a particular HS-SICH, the DEDICATED MEASUREMENT INITIATION RESPONSE message shall include the ID of that HS-SICH in the *HS-SICH ID* IE.]

8.3.11.3   Unsuccessful Operation
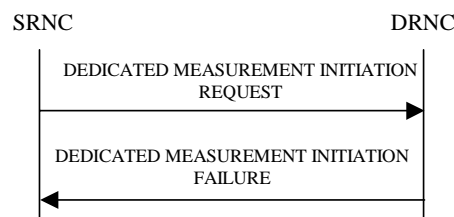
Figure 21: Dedicated Measurement Initiation procedure, Unsuccessful Operation

If the requested measurement cannot be initiated for one of the RL/RLS, the DRNC shall send a DEDICATED MEASUREMENT INITIATION FAILURE message. The message shall include the same *Measurement ID* IE that was used in the DEDICATED MEASUREMENT INITIATION REQUEST message and shall include the *Cause* IE set to an appropriate value.

If the DEDICATED MEASUREMENT INITIATION REQUEST message includes the *Partial Reporting Indicator* IE, the DRNS shall, if partial reporting is supported, separate the unsuccessful measurement initiations from the successful measurement initiations. For the successful measurement initiations on a RL or an RLS, the DRNS shall include the *Successful RL Information* IE or the *Successful RL Set Information* IE for the concerned RL or RLS if the R*eport Characteristics* IE in the DEDICATED MEASUREMENT INITIATION REQUEST message was set to "On Demand".

For the unsuccessful measurement initiations, the DRNS shall include the *Individual Cause* IE set to an appropriate value if it differs from the value of the *Cause* IE.

Typical cause values are:

Radio Network Layer Causes:

- Measurement not Supported For The Object

- Measurement Temporarily not Available

Miscellaneous Causes:

- Control Processing Overload

- HW Failure

8.3.11.4 Abnormal Conditions

The allowed combinations of the Dedicated Measurement Type and Report Characteristics Type are shown in the table below marked with "X". For not allowed combinations, the DRNS shall reject the Dedicated Measurement Initiation procedure using the DEDICATED MEASUREMENT INITIATION FAILURE message.

Table 4: Allowed Dedicated Measurement Type and Report Characteristics Type combinations

Dedicated Measurement Type	Report Characteristics Type								
	On Demand	Periodic	Event A	Event B	Event C	Event D	Event E	Event F	On Modification
SIR	X	X	X	X	X	X	X	X	
SIR Error	X	X	X	X	X	X	X	X	
Transmitted Code Power	X	X	X	X	X	X	X	X	
RSCP	X	X	X	X	X	X	X	X	
Rx Timing Deviation	X	X	X	X			X	X	
Round Trip Time	X	X	X	X	X	X	X	X	
Rx Timing Deviation LCR	X	X	X	X			X	X	
HS-SICH Reception Quality	X	X	X	X			X	X	
Angle Of Arrival LCR	X	X							

If the Dedicated Measurement Type received in the *Dedicated Measurement Type* IE is not defined in ref. [11] or [14] to be measured on the Dedicated Measurement Object Type received in the DEDICATED MEASUREMENT INITIATION REQUEST message, the DRNS shall reject the Dedicated Measurement Initiation procedure.

If the *CFN* IE is included in the DEDICATED MEASUREMENT INITIATION REQUEST message and the *Report Characteristics* IE is other than "Periodic" or "On Demand", the DRNS shall reject the Dedicated Measurement Initiation procedure, and the DRNC shall send a DEDICATED MEASUREMENT INITIATION FAILURE message.

8.3.12 Dedicated Measurement Reporting

8.3.12.1 General

This procedure is used by the DRNS to report the results of the successfully initiated measurements requested by the SRNS with the Dedicated Measurement Initiation procedure.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The DRNC may initiate the Dedicated Measurement Reporting procedure at any time after establishing a Radio Link.

8.3.12.2 Successful Operation
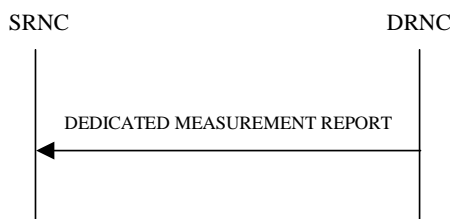
Figure 22: Dedicated Measurement Reporting procedure, Successful Operation

If the requested measurement reporting criteria are met, the DRNS shall initiate the Dedicated Measurement Reporting procedure. If the measurement was initiated (by the Dedicated Measurement Initiation procedure) for multiple dedicated measurement objects, the DRNC may include dedicated measurement values in the *Dedicated Measurement Value Information* IE for multiple objects in the DEDICATED MEASUREMENT REPORT message.

The *Measurement ID* IE shall be set to the Measurement ID provided by the SRNC when initiating the measurement with the Dedicated Measurement Initiation procedure.

If the achieved measurement accuracy does not fulfil the given accuracy requirement specified in ref. [23] and [24], the Measurement not available shall be reported in the *Dedicated Measurement Value Information* IE in the DEDICATED MEASUREMENT REPORT message, otherwise the DRNC shall include the *Dedicated Measurement Value* IE within the *Dedicated Measurement Value Information* IE.

If the CFN Reporting Indicator when initiating the measurement with the Dedicated Measurement Initiation procedure was set to "FN Reporting Required", the DRNC shall include the *CFN* IE in the DEDICATED MEASUREMENT REPORT message. The reported CFN shall be the CFN at the time when the dedicated measurement value was reported by the layer 3 filter, referred to as point C in the measurement model [26].

[TDD - If the measurement was made on a particular DPCH, the DEDICATED MEASUREMENT REPORT message shall include the DPCH ID of that DPCH in the *DPCH ID* IE.]

[TDD - If the measurement was made on a particular HS-SICH, the DEDICATED MEASUREMENT INITIATION RESPONSE message shall include the ID of that HS-SICH in the *HS-SICH ID* IE.]

8.3.12.3 Abnormal Conditions

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8.3.13 Dedicated Measurement Termination

8.3.13.1 General

This procedure is used by the SRNS to terminate a measurement previously requested by the Dedicated Measurement Initiation procedure.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The Dedicated Measurement Termination procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.13.2 Successful Operation

SRNC DRNC

DEDICATED MEASUREMENT
TERMINATION REQUEST

Figure 23: Dedicated Measurement Termination procedure, Successful Operation

This procedure is initiated with a DEDICATED MEASUREMENT TERMINATION REQUEST message, sent from the SRNC to the DRNC.

Upon receipt, the DRNS shall terminate reporting of dedicated measurements corresponding to the received *Measurement ID* IE.

8.3.13.3 Abnormal Conditions

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8.3.14 Dedicated Measurement Failure

8.3.14.1 General

This procedure is used by the DRNS to notify the SRNS that a measurement previously requested by the Dedicated Measurement Initiation procedure can no longer be reported. When partial reporting is allowed and supported, this procedure shall be used to report that measurement for one or more RL/RLS can no longer be reported.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The DRNC may initiate the Dedicated Measurement Failure procedure at any time after establishing a Radio Link.

8.3.14.2 Successful Operation

SRNC DRNC

DEDICATED MEASUREMENT FAILURE
INDICATION
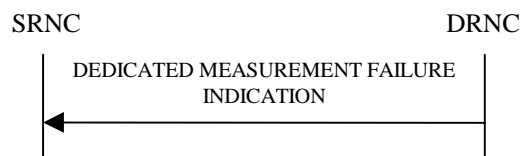
Figure 24: Dedicated Measurement Failure procedure, Successful Operation

This procedure is initiated with a DEDICATED MEASUREMENT FAILURE INDICATION message, sent from the DRNC to the SRNC, to inform the SRNC that a previously requested dedicated measurement can no longer be reported. The DRNC has locally terminated the indicated measurement. The DRNC shall include in the DEDICATED MEASUREMENT FAILURE INDICATION message the reason for the failure in the *Cause* IE.

The DRNS shall include *Unsuccessful RL Information* IE or the *Unsuccessful RL Set Information* IE for the concerned RL or RLS if partial reporting is allowed and it is supported. The DRNS shall include the *Individual Cause* IE set to an appropriate value if it differs from the value of the *Cause* IE.

Typical cause values are:

Miscellaneous Causes:

- Control Processing Overload

- HW Failure

- O&M Intervention

8.3.14.3 Abnormal Conditions

-

8.3.15 Downlink Power Control [FDD]

8.3.15.1 General

The purpose of this procedure is to balance the DL transmission powers of one or more radio links for one UE.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The Downlink Power Control procedure may be initiated by the SRNC at any time after establishing a Radio Link. If the SRNC has initiated in this DRNS the deletion of the last Radio Link for this UE context, the Downlink Power Control procedure shall not be initiated.

8.3.15.2 Successful Operation

Figure 25: Downlink Power Control procedure, Successful Operation

The Downlink Power Control procedure is initiated by the SRNC sending a DL POWER CONTROL REQUEST message to the DRNC.

The *Power Adjustment Type* IE defines the characteristic of the power adjustment.

If the value of the *Power Adjustment Type* IE is "Common", the DRNS shall set the Power Balancing Adjustment Type of the UE Context set to "Common". As long as the Power Balancing Adjustment Type of the UE Context is set to "Common", the DRNS shall perform the power adjustment (see below) for all existing and future radio links for the UE Context and use a common DL reference power level.

If the value of the *Power Adjustment Type* IE is "Individual", the DRNS shall set the Power Balancing Adjustment Type of the UE Context set to "Individual". The DRNS shall perform the power adjustment (see below) for all radio links addressed in the message using the given DL Reference Power per RL. If the Power Balancing Adjustment Type of the UE Context was set to "Common" before this message was received, power balancing on all radio links not addressed by the DL POWER CONTROL REQUEST message shall remain to be executed in accordance with the existing power balancing parameters which are now considered RL individual parameters. Power balancing will not be started on future radio links without a specific request.

If the value of the *Power Adjustment Type* IE is "None", the DRNS shall set the Power Balancing Adjustment Type of the UE Context set to "None" and the DRNS shall suspend on going power adjustments for all radio links for the UE Context.

If the *Inner Loop DL PC Status* IE is present and set to "Active", the DRNS shall activate inner loop DL power control for all radio links for the UE Context. If the *Inner Loop DL PC Status* IE is present and set to "Inactive", the DRNS shall deactivate inner loop DL power control for all radio links for the UE Context according to ref. [10].

Power Adjustment

The power balancing adjustment shall be superimposed on the inner loop power control adjustment (see ref. [10]) if activated. The power balancing adjustment shall be such that:

$$\sum P_{bal} = (1-r)(P_{ref} + P_{P-CPICH} - P_{init})$$ with an accuracy of ± 0.5 dB

where the sum is performed over an adjustment period corresponding to a number of frames equal to the value of the *Adjustment Period* IE, P_{ref} is the value of the *DL Reference Power* IE, $P_{P\text{-}CPICH}$ is the power used on the primary CPICH, P_{init} is the code power of the last slot of the previous adjustment period and *r* is given by the *Adjustment Ratio* IE. If the last slot of the previous adjustment period is within a transmission gap due to compressed mode, P_{init} shall be set to the same value as the code power of the slot just before the transmission gap.

The adjustment within one adjustment period shall in any case be performed with the constraints given by the *Max Adjustment Step* IE and the DL TX power range set by the DRNC.

The power adjustments shall be started at the first slot of a frame with CFN modulo the value of *Adjustment Period* IE equal to 0 and shall be repeated for every adjustment period and shall be restarted at the first slot of a frame with CFN=0, until a new DL POWER CONTROL REQUEST message is received or the RL is deleted.

8.3.15.3 Abnormal Conditions

-

8.3.16 Compressed Mode Command [FDD]

8.3.16.1 General

The Compressed Mode Command procedure is used to activate or deactivate the compressed mode in the DRNS for one UE-UTRAN connection. This procedure shall use the signalling bearer connection for the relevant UE Context.

The Compressed Mode Command procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.16.2 Successful Operation

Figure 26: Compressed Mode Command procedure, Successful Operation

The procedure is initiated by the SRNC sending a COMPRESSED MODE COMMAND message to the DRNC.

Upon receipt of the COMPRESSED MODE COMMAND message from the SRNC and at the CFN indicated in the *CM Configuration Change CFN* IE, the DRNS shall deactivate all the ongoing Transmission Gap Pattern Sequences. From that moment on all Transmission Gap Pattern Sequences included in *Transmission Gap Pattern Sequence Status* IE repetitions (if present) shall be started when the indicated *TGCFN* IE elapses. The *CM Configuration Change CFN* IE in the *Active Pattern Sequence Information* IE and *TGCFN* IE for each sequence refer to the next coming CFN with that value.

If the values of the *CM Configuration Change CFN* IE and the *TGCFN* IE are equal, the concerned Transmission Gap Pattern Sequence shall be started immediately at the CFN with a value equal to the value received in the *CM Configuration Change CFN* IE.

8.3.16.3 Abnormal Conditions

-

8.3.17 Downlink Power Timeslot Control [TDD]

8.3.17.1 General

The purpose of this procedure is to provide the DRNS with updated DL Timeslot ISCP values to use when deciding the DL TX Power for each timeslot.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The Downlink Power Timeslot Control procedure can be initiated by the SRNC at any time after establishing a Radio Link. If the SRNC has initiated deletion of the last Radio Link in this DRNS, the Downlink Power Timeslot Control procedure shall not be initiated.

8.3.17.2 Successful Operation

```
      SRNC                                               DRNC

        |                                                 |
        |       DL POWER TIMESLOT CONTROL REQUEST          |
        |------------------------------------------------>|
        |                                                 |
```

Figure 26A: Downlink Power Timeslot Control procedure, Successful Operation

The Downlink Power Timeslot Control procedure is initiated by the SRNC sending a DL POWER TIMESLOT CONTROL REQUEST message to the DRNC.

Upon receipt of the DL POWER TIMESLOT CONTROL REQUEST message, the DRNS shall use the included [3.84Mcps TDD - *DL Timeslot ISCP Info* IE] [1.28Mcps TDD - *DL Timeslot ISCP Info LCR* IE] value when deciding the DL TX Power for each timeslot as specified in [22], i.e. it shall reduce the DL TX power in those downlink timeslots of the radio link in which the interference is low, and increase the DL TX power in those timeslots in which the interference is high, while keeping the total downlink power in the radio link unchanged.

If the *Primary CCPCH RSCP Delta* IE is included, the DRNS shall assume that the reported value for Primary CCPCH RSCP is in the negative range as per [24], and the value is equal to the *Primary CCPCH RSCP Delta* IE. If the *Primary CCPCH RSCP Delta* IE is not included and the *Primary CCPCH RSCP* IE is included, the DRNS shall assume that the reported value is in the non-negative range as per [24], and the value is equal to the *Primary CCPCH RSCP* IE. The DRNS should use the indicated value for HS-DSCH scheduling and transmit power adjustment.

8.3.17.3 Abnormal Conditions

-

8.3.18 Radio Link Pre-emption

8.3.18.1 General

This procedure is started by the DRNS when resources need to be freed.

This procedure shall use the signalling bearer connection for the UE Context associated with the RL to be pre-empted.

The DRNS may initiate the Radio Link Pre-emption procedure at any time after establishing a Radio Link.

8.3.18.2 Successful Operation
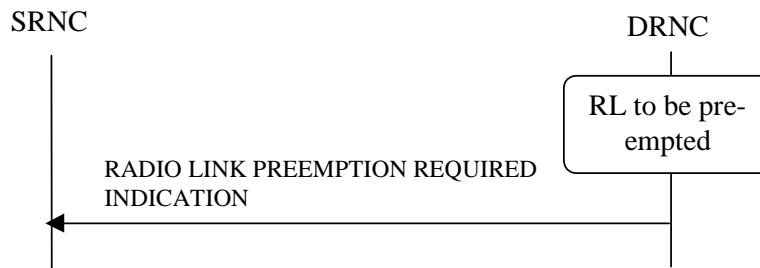
Figure 26B: Radio Link Pre-emption procedure, Successful Operation

When DRNC detects that one or more Radio Link(s) should be pre-empted (see Annex A), it shall send the RADIO LINK PREEMPTION REQUIRED INDICATION message to the SRNC. If all Radio Links for a UE Context should be pre-empted, the *RL Information* IE shall not be included in the message. If one or several but not all Radio Link(s) should be pre-empted for an UE Context, the Radio Link(s) that should be pre-empted shall be indicated in the *RL Information* IE. The Radio Link(s) that should be pre-empted, should be deleted by the SRNC.

When only the HS-DSCH traffic on a Radio Link should be pre-empted, the DRNC shall indicate the HS-DSCH MAC-d flow(s) that should be pre-empted by including the *HS-DSCH MAC-d Flow Specific Information* IE in the RADIO LINK PREEMPTION REQUIRED INDICATION message.

8.3.18.3 Abnormal Conditions

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8.3.19 Radio Link Congestion

8.3.19.1 General

This procedure is started by the DRNS when resource congestion is detected and the rate of one or more DCHs, corresponding to one or more radio links, is preferred to be limited in the UL and/or DL. This procedure is also used by the DRNC to indicate to the SRNC any change of the UL/DL resource congestion situation, affecting these radio links. This procedure shall use the signalling bearer connection for the relevant UE Context.

The Radio Link Congestion procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.19.2 Successful Operation

Figure 26C: Radio Link Congestion procedure, Successful Operation

Start of an UL/DL Resource Congestion Situation

When the DRNC detects the start of a UL/DL resource congestion situation and prefers the rate of one or more DCHs for one or more Radio Link(s) to be limited below the maximum rate currently configured in the UL/DL TFS, it shall send the RADIO LINK CONGESTION INDICATION message to the SRNC. The DRNC shall indicate the cause of the congestion in the *Congestion Cause* IE and shall indicate all the Radio Links for which the rate of a DCH needs to be reduced. For each DCH within the RL with UL congestion, the DRNC shall indicate the desired maximum UL data rate with the *Allowed UL Rate* IE in the *Allowed Rate Information* IE. For each DCH within the RL with DL congestion, the DRNC shall indicate the desired maximum DL data rate with the *Allowed DL Rate* IE in the *Allowed Rate Information* IE.

When receiving the RADIO LINK CONGESTION INDICATION message the SRNC should reduce the rate in accordance with the *Congestion Cause* IE and the indicated *Allowed DL Rate* IE and/or *Allowed UL Rate* IE for a DCH.

Change of UL/DL Resource Congestion Situation

The DRNC shall indicate any change of the UL/DL resource congestion situation by sending the RADIO LINK CONGESTION INDICATION message in which the new allowed rate(s) of the DCHs are indicated by the *Allowed Rate Information* IE. In the case that for at least one DCH the new allowed rate is lower than the previously indicated allowed rate for that DCH, the *Congestion Cause* IE, indicating the cause of the congestion, shall also be included.

When receiving a RADIO LINK CONGESTION INDICATION message indicating a further rate decrease on any DCH(s) on any RL, the SRNC should reduce the rate in accordance with the indicated congestion cause and the indicated allowed rate(s) for the DCH(s).

End of UL/DL Resource Congestion Situation

The end of an UL resource congestion situation, affecting a specific RL, shall be indicated by including the TF corresponding to the highest data rate in the *Allowed UL Rate* IE in the *Allowed Rate Information* IE for the concerned RL. The end of a DL resource congestion situation, affecting a specific RL, shall be indicated by including the TF with the highest data rate in the *Allowed DL Rate* IE in the *Allowed Rate Information* IE for the concerned RL.

8.3.19.3 Abnormal Conditions

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8.3.20 Radio Link Activation

8.3.20.1 General

This procedure is used to activate or de-activate the DL transmission on the Uu interface regarding selected RLs.

8.3.20.2 Successful Operation

Figure 26D: Radio Link Activation procedure

This procedure is initiated by sending the RADIO LINK ACTIVATION COMMAND message from the SRNC to the DRNC. This procedure shall use the signalling bearer connection for the relevant UE Context.

Upon receipt, the DRNS shall for each concerned RL:

- if the *Delayed Activation Update* IE indicates "Activate":

  - if the *Activation Type* IE equals "Unsynchronised":

    - [FDD - start transmission on the new RL after synchronisation is achieved in the DL user plane as specified in [4].]

    - [TDD - start transmission on the new RL immediately as specified in [4].]

  - if the *Activation Type* IE equals "Synchronised":

    - [FDD - start transmission on the new RL after synchronisation is achieved in the DL user plane as specified in [4], however never before the CFN indicated in the *Activation CFN* IE.]

- [TDD - start transmission on the new RL at the CFN indicated in the *Activation CFN* IE as specified in [4].]

- [FDD - the DRNS shall apply the power level indicated in the *Initial DL Tx Power* IE to the transmission on each DL DPCH of the RL when starting transmission until either UL synchronisation on the Uu interface is achieved for the RLS or power balancing is activated. During this period no inner loop power control shall be performed and, unless activated by the DL POWER CONTROL REQUEST message, no power balancing shall be performed. The DL power shall then vary according to the inner loop power control (see ref.[10], subclause 5.2.1.2) and downlink power balancing adjustments (see 8.3.7).]

- [TDD - the DRNS shall apply the power level indicated in the *Initial DL Tx Power* IE to the transmission on each DL DPCH and on each Time Slot of the RL when starting transmission until the UL synchronisation on the Uu interface is achieved for the RL. No inner loop power control shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[22], subclause 4.2.3.3).]

- [FDD - if the *Propagation Delay* IE is included, the DRNS may use this information to speed up the detection of UL synchronisation on the Uu interface.]

- [FDD - if the *First RLS Indicator* IE is included, it indicates if the concerned RL shall be considered part of the first RLS established towards this UE. The *First RLS Indicator* IE shall be used by the DRNS to determine the initial TPC pattern in the DL of the concerned RL and all RLs which are part of the same RLS, as described in [10], section 5.1.2.2.1.2.]

- if the *Delayed Activation Update* IE indicates "Deactivate":

  - stop DL transmission immediately if the Deactivation Type IE equals "Unsynchronised", or at the CFN indicated by the Deactivation CFN IE if the Deactivation Type IE equals "Synchronised".

8.3.20.3 Abnormal Conditions

[FDD - If the *Delayed Activation Update* IE is included in the RADIO LINK ACTIVATION COMMAND message, it indicates "Activate" and the *First RLS Indicator* IE is not included, the DRNC shall initiate the ERROR INDICATION procedure.]

8.3.21 Radio Link Parameter Update

8.3.21.1 General

The Radio Link Parameter Update procedure is executed by the DRNS to update parameters related to HS-DSCH on a radio link for a UE-UTRAN connection or to update phase reference on a list of the radio links.

This procedure shall use the signalling bearer connection for the relevant UE context.

The Radio Link Parameter Update procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.21.2 Successful Operation

Figure 26E: Radio Link Parameter Update Indication, Successful Operation

The Radio Link Parameter Update procedure is initiated by the DRNS by sending the RADIO LINK PARAMETER UPDATE INDICATION message to the SRNC.

HS-DSCH related Parameter(s) Updating:

If RADIO LINK PARAMETER UPDATE INDICATION message is used to update the parameters related to HS-DSCH, it contains suggested value(s) of the HS-DSCH related parameter(s) that should be reconfigured on the radio link.

If the DRNS needs to update HS-DSCH related parameters, the DRNS shall initiate RADIO LINK PARAMETER UPDATE INDICATION message including [FDD - *HS-DSCH FDD Update Information* IE] [TDD - *HS-DSCH TDD Update Information* IE].

If the DRNS needs to allocate new HS-SCCH Codes, the DRNS shall initiate RADIO LINK PARAMETER UPDATE INDICATION message including *HS-SCCH Code Change Indicator* IE.

[FDD - If the DRNS needs to update the CQI Feedback Cycle k, CQI Repetition Factor, ACK-NACK Repetition Factor, CQI Power Offset, ACK Power Offset and/or NACK Power Offset, the DRNS shall initiate RADIO LINK PARAMETER UPDATE INDICATION message including *CQI Feedback Cycle k* IE, *CQI Repetition Factor* IE, *ACK-NACK Repetition Factor* IE, *CQI Power Offset* IE, *ACK Power Offset* IE and/or *NACK Power Offset* IE.]

[TDD - If the DRNS needs to update the TDD ACK-NACK Power Offset the DRNS shall initiate RADIO LINK PARAMETER UPDATE INDICATION message including *TDD ACK-NACK Power Offset* IE.]

[FDD – Phase Reference Handling]:

[FDD – If DRNS needs to update phase reference for the channel estimation for one or several Radio Links, the DRNC shall initiate RADIO LINK PARAMETER UPDATE INDICATION message including *Phase Reference Update Information* IE for the concerned RL(s).]

8.3.21.3 Abnormal Conditions

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8.4 Common Transport Channel Procedures

8.4.1 Common Transport Channel Resources Initialisation

8.4.1.1 General

The Common Transport Channel Resources Initialisation procedure is used by the SRNC for the initialisation of the Common Transport Channel user plane towards the DRNC and/or for the initialisation of the Common Transport Channel resources in the DRNC to be used by a UE.

This procedure shall use the connectionless mode of the signalling bearer.

8.4.1.2 Successful Operation
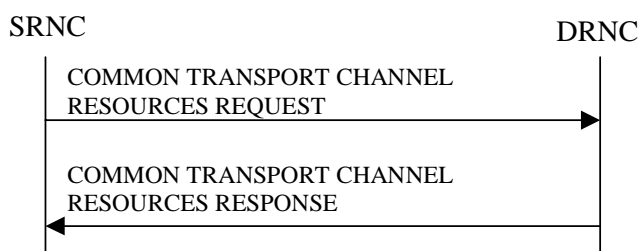
Figure 27: Common Transport Channel Resources Initialisation procedure, Successful Operation

The SRNC initiates the procedure by sending the message COMMON TRANSPORT CHANNEL RESOURCES REQUEST message to the DRNC.

If the value of the *Transport Bearer Request Indicator* IE is set to "Bearer Requested", the DRNC shall store the received *Transport Bearer ID* IE. The DRNC may use the *Transport Layer Address* and *Binding ID* IEs included in the COMMON TRANSPORT CHANNEL RESOURCES REQUEST message received from the SRNC when establishing a transport bearer for the common transport channel. In addition, the DRNC shall include its own *Binding ID* IE and *Transport Layer Address* IE in the COMMON TRANSPORT CHANNEL RESOURCES RESPONSE message.

If the value of the *Transport Bearer Request Indicator* IE is set to" Bearer not Requested"*,* the DRNC shall use the transport bearer indicated by the *Transport Bearer ID* IE.

If the *C-ID* IE is included in the COMMON TRANSPORT CHANNEL RESOURCES REQUEST message, the DRNC shall allocate a C-RNTI for the indicated cell and include the *C-RNTI* IE in the COMMON TRANSPORT CHANNEL RESOURCES RESPONSE message.

If the *C-ID* IE is included in the COMMON TRANSPORT CHANNEL RESOURCES REQUEST message, the DRNC shall include the *FACH Info for UE Selected S-CCPCH* IE valid for the cell indicated by the *C-ID* IE and the corresponding *C-ID* IE in the COMMON TRANSPORT CHANNEL RESOURCES RESPONSE message. If the *C-ID* IE is not included in the COMMON TRANSPORT CHANNEL RESOURCES REQUEST message, the DRNC shall include the *FACH Info for UE Selected S-CCPCH* IE valid for the cell where the UE is located and the corresponding *C-ID* IE. The DRNC shall include the *FACH Scheduling Priority* IE and *FACH Initial Window Size* IE in the *FACH Flow Control Information* IE of the *FACH Info for UE Selected S-CCPCH* IE for each priority class that the DRNC has determined shall be used. The DRNC may include several *MAC-c/sh SDU Length* IEs for each priority class.

If the DRNS has any RACH, [FDD - CPCH,] and/or FACH resources previously allocated for the UE in another cell than the cell in which resources are currently being allocated, the DRNS shall release the previously allocated RACH, [FDD - CPCH,] and/or FACH resources.

If the DRNS has successfully reserved the required resources, the DRNC shall respond to the SRNC with the COMMON TRANSPORT CHANNEL RESOURCES RESPONSE message.

If the *Permanent NAS UE Identity* IE is present in the COMMON TRANSPORT CHANNEL RESOURCES REQUEST message, the DRNS shall store the information for the considered UE Context for the lifetime of the UE Context.

If the COMMON TRANSPORT CHANNEL RESOURCES REQUEST message includes a *C-ID* IE corresponding to a cell reserved for operator use and the Permanent NAS UE Identity is available in the DRNC for the considered UE Context, the DRNC shall use this information to determine whether it can reserve resources on a common transport channel in this cell or not.

8.4.1.3   Unsuccessful Operation
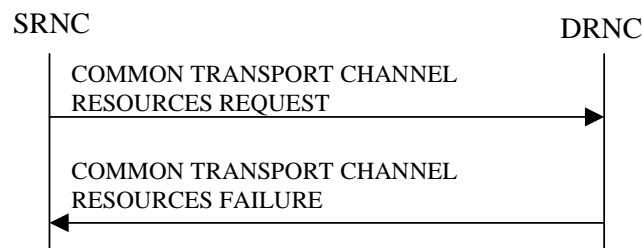
Figure 28: Common Transport Channel Resources Initialisation procedure, Unsuccessful Operation

If the *Transport Bearer Request Indicator* IE is set to "Bearer Requested" and the DRNC is not able to provide a Transport Bearer, the DRNC shall reject the procedure and respond to the SRNC with the COMMON TRANSPORT CHANNEL RESOURCES FAILURE message, including the reason for the failure in the *Cause* IE.

If the COMMON TRANSPORT CHANNEL RESOURCES REQUEST message contains a *C-ID* IE corresponding to a cell reserved for operator use and the Permanent NAS UE Identity is not available for the considered UE Context, the DRNC shall reject the procedure and send the COMMON TRANSPORT CHANNEL RESOURCES FAILURE message, including the reason for the failure in the *Cause* IE.

Typical cause values are:

Radio Network Layer Causes:

- Common Transport Channel Type not Supported;

- Cell reserved for operator use.

Transport Layer Causes:

- Transport Resource Unavailable.

8.4.1.4 Abnormal Conditions

If the COMMON TRANSPORT CHANNEL RESOURCES REQUEST message contains the *Transport Layer Address* IE or the *Binding ID* IE, and not both are present for a transport channel intended to be established, the DRNC shall reject the procedure using the COMMON TRANSPORT CHANNEL RESOURCES FAILURE message.

8.4.2 Common Transport Channel Resources Release

8.4.2.1 General

This procedure is used by the SRNC to request release of Common Transport Channel Resources for a given UE in the DRNS. The SRNC uses this procedure either to release the UE Context from the DRNC (and thus both the D-RNTI and the C-RNTI) or to release only the C-RNTI.

This procedure shall use the connectionless mode of the signalling bearer.

8.4.2.2 Successful Operation

Figure 29: Common Transport Channel Resources Release procedure, Successful Operation

The SRNC initiates the Common Transport Channel Resources Release procedure by sending the COMMON TRANSPORT CHANNEL RESOURCES RELEASE REQUEST message to the DRNC. Upon receipt of the message the DRNC shall release the UE Context identified by the D-RNTI and all its related RACH, [FDD - CPCH,] and/or FACH resources, unless the UE is using dedicated resources (DCH, [TDD - USCH,] and/or DSCH) in the DRNS in which case the DRNC shall release only the C-RNTI and all its related RACH, [FDD - CPCH,] and/or FACH resources allocated for the UE.

8.4.2.3 Abnormal Conditions

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8.5 Global Procedures

8.5.1 Error Indication

8.5.1.1 General

The Error Indication procedure is initiated by a node to report detected errors in a received message, provided they cannot be reported by an appropriate response message.

This procedure shall use the signalling bearer mode specified below.

8.5.1.2 Successful Operation

RNC1 RNC2
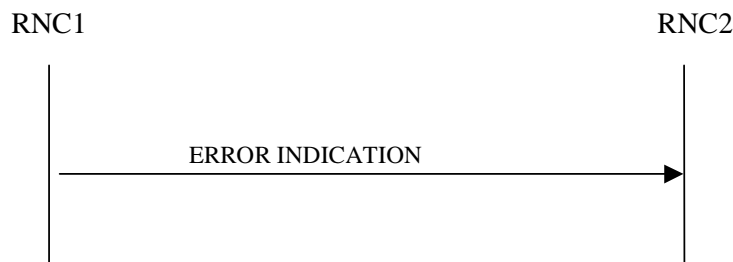
ERROR INDICATION

Figure 30: Error Indication procedure, Successful Operation

When the conditions defined in clause 10 are fulfilled, the Error Indication procedure is initiated by an ERROR INDICATION message sent from the receiving node. This message shall use the same mode of the signalling bearer and the same signalling bearer connection (if connection oriented) as the message that triggers the procedure.

When the ERROR INDICATION message is sent from a DRNC to an SRNC using connectionless mode of the signalling bearer, the *S-RNTI* IE shall be included in the message if the UE Context addressed by the *D-RNTI* IE which was received in the message triggering the Error Indication procedure exists. When the ERROR INDICATION message is sent from an SRNC to a DRNC using connectionless mode of the signalling bearer, the *D-RNTI* IE shall be included in the message if available.

When a message using connectionless mode of the signalling bearer is received in the DRNC and there is no UE Context in the DRNC as indicated by the *D-RNTI* IE, the DRNC shall include the D-RNTI from the received message in the *D-RNTI* IE and set the *Cause* IE to "Unknown RNTI" in the ERROR INDICATION message, unless another handling is specified in the procedure text for the affected procedure.

When a message using connectionless mode of the signalling bearer is received in the SRNC and there is no UE in the SRNC as indicated by the *S-RNTI* IE, the SRNC shall include the S-RNTI from the received message in the *S-RNTI* IE and set the *Cause* IE to "Unknown RNTI" in the ERROR INDICATION message, unless another handling is specified in the procedure text for the affected procedure.

The ERROR INDICATION message shall include either the *Cause* IE, or the *Criticality Diagnostics* IE, or both the *Cause* IE and the *Criticality Diagnostics* IE to indicate the reason for the error indication.

Typical cause values for the ERROR INDICATION message are:

Protocol Causes:

- Transfer Syntax Error

- Abstract Syntax Error (Reject)

- Abstract Syntax Error (Ignore and Notify)

- Message not Compatible with Receiver State

- Unspecified

8.5.1.2.1 Successful Operation for Iur-g

The RNC$_1$/BSS$_1$ and RNC$_2$/BSS$_2$ shall use the error indication procedure as specified in section 8.5.1.2.

8.5.1.3 Abnormal Conditions

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8.5.2   Common Measurement Initiation

8.5.2.1   General

This procedure is used by an RNC to request the initiation of measurements of common resources to another RNC. The requesting RNC is referred to as RNC$_1$ and the RNC to which the request is sent is referred to as RNC$_2$.

This procedure uses the signalling bearer connection for the relevant Distant RNC Context.

8.5.2.2   Successful Operation

RNC$_1$ RNC$_2$

COMMON MEASUREMENT INITIATION
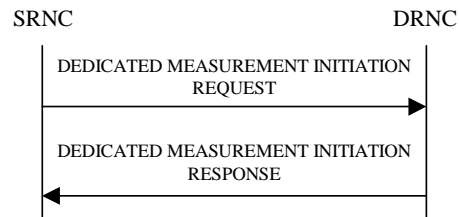REQUEST

COMMON MEASUREMENT INITIATION
RESPONSE
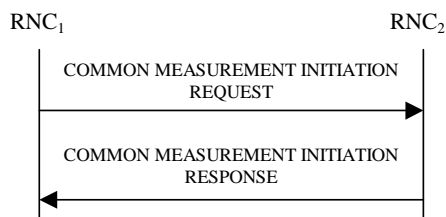
Figure 30A: Common Measurement Initiation procedure, Successful Operation

The procedure is initiated with a COMMON MEASUREMENT INITIATION REQUEST message sent from the RNC$_1$ to the RNC$_2$.

Upon receipt, the RNC$_2$ shall initiate the requested measurement according to the parameters given in the request.

Unless specified below, the meaning of the parameters are given in other specifications.

[TDD - If the [3.84 Mcps TDD - *Time Slot* IE] [1.28 Mcps - *Time Slot LCR* IE] is present in the COMMON MEASUREMENT INITIATION REQUEST message, the measurement request shall apply to the requested time slot individually.]

Common measurement type

If the *Common Measurement Type* IE is set to "SFN-SFN Observed Time Difference", then:

-     The RNC$_2$ shall initiate the SFN-SFN Observed Time Difference measurements between the reference cell identified by the *Reference Cell Identifier* IE and the neighbouring cells identified by the *UTRAN Cell Identifier* IE (*UC-ID*) in the *Neighbouring Cell Measurement Information* IE.

-     [3.84 Mcps TDD - The RNC$_2$ shall perform the measurement using the time slot specified in the *Time Slot* IE in the *Neighbouring TDD Cell Measurement Information* IE and using the midamble shift and burst type specified in the *Midamble Shift And Burst Type* IE in the *Neighbouring TDD Cell Measurement Information* IE, If *Time Slot* IE and *Midamble Shift And Burst Type* IE are not available in the *Neighbouring TDD Cell Measurement Information* IE, the RNC$_2$ may use any appropriate time slots, midamble shifts and burst types to make the measurement.]

If the *Common Measurement Type* IE is set to "load", the RNC$_2$ shall initiate measurements of uplink and downlink load on the measured object identified by the *Reference Cell Identifier* IE. If either uplink or downlink load satisfies the requested report characteristics, the RNC$_2$ shall report the result of both uplink and downlink measurements.

If the *Common Measurement Type* IE is set to "UTRAN GPS Timing of Cell Frames for UE Positioning", "transmitted carrier power", "received total wide band power", or "UL timeslot ISCP" the RNC$_2$ shall initiate measurements on the measured object identified by the *Reference Cell Identifier* IE.

If the *Common Measurement Type* IE is set to "RT load", the RNC$_2$ shall initiate measurements of uplink and downlink estimated share of RT (Real Time) traffic of the load of the measured object. If either uplink or downlink RT load satisfies the requested report characteristics, the RNC$_2$ shall report the result of both uplink and downlink measurements.

If the *Common Measurement Type* IE is set to "NRT load Information", the RNC$_2$ shall initiate measurements of uplink and downlink NRT (Non Real Time) load situation on the measured object. If either uplink or downlink NRT load satisfies the requested report characteristics, the RNC$_2$ shall report the result of both uplink and downlink measurements.

Report characteristics

The *Report Characteristics* IE indicates how the reporting of the measurement shall be performed. See also Annex B.

If the *Report Characteristics* IE is set to "On Demand" and if the *SFN* IE is not provided, the RNC$_2$ shall report the result of the requested measurement immediately in the COMMON MEASUREMENT INITIATION RESPONSE message. If the *SFN* IE is provided, it indicates the frame for which the measurement value shall be provided. The provided measurement value shall be the one reported by the layer 3 filter, referred to as point C in the measurement model [26]. Furthermore, if the *SFN* IE is present and if the *Common Measurement Type* IE is set to "SFN-SFN Observed Time Difference ", then the *SFN* IE relates to the Radio Frames of the Reference Cell identified by the *Reference Cell Identifier* IE.

If the *Report Characteristics* IE is set to "Periodic" and if the *SFN* IE is not provided, the RNC$_2$ shall immediately and periodically initiate a Common Measurement Reporting procedure for this measurement, with a frequency as specified by the *Report Periodicity* IE. If the *SFN* IE is provided, the RNC$_2$ shall initiate a Common Measurement Reporting procedure for this measurement at the SFN indicated in the *SFN* IE, and shall repeat this initiation periodically thereafter with a frequency as specified by the *Report Periodicity* IE. The provided measurement value shall be the one reported by the layer 3 filter, referred to as point C in the measurement model [26]. Furthermore, if the *SFN* IE is present and if the *Common Measurement Type* IE is set to "SFN-SFN Observed Time Difference ", then the *SFN* IE relates to the Radio Frames of the Reference Cell identified by the *Reference Cell Identifier* IE.

If the *Report Characteristics* IE is set to "Event A", the RNC$_2$ shall initiate the Common Measurement Reporting procedure when the measured entity rises above the requested threshold, as specified by the *Measurement Threshold* IE, and then stays above the threshold for the requested hysteresis time, as specified by the *Measurement Hysteresis Time* IE. If the *Measurement Hysteresis Time* IE is not included, the RNC$_2$ shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE is set to "Event B", the RNC$_2$ shall initiate the Common Measurement Reporting procedure when the measured entity falls below the requested threshold, as specified by the *Measurement Threshold* IE, and then stays below the threshold for the requested hysteresis time, as specified by the *Measurement Hysteresis Time* IE. If the *Measurement Hysteresis Time* IE is not included, the RNC$_2$ shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE is set to "Event C", the RNC$_2$ shall initiate the Common Measurement Reporting procedure when the measured entity rises more than the requested threshold specified by the *Measurement Increase/Decrease Threshold* IE, and only when this rise occurs within the requested rising time specified by the *Measurement Change Time* IE. After reporting this type of event, the RNC$_2$ shall not initiate the next C event reporting for the same measurement during the subsequent time specified by the *Measurement Change Time* IE.

If the *Report Characteristics* IE is set to "Event D", the RNC$_2$ shall initiate the Common Measurement Reporting procedure when the measured entity falls more than the requested threshold specified by the *Measurement Increase/Decrease Threshold* IE, and only when this fall occurs within the requested falling time specified by the *Measurement Change Time* IE. After reporting this type of event,, the RNC$_2$ shall not initiate the next D event reporting for the same measurement during the subsequent time specified by the *Measurement Change Time* IE.

If the *Report Characteristics* IE is set to "Event E", the RNC$_2$shall initiate the Common Measurement Reporting procedure when the measured entity rises above the *Measurement Threshold 1* IE and stays above the threshold for the *Measurement Hysteresis Time* IE (Report A). When the conditions for Report A are met and if the *Report Periodicity* IE is provided, the RNC$_2$ shall initiate the Common Measurement Reporting procedure periodically with the requested report frequency specified by the *Report Periodicity* IE. If the conditions for Report A have been met and the measured entity falls below the *Measurement Threshold 2* IE and stays below the threshold for the *Measurement Hysteresis Time* IE, the RNC$_2$ shall initiate the Common Measurement Reporting procedure (Report B) and shall terminate any corresponding periodic reporting. If the *Measurement Threshold 2* IE is not present, the RNC$_2$ shall use the value of the *Measurement Threshold 1* IE instead. If the *Measurement Hysteresis Time* IE is not included, the RNC$_2$ shall use the value zero as hysteresis times for both Report A and Report B.

If the *Report Characteristics* IE is set to "Event F", the RNC$_2$ shall initiate the Common Measurement Reporting procedure when the measured entity falls below the *Measurement Threshold 1* IE and stays below the threshold for the *Measurement Hysteresis Time* IE (Report A). When the conditions for Report A are met and if the *Report Periodicity* IE is provided, the RNC$_2$ shall initiate the Measurement Reporting procedure periodically with the requested report frequency specified by the *Report Periodicity* IE. If the conditions for Report A have been met and the measured entity

rises above the *Measurement Threshold 2* IE and stays above the threshold for the *Measurement Hysteresis Time* IE, the RNC_2 shall initiate the Common Measurement Reporting procedure (Report B) and shall terminate any corresponding periodic reporting. If the *Measurement Threshold 2* IE is not present, the RNC_2 shall use the value of the *Measurement Threshold 1* IE instead. If the *Measurement Hysteresis Time* IE is not included, the RNC_2 shall use the value zero as hysteresis times for both Report A and Report B.

If the *Report Characteristics* IE is set to "On Modification" and if the *SFN* IE is not provided, the RNC_2 shall report the result of the requested measurement immediately. If the *SFN* IE is provided, it indicates the frame for which the first measurement value shall be provided. The provided measurement value shall be the one reported by the layer 3 filter, referred to as point C in the measurement model [26]. Furthermore, if the *SFN* IE is present and if the *Common Measurement Type* IE is set to "SFN-SFN Observed Time Difference", then the *SFN* IE relates to the Radio Frames of the Reference Cell identified by the *Reference Cell Identifier* IE. Following the first measurement report, the RNC_2 shall initiate the Common Measurement Reporting procedure in accordance to the following conditions:

1. If the *Common Measurement Type* IE is set to "UTRAN GPS Timing of Cell Frames for UE Positioning":

   - If the $T_{UTRAN-GPS}$ *Change Limit* IE is included in the $T_{UTRAN-GPS}$ *Measurement Threshold Information* IE, the RNC_2 shall calculate the change of $T_{UTRAN-GPS}$ value (F_n) each time a new measurement result is received after point C in the measurement model [25]. The RNC_2 shall initiate the Common Measurement Reporting procedure and set n equal to zero when the absolute value of F_n rises above the threshold indicated by the $T_{UTRAN-GPS}$ *Change Limit* IE. The change of $T_{UTRAN-GPS}$ value (F_n) is calculated according to the following:

   $F_n=0$ *for n=0*

   $F_n = (M_n - M_{n-1})$ *mod 37158912000000 – (($SFN_n - SFN_{n-1}$) mod 4096) $*10*3.84*10^3*16 + F_{n-1}$ *for n>0*

   F_n is the change of the $T_{UTRAN-GPS}$ value expressed in unit [1/16 chip] when n measurement results have been received after the first Common Measurement Reporting at initiation or after the last event was triggered.

   M_n is the latest measurement result received after point C in the measurement model [25], measured at SFN_n.

   M_{n-1} is the previous measurement result received after point C in the measurement model [25], measured at $SFN_{n-1.}$

   M_1 is the first measurement result received after point C in the measurement model [25], after first Common Measurement Reporting at initiation or after the last event was triggered.

   M_0 is equal to the value reported in the first Common Measurement Reporting at initiation or in the Common Measurement Reporting when the event was triggered.

   - If the *Predicted $T_{UTRAN-GPS}$ Deviation Limit* IE is included in the $T_{UTRAN-GPS}$ *Measurement Threshold Information* IE, the RNC_2 shall update the P_n and F each time a new measurement result is received after point C in the measurement model [25]. The RNC_2 shall initiate the Common Measurement Reporting procedure and set n equal to zero when F_n rises above the threshold indicated by the *Predicted $T_{UTRAN-GPS}$ Deviation Limit* IE. The P_n and F_n are calculated according to the following:

   $P_n=b$ *for n=0*

   $P_n = ((a/16) * (($SFN_n - SFN_{n-1}$) mod 4096) /100 + (($SFN_n - SFN_{n-1}$) mod 4096)*10*3.84*10^3*16 + P_{n-1})$ *mod 37158912000000 for n>0*

   $F_n = min((M_n - P_n)$ *mod 37158912000000, $(P_n - M_n)$ mod 37158912000000) for n>0*

   P_n is the predicted $T_{UTRAN-GPS}$ value when n measurement results have been received after the first Common Measurement Reporting at initiation or after the last event was triggered.

   a is the last reported $T_{UTRAN-GPS}$ Drift Rate value.

   b is the last reported $T_{UTRAN-GPS}$ value.

   F_n is the deviation of the last measurement result from the predicted $T_{UTRAN-GPS}$ value (P_n) when n measurements have been received after the first Common Measurement Reporting at initiation or after the last event was triggered.

   M_n is the latest measurement result received after point C in the measurement model [25, measured at SFN_n

M_1 is the first measurement result received after point C in the measurement model [25], after first Common Measurement Reporting at initiation or after the last event was triggered.

The $T_{UTRAN-GPS}$ Drift Rate is determined by the RNS_2 in an implementation-dependent way after point B (see model of physical layer measurements in [26]).

2. If the *Common Measurement Type* IE is set to "SFN-SFN Observed Time Difference":

- If the *SFN-SFN Change Limit* IE is included in the *SFN-SFN Measurement Threshold Information* IE, the RNC_2 shall calculate the change of SFN-SFN value (F_n) each time a new measurement result is received after point C in the measurement model [25]. The RNC_2 shall initiate the Common Measurement Reporting procedure in order to report the particular SFN-SFN measurement which has triggered the event and set n equal to zero when the absolute value of F_n rises above the threshold indicated by the *SFN-SFN Change Limit* IE. The change of the SFN-SFN value is calculated according to the following:

$F_n=0$ for $n=0$

[FDD - $F_n = (M_n - a)$ mod 614400 for $n>0$]

[TDD - $F_n = (M_n - a)$ mod 40960   for $n>0$]

F_n is the change of the SFN-SFN value expressed in unit [1/16 chip] when n measurement results have been received after the first Common Measurement Reporting at initiation or after the last event was triggered.

a is the last reported SFN-SFN.

M_n is the latest measurement result received after point C in the measurement model [25], measured at SFN_n.

M_1 is the first measurement result received after point C in the measurement model [25], after the first Common Measurement Reporting at initiation or after the last event was triggered.

- If the *Predicted SFN-SFN Deviation Limit* IE is included in the *SFN-SFN Measurement Threshold Information* IE, the RNC_2 shall each time a new measurement result is received after point C in the measurement model [25], update the P_n and F_n. The RNC_2 shall initiate the Common Measurement Reporting procedure in order to report the particular SFN-SFN measurement which has triggered the event and set n equal to zero when F_n rises above the threshold indicated by the *Predicted SFN-SFN Deviation Limit* IE. The P_n and F_n are calculated according to the following:

$P_n=b$ for $n=0$

 [FDD - $P_n = ((a/16) * ((SFN_n - SFN_{n-1})$ mod 4096$)/100 + P_{n-1})$ mod 614400   for $n>0$]

[FDD - $F_n = min((M_n - P_n)$ mod 614400, $(P_n - M_n)$ mod 614400)   for $n>0$]

[TDD - $P_n =((a/16) * (15*(SFN_n - SFN_{n-1})$mod 4096 $+ (TS_n - TS_{n-1}))/1500 + P_{n-1})$ mod 40960 for $n>0$]

[TDD - $F_n = min((M_n - P_n)$ mod 40960, $(P_n - M_n)$ mod 40960)   for $n>0$]

P_n is the predicted *SFN-SFN* value when n measurement results have been received after the first Common Measurement Reporting at initiation or after the last event was triggered.

a is the last reported *SFN-SFN* Drift Rate value.

b is the last reported SFN-SFN value.

F_n is the deviation of the last measurement result from the predicted *SFN-SFN* value (P_n) when n measurements have been received after first Common Measurement Reporting at initiation or after the last event was triggered.

M_n is the latest measurement result received after point C in the measurement model [25], measured at the [TDD - the Time Slot TS_n of] the Frame SFN_n.

M_1 is the first measurement result received after point C in the measurement model [25], after first Common Measurement Reporting at initiation or after the last event was triggered.

The SFN-SFN Drift Rate is determined by the RNS_2 in an implementation-dependent way after point B (see model of physical layer measurements in [26]).

If the *Report Characteristics* IE is not set to "On Demand", the RNC_2 is required to perform reporting for a common measurement object, in accordance with the conditions provided in the COMMON MEASUREMENT INITIATION REQUEST message, as long as the object exists. If no common measurement object(s) for which a measurement is defined exists any more, the RNC_2 shall terminate the measurement locally without reporting this to RNC_1.

If at the start of the measurement, the reporting criteria are fulfilled for any of Event A, Event B, Event E or Event F, the RNC_2 shall initiate a Measurement Reporting procedure immediately, and then continue with the measurements as specified in the COMMON MEASUREMENT INITIATION REQUEST message.

Common measurement accuracy

If the *Common Measurement Type* IE is set to "UTRAN GPS Timing of Cell Frames for UE Positioning", then the RNC_2 shall use the *UTRAN GPS Timing Measurement Minimum Accuracy Class* IE included in the *Report Characteristics* IE according to the following:.

- If the *UTRAN GPS Timing Measurement Minimum Accuracy Class* IE indicates "Class A", then the concerned RNC_2 shall perform the measurement with the highest supported accuracy within the accuracy classes A, B or C.

- If the *UTRAN GPS Timing Measurement Minimum Accuracy Class* IE indicates the "Class B", then the concerned RNC_2 shall perform the measurements with the highest supported accuracy within the accuracy classes B and C.

- If the *UTRAN GPS Timing Measurement Minimum Accuracy Class* IE indicates "Class C", then the concerned RNC_2 shall perform the measurements with the highest supported accuracy according to class C.

- If the *Common Measurement Type* IE is set to "SFN-SFN Observed Time Difference", then the concerned RNC_2 shall initiate the SFN-SFN observed Time Difference measurements between the reference cell identified by *UC-ID* IE and the neighbouring cells identified by their UC-ID. The *Report Characteristics* IE applies to each of these measurements.

Higher layer filtering

The *Measurement Filter Coefficient* IE indicates how filtering of the measurement values shall be performed before measurement event evaluation and reporting.

The averaging shall be performed according to the following formula.

$$F_n = (1-a) \cdot F_{n-1} + a \cdot M_n$$

The variables in the formula are defined as follows

F_n is the updated filtered measurement result

F_{n-1} is the old filtered measurement result

M_n is the latest received measurement result from physical layer measurements, the unit used for M_n is the same unit as the reported unit in the COMMON MEASUREMENT INITIATION RESPONSE, COMMON MEASUREMENT REPORT messages or the unit used in the event evaluation (i.e. same unit as for Fn).

$a = 1/2^{(k/2)}$ -, where k is the parameter received in the *Measurement Filter Coefficient* IE. If the *Measurement Filter Coefficient* IE is not present, *a* shall be set to 1 (no filtering).

In order to initialise the averaging filter, F_0 is set to M_1 when the first measurement result from the physical layer measurement is received.

Response message

If the RNC_2 was able to initiate the measurement requested by RNC, it shall respond with the COMMON MEASUREMENT INITIATION RESPONSE message. The message shall include the same Measurement ID that was used in the COMMON MEASUREMENT INITIATION REQUEST message.

In the case in which the *Report Characteristics* IE is set to "On Demand" or "On Modification":

- The COMMON MEASUREMENT INITIATION RESPONSE message shall include the *Common Measurement Object Type* IE containing the measurement result. It shall also include the *Common Measurement Achieved Accuracy* IE if the *Common Measurement Type* IE is set to "UTRAN GPS Timing of Cell Frames for UE positioning ".

- If the *Common Measurement Type* IE is not set to "SFN-SFN Observed Time Difference" and if the *SFN Reporting Indicator* IE is set to "FN Reporting Required", then the RNC$_2$ shall include the *SFN* IE in the COMMON MEASUREMENT INITIATION RESPONSE message,. The reported SFN shall be the SFN at the time when the measurement value was reported by the layer 3 filter, referred to as point C in the measurement model [26]. If the *Common Measurement Type* IE is set to "SFN-SFN Observed Time Difference", then the *SFN Reporting Indicator* IE is ignored.

- If the *Common Measurement Type* IE is set to "SFN-SFN Observed Time Difference", then the RNC$_2$ shall report all the available measurements in the *Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information* IE, and the RNC$_2$ shall report the neighbouring cells with no measurement result available in the *Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information* IE. For all available measurement results, the RNC$_2$ shall include in the *Successful Neighbouring Cell SFN-SFN Observed Time Difference Measurement Information* IE the *SFN-SFN Quality* IE and the *SFN-SFN Drift Rate Quality* IE, if available.

If the *Common Measurement Type* IE is set to "UTRAN GPS Timing of Cell Frames for UE Positioning" and the *Report Characteristics* IE is set to "On Demand" or "On Modification", the RNC$_2$ shall include in the $T_{UTRAN-GPS}$ *Measurement Value Information* IE the $T_{UTRAN-GPS}$ *Quality* IE and the $T_{UTRAN-GPS}$ *Drift Rate Quality* IE, if available.

8.5.2.2.1 Successful Operation for Iur-g

The procedure is initiated with a COMMON MEASUREMENT INITIATION REQUEST message sent from the RNC$_1$ to the BSS$_2$ or from the BSS$_1$ to the RNC$_2$/BSS$_2$.

Upon receipt, the RNC$_2$ /BSS$_2$ shall initiate the requested measurement according to the parameters given in the request.

Common measurement type on Iur-g

If the *Common Measurement Type* IE is set to "load", the RNC$_2$/BSS$_2$ shall initiate measurements and report results as described in section 8.5.2.2.

If the *Common Measurement Type* IE is set to "RT load", the RNC$_2$/BSS$_2$ shall initiate measurements and report results as described in section 8.5.2.2.

If the *Common Measurement Type* IE is set to "NRT load Information", the RNC$_2$/BSS$_2$ shall initiate measurements and report results as described in section 8.5.2.2.

Report characteristics on Iur-g

The *Report Characteristics* IE indicates how the reporting of the measurement shall be performed. This IE is used as described in section 8.5.2.2.

Response message for Iur-g
If the RNC$_2$/BSS$_2$ was able to initiate the measurement requested by RNC$_1$/BSS$_1$ it shall respond with the COMMON MEASUREMENT INITIATION RESPONSE message sent. The message shall include the same Measurement ID that was used in the measurement request. Only in the case when the *Report Characteristics* IE is set to "On Demand", the COMMON MEASUREMENT INITIATION RESPONSE message shall contain the measurement result.

8.5.2.3 Unsuccessful Operation
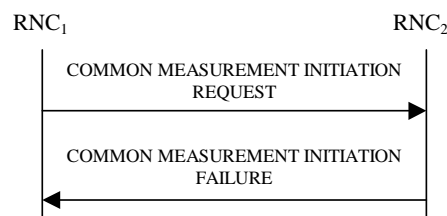
Figure 30B: Common Measurement Initiation procedure, Unsuccessful Operation

If the requested measurement cannot be initiated, the RNC$_2$ shall send a COMMON MEASUREMENT INITIATION FAILURE message. The message shall include the same *Measurement ID* IE that was used in the COMMON MEASUREMENT INITIATION REQUEST message and shall include the *Cause* IE set to an appropriate value.

Typical cause values are as follows:

Radio Network Layer Cause

- Measurement not supported for the object.

- Measurement Temporarily not Available

8.5.2.4 Abnormal Conditions

If the COMMON MEASUREMENT INITIATION REQUEST message contains the *SFN-SFN Measurement Threshold Information* IE (in the *Measurement Threshold* IE contained in the *Report Characteristics* IE) and it does not contain at least one IE, the RNC$_2$ shall reject the procedure using the COMMON MEASUREMENT INITIATION FAILURE message.

If the COMMON MEASUREMENT INITIATION REQUEST message contains the $T_{UTRAN-GPS}$ *Measurement Threshold Information* IE (in the *Measurement Threshold* IE contained in the *Report Characteristics* IE) and it does not contain at least one IE, the RNC$_2$ shall reject the procedure using the COMMON MEASUREMENT INITIATION FAILURE message.

If the *Common Measurement Type* IE is set to "UTRAN GPS Timing of Cell Frames for UE positioning", but the $T_{UTRAN-GPS}$ *Measurement Minimum Accuracy Class* IE in the *Common Measurement Accuracy* IE is not included in the COMMON MEASUREMENT INITIATION REQUEST message, the RNC$_2$ shall reject the Common Measurement Initiation procedure using the COMMON MEASUREMENT INITIATION FAILURE message.

If the *Common Measurement Type* IE is not set to "UTRAN GPS Timing of Cell Frames for UE Positioning" and the *Common Measurement Accuracy* IE is included in the COMMON MEASUREMENT INITIATION REQUEST message, the RNC$_2$ shall reject the Common Measurement Initiation procedure using the COMMON MEASUREMENT INITIATION FAILURE message.

If the Common Measurement Type received in the *Common Measurement Type* IE is not "load", "RT load" or "NRT load Information", and if the Common Measurement Type received in the *Common Measurement Type* IE is not defined in ref. [11] or [15] to be measured on the Common Measurement Object Type indicated in the COMMON MEASUREMENT INITIATION REQUEST message the RNC$_2$ shall reject the Common Measurement Initiation procedure using the COMMON MEASUREMENT INITIATION FAILURE message.

If the *Common Measurement Type* IE is set to "SFN-SFN Observed Time Difference", but the *Neighbouring Cell Measurement Information* IE is not received in the COMMON MEASUREMENT INITIATION REQUEST message, the RNC$_2$ shall reject the Common Measurement Initiation procedure using the COMMON MEASUREMENT INITIATION FAILURE message.

The allowed combinations of the Common Measurement Type and Report Characteristics Type are shown in the table below marked with "X". For not allowed combinations, the RNC$_2$ shall reject the Common Measurement Initiation procedure using the COMMON MEASUREMENT INITIATION FAILURE message.

Table 5: Allowed Common Measurement Type and Report Characteristics Type Combinations

Common measurement type	Report characteristics type								
	On Demand	Periodic	Event A	Event B	Event C	Event D	Event E	Event F	On Modification
Received total wide band power	X	X	X	X	X	X	X	X	
Transmitted Carrier Power	X	X	X	X	X	X	X	X	
UL Timeslot ISCP	X	X	X	X	X	X	X	X	
Load	X	X	X	X	X	X	X	X	
UTRAN GPS Timing of Cell Frames for UE Positioning	X	X							X
SFN-SFN Observed Time Difference	X	X							X
RT load	X	X	X	X	X	X	X	X	
NRT load Information	X	X	X	X	X	X	X	X	

[TDD - If the Common Measurement Type requires the Time Slot Information but the [3.84Mcps TDD - *Time Slot* IE] [1.28Mcps TDD – *Time Slot LCR* IE] is not provided in the COMMON MEASUREMENT INITIATION REQUEST message the RNS$_2$ shall reject the Common Measurement Initiation procedure using the COMMON MEASUREMENT INITIATION FAILURE message.]

If the *SFN* IE is included in the COMMON MEASUREMENT INITIATION REQUEST message and the *Report Characteristics* IE is other than "Periodic", "On Demand" or "On Modification", the RNS$_2$ shall reject the Common Measurement Initiation procedure using the COMMON MEASUREMENT INITIATION FAILURE message.

8.5.2.4.1   Abnormal Conditions for Iur-g

The measurements which can be requested on the Iur and Iur-g interfaces are shown in the table below marked with 'X'.

Table 6: Allowed Common measurement type on Iur and Iur-g interfaces

Common Measurement Type	Interface	
	Iur	Iur-g
Received total wide band power	X	
Transmitted Carrier Power	X	
UL Timeslot ISCP	X	
Load	X	X
UTRAN GPS Timing of Cell Frames for LCS	X	
SFN-SFN Observed Time Difference	X	
RT load	X	X
NRT load Information	X	X

If the RNC$_2$ receives from the BSS$_1$ a COMMON MEASUREMENT INITIATION REQUEST message in which a measurement, which is not applicable on the Iur-g interface, is requested, the RNC$_2$ shall reject the Common Measurement Initiation procedure.

If the BSS$_2$ receives from the BSS$_1$ / RNC$_1$ a COMMON MEASUREMENT INITIATION REQUEST message in which a measurement, which is not applicable on the Iur-g interface, is requested, the BSS$_2$ shall reject the Common Measurement Initiation procedure.

If the RNC$_2$ receives from the BSS$_1$ a COMMON MEASUREMENT INITIATION REQUEST message in which the *SFN reporting indicator* IE is set to "FN Reporting Required", the RNC$_2$ shall ignore that IE.

If the BSS$_2$ receives from the BSS$_1$ / RNC$_1$ a COMMON MEASUREMENT INITIATION REQUEST message in which the *SFN reporting indicator* IE is set to "FN Reporting Required", the BSS$_2$ shall ignore that IE.

The allowed combinations of the Common measurement type and Report characteristics type are shown in the table in section 8.5.2.4 marked with 'X'. For not allowed combinations, the RNC_2/BSS_2 shall reject the Common Measurement Initiation procedure.

8.5.3   Common Measurement Reporting

8.5.3.1   General

This procedure is used by an RNC to report the result of measurements requested by another RNC using the Common Measurement Initiation.

This procedure uses the signalling bearer connection for the relevant Distant RNC Context.

8.5.3.2   Successful Operation
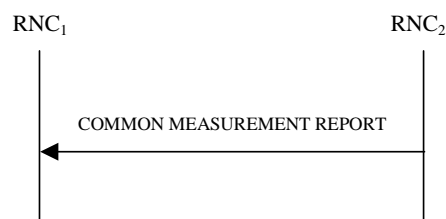
Figure 30C: Common Measurement Reporting procedure, Successful Operation

If the requested measurement reporting criteria are met, the RNC_2 shall initiate the Common Measurement Reporting procedure. Unless specified below, the meaning of the parameters are given in other specifications.

The *Measurement ID* IE shall be set to the Measurement ID provided by RNC_1 when initiating the measurement with the Common Measurement Initiation procedure.

If the achieved measurement accuracy does not fulfil the given accuracy requirement (see ref. [23] and [24]), the *Common Measurement Value Information* IE shall indicate Measurement not Available.

For measurements included in the *Successful Neighbouring Cell SFN-SFN Observed Time Difference Measurement Information* IE, the RNC_2 shall include the *SFN-SFN Quality* IE and the *SFN-SFN Drift Rate Quality* IE if available.

If the Common Measurement Type provided by RNC_1 when initiating the measurement with the Common Measurement Initiation procedure was "UTRAN GPS Timing of Cell Frames for UE Positioning", then the RNC_2 shall include in the $T_{UTRAN-GPS}$ *Measurement Value Information* IE the $T_{UTRAN-GPS}$ *Quality* IE and the $T_{UTRAN-GPS}$ *Drift Rate Quality* IE, if available.

8.5.3.2.1   Successful Operation for Iur-g

If the requested measurement reporting criteria are met, the RNC_2/BSS_2 shall initiate a Measurement Reporting procedure. Unless specified below, the meaning of the parameters are given in other specifications.

The *Common Measurement ID* IE shall be set to the Common Measurement ID provided by RNC_1/BSS_1 when initiating the measurement with the Common Measurement Initiation procedure.

If the Common measurement type provided by RNC_1 when initiating the measurement with the Common Measurement Initiation procedure was "SFN-SFN Observed Time Difference", then RNC_2 shall include in the COMMON MEASUREMENT REPORT all the available measurements in the *Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information* IE and shall include the neighbouring cells with no measurement result available in the *Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information* IE.

If the Common measurement type provided by RNC_1 when initiating the measurement with the Common Measurement Initiation procedure was not set to "SFN-SFN Observed Time Difference" and the SFN Reporting Indicator when initiating the measurement was set to "FN Reporting Required", the RNC_2 shall include the *SFN* IE in the COMMON MEASUREMENT REPORT message. The reported SFN shall be the SFN at the time when the measurement value was

reported by the layer 3 filter, referred to as point C in the measurement model [26]. If the *Common Measurement Type* IE is set to "SFN-SFN Observed Time Difference", then the *SFN Reporting Indicator* IE is ignored.

8.5.3.3 Abnormal Conditions

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8.5.4 Common Measurement Termination

8.5.4.1 General

This procedure is used by an RNC to terminate a measurement previously requested by the Common Measurement Initiation procedure.

This procedure uses the signalling bearer connection for the relevant Distant RNC Context.

8.5.4.2 Successful Operation

RNC_1 RNC_2

COMMON MEASUREMENT TERMINATION
REQUEST

Figure 30D: Common Measurement Termination procedure, Successful Operation

This procedure is initiated with a COMMON MEASUREMENT TERMINATION REQUEST message.

Upon receipt, RNC_2 shall terminate reporting of common measurements corresponding to the received *Measurement ID* IE.

8.5.4.2.1 Successful Operation for Iur-g

The RNC_1/BSS_1 and RNC_2/BSS_2 shall use the Common Measurement Termination procedure as specified in section 8.5.4.2.

8.5.4.3 Abnormal Conditions

-

8.5.5 Common Measurement Failure

8.5.5.1 General

This procedure is used by an RNC to notify another RNC that a measurement previously requested by the Common Measurement Initiation procedure can no longer be reported.

This procedure uses the signalling bearer connection for the relevant Distant RNC Context.

8.5.5.2 Successful Operation

RNC_1 RNC_2

COMMON MEASUREMENT FAILURE
INDICATION
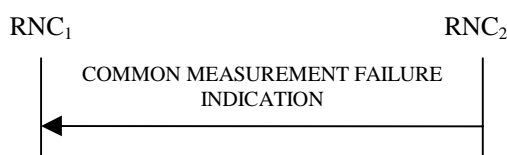
Figure 30E: Common Measurement Failure procedure, Successful Operation

This procedure is initiated with a COMMON MEASUREMENT FAILURE INDICATION message, sent from RNC$_2$ to RNC$_1$ to inform the RNC$_1$ that a previously requested measurement can no longer be reported. RNC$_2$ has locally terminated the indicated measurement. The RNC$_2$ shall include in the COMMON MEASUREMENT FAILURE INDICATION message the reason for the failure in the *Cause* IE.

8.5.5.2.1 Successful Operation for Iur-g

The RNC$_1$/BSS$_1$ and RNC$_2$/BSS$_2$ shall use the Common Measurement Failure procedure as specified in section 8.5.5.2.

8.5.5.3 Abnormal Conditions

-

8.5.6 Information Exchange Initiation

8.5.6.1 General

This procedure is used by an RNC to request the initiation of an information exchange with another RNC.

This procedure uses the signalling bearer connection for the relevant Distant RNC Context.

8.5.6.2 Successful Operation
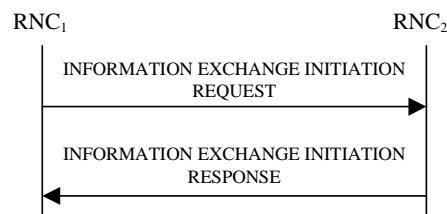
Figure 30F: Information Exchange Initiation procedure, Successful Operation

The procedure is initiated with an INFORMATION EXCHANGE INITIATION REQUEST message sent from RNC$_1$ to RNC$_2$.

Upon receipt, the RNC$_2$ shall provide the requested information according to the parameters given in the request. Unless specified below, the meaning of the parameters are given in other specifications.

Information Report Characteristics:

The *Information Report Characteristics* IE indicates how the reporting of the information shall be performed.

If the *Information Report Characteristics* IE is set to "On Demand", the RNC$_2$ shall report the requested information immediately.

If the *Information Report Characteristics* IE is set to "Periodic", the RNC$_2$ shall report the requested information immediately and then shall periodically initiate the Information Reporting procedure for all the requested information, with the report frequency indicated by the *Information Report Periodicity* IE.

If the *Information Report Characteristics* IE is set to "On Modification", the RNC$_2$ shall report the requested information immediately if available. If the requested information is not available at the moment of receiving the INFORMATION EXCHANGE INITIATION REQUEST message, but expected to become available after some acquisition time, the RNC$_2$ shall initiate the Information Reporting procedure when the requested information becomes available. The RNC$_2$ shall then initiate the Information Reporting procedure in accordance to the following conditions:

- If the *Information Type Item* IE is set to "IPDL Parameters", the RNC$_2$ shall initiate the Information Reporting procedure when any change in the parameters occurs.

- If the *Information Type Item* IE is set to "DGPS Corrections", the RNC$_2$ shall initiate the Information Reporting procedure for this specific Information Type when either the PRC has drifted from the previously reported value more than the threshold indicated in the *PRC Deviation* IE in the *Information Threshold* IE or a change has occurred in the IODE.

- If the *Information Type Item* IE is set to "GPS Information" and the *GPS Information Item* IE includes "GPS Navigation Model & Recovery Assistance", the RNC$_2$ shall initiate the Information Reporting procedure for this specific GPS Information Item when a change has occurred regarding either the IODC or the list of visible satellites, identified by the *Sat ID* IEs.

- If the *Information Type Item* IE is set to "GPS Information" and the *GPS Information Item* IE includes "GPS Ionospheric Model", the RNC$_2$ shall initiate the Information Reporting procedure for this specific GPS Information Item when any change has occurred.

- If the *Information Type Item* IE is set to "GPS Information" and the *GPS Information Item* IE includes "GPS UTC Model", the RNC$_2$ shall initiate the Information Reporting procedure for this specific GPS Information Item when a change has occurred in the t_{ot} or WN_t parameter.

- If the *Information Type Item* IE is set to "GPS Information" and the *GPS Information Item* IE includes "GPS Almanac", the RNC$_2$ shall initiate the Information Reporting procedure for this specific GPS Information Item when a change in the t_{oa} or WN_a parameter has occurred.

- If the *Information Type Item* IE is set to "GPS Information" and the *GPS Information Item* IE includes "GPS Real-Time Integrity", the RNC$_2$ shall initiate the Information Reporting procedure for this specific GPS Information Item when any change has occurred.

- If the *Information Type* IE is set to "Cell Capacity Class", the RNC$_2$ shall initiate the Information Reporting procedure for uplink and downlink cell capacity class when any change has occurred. If either uplink or downlink cell capacity class satisfies the requested report characteristics, the RNC$_2$ shall report the result of both uplink and downlink cell capacity information.

- If any of the above *Information Type* IEs becomes temporarily unavailable, the RNC$_2$ shall initiate the Information Reporting procedure for this specific Information Item by indicating "Information Not Available" in the *Requested Data Value Information* IE. If the Information becomes available again, the RNC$_2$ shall initiate the Information Reporting procedure for this specific Information.

Response message:

If the RNC$_2$ is able to determine the information requested by the RNC$_1$, it shall respond with the INFORMATION EXCHANGE INITIATION RESPONSE message. The message shall include the *Information Exchange ID* IE set to the same value that was included in the INFORMATION EXCHANGE INITIATION REQUEST message. When the *Report Characteristics* IE is set to or "On Modification" or "Periodic", the INFORMATION EXCHANGE INITIATION RESPONSE message shall contain the *Requested Data Value* IE if the data are available. When the *Report Characteristics* IE is set to "On Demand", the INFORMATION EXCHANGE INITIATION RESPONSE message shall contain the *Requested Data Value* IE.

8.5.6.2.1 Successful Operation for Iur-g

The procedure is initiated with an INFORMATION EXCHANGE INITIATION REQUEST message sent from BSS$_1$ to BSS$_2$/RNC$_2$ or by RNC$_1$ to BSS$_2$.

Upon receipt, the BSS$_2$/RNC$_2$ shall provide the requested information according to the parameters given in the request. Unless specified below, the meaning of the parameters are given in other specifications.

Information Report Characteristics on Iur-g:

If the *Information Type Item* IE is set to "Cell Capacity Class", the RNC$_2$/BSS$_2$ shall initiate measurements and report results as described in section 8.5.6.2.

The *Information Report Characteristics* IE indicates how the reporting of the information shall be performed. This IE is used as described in section 8.5.6.2.

8.5.6.3 Unsuccessful Operation
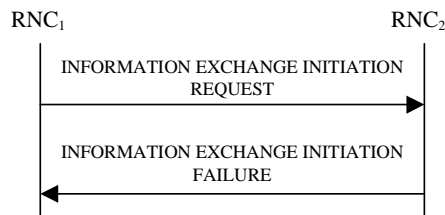
Figure 30G: Information Exchange Initiation procedure, Unsuccessful Operation

If the requested Information Type received in the *Information Type* IE indicates a type of information that RNC_2 cannot provide, the RNC_2 shall reject the Information Exchange Initiation procedure.

If the requested information provision cannot be accessed, the RNC_2 shall reject the procedure and shall send the INFORMATION EXCHANGE INITIATION FAILURE message.

The message shall include the *Information Exchange ID* IE set to the same value that was used in the INFORMATION EXCHANGE INITIATION REQUEST message and the *Cause* IE set to an appropriate value.

Typical cause values are as follows:

Radio Network Layer Cause:

- Information temporarily not available.

- Information Provision not supported for the object.

8.5.6.4 Abnormal Conditions

If the *Information Report Characteristics* IE is set to "On Modification", and the *Information Type Item* IE is set to "DGPS Corrections", but the *Information Threshold* IE is not received in the INFORMATION EXCHANGE INITIATION REQUEST message, the RNC_2 shall reject the Information Exchange Initiation procedure and shall send the INFORMATION EXCHANGE INITIATION FAILURE message.

The allowed combinations of the Information type and Information Report Characteristics type are shown in the table below marked with "X". For not allowed combinations, the RNC_2 shall reject the Information Exchange Initiation procedure using the INFORMATION EXCHANGE INITIATION FAILURE message.

Table 6a: Allowed Information Type and Information Report Characteristics type combinations

Type	Information Report Characteristics Type		
	On Demand	Periodic	On Modification
UTRAN Access Point Position with Altitude Information	X		
UTRAN Access Point Position	X		
IPDL Parameters	X	X	X
GPS Information	X	X	X
DGPS Corrections	X	X	X
GPS RX Pos	X		
SFN-SFN Measurement Reference Point Position	X		
Cell Capacity Class	X		X

8.5.6.4.1 Abnormal Conditions for Iur-g

The information types that can be requested on the Iur and Iur-g interfaces are shown in the table below marked with 'X'. For information types that are not applicable on the Iur-g interface, the BSS shall reject the Information Exchange Initiation procedure.

Table 7: Allowed Information types on Iur and Iur-g interfaces

Information Type	Interface	
	Iur	**Iur-g**
UTRAN Access Point Position with Altitude Information	X	
UTRAN Access Point Position	X	
IPDL Parameters	X	
DGPS Corrections	X	
GPS Information	X	
GPS RX Pos	X	
SFN-SFN Measurement Reference Point Position	X	
Cell Capacity Class	X	X

8.5.7 Information Reporting

8.5.7.1 General

This procedure is used by a RNC to report the result of information requested by another RNC using the Information Exchange Initiation.

This procedure uses the signalling bearer connection for the relevant Distant RNC Context.

8.5.7.2 Successful Operation
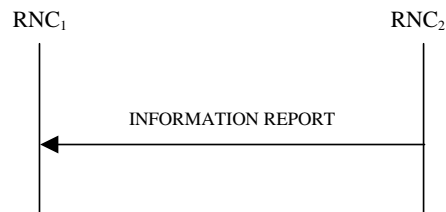
Figure 30H: Information Reporting procedure, Successful Operation

If the requested information reporting criteria are met, the RNC_2 shall initiate an Information Reporting procedure. Unless specified below, the meaning of the parameters are given in other specifications.

The *Information Exchange ID* IE shall be set to the Information Exchange ID provided by the RNC_1 when initiating the information exchange with the Information Exchange Initiation procedure.

The *Requested Data Value* IE shall include at least one IE containing the data to be reported.

8.5.7.2.1 Successful Operation for Iur-g

The RNC_1/BSS_1 and RNC_2/BSS_2 shall use the Information Reporting procedure as specified in section 8.5.7.2.

8.5.7.3 Abnormal Conditions

-

8.5.8 Information Exchange Termination

8.5.8.1 General

This procedure is used by a RNC to terminate the information exchange requested using the Information Exchange Initiation.

This procedure uses the signalling bearer connection for the relevant Distant RNC Context.

8.5.8.2 Successful Operation

Figure 30I: Information Exchange Termination procedure, Successful Operation

This procedure is initiated with a INFORMATION EXCHANGE TERMINATION REQUEST message.

Upon receipt, the RNC_2 shall terminate the information exchange corresponding to the *Information Exchange ID* IE provided by the RNC_1 when initiating the information exchange with the Information Exchange Initiation procedure.

8.5.8.2.1 Successful Operation for Iur-g

The RNC_1/BSS_1 and RNC_2/BSS_2 shall use the Information Exchange Termination procedure as specified in section 8.5.8.2.

8.5.8.3 Abnormal Conditions

-

8.5.9 Information Exchange Failure

8.5.9.1 General

This procedure is used by a RNC to notify another that the information exchange it previously requested using the Information Exchange Initiation can no longer be reported.

This procedure uses the signalling bearer connection for the relevant Distant RNC Context.

8.5.9.2 Successful Operation
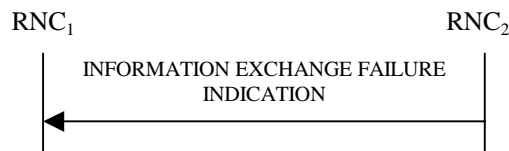
Figure 30J: Information Exchange Failure procedure, Successful Operation

This procedure is initiated with a INFORMATION EXCHANGE FAILURE INDICATION message, sent from the RNC_2 to the RNC_1, to inform the RNC_1 that information previously requested by the Information Exchange Initiation procedure can no longer be reported. The RNC_2 shall include in the INFORMATION EXCHANGE FAILURE INDICATION message the *Information Exchange ID* IE set to the same value provided by the RNC_1 when initiating the information exchange with the Information Exchange Initiation procedure, and the RNC_2 shall include the *Cause* IE set to an appropriate value.

Typical cause values are as follows:

Radio Network Layer Cause:

Information temporarily not available.

8.5.9.2.1 Successful Operation for Iur-g

The RNC_1/BSS_1 and RNC_2/BSS_2 shall use the Information Exchange Failure procedure as specified in section 8.5.9.2.

8.5.10 Reset

8.5.10.1 General

The purpose of the reset procedure is to align the resources in RNC_1 and RNC_2 in the event of an abnormal failure.

The procedure uses connectionless signalling.

8.5.10.2 Successful Operation
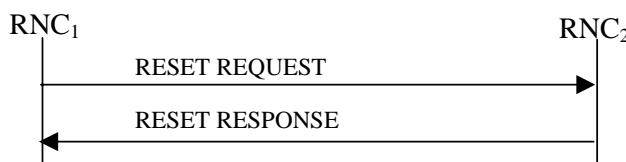
Figure 30K: Reset procedure, Successful Operation

The procedure is initiated with a RESET REQUEST message sent from the RNC_1 to the RNC_2.

If the *Reset Indicator* IE is set to "Context", then:

-   For all indicated UE Contexts identified by the *S-RNTI* IE, the RNC_2 in the role of DRNC, shall remove all the indicated UE Contexts and all the radio resources allocated for these UE Contexts. In addition, the RNC_2 shall take actions according to Annex D.2.

-   For all indicated UE Contexts identified by the *D-RNTI* IE, the RNC_2 in the role of SRNC, shall remove the information related to the RNC_1 for all indicated UE Contexts and the radio resources allocated for these UE Contexts.

If the *Reset Indicator* IE is set to "Context Group", then:

-   For all indicated UE Context Groups identified by the *S-RNTI Group* IE, the RNC_2 in the role of DRNC, shall remove all the indicated UE Contexts and all the radio resources allocated for these UE Contexts. In addition, the RNC_2 shall take actions according to Annex D.2.

If the *Reset Indicator* IE is set to "All Contexts", then the RNC_2 shall:

-   In the role of DRNC, remove all the UE Contexts for which the RNC_1 is the SRNC and all the radio resources allocated for these UE Contexts. In addition, the RNC_2 shall take actions according to Annex D.2.

-   In the role of SRNC, remove the information related to the RNC_1 for all the UE Contexts and all the radio resources allocated for these UE Contexts.

For all the removed UE Contexts and for all the UE Contexts for which the RNC_2 has removed information related to the RNC_1, the RNC_2 shall also initiate release of the dedicated or common user plane resources that were involved in these UE Contexts. After clearing all related resources, the RNC_2 shall return the RESET RESPONSE message to the RNC_1.

8.5.10.3 Abnormal Conditions

If the RESET message is received, any other ongoing procedure (except another Reset procedure) on same Iur interface related to a context indicated explicitly or implicitly in the message shall be aborted.

9 Elements for RNSAP Communication

9.1 Message Functional Definition and Content

9.1.1 General

This subclause defines the structure of the messages required for the RNSAP protocol in tabular format. The corresponding ASN.1 definition is presented in subclause 9.3. In case there is contradiction between the tabular format in subclause 9.1 and the ASN.1 definition, the ASN.1 shall take precedence, except for the definition of conditions for the presence of conditional IEs, in which the tabular format shall take precedence.

NOTE: The messages have been defined in accordance to the guidelines specified in [28].

9.1.2 Message Contents

9.1.2.1 Presence

An information element can be of the following types:

M	IEs marked as Mandatory (M) shall always be included in the message.
O	IEs marked as Optional (O) may or may not be included in the message.
C	IEs marked as Conditional (C) shall be included in a message only if the condition is satisfied. Otherwise the IE shall not be included.

In the case of an Information Element group, the group is preceded by a name for the info group (in bold). It is also indicated how many times a group may be repeated in the message and whether the group is conditional. Each group may be also repeated within one message. The presence field of the Information Elements inside one group defines if the Information Element is mandatory, optional or conditional if the group is present.

9.1.2.2 Criticality

Each information element or Group of information elements may have criticality information applied to it. Following cases are possible:

–	No criticality information is applied explicitly.
YES	Criticality information is applied. 'YES' is usable only for non-repeatable information elements.
GLOBAL	The information element and all its repetitions together have one common criticality information. 'GLOBAL' is usable only for repeatable information elements.
EACH	Each repetition of the information element has its own criticality information. It is not allowed to assign different criticality values to the repetitions. 'EACH' is usable only for repeatable information elements.

9.1.2.3 Range

The Range column indicates the allowed number of copies of repetitive IEs/IE groups.

9.1.2.4 Assigned Criticality

This column provides the actual criticality information as defined in subclause 10.3.2, if applicable.

9.1.3 RADIO LINK SETUP REQUEST

9.1.3.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
SRNC-ID	M		RNC-ID 9.2.1.50		YES	reject
S-RNTI	M		9.2.1.53		YES	reject
D-RNTI	O		9.2.1.24		YES	reject
Allowed Queuing Time	O		9.2.1.2		YES	reject
UL DPCH Information		1			YES	reject
>UL Scrambling Code	M		9.2.2.53		–	
>Min UL Channelisation Code Length	M		9.2.2.25		–	
>Max Number of UL DPDCHs	C – CodeLen		9.2.2.24		–	
>Puncture Limit	M		9.2.1.46	For the UL.	–	
>TFCS	M		9.2.1.63		–	
>UL DPCCH Slot Format	M		9.2.2.52		–	
>Uplink SIR Target	O		Uplink SIR 9.2.1.69		–	
>Diversity mode	M		9.2.2.8		–	
>SSDT Cell Identity Length	O		9.2.2.41		–	
>S Field Length	O		9.2.2.36		–	
>DPC Mode	O		9.2.2.12A		YES	reject
DL DPCH Information		1			YES	reject
>TFCS	M		9.2.1.63		–	
>DL DPCH Slot Format	M		9.2.2.9		–	
>Number of DL Channelisation Codes	M		9.2.2.26A		–	
>TFCI Signalling Mode	M		9.2.2.46		–	
>TFCI Presence	C-SlotFormat		9.2.1.55		–	
>Multiplexing Position	M		9.2.2.26		–	
>Power Offset Information		1			–	
>>PO1	M		Power Offset 9.2.2.30	Power offset for the TFCI bits.	–	
>>PO2	M		Power Offset 9.2.2.30	Power offset for the TPC bits.	–	
>>PO3	M		Power Offset 9.2.2.30	Power offset for the pilot bits.	–	
>FDD TPC Downlink Step Size	M		9.2.2.16		–	
>Limited Power Increase	M		9.2.2.21A		–	
>Inner Loop DL PC Status	M		9.2.2.21a		–	
>Split Type	O		9.2.2.39a		YES	reject
>Length of TFCI2	O		9.2.2.21C		YES	reject
DCH Information	M		DCH FDD Information 9.2.2.4A		YES	reject
DSCH Information	O		DSCH FDD Information 9.2.2.13A		YES	reject
RL Information		1…<maxnoofRLs>			EACH	notify
>RL ID	M		9.2.1.49		–	

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
>C-ID	M		9.2.1.6		–	
>First RLS Indicator	M		9.2.2.16A		–	
>Frame Offset	M		9.2.1.30		–	
>Chip Offset	M		9.2.2.1		–	
>Propagation Delay	O		9.2.2.33		–	
>Diversity Control Field	C – NotFirstRL		9.2.1.20		–	
>Initial DL TX Power	O		DL Power 9.2.1.21A		–	
>Primary CPICH Ec/No	O		9.2.2.32		–	
>SSDT Cell Identity	O		9.2.2.40		–	
>Transmit Diversity Indicator	C – Diversity mode		9.2.2.48		–	
>SSDT Cell Identity for EDSCHPC	C-EDSCHPC		9.2.2.40A		YES	ignore
>Enhanced Primary CPICH Ec/No	O		9.2.2.13I		YES	ignore
>RL Specific DCH Information	O		9.2.1.49A		YES	ignore
>Delayed Activation	O		9.2.1.19Aa		YES	reject
>Qth Parameter	O		9.2.2.34a		YES	ignore
Transmission Gap Pattern Sequence Information	O		9.2.2.47A		YES	reject
Active Pattern Sequence Information	O		9.2.2.A		YES	reject
Permanent NAS UE Identity	O		9.2.1.73		YES	ignore
DL Power Balancing Information	O		9.2.2.10A		YES	ignore
HS-DSCH Information	O		HS-DSCH FDD Information 9.2.2.19a		YES	reject
HS-PDSCH RL ID	C – InfoHSDSCH		RL ID 9.2.1.49		YES	reject
UE Support Of Dedicated Pilots For Channel Estimation	O		9.2.2.50A		YES	ignore
UE Support Of Dedicated Pilots For Channel Estimation Of HS-DSCH	O		9.2.2.50B		YES	ignore

Condition	Explanation
CodeLen	The IE shall be present if *Min UL Channelisation Code length* IE equals to 4
SlotFormat	The IE shall be present if the *DL DPCH Slot Format* IE is equal to any of the values from 12 to 16.
NotFirstRL	The IE shall be present if the RL is not the first one in the *RL Information* IE.
Diversity mode	The IE shall be present if *Diversity Mode* IE in *UL DPCH Information* IE is not equal to "none".
EDSCHPC	This IE shall be present if *Enhanced DSCH PC* IE is present in the *DSCH Information* IE.
InfoHSDSCH	This IE shall be present if *HS-DSCH Information* IE is present.

Range bound	Explanation
maxnoofRLs	Maximum number of RLs for one UE.

9.1.3.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
SRNC-ID	M		RNC-ID 9.2.1.50		YES	reject
S-RNTI	M		9.2.1.53		YES	reject
D-RNTI	O		9.2.1.24		YES	reject
UL Physical Channel Information		1			YES	reject
>Maximum Number of Timeslots	M		9.2.3.3A	For the UL	–	
>Minimum Spreading Factor	M		9.2.3.4A	For the UL	–	
>Maximum Number of UL Physical Channels per Timeslot	M		9.2.3.3B		–	
>Support of 8PSK	O		9.2.3.7H	Applicable to 1.28Mcps TDD only	YES	ignore
DL Physical Channel Information		1			YES	reject
>Maximum Number of Timeslots	M		9.2.3.3A	For the DL	–	
>Minimum Spreading Factor	M		9.2.3.4A	For the DL	–	
>Maximum Number of DL Physical Channels	M		9.2.3.3C		–	
>Maximum Number of DL Physical Channels per Timeslot	O		9.2.3.3D		YES	ignore
>Support of 8PSK	O		9.2.3.7H	Applicable to 1.28Mcps TDD only	YES	ignore
Allowed Queuing Time	O		9.2.1.2		YES	reject
UL CCTrCH Information		0..<maxnoofCCTrCHs>		For DCH and USCH	EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
>TFCS	M		9.2.1.63	For the UL.	–	
>TFCI Coding	M		9.2.3.11		–	
>Puncture Limit	M		9.2.1.46		–	
>TDD TPC Uplink Step Size	O		9.2.3.10a	Mandatory for 1.28Mcps TDD, not applicable to 3.84Mcps TDD	YES	reject
DL CCTrCH Information		0..<maxnoofCCTrCHs>		For DCH and DSCH	EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
>TFCS	M		9.2.1.63	For the DL.	–	
>TFCI Coding	M		9.2.3.11		–	
>Puncture Limit	M		9.2.1.46		–	
>TDD TPC Downlink Step Size	M		9.2.3.10		–	
>TPC CCTrCH List		0..<maxnoCCTrCHs>		List of uplink CCTrCH which provide TPC	–	
>>TPC CCTrCH ID	M		CCTrCH ID 9.2.3.2		–	
DCH Information	O		DCH TDD Information		YES	reject

			9.2.3.2A			
DSCH Information	O		DSCH TDD Information 9.2.3.3a		YES	reject
USCH Information	O		9.2.3.15		YES	reject
RL Information		*1*			YES	reject
>RL ID	M		9.2.1.49		–	
>C-ID	M		9.2.1.6		–	
>Frame Offset	M		9.2.1.30		–	
>Special Burst Scheduling	M		9.2.3.7D		–	
>Primary CCPCH RSCP	O		9.2.3.5		–	
>DL Time Slot ISCP Info	O		9.2.3.2D	Applicable to 3.84Mcps TDD only	–	
>DL Time Slot ISCP Info LCR	O		9.2.3.2F	Applicable to 1.28Mcps TDD only	YES	reject
>TSTD Support Indicator	O		9.2.3.13F	Applicable to 1.28Mcps TDD only	YES	ignore
>RL Specific DCH Information	O		9.2.1.49A		YES	ignore
>Delayed Activation	O		9.2.1.19Aa		YES	reject
>UL Synchronisation Parameters LCR		*0..1*		Mandatory for 1.28Mcps TDD. Not Applicable to 3.84Mcps TDD.	YES	reject
>>Uplink Synchronisation Step Size	M		9.2.3.13J		–	
>>Uplink Synchronisation Frequency	M		9.2.3.13I		–	
>Primary CCPCH RSCP Delta	O		9.2.3.5a		YES	ignore
Permanent NAS UE Identity	O		9.2.1.73		YES	ignore
HS-DSCH Information	O		HS-DSCH TDD Information 9.2.3.3aa		YES	reject
HS-PDSCH RL ID	C - InfoHSDSCH		RL ID 9.2.1.49		YES	reject
PDSCH-RL-ID	O		RL ID 9.2.1.49		YES	ignore

Condition	Explanation
InfoHSDSCH	This IE shall be present if *HS-DSCH Information* IE is present.

Range bound	Explanation
maxnoofCCTrCHs	Maximum number of CCTrCH for one UE.

9.1.4 RADIO LINK SETUP RESPONSE

9.1.4.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
D-RNTI	O		9.2.1.24		YES	ignore
CN PS Domain Identifier	O		9.2.1.12		YES	ignore
CN CS Domain Identifier	O		9.2.1.11		YES	ignore
RL Information Response		1..<maxno ofRLs>			EACH	ignore
>RL ID	M		9.2.1.49		–	
>RL Set ID	M		9.2.2.35		–	
>URA Information	O		9.2.1.70B		–	
>SAI	M		9.2.1.52		–	
>Cell GAI	O		9.2.1.5A		–	
>UTRAN Access Point Position	O		9.2.1.70A		–	
>Received Total Wide Band Power	M		9.2.2.35A		–	
>Secondary CCPCH Info	O		9.2.2.37B		–	
>DL Code Information	M		FDD DL Code Information 9.2.2.14A		–	
>CHOICE *Diversity Indication*	M				–	
>>*Combining*					–	
>>>RL ID	M		9.2.1.49	Reference RL ID for the combining	–	
>>>DCH Information Response	O		9.2.1.16A		YES	ignore
>>*Non Combining or First RL*					–	
>>>DCH Information Response	M		9.2.1.16A		–	
>SSDT Support Indicator	M		9.2.2.43		–	
>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Minimum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Closed Loop Timing Adjustment Mode	O		9.2.2.3A		–	
>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>Maximum DL TX Power	M		DL Power 9.2.1.21A		–	
>Minimum DL TX Power	M		DL Power 9.2.1.21A		–	
>Primary Scrambling Code	O		9.2.1.45		–	
>UL UARFCN	O		UARFCN 9.2.1.66	Corresponds to Nu in ref. [6]	–	
>DL UARFCN	O		UARFCN 9.2.1.66	Corresponds to Nd in ref. [6]	–	
>Primary CPICH Power	M		9.2.1.44		–	
>DSCH Information Response	O		DSCH FDD Information Response 9.2.2.13B		YES	ignore

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	
>Neighbouring GSM Cell Information	O		9.2.1.41C		–	
>PC Preamble	M		9.2.2.27a		–	
>SRB Delay	M		9.2.2.39A		–	
>Cell GA Additional Shapes	O		9.2.1.5B		YES	ignore
>DL Power Balancing Activation Indicator	O		9.2.2.10B		YES	ignore
>TFCI PC Support Indicator	O		9.2.2.46A		YES	ignore
>HCS Prio	O		9.2.1.30N		YES	ignore
>Primary CPICH Usage For Channel Estimation	O		9.2.2.32A		YES	ignore
Uplink SIR Target	O		Uplink SIR 9.2.1.69		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore
DSCH-RNTI	O		9.2.1.26Ba		YES	ignore
HS-DSCH-RNTI	O		9.2.1.30P		YES	ignore
HS-DSCH Information Response	O		HS-DSCH FDD Information Response 9.2.2.19b		YES	ignore

Range bound	Explanation
maxnoofRLs	Maximum number of RLs for one UE.

9.1.4.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
D-RNTI	O		9.2.1.24		YES	ignore
CN PS Domain Identifier	O		9.2.1.12		YES	ignore
CN CS Domain Identifier	O		9.2.1.11		YES	ignore
RL Information Response		*0..1*		Mandatory for 3.84Mcps TDD , not applicable to 1.28Mcps TDD	YES	ignore
>RL ID	M		9.2.1.49		–	
>URA Information	O		9.2.1.70B		–	
>SAI	M		9.2.1.52		–	
>Cell GAI	O		9.2.1.5A		–	
>UTRAN Access Point Position	O		9.2.1.70A		–	
>UL Time Slot ISCP Info	M		9.2.3.13D		–	
>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Minimum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>Maximum DL TX Power	M		DL Power 9.2.1.21A		–	
>Minimum DL TX Power	M		DL Power 9.2.1.21A		–	
>UARFCN	O		UARFCN 9.2.1.66	Corresponds to Nt in ref. [7]	–	
>Cell Parameter ID	O		9.2.1.8		–	
>Sync Case	O		9.2.1.54		–	
>SCH Time Slot	C-Case2		9.2.1.51		–	
>SCTD Indicator	O		9.2.1.78		–	
>PCCPCH Power	M		9.2.1.43		–	
>Timing Advance Applied	M		9.2.3.12A		–	
>Alpha Value	M		9.2.3.a		–	
>UL PhysCH SF Variation	M		9.2.3.13B		–	
>Synchronisation Configuration	M		9.2.3.7E		–	
>Secondary CCPCH Info TDD	O		9.2.3.7B		–	
>UL CCTrCH Information		*0..<maxno ofCCTrCH s>*		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
>>UL DPCH Information		*0..1*			YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>UL Timeslot Information	M		9.2.3.13C		–	
>>Uplink SIR Target CCTrCH	O		Uplink SIR 9.2.1.69		YES	ignore
>DL CCTrCH Information		*0..<maxno ofCCTrCH s>*		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
>>DL DPCH Information		*0..1*			YES	ignore
>>>Repetition Period	M		9.2.3.7		–	

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>DL Timeslot Information	M		9.2.3.2C			
>>CCTrCH Maximum DL TX Power	O		DL Power 9.2.1.21A	Maximum allowed power on DPCH	YES	ignore
>>CCTrCH Minimum DL TX Power	O		DL Power 9.2.1.21A	Minimum allowed power on DPCH	YES	ignore
>DCH Information Response	O		9.2.1.16A		YES	ignore
>DSCH Information Response		0 .. <*maxnoof DSCHs*>			GLOBAL	ignore
>>DSCH ID	M		9.2.1.26A		–	
>>DSCH Flow Control Information	M		9.2.1.26B		–	
>>Binding ID	O		9.2.1.3		–	
>>Transport Layer Address	O		9.2.1.62		–	
>>Transport Format Management	M		9.2.3.13		–	
>USCH Information Response		0 .. <*maxnoof USCHs*>			GLOBAL	ignore
>>USCH ID	M		9.2.3.14		–	
>>Binding ID	O		9.2.1.3		–	
>>Transport Layer Address	O		9.2.1.62		–	
>>Transport Format Management	M		9.2.3.13		–	
>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	
>Neighbouring GSM Cell Information	O		9.2.1.41C		–	
>Cell GA Additional Shapes	O		9.2.1.5B		YES	ignore
>HCS Prio	O		9.2.1.30N		YES	ignore
>Time Slot for SCH	C-Case1		Time Slot 9.2.1.56		YES	ignore
Uplink SIR Target	M		Uplink SIR 9.2.1.69		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore
RL Information Response LCR		0..1		Mandatory for 1.28Mcps TDD, not applicable to 1.28Mcps TDD	YES	ignore
>RL ID	M		9.2.1.49		–	
>URA Information	M		9.2.1.70B		–	
>SAI	M		9.2.1.52		–	
>Cell GAI	O		9.2.1.5A		–	
>UTRAN Access Point Position	O		9.2.1.70A		–	
>UL Time Slot ISCP Info LCR	M		9.2.3.13H		–	
>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Minimum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>Maximum DL TX Power	M		DL Power		–	

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
			9.2.1.21A			
>Minimum DL TX Power	M		DL Power 9.2.1.21A		–	
>UARFCN	O		UARFCN 9.2.1.66	Corresponds to Nt in ref. [7]	–	
>Cell Parameter ID	O		9.2.1.8		–	
>SCTD Indicator	O		9.2.1.78		–	
>PCCPCH Power	M		9.2.1.43		–	
>Alpha Value	M		9.2.3.a		–	
>UL PhysCH SF Variation	M		9.2.3.13B		–	
>Synchronisation Configuration	M		9.2.3.7E		–	
>Secondary CCPCH Info TDD LCR	O		9.2.3.7F		–	
>UL CCTrCH Information LCR		*0..<maxno ofCCTrCH sLCR>*		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
>>UL DPCH Information LCR		*0..1*			YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>UL Timeslot Information LCR	M		9.2.3.13G		–	
>>Uplink SIR Target CCTrCH	O		Uplink SIR 9.2.1.69		YES	ignore
>DL CCTrCH Information LCR		*0..<maxno ofCCTrCH sLCR>*		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
>>DL DPCH Information LCR		*0..1*			YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>DL Timeslot Information LCR	M		9.2.3.2E			
>>>TSTD Indicator	M		9.2.3.13E		–	
>DCH Information Response	O		9.2.1.16A		YES	ignore
>DSCH Information Response LCR		*0 .. <maxnoof DSCHsLC R>*			GLOBAL	ignore
>>DSCH ID	M		9.2.1.26A		–	
>>DSCH Flow Control Information	M		9.2.1.26B		–	
>>Binding ID	O		9.2.1.3		–	
>>Transport Layer Address	O		9.2.1.62		–	
>>Transport Format Management	M		9.2.3.13		–	
>USCH Information Response LCR		*0 .. <maxnoof USCHsLC R>*			GLOBAL	ignore
>>USCH ID	M		9.2.3.14		–	
>>Binding ID	O		9.2.1.3		–	
>>Transport Layer Address	O		9.2.1.62		–	
>>Transport Format Management	M		9.2.3.13		–	
>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	

ETSI

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
>Neighbouring GSM Cell Information	O		9.2.1.41C		–	
>HCS Prio	O		9.2.1.30N		YES	ignore
>Cell GA Additional Shapes	O		9.2.1.5B		YES	ignore
>Uplink Timing Advance Control LCR	M		9.2.3.13K		YES	ignore
HS-DSCH-RNTI	O		9.2.1.30P		YES	ignore
HS-DSCH Information Response	O		HS-DSCH TDD Information Response 9.2.3.3ab		YES	ignore
DSCH RNTI	O		9.2.1.26Ba		YES	ignore

Condition	Explanation
Case2	The IE shall be present if *Sync Case* IE is equal to "Case2'.
Case1	This IE shall be present if *Sync Case* IE is equal to "Case1".

Range bound	Explanation
maxnoofDSCHs	Maximum number of DSCHs for one UE for 3.84Mcps TDD.
maxnoofUSCHs	Maximum number of USCHs for one UE for 3.84Mcps TDD.
maxnoofCCTrCHs	Maximum number of CCTrCH for one UE for 3.84Mcps TDD.
maxnoofDSCHsLCR	Maximum number of DSCHs for one UE for 1.28Mcps TDD.
maxnoofUSCHsLCR	Maximum number of USCHs for one UE for 1.28Mcps TDD.
maxnoofCCTrCHsLCR	Maximum number of CCTrCH for one UE for 1.28Mcps TDD.

9.1.5 RADIO LINK SETUP FAILURE

9.1.5.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
D-RNTI	O		9.2.1.24		YES	ignore
CN PS Domain Identifier	O		9.2.1.12		YES	ignore
CN CS Domain Identifier	O		9.2.1.11		YES	ignore
CHOICE *Cause Level*	M				YES	ignore
>*General*					–	
>>Cause	M		9.2.1.5		–	
>*RL Specific*					–	
>>Unsuccessful RL Information Response		1..<*maxnoofRLs*>			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>Cause	M		9.2.1.5		–	
>>Successful RL Information Response		0..<*maxnoofRLs-1*>			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>RL Set ID	M		9.2.2.35		–	
>>>URA Information	O		9.2.1.70B		–	
>>>SAI	M		9.2.1.52		–	
>>>Cell GAI	O		9.2.1.5A		–	
>>>UTRAN Access Point Position	O		9.2.1.70A		–	
>>>Received Total Wide Band Power	M		9.2.2.35A		–	
>>>Secondary CCPCH Info	O		9.2.2.37B		–	
>>>DL Code Information	M		FDD DL Code Information 9.2.2.14A		–	
>>>CHOICE *Diversity Indication*	M				–	
>>>>*Combining*					–	
>>>>>RL ID	M		9.2.1.49	Reference RL ID for the combining	–	
>>>>>DCH Information Response	O		9.2.1.16A		YES	ignore
>>>>*Non Combining or First RL*					–	
>>>>>DCH Information Response	M		9.2.1.16A		–	
>>>SSDT Support Indicator	M		9.2.2.43		–	
>>>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>>>Minimum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>>>Closed Loop Timing Adjustment Mode	O		9.2.2.3A		–	
>>>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>>>Maximum DL TX Power	M		DL Power 9.2.1.21A		–	
>>>Minimum DL TX Power	M		DL Power 9.2.1.21A		–	
>>>Primary CPICH Power	M		9.2.1.44		–	

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
>>>Primary Scrambling Code	O		9.2.1.45		–	
>>>UL UARFCN	O		UARFCN 9.2.1.66	Corresponds to Nu in ref. [6]	–	
>>>DL UARFCN	O		UARFCN 9.2.1.66	Corresponds to Nd in ref. [6]	–	
>>>DSCH Information Response	O		DSCH FDD Information Response 9.2.2.13B		YES	ignore
>>>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	
>>>Neighbouring GSM Cell Information	O		9.2.1.41C		–	
>>>PC Preamble	M		9.2.2.27a		–	
>>>SRB Delay	M		9.2.2.39A		–	
>>>Cell GA Additional Shapes	O		9.2.1.5B		YES	ignore
>>>DL Power Balancing Activation Indicator	O		9.2.2.10B		YES	ignore
>>>TFCI PC Support Indicator	O		9.2.2.46A		YES	ignore
>>>HCS Prio	O		9.2.1.30N		YES	ignore
>>>Primary CPICH Usage For Channel Estimation	O		9.2.2.32A		YES	ignore
>>DSCH-RNTI	O		9.2.1.26Ba		YES	ignore
>>HS-DSCH-RNTI	O		9.2.1.30P		YES	ignore
>>HS-DSCH Information Response	O		HS-DSCH FDD Information Response 9.2.2.19b		YES	ignore
Uplink SIR Target	O		Uplink SIR 9.2.1.69		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore

Range bound	Explanation
maxnoofRLs	Maximum number of RLs for one UE.

9.1.5.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
CHOICE *Cause Level*	M				YES	ignore
>*General*					–	
>>Cause	M		9.2.1.5		–	
>*RL Specific*					–	
>>Unsuccessful RL Information Response		*1*			YES	ignore
>>>RL ID	M		9.2.1.49		–	
>>>Cause	M		9.2.1.5		–	
Criticality Diagnostics	O		9.2.1.13		YES	ignore

9.1.6 RADIO LINK ADDITION REQUEST

9.1.6.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Uplink SIR Target	M		Uplink SIR 9.2.1.69		YES	reject
RL Information		1..<maxnoofRLs-1>			EACH	notify
>RL ID	M		9.2.1.49		–	
>C-ID	M		9.2.1.6		–	
>Frame Offset	M		9.2.1.30		–	
>Chip Offset	M		9.2.2.1		–	
>Diversity Control Field	M		9.2.1.20		–	
>Primary CPICH Ec/No	O		9.2.2.32		–	
>SSDT Cell Identity	O		9.2.2.40			
>Transmit Diversity Indicator	O		9.2.2.48		–	
>DL Reference Power	O		DL Power 9.2.1.21A	Power on DPCH	YES	ignore
>Enhanced Primary CPICH Ec/No	O		9.2.2.13I		YES	ignore
>RL Specific DCH Information	O		9.2.1.49A		YES	ignore
>Delayed Activation	O		9.2.1.19Aa		YES	reject
>Qth Parameter	O		9.2.2.34a		YES	ignore
Active Pattern Sequence Information	O		9.2.2A	Either all the already active Transmission Gap Sequence(s) are addressed (Transmission Gap Pattern sequence shall overlap with the existing one) or none of the transmission gap sequences is activated.	YES	reject
DPC Mode	O		9.2.2.12A		YES	reject
Permanent NAS UE Identity	O		9.2.1.73		YES	ignore

Range bound	Explanation
maxnoofRLs	Maximum number of radio links for one UE.

9.1.6.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
RL Information		*1*			YES	reject
>RL ID	M		9.2.1.49		–	
>C-ID	M		9.2.1.6		–	
>Frame Offset	M		9.2.1.30		–	
>Diversity Control Field	M		9.2.1.20		–	
>Primary CCPCH RSCP	O		9.2.3.5		–	
>DL Time Slot ISCP Info	O		9.2.3.2D	Applicable to 3.84Mcps TDD only	–	
>DL Time Slot ISCP Info LCR	O		9.2.3.2F	Applicable to 1.28Mcps TDD only	YES	reject
>RL Specific DCH Information	O		9.2.1.49A		YES	ignore
>Delayed Activation	O		9.2.1.19Aa		YES	reject
>UL Synchronisation Parameters LCR		*0..1*		Mandatory for 1.28Mcps TDD. Not Applicable to 3.84Mcps TDD.	YES	reject
>>Uplink Synchronisation Step Size	M		9.2.3.13J		–	
>>Uplink Synchronisation Frequency	M		9.2.3.13I		–	
> Primary CCPCH RSCP Delta	O		9.2.3.5a		YES	ignore
Permanent NAS UE Identity	O		9.2.1.73		YES	ignore
UL CCTrCH Information		*0..< maxnoofCCTrCHs >*			EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
>TDD TPC Uplink Step Size	O		9.2.3.10a	Applicable to 1.28Mcps TDD only	–	
DL CCTrCH Information		*0..< maxnoofCCTrCHs >*			EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
>TDD TPC Downlink Step Size	O		9.2.3.10		–	

Range bound	Explanation
maxnoofCCTrCHs	Maximum number of CCTrCH for one UE.

9.1.7 RADIO LINK ADDITION RESPONSE

9.1.7.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
RL Information Response		1..<maxnoof RLs-1>			EACH	ignore
>RL ID	M		9.2.1.49		–	
>RL Set ID	M		9.2.2.35		–	
>URA Information	O		9.2.1.70B		–	
>SAI	M		9.2.1.52		–	
>Cell GAI	O		9.2.1.5A		–	
>UTRAN Access Point Position	O		9.2.1.70A		–	
>Received Total Wide Band Power	M		9.2.2.35A		–	
>Secondary CCPCH Info	O		9.2.2.37B		–	
>DL Code Information	M		FDD DL Code Information 9.2.2.14A		YES	ignore
>CHOICE *Diversity Indication*	M				–	
>>*Combining*					–	
>>>RL ID	M		9.2.1.49	Reference RL ID	–	
>>>DCH Information Response	O		9.2.1.16A		YES	ignore
>>*Non Combining*					–	
>>>DCH Information Response	M		9.2.1.16A		–	
>SSDT Support Indicator	M		9.2.2.43		–	
>Minimum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Closed Loop Timing Adjustment Mode	O		9.2.2.3A		–	
>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>Maximum DL TX Power	M		DL Power 9.2.1.21A		–	
>Minimum DL TX Power	M		DL Power 9.2.1.21A		–	
>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	
>Neighbouring GSM Cell Information	O		9.2.1.41C		–	
>PC Preamble	M		9.2.2.27a		–	
>SRB Delay	M		9.2.2.39A		–	
>Primary CPICH Power	M		9.2.1.44		–	
>Cell GA Additional Shapes	O		9.2.1.5B		YES	ignore
>DL Power Balancing Activation Indicator	O		9.2.2.10B		YES	ignore
>TFCI PC Support Indicator	O		9.2.2.46A		YES	ignore
>HCS Prio	O		9.2.1.30N		YES	ignore
>Primary CPICH Usage For Channel Estimation	O		9.2.2.32A		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore

Range bound	Explanation
maxnoofRLs	Maximum number of radio links for one UE.

9.1.7.2   TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
RL Information Response		*0..1*		Mandatory for 3.84Mcps TDD, not applicable to 1.28Mcps TDD	YES	ignore
>RL ID	M		9.2.1.49		–	
>URA Information	O		9.2.1.70B		–	
>SAI	M		9.2.1.52		–	
>Cell GAI	O		9.2.1.5A		–	
>UTRAN Access Point Position	O		9.2.1.70A		–	
>UL Time Slot ISCP Info	M		9.2.3.13D		–	
>Minimum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>Maximum DL TX Power	M		DL Power 9.2.1.21A		–	
>Minimum DL TX Power	M		DL Power 9.2.1.21A		–	
>PCCPCH Power	M		9.2.1.43		–	
>Timing Advance Applied	M		9.2.3.12A		–	
>Alpha Value	M		9.2.3.a		–	
>UL PhysCH SF Variation	M		9.2.3.13B		–	
>Synchronisation Configuration	M		9.2.3.7E		–	
>Secondary CCPCH Info TDD	O		9.2.3.7B		–	
>UL CCTrCH Information		*0..<maxnoof CCTrCHs>*		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
>>UL DPCH Information		*0..1*			YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>UL Timeslot Information	M		9.2.3.13C		–	
>DL CCTrCH Information		*0..<maxnoof CCTrCHs>*		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
>>DL DPCH Information		*0..1*			YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>DL Timeslot Information	M		9.2.3.2C		–	
>>CCTrCH Maximum DL TX Power	O		DL Power 9.2.1.21A	Maximum allowed power on DPCH	YES	ignore
>>CCTrCH Minimum DL TX Power	O		DL Power 9.2.1.21A	Minimum allowed power on DPCH	YES	ignore

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
>DCH Information		0..1			–	
>>CHOICE *Diversity Indication*	M				–	
>>>*Combining*					–	
>>>>RL ID	M		9.2.1.49	Reference RL	–	
>>>>DCH Information Response	O		9.2.1.16A		YES	ignore
>>>*Non Combining*					–	
>>>>DCH Information Response	M		9.2.1.16A		–	
>DSCH Information Response		*0 .. <maxnoof DSCHs>*			GLOBAL	ignore
>>DSCH ID	M		9.2.1.26A		–	
>>Transport Format Management	M		9.2.3.13		–	
>>DSCH Flow Control Information	M		9.2.1.26B		–	
>>CHOICE *Diversity Indication*	O				–	
>>>*Non Combining*					–	
>>>>Binding ID	O		9.2.1.3		–	
>>>>Transport Layer Address	O		9.2.1.62		–	
>USCH Information Response		*0 .. <maxnoof USCHs>*			GLOBAL	ignore
>>USCH ID	M		9.2.3.14		–	
>>Transport Format Management	M		9.2.3.13		–	
>>CHOICE *Diversity Indication*	O				–	
>>>*Non Combining*					–	
>>>>Binding ID	O		9.2.1.3		–	
>>>>Transport Layer Address	O		9.2.1.62		–	
>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	
>Neighbouring GSM Cell Information	O		9.2.1.41C		–	
>Cell GA Additional Shapes	O		9.2.1.5B		YES	ignore
>HCS Prio	O		9.2.1.30N		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore
RL Information Response LCR		*0..1*		Mandatory for 1.28Mcps TDD, not applicable to 3.84Mcps TDD	YES	ignore
>RL ID	M		9.2.1.49		–	
>URA Information	M		9.2.1.70B		–	
>SAI	M		9.2.1.52		–	
>Cell GAI	O		9.2.1.5A		–	
>UTRAN Access Point Position	O		9.2.1.70A		–	
>UL Time Slot ISCP Info LCR	M		9.2.3.13H		–	
>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>Minimum Uplink SIR	M		Uplink SIR		–	

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
			9.2.1.69			
>PCCPCH Power	M		9.2.1.43		–	
>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>Maximum DL TX Power	M		DL Power 9.2.1.21A		–	
>Minimum DL TX Power	M		DL Power 9.2.1.21A		–	
>Alpha Value	M		9.2.3.a		–	
>UL PhysCH SF Variation	M		9.2.3.13B		–	
>Synchronisation Configuration	M		9.2.3.7E		–	
>Secondary CCPCH Info TDD LCR	O		9.2.3.7F		–	
>UL CCTrCH Information LCR		*0..<maxnoof CCTrCHsLCR>*		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
>>UL DPCH Information LCR		*0..1*			YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>UL Timeslot Information LCR	M		9.2.3.13G		–	
>DL CCTrCH Information LCR		*0..<maxnoof CCTrCHsLCR>*		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
>>DL DPCH Information LCR		*0..1*			YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>DL Timeslot Information LCR	M		9.2.3.2E		–	
>>>TSTD Indicator	M		9.2.3.13E		–	
>DCH Information Response	M		9.2.1.16A		–	
>DSCH Information Response LCR		*0 .. <maxnoof DSCHsLCR>*			GLOBAL	ignore
>>DSCH ID	M		9.2.1.26A		–	
>>DSCH Flow Control Information	M		9.2.1.26B		–	
>>Binding ID	O		9.2.1.3		–	
>>Transport Layer Address	O		9.2.1.62		–	
>>Transport Format Management	M		9.2.3.13		–	
>USCH Information Response LCR		*0 .. <maxnoof USCHsLCR>*			GLOBAL	ignore
>>USCH ID	M		9.2.3.14		–	
>>Transport Format Management	M		9.2.3.13		–	
>>CHOICE *Diversity Indication*	O				–	
>>>*Non Combining*					–	
>>>>Binding ID	O		9.2.1.3		–	
>>>>Transport Layer Address	O		9.2.1.62		–	

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	
>Neighbouring GSM Cell Information	O		9.2.1.41C		–	
>Cell GA Additional Shapes	O		9.2.1.5B		YES	ignore
>HCS Prio	O		9.2.1.30N		YES	ignore
>Uplink Timing Advance Control LCR	M		9.2.3.13K		YES	ignore

Range Bound	Explanation
maxnoofDSCHs	Maximum number of DSCHs for one UE for 3.84Mcps TDD.
maxnoofUSCHs	Maximum number of USCHs for one UE for 3.84Mcps TDD.
maxnoofCCTrCHs	Maximum number of CCTrCHs for one UE for 3.84Mcps TDD.
maxnoofDSCHsLCR	Maximum number of DSCHs for one UE for 1.28Mcps TDD.
maxnoofUSCHsLCR	Maximum number of USCHs for one UE for 1.28Mcps TDD.
maxnoofCCTrCHsLCR	Maximum number of CCTrCH for one UE for 1.28Mcps TDD.

9.1.8 RADIO LINK ADDITION FAILURE

9.1.8.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
CHOICE *Cause Level*	M				YES	ignore
>*General*					–	
>>Cause	M		9.2.1.5		–	
>*RL Specific*					–	
>>Unsuccessful RL Information Response		*1..<maxnoof RLs-1>*			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>Cause	M		9.2.1.5		–	
>>Successful RL Information Response		*0..<maxnoof RLs-2>*			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>RL Set ID	M		9.2.2.35		–	
>>>URA Information	O		9.2.1.70B		–	
>>>SAI	M		9.2.1.52		–	
>>>Cell GAI	O		9.2.1.5A		–	
>>>UTRAN Access Point Position	O		9.2.1.70A		–	
>>>Received Total Wide Band Power	M		9.2.2.35A		–	
>>>Secondary CCPCH Info	O		9.2.2.37B		–	
>>>DL Code Information	M		FDD DL Code Information 9.2.2.14A		YES	ignore
>>>CHOICE *Diversity Indication*	M				–	
>>>>*Combining*					–	
>>>>>RL ID	M		9.2.1.49	Reference RL ID	–	
>>>>>DCH Information Response	O		9.2.1.16A		YES	ignore
>>>>*Non Combining*					–	
>>>>>DCH Information Response	M		9.2.1.16A		–	
>>>SSDT Support Indicator	M		9.2.2.43		–	
>>>Minimum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>>>Maximum Uplink SIR	M		Uplink SIR 9.2.1.69		–	
>>>Closed Loop Timing Adjustment Mode	O		9.2.2.3A		–	
>>>Maximum Allowed UL Tx Power	M		9.2.1.35		–	
>>>Maximum DL TX Power	M		DL Power 9.2.1.21A		–	
>>>Minimum DL TX Power	M		DL Power 9.2.1.21A		–	
>>>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	
>>>Neighbouring GSM Cell Information	O		9.2.1.41C		–	
>>>Primary CPICH	M		9.2.1.44		–	

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Power						
>>>PC Preamble	M		9.2.2.27a		–	
>>>SRB Delay	M		9.2.2.39A		–	
>>>Cell GA Additional Shapes	O		9.2.1.5B		YES	ignore
>>>DL Power Balancing Activation Indicator	O		9.2.2.10B		YES	ignore
>>>TFCI PC Support Indicator	O		9.2.2.46A		YES	ignore
>>>HCS Prio	O		9.2.1.30N		YES	ignore
>>>Primary CPICH Usage For Channel Estimation	O		9.2.2.32A		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore

Range bound	Explanation
maxnoofRLs	Maximum number of radio links for one UE.

9.1.8.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
CHOICE *Cause Level*	M				YES	ignore
>*General*					–	
>>Cause	M		9.2.1.5		–	
>*RL Specific*					–	
>>Unsuccessful RL Information Response		1			YES	ignore
>>>RL ID	M		9.2.1.49		–	
>>>Cause	M		9.2.1.5		–	
Criticality Diagnostics	O		9.2.1.13		YES	ignore

9.1.9 RADIO LINK DELETION REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
RL Information		*1..<maxnoofRLs>*			EACH	notify
>RL ID	M		9.2.1.49		–	

Range bound	Explanation
maxnoofRLs	Maximum number of radio links for one UE

9.1.10 RADIO LINK DELETION RESPONSE

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Criticality Diagnostics	O		9.2.1.13		YES	ignore

9.1.11 RADIO LINK RECONFIGURATION PREPARE

9.1.11.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Allowed Queuing Time	O		9.2.1.2		YES	reject
UL DPCH Information		*0..1*			YES	reject
>UL Scrambling Code	O		9.2.2.53		–	
>UL SIR Target	O		Uplink SIR 9.2.1.69		–	
>Min UL Channelisation Code Length	O		9.2.2.25		–	
>Max Number of UL DPDCHs	C – CodeLen		9.2.2.24		–	
>Puncture Limit	O		9.2.1.46	For the UL.	–	
>TFCS	O		9.2.1.63	TFCS for the UL.	–	
>UL DPCCH Slot Format	O		9.2.2.52		–	
>Diversity Mode	O		9.2.2.8		–	
>SSDT Cell Identity Length	O		9.2.2.41		–	
>S-Field Length	O		9.2.2.36		–	
DL DPCH Information		*0..1*			YES	reject
>TFCS	O		9.2.1.63	TFCS for the DL.	–	
>DL DPCH Slot Format	O		9.2.2.9		–	
>Number of DL Channelisation Codes	O		9.2.2.26A		–	
>TFCI Signalling Mode	O		9.2.2.46		–	
>TFCI Presence	C-SlotFormat		9.2.1.55		–	
>Multiplexing Position	O		9.2.2.26		–	
>Limited Power Increase	O		9.2.2.21A		–	
>Split Type	O		9.2.2.39a		YES	reject
>Length of TFCI2	O		9.2.2.21C		YES	reject
DCHs To Modify	O		FDD DCHs To Modify 9.2.2.13C		YES	reject
DCHs To Add	O		DCH FDD Information 9.2.2.4A		YES	reject
DCHs To Delete		*0..<maxnoof DCHs>*			GLOBAL	reject
>DCH ID	M		9.2.1.16		–	
DSCHs To Modify		*0..1*			YES	reject
>DSCH Info		*0..<maxnoof DSCHs>*			–	
>>DSCH ID	M		9.2.1.26A		–	
>>TrCH Source Statistics Descriptor	O		9.2.1.65		–	
>>Transport Format Set	O		9.2.1.64	For DSCH	–	
>>Allocation/ Retention Priority	O		9.2.1.1		–	
>>Scheduling Priority Indicator	O		9.2.1.51A		–	
>>BLER	O		9.2.1.4		–	

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
>>Transport Bearer Request Indicator	M		9.2.1.61		–	
>>Traffic Class	O		9.2.1.58A		YES	ignore
>>Binding ID	O		9.2.1.3	Shall be ignored if bearer establishme nt with ALCAP.	YES	ignore
>>Transport Layer Address	O		9.2.1.62	Shall be ignored if bearer establishme nt with ALCAP.	YES	ignore
>PDSCH RL ID	O		RL ID 9.2.1.49		–	
>TFCS	O		9.2.1.63	For DSCH	–	
>Enhanced DSCH PC Indicator	O		9.2.2.13F		YES	ignore
>Enhanced DSCH PC	C-EDSCHPC On		9.2.2.13D		YES	ignore
DSCHs To Add	O		DSCH FDD Information 9.2.2.13A		YES	reject
DSCHs to Delete		0..1			YES	reject
>DSCH Info		1..<maxnoof DSCHs>			–	
>>DSCH ID	M		9.2.1.26A		–	
RL Information		0..<maxnoof RLs>			EACH	reject
>RL ID	M		9.2.1.49		–	
>SSDT Indication	O		9.2.2.42		–	
>SSDT Cell Identity	C -SSDTIndON		9.2.2.40		–	
>Transmit Diversity Indicator	C – Diversity mode		9.2.2.48		–	
>SSDT Cell Identity for EDSCHPC	C-EDSCHPC		9.2.2.40A		YES	ignore
>DL Reference Power	O		DL Power 9.2.1.21A	Power on DPCH	YES	ignore
>RL Specific DCH Information	O		9.2.1.49A		YES	ignore
>DL DPCH Timing Adjustment	O		9.2.2.9A	Required RL Timing Adjustment	YES	reject
>Qth Parameter	O		9.2.2.34a		YES	ignore
>Phase Reference Update Indicator	O		9.2.2.27B		YES	ignore
Transmission Gap Pattern Sequence Information	O		9.2.2.47A		YES	reject
HS-DSCH Information	O		HS-DSCH FDD Information 9.2.2.19a		YES	reject
HS-DSCH Information To Modify	O		9.2.1.30Q		YES	reject
HS-DSCH MAC-d Flows To Add	O		HS-DSCH MAC-d Flows Information		YES	reject

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
			9.2.1.30OA			
HS-DSCH MAC-d Flows To Delete	O		9.2.1.30OB		YES	reject
HS-PDSCH RL ID	O		RL ID 9.2.1.49		YES	reject
UE Support Of Dedicated Pilots For Channel Estimation	O		9.2.2.50A		YES	ignore
UE Support Of Dedicated Pilots For Channel Estimation Of HS-DSCH	O		9.2.2.50B		YES	ignore

Condition	Explanation
SSDTIndON	The IE shall be present if the *SSDT Indication* IE is set to 'SSDT Active in the UE'.
CodeLen	The IE shall be present only if the *Min UL Channelisation Code length* IE equals to 4.
SlotFormat	The IE shall only be present if the *DL DPCH Slot Format* IE is equal to any of the values from 12 to 16.
Diversity mode	The IE shall be present if *Diversity Mode* IE is present in the *UL DPCH Information* IE and is not equal to 'none'.
EDSCHPCOn	The IE shall be present if the *Enhanced DSCH PC Indicator* IE is set to "Enhanced DSCH PC Active in the UE".
EDSCHPC	The IE shall be present if *Enhanced DSCH PC* IE is present in either the *DSCHs To Modify* IE or the *DSCHs To Add* IE.

Range bound	Explanation
maxnoofDCHs	Maximum number of DCHs for a UE.
maxnoofDSCHs	Maximum number of DSCHs for one UE.
maxnoofRLs	Maximum number of RLs for a UE.

9.1.11.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Allowed Queuing Time	O		9.2.1.2		YES	reject
UL CCTrCH To Add		0..<maxno ofCCTrCH s>		For DCH and USCH	EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
>TFCS	M		9.2.1.63	For the UL.	–	
>TFCI Coding	M		9.2.3.11		–	
>Puncture Limit	M		9.2.1.46		–	
>UL SIR Target	O		Uplink SIR 9.2.1.69	Mandatory for 1.28Mcps TDD; not applicable to 3.84Mcps TDD	YES	reject
>TDD TPC Uplink Step Size	O		9.2.3.10a	Mandatory for 1.28Mcps TDD, not applicable to 3.84Mcps TDD	YES	reject
UL CCTrCH To Modify		0..<maxno ofCCTrCH s>			EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
>TFCS	O		9.2.1.63	For the UL.	–	
>TFCI Coding	O		9.2.3.11		–	
>Puncture Limit	O		9.2.1.46		–	
>UL SIR Target	O		Uplink SIR 9.2.1.69	Applicable to 1.28Mcps TDD only	YES	reject
>TDD TPC Uplink Step Size	O		9.2.3.10a	Applicable to 1.28Mcps TDD only	YES	reject
UL CCTrCH to Delete		0..<maxno ofCCTrCH s>			EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
DL CCTrCH To Add		0..<maxno ofCCTrCH s>		For DCH and DSCH	EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
>TFCS	M		9.2.1.63	For the DL.	–	
>TFCI Coding	M		9.2.3.11		–	
>Puncture Limit	M		9.2.1.46		–	
>TPC CCTrCH List		0..<maxno CCTrCHs>		List of uplink CCTrCH which provide TPC	–	
>>TPC CCTrCH ID	M		CCTrCH ID 9.2.3.2		–	
>TDD TPC Downlink Step Size	O		9.2.3.10		YES	reject
DL CCTrCH To Modify		0..<maxno ofCCTrCH s>			EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
>TFCS	O		9.2.1.63	For the DL.	–	
>TFCI Coding	O		9.2.3.11		–	

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
>Puncture Limit	O		9.2.1.46		–	
>TPC CCTrCH List		*0..<maxno CCTrCHs>*		List of uplink CCTrCH which provide TPC	–	
>>TPC CCTrCH ID	M		CCTrCH ID 9.2.3.2		–	
>TDD TPC Downlink Step Size	O		9.2.3.10		YES	reject
DL CCTrCH to Delete		*0..<maxno ofCCTrCH s>*			EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
DCHs To Modify	O		TDD DCHs To Modify 9.2.3.8B		YES	reject
DCHs To Add	O		DCH TDD Information 9.2.3.2A		YES	reject
DCHs to Delete		*0..<maxno ofDCHs>*			GLOBAL	reject
>DCH ID	M		9.2.1.16		–	
DSCHs To Modify		*0..<maxno ofDSCHs>*			GLOBAL	reject
>DSCH ID	M		9.2.1.26A		–	
>CCTrCH ID	O		9.2.3.2	DL CCTrCH in which the DSCH is mapped.	–	
>TrCH Source Statistics Descriptor	O		9.2.1.65		–	
>Transport Format Set	O		9.2.1.64		–	
>Allocation/Retention Priority	O		9.2.1.1		–	
>Scheduling Priority Indicator	O		9.2.1.51A		–	
>BLER	O		9.2.1.4		–	
>Transport Bearer Request Indicator	M		9.2.1.61		–	
>Traffic Class	O		9.2.1.58A		YES	ignore
>Binding ID	O		9.2.1.3	Shall be ignored if bearer establishment with ALCAP.	YES	ignore
>Transport Layer Address	O		9.2.1.62	Shall be ignored if bearer establishment with ALCAP.	YES	ignore
DSCHs To Add	O		DSCH TDD Information 9.2.3.3a		YES	reject
DSCHs to Delete		*0..<maxno ofDSCHs>*			GLOBAL	reject
>DSCH ID	M		9.2.1.26A		–	
USCHs To Modify		*0..<maxno ofUSCHs>*			GLOBAL	reject
>USCH ID	M		9.2.3.14		–	

ETSI

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
>CCTrCH ID	O		9.2.3.2	UL CCTrCH in which the USCH is mapped.	–	
>TrCH Source Statistics Descriptor	O		9.2.1.65		–	
>Transport Format Set	O		9.2.1.64		–	
>Allocation/Retention Priority	O		9.2.1.1		–	
>Scheduling Priority Indicator	O		9.2.1.51A		–	
>BLER	O		9.2.1.4		–	
>Transport Bearer Request Indicator	M		9.2.1.61		–	
>TNL QoS	O		9.2.1.56A		YES	ignore
>RB Info		*0..<maxno ofRB>*		All Radio Bearers using this USCH	–	
>>RB Identity	M		9.2.3.5B		–	
>Traffic class	O		9.2.1.58A		YES	ignore
>Binding ID	O		9.2.1.3	Shall be ignored if bearer establishment with ALCAP.	YES	ignore
>Transport Layer Address	O		9.2.1.62	Shall be ignored if bearer establishment with ALCAP.	YES	ignore
USCHs To Add	O		USCH Information 9.2.3.15		YES	reject
USCHs to Delete		*0..<maxno ofUSCHs>*			GLOBAL	reject
>USCH ID	M		9.2.3.14		–	
Primary CCPCH RSCP	O		9.2.3.5		YES	ignore
DL Time Slot ISCP Info	O		9.2.3.2D	Applicable to 3.84Mcps TDD only	YES	ignore
DL Time Slot ISCP Info LCR	O		9.2.3.2F	Applicable to 1.28Mcps TDD only	YES	ignore
HS-DSCH Information	O		HS-DSCH TDD Information 9.2.3.3aa		YES	reject
HS-DSCH Information To Modify	O		9.2.1.30Q		YES	reject
HS-DSCH MAC-d Flows To Add	O		HS-DSCH MAC-d Flows Information 9.2.1.30OA		YES	reject
HS-DSCH MAC-d Flows To Delete	O		9.2.1.30OB		YES	reject
HS-PDSCH RL ID	O		RL ID 9.2.1.49		YES	reject
PDSCH-RL-ID	O		RL ID 9.2.1.49		YES	ignore
UL Synchronisation		*0..1*		Mandatory	YES	ignore

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Parameters LCR				for 1.28Mcps TDD. Not Applicable to 3.84Mcps TDD.		
>Uplink Synchronisation Step Size	M		9.2.3.13J		–	
>Uplink Synchronisation Frequency	M		9.2.3.13I		–	
RL Information		0..<maxnoofRLs.			YES	ignore
>RL ID	M		9.2.1.49		–	
>RL Specific DCH Information	O		9.2.1.49A		–	
Primary CCPCH RSCP Delta	O		9.2.3.5a		YES	ignore

Range bound	Explanation
maxnoofDCHs	Maximum number of DCHs for a UE.
maxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.
maxnoofDSCHs	Maximum number of DSCHs for one UE.
maxnoofUSCHs	Maximum number of USCHs for one UE.
maxnoofRLs	Maximum number of RLs for one UE

9.1.12 RADIO LINK RECONFIGURATION READY

9.1.12.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
RL Information Response		0..<maxnoofRLs>			EACH	ignore
>RL ID	M		9.2.1.49		–	
>Maximum Uplink SIR	O		Uplink SIR 9.2.1.69		–	
>Minimum Uplink SIR	O		Uplink SIR 9.2.1.69		–	
>Maximum DL TX Power	O		DL Power 9.2.1.21A		–	
>Minimum DL TX Power	O		DL Power 9.2.1.21A		–	
>Secondary CCPCH Info	O		9.2.2.37B		–	
>DL Code Information	O		FDD DL Code Information 9.2.2.14A		YES	ignore
>DCH Information Response	O		9.2.1.16A		YES	ignore
>DSCHs to be Added or Modified	O		DSCH FDD Information Response 9.2.2.13B		YES	ignore
>DL Power Balancing Updated Indicator	O		9.2.2.10D		YES	ignore
>Primary CPICH Usage For Channel Estimation	O		9.2.2.32A		YES	ignore
>Secondary CPICH Information Change	O		9.2.2.38B		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore
DSCH-RNTI	O		9.2.1.26Ba		YES	ignore
HS-DSCH-RNTI	O		9.2.1.30P		YES	ignore
HS-DSCH Information Response	O		HS-DSCH FDD Information Response 9.2.2.19b		YES	ignore
MAC-hs Reset Indicator	O		9.2.1.34B		YES	ignore

Range bound	Explanation
maxnoofRLs	Maximum number of RLs for a UE.

9.1.12.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
RL Information Response		*0..<maxnoof RLs>*		See Note 1 below	YES	ignore
>RL ID	M		9.2.1.49		–	
>Maximum Uplink SIR	O		Uplink SIR 9.2.1.69		–	
>Minimum Uplink SIR	O		Uplink SIR 9.2.1.69		–	
>Maximum DL TX Power	O		DL Power 9.2.1.21A		–	
>Minimum DL TX Power	O		DL Power 9.2.1.21A		–	
>Secondary CCPCH Info TDD	O		9.2.3.7B		–	
>UL CCTrCH Information		*0..<maxnoof CCTrCHs>*		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
>>UL DPCH to be Added		*0..1*		Applicable to 3.84Mcps TDD only	YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>> Rx Timing Deviation	O		9.2.3.7A		–	
>>>UL Timeslot Information	M		9.2.3.13C		–	
>>UL DPCH to be Modified		*0..1*			YES	ignore
>>>Repetition Period	O		9.2.3.7		–	
>>>Repetition Length	O		9.2.3.6		–	
>>>TDD DPCH Offset	O		9.2.3.8A		–	
>>>UL Timeslot Information		*0..<maxnoO fTS>*		Applicable to 3.84Mcps TDD only	–	
>>>>Time Slot	M		9.2.1.56		–	
>>>>Midamble Shift And Burst Type	O		9.2.3.4		–	
>>>>TFCI Presence	O		9.2.1.55		–	
>>>>UL Code Information		*0..<maxnoO fDPCHs>*			–	
>>>>>DPCH ID	M		9.2.3.3		–	
>>>>>TDD Channelisation Code	O		9.2.3.8		–	
>>>UL Timeslot Information LCR		*0..<maxnoO fTSLCR>*		Applicable to 1.28Mcps TDD only	GLOBAL	ignore
>>>>Time Slot LCR	M		9.2.3.12a		–	
>>>>Midamble Shift LCR	O		9.2.3.4C		–	
>>>>TFCI Presence	O		9.2.1.55		–	
>>>>UL Code		*0..<maxnoO*			GLOBAL	ignore

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Information LCR		*fDPCHLCR>*				
>>>>>DPCH ID	M		9.2.3.3		–	
>>>>>TDD Channelisation Code LCR	O		9.2.3.8a		–	
>>>>> TDD UL DPCH Time Slot Format LCR	O		9.2.3.10C		YES	reject
>>UL DPCH to be Deleted		*0..<maxnoof DPCHs>*			GLOBAL	ignore
>>>DPCH ID	M		9.2.3.3		–	
>>UL DPCH to be Added LCR		*0..1*		Applicable to 1.28Mcps TDD only	YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>UL Timeslot Information LCR	M		9.2.3.13G		–	
>DL CCTrCH Information		*0..<maxnoof CCTrCHs>*		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
>>DL DPCH to be Added		*0..1*		Applicable to 3.84Mcps TDD only	YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>DL Timeslot Information	M		9.2.3.2C		–	
>>DL DPCH to be Modified		*0..1*			YES	ignore
>>>Repetition Period	O		9.2.3.7		–	
>>>Repetition Length	O		9.2.3.6		–	
>>>TDD DPCH Offset	O		9.2.3.8A		–	
>>>DL Timeslot Information		*0..<maxnoOf TS>*		Applicable to 3.84Mcps TDD only	–	
>>>>Time Slot	M		9.2.1.56		–	
>>>>Midamble Shift And Burst Type	O		9.2.3.4		–	
>>>>TFCI Presence	O		9.2.1.55		–	
>>>>DL Code Information		*0..<maxnoOf DPCHs>*			–	
>>>>>DPCH ID	M		9.2.3.3		–	
>>>>>TDD Channelisation Code	O		9.2.3.8		–	
>>>DL Timeslot Information LCR		*0..<maxnoOf TSLCR>*		Applicable to 1.28Mcps TDD only	GLOBAL	ignore
>>>>Time Slot LCR	M		9.2.3.12a		–	
>>>>Midamble Shift LCR	O		9.2.3.4C		–	
>>>>TFCI Presence	O		9.2.1.55		–	
>>>>DL Code Information LCR		*0..<maxnoOf DPCHLCR>*			GLOBAL	ignore
>>>>>DPCH ID	M		9.2.3.3		–	
>>>>>TDD Channelisation Code LCR	O		9.2.3.8a		–	

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
>>>>> TDD DL DPCH Time Slot Format LCR	O		9.2.3.8E		YES	reject
>>>>Maximum DL TX Power	O		DL Power 9.2.1.21A	Maximum allowed power on DPCH	YES	ignore
>>>>Minimum DL TX Power	O		DL Power 9.2.1.21A	Minimum allowed power on DPCH	YES	ignore
>>DL DPCH to be Deleted		*0..<maxnoof DPCHs>*			GLOBAL	ignore
>>>DPCH ID	M		9.2.3.3		–	
>>DL DPCH to be Added LCR		*0..1*		Applicable to 1.28Mcps TDD only	YES	ignore
>>>Repetition Period	M		9.2.3.7		–	
>>>Repetition Length	M		9.2.3.6		–	
>>>TDD DPCH Offset	M		9.2.3.8A		–	
>>>DL Timeslot Information LCR	M		9.2.3.2E		–	
>>CCTrCH Maximum DL TX Power	O		DL Power 9.2.1.21A	Maximum allowed power on DPCH Applicable to 3.84Mcps TDD only	YES	ignore
>>CCTrCH Minimum DL TX Power	O		DL Power 9.2.1.21A	Minimum allowed power on DPCH Applicable to 3.84Mcps TDD only	YES	ignore
>DCH Information Response	O		9.2.1.16A		YES	ignore
>DSCH to be Added or Modified		*0 .. <maxnoof DSCHs>*			GLOBAL	ignore
>>DSCH ID	M		9.2.1.26A		–	
>>Transport Format Management	M		9.2.3.13		–	
>>DSCH Flow Control Information	M		9.2.1.26B		–	
>>Binding ID	O		9.2.1.3		–	
>>Transport Layer Address	O		9.2.1.62		–	
>USCH to be Added or Modified		*0 .. <maxnoof USCHs>*			GLOBAL	ignore
>>USCH ID	M		9.2.3.14		–	
>>Transport Format Management	M		9.2.3.13		–	
>>Binding ID	O		9.2.1.3		–	
>>Transport Layer Address	O		9.2.1.62		–	
>Uplink Timing Advance Control LCR	O		9.2.3.13K	Applicable to 1.28Mcps TDD only	YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore
HS-DSCH-RNTI	O		9.2.1.30P		YES	ignore

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
HS-DSCH Information Response	O		HS-DSCH TDD Information Response 9.2.3.3ab		YES	ignore
DSCH-RNTI	O		9.2.1.26Ba		YES	ignore
MAC-hs Reset Indicator	O		9.2.1.34B		YES	ignore

Note 1: This information element is a simplified representation of the ASN.1. Repetition 1 and repetition 2 through maxnoofRLs are represented by separate ASN.1 structures with different criticalities.

Range bound	Explanation
maxnoofDSCHs	Maximum number of DSCHs for one UE.
maxnoofUSCHs	Maximum number of USCHs for one UE.
maxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.
maxnoofTS	Maximum number of Timeslots for a UE for 3.84Mcps TDD.
maxnoofDPCHs	Maximum number of DPCH for a UE for 3.84Mcps TDD.
maxnoofTSLCRs	Maximum number of Timeslots for a UE for 1.28Mcps TDD.
maxnoofDPCHLCRs	Maximum number of DPCH for a UE for 1.28Mcps TDD.
maxnoofRLs	Maximum number of RLs for one UE

9.1.13   RADIO LINK RECONFIGURATION COMMIT

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
CFN	M		9.2.1.9		YES	ignore
Active Pattern Sequence Information	O		9.2.2.A	FDD only	YES	ignore

9.1.14   RADIO LINK RECONFIGURATION FAILURE

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
CHOICE *Cause Level*	M				YES	ignore
>*General*					–	
>>Cause	M		9.2.1.5		–	
>*RL Specific*					–	
>>RLs Causing Reconfiguration Failure		*0..<maxnoof RLs>*			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>Cause	M		9.2.1.5		–	
Criticality Diagnostics	O		9.2.1.13		YES	ignore

Range bound	Explanation
maxnoofRLs	Maximum number of RLs for a UE.

9.1.15 RADIO LINK RECONFIGURATION CANCEL

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	

9.1.16   RADIO LINK RECONFIGURATION REQUEST

9.1.16.1   FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Allowed Queuing Time	O		9.2.1.2		YES	reject
UL DPCH Information		*0..1*			YES	reject
>TFCS	O		9.2.1.63	TFCS for the UL.	–	
DL DPCH Information		*0..1*			YES	reject
>TFCS	O		9.2.1.63	TFCS for the DL.	–	
>TFCI Signalling Mode	O		9.2.2.46		–	
>Limited Power Increase	O		9.2.2.21A		–	
DCHs To Modify	O		FDD DCHs To Modify 9.2.2.13C		YES	reject
DCHs To Add	O		DCH FDD Information 9.2.2.4A		YES	reject
DCHs To Delete		*0..<maxno ofDCHs>*			GLOBAL	reject
>DCH ID	M		9.2.1.16		–	
Transmission Gap Pattern Sequence Information	O		9.2.2.47A		YES	reject
RL Information		*0..<maxno ofRLs>*			EACH	ignore
>RL ID	M		9.2.1.49		–	
>RL Specific DCH Information	O		9.2.1.49A		–	
DL Reference Power Information	O		9.2.2.10C		YES	ignore
UE Support Of Dedicated Pilots For Channel Estimation	O		9.2.2.50A		YES	ignore
UE Support Of Dedicated Pilots For Channel Estimation Of HS-DSCH	O		9.2.2.50B		YES	ignore
HS-DSCH Information	O		HS-DSCH FDD Information 9.2.2.19a		YES	reject
HS-DSCH Information To Modify Unsynchronised	O		9.2.1.30NA		YES	reject
HS-DSCH MAC-d Flows To Add	O		HS-DSCH MAC-d Flows Information 9.2.1.30OA		YES	reject
HS-DSCH MAC-d Flows To Delete	O		9.2.1.30OB		YES	reject
HS-PDSCH RL ID	O		RL ID 9.2.1.49		YES	reject

Range Bound	Explanation
maxnoofDCHs	Maximum number of DCHs for one UE.
maxnoofRLs	Maximum number of RLs for a UE.

9.1.16.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Allowed Queuing Time	O		9.2.1.2		YES	reject
UL CCTrCH Information To Modify		*0..<maxnoof CCTrCHs>*			EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
>TFCS	O		9.2.1.63		–	
>UL SIR Target	O		Uplink SIR 9.2.1.69	Applicable to 1.28Mcps TDD only	YES	reject
UL CCTrCH Information to Delete		*0..<maxnoof CCTrCHs>*			EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
DL CCTrCH Information To Modify		*0..<maxnoof CCTrCHs>*			EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
>TFCS	O		9.2.1.63		–	
DL CCTrCH Information to Delete		*0..<maxnoof CCTrCHs>*			EACH	notify
>CCTrCH ID	M		9.2.3.2		–	
DCHs To Modify	O		TDD DCHs To Modify 9.2.3.8B		YES	reject
DCHs To Add	O		DCH TDD Information 9.2.3.2A		YES	reject
DCHs to Delete		*0..<maxnoof DCHs>*			GLOBAL	reject
>DCH ID	M		9.2.1.16		–	
RL Information		*0..<maxnoof RLs>*			YES	ignore
>RL ID	M		9.2.1.49		–	
>RL Specific DCH Information	O		9.2.1.49A		–	
UL Synchronisation Parameters LCR		*0..1*		Mandatory for 1.28Mcps TDD. Not Applicable to 3.84Mcps TDD.	YES	ignore
>Uplink Synchronisation Step Size	M		9.2.3.13J		–	
>Uplink Synchronisation Frequency	M		9.2.3.13I		–	
HS-DSCH Information	O		HS-DSCH TDD Information 9.2.3.3aa		YES	reject
HS-DSCH Information To Modify Unsynchronised	O		9.2.1.30NA		YES	reject
HS-DSCH MAC-d Flows To Add	O		HS-DSCH MAC-d Flows Information 9.2.1.30OA		YES	reject
HS-DSCH MAC-d Flows To Delete	O		9.2.1.30OB		YES	reject

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
HS-PDSCH RL ID	O		RL ID 9.2.1.49		YES	reject

Range Bound	Explanation
maxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.
maxnoofDCHs	Maximum number of DCHs for one UE.
maxnoofRLs	Maximum number of RLs for one UE

9.1.17 RADIO LINK RECONFIGURATION RESPONSE

9.1.17.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
RL Information Response		0..<*maxnoofRLs*>			EACH	ignore
>RL ID	M		9.2.1.49		–	
>Maximum Uplink SIR	O		Uplink SIR 9.2.1.69		–	
>Minimum Uplink SIR	O		Uplink SIR 9.2.1.69		–	
>Maximum DL TX Power	O		DL Power 9.2.1.21A		–	
>Minimum DL TX Power	O		DL Power 9.2.1.21A		–	
>Secondary CCPCH Info	O		9.2.2.37B		–	
>DCH Information Response	O		9.2.1.16A		YES	ignore
>DL Code Information	O		FDD DL Code Information 9.2.2.14A		YES	ignore
>DL Power Balancing Updated Indicator	O		9.2.2.10D		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore
HS-DSCH-RNTI	O		9.2.1.30P		YES	ignore
HS-DSCH Information Response	O		HS-DSCH FDD Information Response 9.2.2.19b		YES	ignore
MAC-hs Reset Indicator	O		9.2.1.34B		YES	ignore

Range Bound	Explanation
maxnoofRLs	Maximum number of RLs for a UE.

9.1.17.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
RL Information Response		*0..<maxnoofRLs>*		See note 1 below	YES	ignore
>RL ID	M		9.2.1.49		–	
>Maximum Uplink SIR	O		Uplink SIR 9.2.1.69		–	
>Minimum Uplink SIR	O		Uplink SIR 9.2.1.69		–	
>Maximum DL TX Power	O		DL Power 9.2.1.21A		–	
>Minimum DL TX Power	O		DL Power 9.2.1.21A		–	
>DCH Information Response	O		9.2.1.16A		YES	ignore
>DL CCTrCH Information		*0..<maxnoofCCTrCHs>*		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
>>DL DPCH To Modify LCR		*0..1*		Applicable to 1.28Mcps TDD only	YES	ignore
>>>DL Timeslot Information LCR		*0..<maxnoOfTSLCR>*			–	
>>>>Time Slot LCR	M		9.2.3.12a		–	
>>>>Maximum DL TX Power	O		DL Power 9.2.1.21A	Maximum allowed power on DPCH	–	
>>>>Minimum DL TX Power	O		DL Power 9.2.1.21A	Minimum allowed power on DPCH	–	
>>CCTrCH Maximum DL TX Power	O		DL Power 9.2.1.21A	Maximum allowed power on DPCH Applicable to 3.84Mcps TDD only	YES	ignore
>>CCTrCH Minimum DL TX Power	O		DL Power 9.2.1.21A	Minimum allowed power on DPCH Applicable to 3.84Mcps TDD only	YES	ignore
>Uplink Timing Advance Control LCR	O		9.2.3.13K	Applicable to 1.28Mcps TDD only	YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore
HS-DSCH-RNTI	O		9.2.1.30P		YES	ignore
HS-DSCH Information Response	O		HS-DSCH TDD Information Response 9.2.3.3ab		YES	ignore
MAC-hs Reset Indicator	O		9.2.1.34B		YES	ignore

Note 1: This information element is a simplified representation of the ASN.1. Repetition 1 and repetition 2 through maxnoofRLs are represented by separate ASN.1 structures with different criticalities.

Range bound	Explanation
maxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.
maxnoofTSLCRs	Maximum number of Timeslots for a UE for 1.28Mcps TDD.
maxnoofRLs	Maximum number of RLs for one UE

9.1.18   RADIO LINK FAILURE INDICATION

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
CHOICE *Reporting Object*	M			Object for which the Failure shall be reported.	YES	ignore
>*RL*					–	
>>RL Information		1 .. <maxnoofRLs>			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>Cause	M		9.2.1.5		–	
>*RLS*				FDD only	–	
>>RL Set Information		1 .. <maxnoofRLSets>			EACH	ignore
>>>RL Set ID	M		9.2.2.35		–	
>>>Cause	M		9.2.1.5		–	
>*CCTrCH*				TDD only		
>>RL ID	M		9.2.1.49		–	
>>CCTrCH List		1..<maxnoCCTrCHs>			EACH	ignore
>>>CCTrCH ID	M		9.2.3.2		–	
>>>Cause	M		9.2.1.5		–	

Range bound	Explanation
maxnoofRLs	Maximum number of RLs for one UE.
maxnoofRLSets	Maximum number of RL Sets for one UE.
maxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.

9.1.19 RADIO LINK RESTORE INDICATION

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
CHOICE *Reporting Object*	M			Object for which the Restoration shall be reported.	YES	ignore
>*RL*				TDD only	–	
>>RL Information		1 .. <*maxnoofRLs*>			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>*RLS*				FDD only	–	
>>RL Set Information		1 .. <*maxnoofRLSets*>			EACH	ignore
>>>RL Set ID	M		9.2.2.35		–	
>*CCTrCH*				TDD only		
>>RL ID	M		9.2.1.49		–	
>>CCTrCH List		1..<*maxnoCCTrCHs*>			EACH	ignore
>>>CCTrCH ID	M		9.2.3.2		–	

Range bound	Explanation
maxnoofRLs	Maximum number of RLs for one UE.
maxnoofRLSets	Maximum number of RL Sets for one UE.
maxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.

9.1.20 DL POWER CONTROL REQUEST [FDD]

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
Power Adjustment Type	M		9.2.2.28		YES	ignore
DL Reference Power	C-Common		DL Power 9.2.1.21A		YES	ignore
Inner Loop DL PC Status	O		9.2.2.21a		YES	ignore
DL Reference Power Information	C-Individual	1..<*maxnoofRLs*>			EACH	ignore
>RL ID	M		9.2.1.49		–	
>DL Reference Power	M		DL Power 9.2.1.21A		–	
Max Adjustment Step	C-CommonOrIndividual		9.2.2.23		YES	ignore
Adjustment Period	C-CommonOrIndividual		9.2.2.B		YES	ignore
Adjustment Ratio	C-CommonOrIndividual		9.2.2.C		YES	ignore

Condition	Explanation
Common	The IE shall be present if the *Power Adjustment Type* IE is set to 'Common'.
Individual	The IE shall be present if the *Power Adjustment Type* IE is set to 'Individual'.
CommonOrIndividual	The IE shall be present if the *Power Adjustment Type* IE is set to 'Common' or 'Individual'.

Range Bound	Explanation
maxnoofRLs	Maximum number of RLs for one UE.

9.1.21 PHYSICAL CHANNEL RECONFIGURATION REQUEST

9.1.21.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
RL Information		1			YES	reject
>RL ID	M		9.2.1.49		–	
>DL Code Information	M		FDD DL Code Information 9.2.2.14A		YES	notify

9.1.21.2   TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
RL Information		1			YES	reject
>RL ID	M		9.2.1.49		–	
>UL CCTrCH Information		0..<*maxnoof CCTrCHs*>			GLOBAL	reject
>>CCTrCH ID	M		9.2.3.2		–	
>>UL DPCH Information		1			YES	notify
>>>Repetition Period	O		9.2.3.7		–	
>>>Repetition Length	O		9.2.3.6		–	
>>>TDD DPCH Offset	O		9.2.3.8A		–	
>>>UL Timeslot Information		0..<*maxnoOfTS*>		Applicable to 3.84Mcps TDD only	–	
>>>>Time Slot	M		9.2.1.56		–	
>>>>Midamble Shift And Burst Type	O		9.2.3.4		–	
>>>>TFCI Presence	O		9.2.1.55		–	
>>>>UL Code Information	O		TDD UL Code Information 9.2.3.10A		–	
>>>UL Timeslot Information LCR		0..<*maxnoOfTSLCR*>		Applicable to 1.28Mcps TDD only	GLOBAL	reject
>>>>Time Slot LCR	M		9.2.3.12a		–	
>>>>Midamble Shift LCR	O		9.2.3.4C		–	
>>>>TFCI Presence	O		9.2.1.55		–	
>>>>UL Code Information LCR	O		TDD UL Code Information LCR 9.2.3.10B		–	
>DL CCTrCH Information		0..<*maxnoofCCTrCHs*>			GLOBAL	reject
>>CCTrCH ID	M		9.2.3.2		–	
>>DL DPCH Information		1			YES	notify
>>>Repetition Period	O		9.2.3.7		–	
>>>Repetition Length	O		9.2.3.6		–	
>>>TDD DPCH Offset	O		9.2.3.8A		–	
>>>DL Timeslot Information		0..<*maxnoOfTS*>		Applicable to 3.84Mcps TDD only	–	
>>>>Time Slot	M		9.2.1.56		–	
>>>>Midamble Shift And Burst Type	O		9.2.3.4		–	
>>>>TFCI Presence	O		9.2.1.55		–	
>>>>DL Code Information	O		TDD DL Code Information 9.2.3.8C		–	
>>>DL Timeslot Information LCR		0..<*maxnoOfTSLCR*>		Applicable to 1.28Mcps TDD only	GLOBAL	reject
>>>>Time Slot LCR	M		9.2.3.12a		–	
>>>>Midamble Shift LCR	O		9.2.3.4C		–	
>>>>TFCI Presence	O		9.2.1.55		–	

>>>>DL Code Information LCR	O		TDD DL Code Information LCR 9.2.3.8D		–	
>HS-PDSCH Timeslot Specific Information		0..<maxno ofDLts>		Applicable to 3.84Mcps TDD only.	GLOBAL	reject
>>Time Slot	M		9.2.1.56		–	
>>Midamble Shift And Burst Type	M		9.2.3.4		–	
>HS-PDSCH Timeslot Specific Information LCR		0..<maxno ofDLtsLCR >		Applicable to 1.28Mcps TDD only	GLOBAL	reject
>>Time Slot LCR	M		9.2.3.12a		–	
>>Midamble Shift LCR	M		9.2.3.4C		–	

Range bound	Explanation
maxnoofCCTrCHs	Maximum number of CCTrCHs for a UE.
maxnoofTS	Maximum number of Timeslots for a UE for 3.84Mcps TDD.
maxnoofTSLCR	Maximum number of Timeslots for a UE for 1.28Mcps TDD.
maxnoofDLts	Maximum number of downlink time slots per Radio Link for 3.84Mcps TDD.
maxnoofDLtsLCR	Maximum number of Downlink time slots per Radio Link for 1.28Mcps TDD.

9.1.22 PHYSICAL CHANNEL RECONFIGURATION COMMAND

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
CFN	M		9.2.1.9		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore

9.1.23 PHYSICAL CHANNEL RECONFIGURATION FAILURE

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Cause	M		9.2.1.5		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore

9.1.24   UPLINK SIGNALLING TRANSFER INDICATION

9.1.24.1   FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
UC-ID	M		9.2.1.71		YES	ignore
SAI	M		9.2.1.52		YES	ignore
Cell GAI	O		9.2.1.5A		YES	ignore
C-RNTI	M		9.2.1.14		YES	ignore
S-RNTI	M		9.2.1.54		YES	ignore
D-RNTI	O		9.2.1.24		YES	ignore
Propagation Delay	M		9.2.2.33		YES	ignore
STTD Support Indicator	M		9.2.2.45		YES	ignore
Closed Loop Mode1 Support Indicator	M		9.2.2.2		YES	ignore
Closed Loop Mode2 Support Indicator	M		9.2.2.3		YES	ignore
L3 Information	M		9.2.1.32		YES	ignore
CN PS Domain Identifier	O		9.2.1.12		YES	ignore
CN CS Domain Identifier	O		9.2.1.11		YES	ignore
URA Information	O		9.2.1.70B		YES	ignore
Cell GA Additional Shapes	O		9.2.1.5B		YES	ignore
DPC Mode Change Support Indicator	O		9.2.2.56		YES	ignore
Common Transport Channel Resources Initialisation Not Required	O		9.2.1.12F		YES	Ignore
Cell Capability Container FDD	O		9.2.2.D		YES	ignore
SNA Information	O		9.2.1.52Ca		YES	ignore

9.1.24.2   TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
UC-ID	M		9.2.1.71		YES	ignore
SAI	M		9.2.1.52		YES	ignore
Cell GAI	O		9.2.1.5A		YES	Ignore
C-RNTI	M		9.2.1.14		YES	ignore
S-RNTI	M		9.2.1.54		YES	ignore
D-RNTI	O		9.2.1.24		YES	ignore
Rx Timing Deviation	M		9.2.3.7A		YES	ignore
L3 Information	M		9.2.1.32		YES	ignore
CN PS Domain Identifier	O		9.2.1.12		YES	ignore
CN CS Domain Identifier	O		9.2.1.11		YES	ignore
URA Information	O		9.2.1.70B		YES	ignore
Cell GA Additional Shapes	O		9.2.1.5B		YES	ignore
Common Transport Channel Resources Initialisation Not Required	O		9.2.1.12F		YES	ignore
Cell Capability Container TDD	O		9.2.3.1a	Applicable to 3.84Mcps TDD only	YES	ignore
Cell Capability Container TDD LCR	O		9.2.3.1b	Applicable to 1.28Mcps TDD only	YES	ignore
SNA Information	O		9.2.1.52Ca		YES	ignore

9.1.24A GERAN UPLINK SIGNALLING TRANSFER INDICATION

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
UC-ID	M		9.2.1.71	UC-ID may be a GERAN cell identifier.	YES	ignore
SAI	M		9.2.1.52		YES	ignore
S-RNTI	M		9.2.1.54		YES	ignore
D-RNTI	O		9.2.1.24		YES	ignore
L3 Information	M		9.2.1.32		YES	ignore
CN PS Domain Identifier	O		9.2.1.12		YES	ignore
CN CS Domain Identifier	O		9.2.1.11		YES	ignore
URA Information	O		9.2.1.70B	URA information may be GRA information	YES	ignore

9.1.25   DOWNLINK SIGNALLING TRANSFER REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
C-ID	M		9.2.1.6	May be a GERAN cell identifier	YES	ignore
D-RNTI	M		9.2.1.24		YES	ignore
L3 Information	M		9.2.1.32		YES	ignore
D-RNTI Release Indication	M		9.2.1.25		YES	ignore

9.1.26   RELOCATION COMMIT

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
D-RNTI	O		9.2.1.24		YES	ignore
RANAP Relocation Information	O		9.2.1.47		YES	ignore

9.1.27   PAGING REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
CHOICE *Paging Area*	M				YES	ignore
>*URA*					–	
>>URA-ID	M		9.2.1.70	May be a GRA-ID.	–	
>*Cell*				UTRAN only	–	
>>C-ID	M		9.2.1.6		–	
SRNC-ID	M		RNC-ID 9.2.1.50	May be a BSC-ID.	YES	ignore
S-RNTI	M		9.2.1.53		YES	ignore
IMSI	M		9.2.1.31		YES	ignore
DRX Cycle Length Coefficient	M		9.2.1.26		YES	ignore
CN Originated Page to Connected Mode UE		*0..1*			YES	ignore
>Paging Cause	M		9.2.1.41E		–	
>CN Domain Type	M		9.2.1.11A		–	
>Paging Record Type	M		9.2.1.41F		–	

9.1.28   DEDICATED MEASUREMENT INITIATION REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Measurement ID	M		9.2.1.37		YES	reject
CHOICE *Dedicated Measurement Object Type*	M				YES	reject
>*RL*					–	
>>**RL Information**		*1..<maxnoofRLs>*			EACH	reject
>>>RL-ID	M		9.2.1.49		–	
>>>DPCH ID	O		9.2.3.3	TDD only	–	
>>>**HS-SICH Information**		*0..<maxnoofHSSICHs>*		TDD only	GLOBAL	reject
>>>>HS-SICH ID	M		9.2.3.3ad		–	
>*RLS*				FDD only	–	
>>**RL Set Information**		*1..<maxnoofRLSets>*			EACH	reject
>>>RL-Set-ID	M		9.2.2.35		–	
>*ALL RL*			NULL		–	
>*ALL RLS*			NULL	FDD only	–	
Dedicated Measurement Type	M		9.2.1.18		YES	reject
Measurement Filter Coefficient	O		9.2.1.36		YES	reject
Report Characteristics	M		9.2.1.48		YES	reject
CFN reporting indicator	M		FN reporting indicator 9.2.1.28A		YES	reject
CFN	O		9.2.1.9		YES	reject
Partial Reporting Indicator	O		9.2.1.41Fa		YES	ignore

Range bound	Explanation
maxnoofRLs	Maximum number of individual RLs a measurement can be started on.
maxnoofRLSets	Maximum number of individual RL Sets a measurement can be started on.

9.1.29 DEDICATED MEASUREMENT INITIATION RESPONSE

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Measurement ID	M		9.2.1.37		YES	ignore
CHOICE *Dedicated Measurement Object Type*	O			Dedicated Measurement Object Type the measurement was initiated with	YES	ignore
>*RL* or *ALL RL*				See Note 1	–	
>>**RL Information**		1..<maxno ofRLs>			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>DPCH ID	O		9.2.3.3	TDD only	–	
>>>Dedicated Measurement Value	M		9.2.1.19		–	
>>>CFN	O		9.2.1.9	Dedicated Measurement Time Reference	_	
>>>HS-SICH ID	O		9.2.3.3ad	TDD only	YES	reject
>*RLS* or *ALL RLS*				FDD only See Note 2	–	
>>**RL Set Information**		1..<maxno ofRLSets>			EACH	ignore
>>>RL Set ID	M		9.2.2.35		–	
>>>Dedicated Measurement Value	M		9.2.1.19		–	
>>>CFN	O		9.2.1.9	Dedicated Measurement Time Reference	_	
Criticality Diagnostics	O		9.2.1.13		YES	Ignore

Range bound	Explanation
maxnoofRLs	Maximum number of individual RLs the measurement can be started on.
maxnoofRLSets	Maximum number of individual RL Sets the measurement can be started on.

Note 1: This is a simplified representation of the ASN.1: there are two different choice tags "RL" and "ALL RL" in the ASN.1, each having exactly the same structure.

Note 2: This is a simplified representation of the ASN.1: there are two different choice tags "RLS" and "ALL RLS" in the ASN.1, each having exactly the same structure.

9.1.30 DEDICATED MEASUREMENT INITIATION FAILURE

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Measurement ID	M		9.2.1.37		YES	ignore
Cause	M		9.2.1.5		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore
CHOICE *Dedicated Measurement Object Type*	O			Dedicated Measurement Object Type the measurement was initiated with	YES	ignore
>*RL* or *ALL RL*					–	
>>Unsuccessful RL Information		1..<*maxnoofRLs*>			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>Individual Cause	O		Cause 9.2.1.5		–	
>>Successful RL Information		0..<*maxnoofRLs-1*>			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>DPCH ID	O		9.2.3.3	TDD only	–	
>>>Dedicated Measurement Value	M		9.2.1.19		–	
>>>CFN	O		9.2.1.9	Dedicated Measurement Time Reference	–	
>>>HS-SICH ID	O		9.2.3.3ad	TDD only	YES	reject
>*RLS* or *ALL RLS*				FDD only	–	
>>Unsuccessful RL Set Information		1..<*maxnoofRLSets*>			EACH	ignore
>>>RL Set ID	M		9.2.2.35		–	
>>>Individual Cause	O		Cause 9.2.1.5		–	
>>Successful RL Set Information		0..<*maxnoofRLSets-1*>			EACH	ignore
>>>RL Set ID	M		9.2.2.35		–	
>>>Dedicated Measurement Value	M		9.2.1.19		–	
>>>CFN	O		9.2.1.9	Dedicated Measurement Time Reference	–	

Range bound	Explanation
maxnoofRLs	Maximum number of individual RLs the measurement can be started on.
maxnoofRLSets	Maximum number of individual RL Sets the measurement can be started on.

9.1.31 DEDICATED MEASUREMENT REPORT

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
Measurement ID	M		9.2.1.37		YES	ignore
CHOICE *Dedicated Measurement Object Type*	M			Dedicated Measurement Object Type the measurement was initiated with	YES	ignore
>*RL* or *ALL RL*				See Note 1	–	
>>RL Information		1..<*maxnoofRLs*>			EACH	ignore
>>>RL-ID	M		9.2.1.49		–	
>>>DPCH ID	O		9.2.3.3	TDD only	–	
>>>Dedicated Measurement Value Information	M		9.2.1.19A		–	
>>>HS-SICH ID	O		9.2.3.3ad	TDD only	YES	ignore
>*RLS* or *ALL RLS*				FDD only See Note 2	–	
>>RL Set Information		1..<*maxnoofRLSets*>			EACH	ignore
>>>RL Set ID	M		9.2.2.35		–	
>>>Dedicated Measurement Value Information	M		9.2.1.19A		–	

Range bound	Explanation
maxnoofRLs	Maximum number of individual RLs the measurement can be started on.
maxnoofRLSets	Maximum number of individual RL Sets the measurement can be started on.

Note 1: This is a simplified representation of the ASN.1: there are two different choice tags "RL" and "ALL RL" in the ASN.1, each having exactly the same structure.

Note 2: This is a simplified representation of the ASN.1: there are two different choice tags "RLS" and "ALL RLS" in the ASN.1, each having exactly the same structure.

9.1.32 DEDICATED MEASUREMENT TERMINATION REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
Measurement ID	M		9.2.1.37		YES	ignore

9.1.33 DEDICATED MEASUREMENT FAILURE INDICATION

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
Measurement ID	M		9.2.1.37		YES	ignore
Cause	M		9.2.1.5		YES	ignore
CHOICE *Dedicated Measurement Object Type*	O			Dedicated Measurement Object Type the measurement was initiated with	YES	ignore
>*RL* or *ALL RL*					–	
>>**Unsuccessful RL Information**		*1..<maxnoof RLs>*			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>Individual Cause	O		Cause 9.2.1.5		–	
>*RLS* or *ALL RLS*				FDD only	–	
>>**Unsuccessful RL Set Information**		*1..<maxnoof RLSets>*			EACH	ignore
>>>RL Set ID	M		9.2.2.35		–	
>>>Individual Cause	O		Cause 9.2.1.5		–	

Range bound	Explanation
maxnoofRLs	Maximum number of individual RLs the measurement can be started on.
maxnoofRLSets	Maximum number of individual RL Sets the measurement can be started on.

9.1.34 COMMON TRANSPORT CHANNEL RESOURCES RELEASE REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
D-RNTI	M		9.2.1.24		YES	ignore

9.1.35 COMMON TRANSPORT CHANNEL RESOURCES REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
D-RNTI	M		9.2.1.24		YES	reject
C-ID	O		9.2.1.6		YES	reject
Transport Bearer Request Indicator	M		9.2.1.61	Request a new transport bearer or to use an existing bearer for the user plane.	YES	reject
Transport Bearer ID	M		9.2.1.60	Indicates the Iur transport bearer to be used for the user plane.	YES	reject
Permanent NAS UE Identity	O		9.2.1.73		YES	ignore
Binding ID	O		9.2.1.3	Shall be ignored if bearer establishment with ALCAP.	YES	ignore
Transport Layer Address	O		9.2.1.62	Shall be ignored if bearer establishment with ALCAP.	YES	ignore

9.1.36 COMMON TRANSPORT CHANNEL RESOURCES RESPONSE

9.1.36.1 FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
S-RNTI	M		9.2.1.53		YES	ignore
C-RNTI	O		9.2.1.14		YES	ignore
FACH Info for UE Selected S-CCPCH		1			YES	ignore
>FACH Flow Control Information	M		9.2.1.26C		YES	ignore
Transport Layer Address	O		9.2.1.62		YES	ignore
Binding Identity	O		9.2.1.3		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore
C-ID	M		9.2.1.6		YES	ignore

9.1.36.2 TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
S-RNTI	M		9.2.1.53		YES	ignore
C-RNTI	O		9.2.1.14		YES	ignore
FACH Info for UE Selected S-CCPCHs		*1*			YES	ignore
>FACH Flow Control Information	M		9.2.1.26C		YES	ignore
Transport Layer Address	O		9.2.1.62		YES	ignore
Binding Identity	O		9.2.1.3		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore
C-ID	M		9.2.1.6		YES	ignore

9.1.37 COMMON TRANSPORT CHANNEL RESOURCES FAILURE

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
S-RNTI	M		9.2.1.53		YES	ignore
Cause	M		9.2.1.5		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore

9.1.38 COMPRESSED MODE COMMAND [FDD]

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
Active Pattern Sequence Information	M		9.2.2.A		YES	ignore

9.1.39 ERROR INDICATION

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
Cause	O		9.2.1.5		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore
S-RNTI	O		9.2.1.53		YES	ignore
D-RNTI	O		9.2.1.24		YES	ignore

9.1.40 DL POWER TIMESLOT CONTROL REQUEST [TDD]

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
DL Time Slot ISCP Info	O		9.2.3.2D	Mandatory for 3.84Mcps TDD, not applicable to 1.28Mcps TDD	YES	ignore
DL Time Slot ISCP Info LCR	O		9.2.3.2F	Mandatory for 1.28Mcps TDD, not applicable to 3.84Mcps TDD	YES	ignore
Primary CCPCH RSCP	O		9.2.3.5		YES	ignore
Primary CCPCH RSCP Delta	O		9.2.3.5a		YES	ignore

9.1.41 RADIO LINK PREEMPTION REQUIRED INDICATION

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
RL Information		*0..<maxnoofRLs>*			EACH	ignore
>RL ID	M		9.2.1.49		–	
HS-DSCH MAC-d Flow Specific Information		*0..<maxnoofMACdFlows>*			EACH	ignore
>HS-DSCH MAC-d Flow ID	M		9.2.1.30O		–	

Range bound	Explanation
maxnoofRLs	Maximum number of radio links for one UE
maxnoofMACdFlows	Maximum number of HS-DSCH MAC-d flows

9.1.42 RADIO LINK CONGESTION INDICATION

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
Congestion Cause	O		9.2.1.79		YES	ignore
RL Information		*1..<maxnoofRLs>*			EACH	ignore
>RL ID	M		9.2.1.49		–	
>DCH Rate Information		*1..<maxnoofDCHs>*			EACH	ignore
>>DCH ID	M		9.2.1.16		–	
>>Allowed Rate Information	O		9.2.1.2A		–	

Range bound	Explanation
maxnoofRLs	Maximum number of Radio Links for one UE
maxnoofDCHs	Maximum number of DCHs for one UE.

9.1.43   COMMON MEASUREMENT INITIATION REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Measurement ID	M		9.2.1.37		YES	reject
CHOICE *Common Measurement Object Type*	M				YES	reject
>*Cell*					–	
>>Reference Cell Identifier	M		UTRAN Cell Identifier 9.2.1.71	May be a GERAN Cell Identifier	–	
>>Time Slot	O		9.2.1.56	3.84Mcps TDD only	–	
>>Time Slot LCR	O		9.2.3.12a	1.28Mcps TDD only	–	
>>Neighbouring Cell Measurement Information		0..<maxnoof MeasNCells>		UTRAN only	–	
>>>CHOICE *Neighbouring Cell Measurement Information*					–	
>>>>*Neighbouring FDD Cell Measurement Information*				FDD only	–	
>>>>>Neighbouring FDD Cell Measurement Information	M		9.2.1.41G		–	
>>>>*Neighbouring TDD Cell Measurement Information*				3.84Mcps TDD only	–	
>>>>>Neighbouring TDD Cell Measurement Information	M		9.2.1.41H		–	
>>>>*Additional Neighbouring Cell Measurement Information*					–	
>>>>>*Neighbouring TDD Cell Measurement InformationLCR*				1.28Mcps TDD only	–	
>>>>>>Neighbouring TDD Cell Measurement InformationLCR	M		9.2.1.41Dd		YES	reject
Common Measurement Type	M		9.2.1.12C		YES	reject
Measurement Filter Coefficient	O		9.2.1.41	UTRAN only	YES	reject
Report Characteristics	M		9.2.1.48		YES	reject
SFN reporting indicator	M		FN reporting indicator		YES	reject

			9.2.1.28A			
SFN	O		9.2.1.52A	UTRAN only	YES	reject
Common Measurement Accuracy	O		9.2.1.12A	UTRAN only	YES	reject

Range bound	Explanation
maxnoofMeasNCell	Maximum number of neighbouring cells on which measurements can be performed.

9.1.44 COMMON MEASUREMENT INITIATION RESPONSE

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Measurement ID	M		9.2.1.37		YES	ignore
CHOICE *Common Measurement Object Type*	O			Common Measurement Object Type that the measurement was initiated with.	YES	ignore
>*Cell*					–	
>>Common Measurement value	M		9.2.1.12D		–	
SFN	O		9.2.1.52A	Common Measurement Time Reference, UTRAN only.	YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore
Common Measurement Achieved Accuracy	O		Common Measurement Accuracy 9.2.1.12A	UTRAN only	YES	ignore

9.1.45 COMMON MEASUREMENT INITIATION FAILURE

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Measurement ID	M		9.2.1.37		YES	ignore
Cause	M		9.2.1.5		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore

9.1.46   COMMON MEASUREMENT REPORT

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
Measurement ID	M		9.2.1.37		YES	ignore
CHOICE *Common Measurement Object Type*	M			Common Measurement Object Type that the measurement was initiated with.	YES	ignore
>*Cell*					–	
>>Common Measurement Value Information	M		9.2.1.12E		–	
SFN	O		9.2.1.52A	Common Measurement Time Reference, UTRAN only.	YES	ignore

9.1.47   COMMON MEASUREMENT TERMINATION REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
Measurement ID	M		9.2.1.37		YES	ignore

9.1.48   COMMON MEASUREMENT FAILURE INDICATION

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
Measurement ID	M		9.2.1.37		YES	ignore
Cause	M		9.2.1.5		YES	ignore

9.1.49 INFORMATION EXCHANGE INITIATION REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Information Exchange ID	M		9.2.1.31A		YES	reject
CHOICE *Information Exchange Object Type*	M				YES	reject
>*Cell*					–	
>>C-ID	M		9.2.1.6	May be a GERAN cell identifier	–	
Information Type	M		9.2.1.31E		YES	reject
Information Report Characteristics	M		9.2.1.31C		YES	reject

9.1.50 INFORMATION EXCHANGE INITIATION RESPONSE

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Information Exchange ID	M		9.2.1.31A		YES	ignore
CHOICE *Information Exchange Object Type*	O				YES	ignore
>*Cell*					-	
>>Requested Data Value	M		9.2.1.48A		-	
Criticality Diagnostics	O		9.2.1.13		YES	ignore

9.1.51 INFORMATION EXCHANGE INITIATION FAILURE

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Information Exchange ID	M		9.2.1.31A		YES	ignore
Cause	M		9.2.1.5		YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore

9.1.52 INFORMATION REPORT

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
Information Exchange ID	M		9.2.1.31A		YES	ignore
CHOICE *Information Exchange Object Type*	M				YES	ignore
>*Cell*					–	
>>Requested Data Value Information	M		9.2.1.48B		–	

9.1.53 INFORMATION EXCHANGE TERMINATION REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
Information Exchange ID	M		9.2.1.31A		YES	ignore

9.1.54 INFORMATION EXCHANGE FAILURE INDICATION

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
Information Exchange ID	M		9.2.1.31A		YES	ignore
Cause	M		9.2.1.5		YES	ignore

9.1.55 RESET REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
RNC-ID	M		9.2.1.50	Identity of the sending RNC	YES	reject
CHOICE *Reset Indicator*	M				YES	reject
>*Context*					–	
>>**Context Information**		1..<*maxResetContext*>			EACH	reject
>>>CHOICE *Context Type*	M				–	
>>>>*SRNTI*					–	
>>>>>>S-RNTI	M		9.2.1.53		–	
>>>>*DRNTI*					–	
>>>>>>D-RNTI	M		9.2.1.24		–	
>*All Contexts*			NULL		–	
>*Context Group*					–	
>>**Context Group Information**		1..<*maxResetContextGroups*>			EACH	reject
>>>S-RNTI Group	M		9.2.1.53a		–	

Range bound	Explanation
maxResetContext	Maximum number of contexts that can be reset by one RESET message.
maxResetContextGroups	Maximum number of context groups that can be reset by one RESET message.

9.1.56   RESET RESPONSE

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
RNC-ID	M		9.2.1.50	Identity of the sending RNC	YES	ignore
Criticality Diagnostics	O		9.2.1.13		YES	ignore

9.1.57   RADIO LINK ACTIVATION COMMAND

9.1.57.1   FDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.46		YES	ignore
Transaction ID	M		9.2.1.62		–	
Delayed activation Information		*1..<maxnoofRLs>*			EACH	ignore
>RL ID	M		9.2.1.49		-	
>Delayed Activation Update	M		9.2.1.19Ab		-	

9.1.57.2   TDD Message

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.46		YES	ignore
Transaction ID	M		9.2.1.62		–	
Delayed activation Information		*1..<maxnoofRLs>*			EACH	ignore
>RL ID	M		9.2.1.49		-	
>Delayed Activation Update	M		9.2.1.19Ab		-	

9.1.58 RADIO LINK PARAMETER UPDATE INDICATION

9.1.58.1 FDD Message

IE/Group name	Presence	Range	IE Type and Reference	Semantic Description	Criticality	Assigned Criticality
Message type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
HS-DSCH FDD Update Information	O		9.2.2.19c		YES	ignore
RL Information		*0..<max noofRLs>*			EACH	ignore
>RL Id	M		9.2.1.49		–	
>Phase Reference Update Indicator	O		9.2.2.27B		–	

9.1.58.2 TDD Message

IE/Group name	Presence	Range	IE Type and Reference	Semantic Description	Criticality	Assigned Criticality
Message type	M		9.2.1.40		YES	ignore
Transaction ID	M		9.2.1.59		–	
HS-DSCH TDD Update Information	O		9.2.3.3ac		YES	ignore

9.2 Information Element Functional Definition and Contents

9.2.0 General

Subclause 9.2 presents the RNSAP IE definitions in tabular format. The corresponding ASN.1 definition is presented in subclause 9.3. In case there is a contradiction between the tabular format in subclause 9.2 and the ASN.1 definition, the ASN.1 shall take precedence, except for the definition of conditions for the presence of conditional elements, in which the tabular format shall take precedence.

When specifying information elements which are to be represented by bitstrings, if not otherwise specifically stated in the semantics description of the concerned IE or elsewhere, the following principle applies with regards to the ordering of bits:

- The first bit (leftmost bit) contains the most significant bit (MSB);

- The last bit (rightmost bit) contains the least significant bit (LSB);

- When importing bitstrings from other specifications, the first bit of the bitstring contains the first bit of the concerned information;

9.2.1 Common Parameters

This subclause contains parameters that are common to FDD and TDD.

9.2.1.1 Allocation/Retention Priority

This parameter indicates the priority level in the allocation and retention of transport channel resources in DRNS. DRNS may use the Allocation/Retention priority information of the transport channels composing the RL to prioritise

requests for RL Setup/addition and reconfiguration. In similar way, DRNS may use the allocation/Retention priority information of the transport channels composing the RL to prioritise which RL shall be set to failure, in case prioritisation is possible. See Annex A.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Priority Level	M		INTEGER(0..15)	This IE indicates the priority of the request. **Usage:** Value "0" means "Spare"; It shall be treated as a logical error if received. Values between 1 and 14 are ordered in decreasing order of priority, '1' being the highest and '14' the lowest. Value "15" means "No Priority".
Pre-emption Capability	M		ENUMERATED(shall not trigger pre-emption, may trigger pre-emption)	
Pre-emption Vulnerability	M		ENUMERATED(not pre-emptable, pre-emptable)	

9.2.1.2   Allowed Queuing Time

This parameter specifies the maximum queuing time that is allowed in the DRNS until the DRNS must start to execute the request.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Allowed Queuing Time			INTEGER(1..60)	Unit: Seconds

9.2.1.2A   Allowed Rate Information

The *Allowed Rate Information* IE indicates the TFI corresponding to the highest allowed bit rate for the uplink and/or the downlink of a DCH. The SRNC is allowed to use any rate being lower than or equal to the rate corresponding to the indicated TFI.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Allowed UL Rate	O		INTEGER(1..maxTFcount)	"1": TFI 0, "2": TFI 1, "3": TFI 2, …
Allowed DL Rate	O		INTEGER(1..maxTFcount)	"1": TFI 0, "2": TFI 1, "3": TFI 2, …

9.2.1.2B   Altitude and Direction

This IE contains a description of Altitude and Direction.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Direction of Altitude	M		ENUMERATED(Height, Depth)	
Altitude	M		INTEGER(0..2^{15}-1)	The relation between the value (N) and the altitude (a) in meters it describes is N≤ a <N+1, except for N=2^{15}-1 for which the range is extended to include all grater values of (a).

9.2.1.2C Antenna Co-location Indicator

The Antenna Co-location Indicator indicates whether the antenna of the serving and neighbouring cells are approximately co-located.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Antenna Co-location Indicator			ENUMERATED(co-located,…)	

9.2.1.3 Binding ID

The Binding ID is the identifier of a user data stream.

In case of transport bearer establishment with ALCAP [3][35], this IE contains the identifier that is allocated at the DRNS and that is unique for each transport bearer under establishment to/from the DRNS.

If the Transport Layer Address contains an IP address [33], this IE contains the UDP port [34] intended to be used for the user plane transport.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Binding ID			OCTET STRING (1..4,…)	If the Binding ID includes an UDP port, the UDP port is included in octet 1 and 2. The first octet of the UDP port field shall be included in the first octet of the Binding ID.

9.2.1.4 BLER

This Block Error Rate defines the target radio interface Transport Block Error Rate of the transport channel . BLER is used by the DRNS to determine the needed SIR targets, for admission control and power management reasons.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
BLER			INTEGER(-63..0)	Step 0.1. (Range –6.3…0). It is the Log10 of the BLER

9.2.1.4A Block STTD Indicator

Void.

9.2.1.4B   Burst Mode Parameters

The *Burst Mode Parameters* IE provides all the relevant information in order to able IPDL in the Burst mode.

IE/Group name	Presence	Range	IE Type and Reference	Semantics Description
Burst Start	M		INTEGER(0..15)	See [10] and [22]
Burst Length	M		INTEGER(10..25)	See [10] and [22]
Burst freq	M		INTEGER(1..16)	See [10] and [22]

9.2.1.5   Cause

The purpose of the cause information element is to indicate the reason for a particular event for the whole protocol.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Cause Group*	M			
>*Radio Network Layer*				
>>Radio Network Layer Cause	M		ENUMERATED (Unknown C-ID, Cell not Available, Power Level not Supported, UL Scrambling Code Already in Use, DL Radio Resources not Available, UL Radio Resources not Available, Measurement not Supported For The Object, Combining Resources Not Available, Combining not Supported, Reconfiguration not Allowed, Requested Configuration not Supported, Synchronisation Failure, Requested Tx Diversity Mode not Supported, Measurement Temporarily not Available, Unspecified, Invalid CM Settings, Reconfiguration CFN not Elapsed, Number of DL Codes Not Supported, Dedicated Transport Channel Type not Supported, DL Shared Channel Type not Supported, UL Shared Channel Type not Supported, Common Transport Channel Type not Supported, UL Spreading Factor not Supported, DL Spreading Factor not Supported, CM not Supported, Transaction not Supported by Destination Node B, RL Already Activated/Allocated, ..., Number of UL Codes Not Supported, Cell reserved for operator use, DPC Mode Change not Supported, Information temporarily not available, Information Provision not supported for the object, Power Balancing status not compatible, Delayed Activation not Supported, RL Timing Adjustment Not Supported, Unknown RNTI)	
>*Transport Layer*				
>>Transport Layer Cause	M		ENUMERATED (Transport Resource Unavailable, Unspecified, ...)	
>*Protocol*				
>>Protocol Cause	M		ENUMERATED (Transfer Syntax Error, Abstract Syntax Error (Reject), Abstract Syntax Error (Ignore and Notify), Message not Compatible with Receiver State, Semantic Error, Unspecified, Abstract Syntax Error (Falsely Constructed Message),...)	
>*Misc*				
>>Miscellaneous Cause	M		ENUMERATED (Control Processing Overload, Hardware Failure, O&M Intervention, Not enough User Plane Processing	

			Resources, Unspecified,...)	

The meaning of the different cause values is described in the following table. In general, "not supported" cause values indicate that the concerned capability is missing. On the other hand, "not available" cause values indicate that the concerned capability is present, but insufficient resources were available to perform the requested action.

Radio Network Layer cause	Meaning
Cell not Available	The concerned cell is not available
Cell reserved for operator use	The concerned cell is reserved for operator use
Combining not Supported	The DRNS does not support the RL combining for the concerned cells
Combining Resources Not Available	The value of the received *Diversity Control Field* IE was set to "Must", but the DRNS cannot perform the requested combining
CM not Supported	The concerned cell(s) do not support Compressed Mode
Common Transport Channel Type not Supported	The concerned cell(s) do not support the RACH and/or FACH and/or CPCH Common Transport Channel Type
Dedicated Transport Channel Type not Supported	The concerned cell(s) do not support the Dedicated Transport Channel Type
Delayed Activation not Supported	The concerned cell(s) do not support delayed activation of RLs
DL Radio Resources not Available	The DRNS does not have sufficient DL radio resources available
DL SF not Supported	The concerned cell(s) do not support the requested DL SF
DL Shared Channel Type not Supported	The concerned cell(s) do not support the Downlink Shared Channel Type
DPC Mode Change not Supported	The concerned cells do not support the DPC mode changes
Information Provision not supported for the object	The RNS doesn"t support provision of the requested information for the concerned object types
Information temporarily not available	The RNS can temporarily not provide the requested information
Invalid CM Settings	The concerned cell(s) consider the requested Compressed Mode settings invalid
Measurement not Supported For The Object	At least one of the concerned cell(s) does not support the requested measurement on the concerned object type
Measurement Temporarily not Available	The DRNS can temporarily not provide the requested measurement value
Number of DL Codes not Supported	The concerned cell(s) do not support the requested number of DL codes
Number of UL Codes not Supported	The concerned cell(s) do not support the requested number of UL codes
Power Level not Supported	A DL power level was requested which the concerned cell(s) do not support
Power Balancing status not compatible	The power balancing status in the SRNC is not compatible with that of the DRNC.
RL Timing Adjustment not Supported	The concerned cell(s) do not support adjustments of the RL timing
Reconfiguration CFN not Elapsed	The requested action cannot be performed due to that a COMMIT message was received previously, but the concerned CFN has not yet elapsed
Reconfiguration not Allowed	The SRNC does currently not allow the requested reconfiguration
Requested Configuration not Supported	The concerned cell(s) do not support the requested configuration i.e. power levels, Transport Formats, physical channel parameters,…..
Requested Tx Diversity mode not Supported	The concerned cell(s) do not support the requested transmit diversity mode
RL Already Activated/ Allocated	The DRNS has already allocated an RL with the requested RL ID for this UE Context
Synchronisation Failure	Loss of UL Uu synchronisation

Transaction not Supported by Destination Node B	The requested action cannot be performed due to lack of support of the corresponding action in the destination Node B
UL Radio Resources not Available	The DRNS does not have sufficient UL radio resources available
UL Scrambling Code Already in Use	The concerned UL scrambling code is already in use for another UE
UL SF not Supported	The concerned cell(s) do not support the requested minimum UL SF
UL Shared Channel Type not Supported	The concerned cell(s) do not support the Uplink Shared Channel Type
Unknown C-ID	The DRNS is not aware of a cell with the provided C-ID
Unknown RNTI	The SRNC or DRNC is not aware of a UE indicated with the provided RNTI
Unspecified	Sent when none of the above cause values applies but still the cause is Radio Network Layer related

Transport Network Layer cause	**Meaning**
Transport resource unavailable	The required transport resources are not available
Unspecified	Sent when none of the above cause values applies but still the cause is Transport Network Layer related

Protocol cause	**Meaning**
Abstract Syntax Error (Reject)	The received message included an abstract syntax error and the concerned criticality indicated "reject" (see subclause 10.3)
Abstract Syntax Error (Ignore and Notify)	The received message included an abstract syntax error and the concerned criticality indicated "ignore and notify" (see subclause 10.3)
Abstract syntax error (falsely constructed message)	The received message contained IEs or IE groups in wrong order or with too many occurrences (see subclause 10.3)
Message not Compatible with Receiver State	The received message was not compatible with the receiver state (see subclause 10.4)
Semantic Error	The received message included a semantic error (see subclause 10.4)
Transfer Syntax Error	The received message included a transfer syntax error (see subclause 10.2)
Unspecified	Sent when none of the above cause values applies but still the cause is Protocol related

Miscellaneous cause	**Meaning**
Control Processing Overload	DRNS control processing overload
Hardware Failure	DRNS hardware failure
Not enough User Plane Processing Resources	DRNS has insufficient user plane processing resources available
O&M Intervention	Operation and Maintenance intervention related to DRNS equipment
Unspecified	Sent when none of the above cause values applies and the cause is not related to any of the categories Radio Network Layer, Transport Network Layer or Protocol.

9.2.1.5A Cell Geographical Area Identity (Cell GAI)

The Cell Geographical Area is used to identify the geographical area of a cell. The area is represented as a polygon. See ref. [25].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Cell GAI Geographical Co-ordinates		1 .. <maxnoofPoints>		
>Latitude Sign	M		ENUMERATED(North, South)	
>Degrees of Latitude	M		INTEGER(0..2^{23}-1)	The IE value (N) is derived by this formula: N≤2^{23} X /90 < N+1 X being the latitude in degree (0°.. 90°)
>Degrees of Longitude	M		INTEGER(-2^{23}..2^{23}-1)	The IE value (N) is derived by this formula: N≤2^{24} X /360 < N+1 X being the longitude in degree (-180°..+180°)

Range bound	Explanation
maxnoofPoints	Maximum no. of points in polygon.

9.2.1.5B Cell Geographical Area Additional Shapes (Cell GAI Additional Shapes)

This IE is used to provide several descriptions of the geographical area of a cell.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Cell GAI Additional Shapes*				
>*GA Point With Uncertainty*				
>>GA Point With Uncertainty	M		9.2.1.30A	Ellipsoid point with uncertainty circle
>*GA Ellipsoid point with uncertainty Ellipse*				
>>GA Ellipsoid point with uncertainty Ellipse	M		9.2.1.30B	Ellipsoid point with uncertainty Ellipse
>*GA Ellipsoid point with altitude*				
>>GA Ellipsoid point with altitude	M		9.2.1.30C	Ellipsoid point with altitude
>*GA Ellipsoid point with altitude and uncertainty Ellipsoid*				
>>GA Ellipsoid point with altitude and uncertainty Ellipsoid	M		9.2.1.30D	Ellipsoid point with altitude and uncertainty Ellipsoid
>*GA Ellipsoid Arc*				
>>GA Ellipsoid Arc	M		9.2.1.30E	Ellipsoid Arc

9.2.1.5C Cell Capacity Class Value

The *Cell Capacity Class Value* IE contains the capacity class for both the uplink and downlink. *Cell Capacity Class Value* IE is the value that classifies the cell capacity with regards to the other cells. *Cell Capacity Class Value* IE only indicates resources that are configured for traffic purposes.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Uplink Cell Capacity Class Value	M		INTEGER(1..100,…)	Value 1 shall indicate the minimum uplink cell capacity, and 100 shall indicate the maximum uplink cell capacity. . There should be linear relation between uplink cell capacity and Uplink Cell Capacity Class Value.
Downlink Cell Capacity Class Value	M		INTEGER(1..100,…)	Value 1 shall indicate the minimum downlink cell capacity, and 100 shall indicate the maximum downlink cell capacity. There should be linear relation between downlink cell capacity and Downlink Cell Capacity Class Value.

9.2.1.6 Cell Identifier (C-ID)

The C-ID (Cell Identifier) is the identifier of a cell in one RNS.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
C-ID			INTEGER (0..65535)	

9.2.1.7 Cell Individual Offset

Cell individual offset is an offset that will be applied by UE to the measurement results for a Primary-CPICH[FDD]/ Primary-CCPCH[TDD] or for GSM Carrier RSSI according to [16].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Cell Individual Offset			INTEGER(-20..+20)	-20 -> -10dB -19 -> -9.5dB … +20 -> +10dB

9.2.1.8 Cell Parameter ID

The Cell Parameter ID identifies unambiguously the [3.84 Mcps TDD - Code Groups, Scrambling Codes, Midambles and Toffset] [1.28 Mcps TDD - SYNC-DL and SYNC-UL sequences, the scrambling codes and the midamble codes] (see ref. [20]).

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Cell Parameter ID			INTEGER(0..127,…)	

9.2.1.9 CFN

Connection Frame Number for the radio connection, see ref. [17].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CFN			INTEGER(0. . 255)	

9.2.1.10 CFN Offset

Void

9.2.1.11 CN CS Domain Identifier

Identification of the CN node in the CS Domain.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
PLMN Identity	M		OCTET STRING (3)	- digits 0 to 9, two digits per octet, - each digit encoded 0000 to 1001, - 1111 used as filler - bit 4 to 1 of octet n encoding digit 2n-1 - bit 8 to 5 of octet n encoding digit 2n -The PLMN Identity consists of 3 digits from MCC followed by either -a filler plus 2 digits from MNC (in case of 2 digit MNC) or -3 digits from MNC (in case of a 3 digit MNC).
LAC	M		OCTET STRING (2)	0000 and FFFE not allowed

9.2.1.11A CN Domain Type

Identifies the type of core network domain.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CN Domain Type			ENUMERAT ED(CS domain, PS domain, Don't care,…)	See in [16]

9.2.1.12 CN PS Domain Identifier

Identification of the CN Node in the PS Domain.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
PLMN Identity	M		OCTET STRING (3)	- digits 0 to 9, two digits per octet, - each digit encoded 0000 to 1001, - 1111 used as filler - bit 4 to 1 of octet n encoding digit 2n-1 - bit 8 to 5 of octet n encoding digit 2n -The PLMN Identity consists of 3 digits from MCC followed by either -a filler plus 2 digits from MNC (in case of 2 digit MNC) or -3 digits from MNC (in case of a 3 digit MNC).
LAC	M		OCTET STRING (2)	0000 and FFFE not allowed
RAC	M		OCTET STRING (1)	

9.2.1.12A   Common Measurement Accuracy

The Common Measurement Accuracy IE indicates the accuracy of the common measurement.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Common Measurement Accuracy*	M			
>$T_{UTRAN-GPS}$ *Measurement Accuracy Class*				
>>$T_{UTRAN-GPS}$ Measurement Accuracy Class	M		$T_{UTRAN-GPS}$ Accuracy Class 9.2.1.59B	

9.2.1.12B   Common Measurement Object Type

Void.

9.2.1.12C   Common Measurement Type

The Common Measurement Type identifies which measurement that shall be performed.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Common Measurement Type			ENUMERATED (UTRAN GPS Timing of Cell Frames for UE Positioning , SFN-SFN Observed Time Difference, load, transmitted carrier power, received total wide band power, UL timeslot ISCP, …, RT Load, NRT Load Information)	UL timeslot ISCP shall only be used by TDD. For measurements, which are requested on the Iur-g interface, only load, RT Load and NRT Load information are used.

9.2.1.12D   Common Measurement Value

The Common Measurement Value shall be the most recent value for this measurement, for which the reporting criteria were met.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
CHOICE *Common Measurement Value*	M				–	
> T*UTRAN-GPS Measurement Value Information*				UTRAN only	–	
>>T*UTRAN-GPS* Measurement Value Information	M		9.2.1.59D		–	
> *SFN-SFN Measurement Value Information*				UTRAN only	–	
>>SFN-SFN Measurement Value Information	M		9.2.1.52C		–	
>*Load Value*					–	
>>Load Value	M		9.2.1.33A		–	
>*Transmitted Carrier Power Value*				UTRAN only	–	
>>Transmitted Carrier Power Value	M		Transmitted Carrier Power 9.2.1.59A		–	
>*Received Total Wide Band Power Value*				UTRAN only	–	
>>Received Total Wide Band Power Value	M		Received Total Wide Band Power 9.2.2.35A		–	
>*UL Timeslot ISCP Value*				TDD Only	–	
>>UL Timeslot ISCP Value	M		UL Timeslot ISCP 9.2.3.13A		–	
>*Additional Common Measurement Values*					–	
>>*RT Load Value*					–	
>>>RT Load Value	M		9.2.1.50B		YES	ignore
>>*NRT Load Information Value*					–	
>>>NRT Load Information Value	M		9.2.1.41I		YES	ignore

9.2.1.12E   Common Measurement Value Information

The *Common Measurement Value Information* IE provides information both on whether the Common Measurement Value is provided in the message or not and if provided also the Common Measurement Value itself.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Measurement Availability*	M			
>*Measurement Available*				
>>Common Measurement Value	M		9.2.1.12D	
>*Measurement not Available*			NULL	

9.2.1.12F Common Transport Channel Resources Initialisation Not Required

If present, this IE indicates that as far as the DRNC is concerned, there is no need to initiate a Common Transport Channel Resources Initialisation procedure if the SRNC wants to allocate common transport channel resources in the new cell.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Common Transport Channel Resources Initialisation Not Required			ENUMERATED(Not Required)	

9.2.1.12G Coverage Indicator

The Coverage Indicator indicates whether the serving and the neighbouring cell are overlapped, i.e. the cells have approximately same coverage area or whether the neighbouring cell covers or contained in the serving cell.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Coverage Indicator			ENUMERATED(Overlap, Covers, Contained in,…)	

9.2.1.13 Criticality Diagnostics

The *Criticality Diagnostics* IE is sent by an RNC when parts of a received message have not been comprehended or were missing, or if the message contained logical errors. When applicable, it contains information about which IEs that were not comprehended or were missing.

For further details on how to use the *Criticality Diagnostics* IE, see Annex C.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Procedure ID		0..1		Procedure ID is to be used if Criticality Diagnostics is part of Error Indication procedure, and not within the response message of the same procedure that caused the error	-	
>Procedure Code	M		INTEGER(0..255)		-	
>Ddmode	M		ENUMERATED(FDD, TDD, Common)	Common = common to FDD and TDD. Common Ddmode is also applicable for Iur-g procedures listed in section 7.	-	
Triggering Message	O		ENUMERATED(initiating message, successful outcome, unsuccessful outcome, outcome)	The Triggering Message is used only if the Criticality Diagnostics is part of Error Indication.	-	
Procedure Criticality	O		ENUMERATED(reject, ignore, notify)	This Procedure Criticality is used for reporting the Criticality of the Triggering message (Procedure).	-	
Transaction ID	O		Transaction ID		-	
Information Element Criticality Diagnostics		*0..<max noof errors>*			-	
>IE Criticality	M		ENUMERATED(reject, ignore, notify)	The IE Criticality is used for reporting the criticality of the triggering IE. The value "Ignore" shall never be used.	-	
>IE ID	M		INTEGER(0..65535)	The IE ID of the not understood or missing IE as defined in the ASN.1 part of the specification.	-	
>Repetition Number	O		INTEGER(0..255)	The *Repetition Number* IE gives • in case of a not understood IE: The number of occurrences of the reported IE up to and including the not understood occurrence • in case of a missing IE: The number of occurrences up to but not including the missing occurrence. Note: All the counted	-	

				occurrences of the reported IE must have the same topdown hierarchical message structure of IEs with assigned criticality above them.		
>Message Structure	O		9.2.1.39A	The *Message Structure* IE describes the structure in which the not understood or missing IE was detected. This IE is included if the not understood IE is not the top level of the message.	YES	ignore
>Type of Error	M		ENUMERATED(not understood, missing, …)		YES	ignore

Range bound	Explanation
maxnooferrors	Maximum number of IE errors allowed to be reported with a single message.

9.2.1.14 C-RNTI

C-RNTI (Cell RNTI) is the UE identifier allocated by the DRNS to be used over the radio interface. It is unique in the cell. One UE Context has one unique C-RNTI value allocated in the DRNS.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
C-RNTI			INTEGER(0. .65535)	

9.2.1.14A CTFC

The CTFC is an integer number calculated in accordance with [16], subclause 14.10. Regarding the channel ordering, for all transport channels, "TrCH1" corresponds to the transport channel having the lowest transport channel identity among all configured transport channels on this CCTrCH. "TrCH2" corresponds to the transport channel having the next lowest transport channel identity, and so on.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *CTFC Format*				
>*2 bits long*				
>>CTFC value	M		INTEGER (0..3)	
>*4 bits long*				
>>CTFC value	M		INTEGER (0..15)	
>*6 bits long*				
>>CTFC value	M		INTEGER (0..63)	
>*8 bits long*				
>>CTFC value	M		INTEGER (0..255)	
>*12 bits long*				
>>CTFC value	M		INTEGER (0..4095)	
>*16 bits long*				
>>CTFC value	M		INTEGER (0..65535)	
>*max nb bits long*				
>>CTFC value	M		INTEGER (0..maxCTFC)	

Range Bound	Explanation
MaxCTFC	Maximum number of the CTFC value is calculated according to the following: $$\sum_{i=1}^{I}(L_i - 1)P_i$$ with the notation according to ref. [16]

9.2.1.15 DCH Combination Indicator

Void

9.2.1.16 DCH ID

The DCH ID is the identifier of an active dedicated transport channel. It is unique for each active DCH among the active DCHs simultaneously allocated for the same UE.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DCH ID			INTEGER (0..255)	

9.2.1.16A DCH Information Response

The *DCH Information* IE provides information for DCHs that have been established or modified.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
DCH Information Response		1..<maxno ofDCHs>		Several DCHs belonging to the same set of coordinated DCHs may be included.	–	
>DCH ID	M		9.2.1.16		–	
>Binding ID	O		9.2.1.3		–	
>Transport Layer Address	O		9.2.1.62		–	
>Allowed Rate Information	O		9.2.1.2A		YES	ignore

Range bound	Explanation
maxnoofDCHs	Maximum number of DCHs for one UE.

9.2.1.17 Dedicated Measurement Object Type

Void.

9.2.1.18 Dedicated Measurement Type

The Dedicated Measurement Type identifies the type of measurement that shall be performed.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Dedicated Measurement Type			ENUMERATED(SIR, SIR Error, Transmitted Code Power, RSCP, Rx Timing Deviation, Round Trip Time, …, Rx Timing Deviation LCR, Angle Of Arrival LCR, HS-SICH Reception Quality)	RSCP and HS-SICH Receptions Quality are used by TDD only, Rx Timing Deviation is used by 3.84 TDD only, Rx Timing Deviation LCR is used by 1.28 TDD only, Round Trip Time, SIR Error are used by FDD only. Angle Of Arrival LCR is used by 1.28Mcps TDD only.

NOTE: For definitions of the measurement types refer to ref. [11] and [14].

9.2.1.19 Dedicated Measurement Value

The Dedicated Measurement Value shall be the most recent value for this measurement, for which the reporting criteria were met.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
CHOICE *Dedicated Measurement Value*	M				–	
>*SIR Value*					–	
>>SIR Value	M		INTEGER(0..63)	According to mapping in ref. [23] and [24]	–	
>*SIR Error Value*				FDD Only	–	
>>SIR Error Value	M		INTEGER(0..125)	According to mapping in [23]	–	
>*Transmitted Code Power Value*					–	
>>Transmitted Code Power Value	M		INTEGER(0..127)	According to mapping in ref. [23] and [24] Values 0 to 9 and 123 to 127 shall not be used.	–	
>*RSCP*				TDD Only	–	
>>RSCP	M		INTEGER(0..127)	According to mapping in ref. [24]	–	
>*Rx Timing Deviation Value*				3.84Mcps TDD Only	–	
>>Rx Timing Deviation	M		INTEGER(0..8191)	According to mapping in [24]	–	
>*Round Trip Time*				FDD Only	–	
>>Round Trip Time	M		INTEGER(0..32767)	According to mapping in [23]	–	
>*Additional Dedicated Measurement Values*					–	
>>*Rx Timing Deviation Value LCR*				1.28Mcps TDD Only	YES	reject
>>>Rx Timing Deviation LCR	M		INTEGER(0..511)	According to mapping in [24]	–	
>>*Angle of Arrival Value LCR*				1.28Mcps TDD only	YES	reject
>>>AOA LCR	M		INTEGER(0..719)	According to mapping in [24]	–	
>>>AOA LCR Accuracy Class	M		ENUMER ATED(A, B, C, D, E, F, G, H,...)	According to mapping in [24]	–	
>>*HS-SICH reception quality*				Applicable to TDD only	–	
>>>HS-SICH reception quality Value		1			YES	reject
>>>>Failed HS-SICH	M		INTEGER (0..20)	According to mapping in [24]	–	
>>>Missed HS-SICH	M		INTEGER (0..20)	According to mapping in [24]	–	
>>>Total HS-SICH	M		INTEGER (0..20)	According to mapping in [24]	–	

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9.2.1.19A   Dedicated Measurement Value Information

The *Dedicated Measurement Value Information* IE provides information both on whether or not the Dedicated Measurement Value is provided in the message and if provided also the Dedicated Measurement Value itself.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
CHOICE *Measurement Availability Indicator*	M				–	
>*Measurement Available*					–	
>>Dedicated Measurement Value	M		9.2.1.19		–	
>>CFN	O		9.2.1.9	Dedicated Measurement Time Reference	–	
>*Measurement not Available*			NULL		–	

9.2.1.19Aa   Delayed Activation

The *Delayed Activation* IE indicates that the activation of the DL power shall be delayed until an indicated CFN or until a separate activation indication is received.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Delayed Activation*	M			
> *CFN*				
>> Activation CFN	M		CFN 9.2.1.7	
> *Separate Indication*			NULL	

9.2.1.19Ab   Delayed Activation Update

The *Delayed Activation Update* IE indicates a change of the activation of the DL power for a specific RL.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Delayed Activation Update*	M			
> *Activate*				
>> CHOICE *Activation Type*	M			
>>> *Synchronised*				
>>>> Activation CFN	M		CFN 9.2.1.7	
>>> *Unsynchronised*			NULL	
>> Initial DL TX Power	M		DL Power 9.2.1.21	
>> First RLS Indicator	O		9.2.2.16A	FDD Only
>> Propagation Delay	O		9.2.2.35	FDD Only
> *Deactivate*				
>> CHOICE *Deactivation type*	M			
>>> *Synchronised*				
>>>> Deactivation CFN	M		CFN 9.2.1.7	
>>> *Unsynchronised*			NULL	

9.2.1.19B   DGPS Corrections

The DGPS Corrections IE contains DGPS information used by the UE Positioning A-GPS method. For further details on the meaning of parameters, see [31].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
GPS TOW	M		INTEGER(0..604799)	Time in seconds. This field indicates the baseline time for which the corrections are valid
Status/Health	M		ENUMERATED (UDRE scale 1.0, UDRE scale 0.75, UDRE scale 0.5, UDRE scale 0.3, UDRE scale 0.1, no data, invalid data)	This field indicates the status of the differential corrections
Satellite DGPS Corrections Information		*1..<maxNoSat>*		
>SatID	M		SAT ID 9.2.1.50A	Satellite ID
>IODE	M		BIT STRING(8)	This IE is the sequence number for the ephemeris for the particular satellite. It can be used to determine if new ephemeris is used for calculating the corrections that are provided. This eight-bit IE is incremented for each new set of ephemeris for the satellite and may occupy the numerical range of [0, 239] during normal operations.
>UDRE	M		ENUMERATED (UDRE $\leq$1.0m, 1.0m < UDRE $\leq$ 4.0m, 4.0m < UDRE $\leq$ 8.0m, 8.0m < UDRE,...)	User Differential Range Error. This field provides an estimate of the uncertainty (1-σ) in the corrections for the particular satellite. The value in this field shall be multiplied by the UDRE Scale Factor in the common Corrections Status/Health field to determine the final UDRE estimate for the particular satellite
>PRC	M		INTEGER(-2047..2047)	Scaling factor 0.32 meters
>Range Correction Rate	M		INTEGER(-127.. 127)	Scaling factor 0.032 m/s

Range Bound	Explanation
maxNoSat	Maximum number of satellites for which information can be provided

9.2.1.19C   Discard Timer

The *Discard Timer* IE defines the time to live for a MAC-hs SDU starting from the instant of its arrival into an HSDPA Priority Queue. The DRNS shall use this information to discard out-of-date MAC-hs SDUs from the HSDPA Priority Queues.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Discard Timer			ENUMERATED (20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 250, 300, 400, 500, 750, 1000, 1250, 1500, 1750, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 7500, …)	Unit: ms

9.2.1.20   Diversity Control Field

The Diversity Control Field indicates if the current RL may, must or must not be combined with the already existing RLs.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Diversity Control Field			ENUMERATED(May, Must, Must not, …)	

9.2.1.21   Diversity Indication

Void.

9.2.1.21A   DL Power

The *DL Power* IE indicates a power level relative to the [FDD - primary CPICH power] [TDD - PCCPCH power] configured in a cell [FDD - If referred to a DPCH, it indicates the power of the transmitted DPDCH symbols]. If Transmit Diversity is applied to a downlink physical channel, the *DL Power* IE indicates the power offset between the linear sum of the power for this downlink physical channel on all branches and the [FDD - primary CPICH power] [TDD - PCCPCH power] configured in a cell.

[TDD - If referred to a DPCH, it indicates the power of a spreading factor 16 code, the power for a spreading factor 1 code would be 12 dB higher].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DL Power			INTEGER (-350..150)	Value = DL Power /10 Unit dB Range –35.0 .. +15.0 Step 0.1dB

9.2.1.22   Downlink SIR Target

Void

9.2.1.23   DPCH Constant Value

DPCH Constant Value is the power margin used by a UE to set the proper uplink power.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DPCH Constant Value			INTEGER (-10..10)	Unit dB Granularity 1 dB.

9.2.1.24 D-RNTI

The D-RNTI identifies the UE Context in the DRNC.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
D-RNTI			INTEGER(0..2^20 −1)	

9.2.1.25 D-RNTI Release Indication

The D-RNTI Release Indication indicates whether or not a DRNC shall release the D-RNTI allocated for a particular UE.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
D-RNTI Release Indication			ENUMERATED(Release D-RNTI, not Release D-RNTI)	

9.2.1.26 DRX Cycle Length Coefficient

The DRX Cycle Length Coefficient is used as input for the formula to establish the paging occasions to be used in DRX.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DRX Cycle Length Coefficient			INTEGER (3..9)	Refers to 'k' in the formula as specified in ref. [15], Discontinuous Reception.

9.2.1.26A DSCH ID

The DSCH ID is the identifier of an active downlink shared channel. It is unique for each active DSCH among the active DSCHs simultaneously allocated for the same UE.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DSCH ID			INTEGER (0..255)	

9.2.1.26Aa DSCH Initial Window Size

Indicates the initial number of MAC-c/sh SDUs that may be transmitted before new credits are received from the DRNC.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DSCH Initial Window Size			INTEGER (1..255)	Number of MAC-c/sh SDUs: 255 = Unlimited number of MAC-c/sh SDUs.

9.2.1.26B DSCH Flow Control Information

The *DSCH Flow Control Information* IE provides flow control information for each scheduling priority class for the DSCH FP over Iur.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
DSCH Flow Control Information		*1..16*			–	
>DSCH Scheduling Priority	M		Scheduling Priority Indicator 9.2.1.51A		–	
>MAC-c/sh SDU Length		*1..<maxNb MAC-c/shSDUL ength>*			–	
>>MAC-c/sh SDU Length	M		9.2.1.34		–	
>DSCH Initial Window Size	O		9.2.1.26Aa		YES	Ignore

Range bound	Explanation
maxNbMAC-c/shSDULength	Maximum number of different MAC-c/sh SDU lengths.

9.2.1.26Ba DSCH-RNTI

DSCH-RNTI is the UE identifier allocated by DRNS to be used over the radio interface by UEs having one or several DSCHs [TDD – and/or USCHs]. It is unique within a cell.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
DSCH-RNTI			INTEGER(0..65535)	

9.2.1.26Bb Extended GSM Cell Individual Offset

Extended GSM Cell individual offset is an offset that will be applied by UE to the measurement results for GSM carrier RSSI according to [16]. It shall be used when the offset exceeds the range of values that can be indicated using the *Cell Individual Offset* IE (Subclause 9.2.1.7).

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Extended GSM Cell Individual Offset			INTEGER (-50..-11 | 11..50)	Unit in dB. Step size is 1 dB.

9.2.1.26C FACH Flow Control Information

The *FACH Flow Control Information* IE provides flow control information for each scheduling priority class for the FACH FP over Iur.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
FACH Flow Control Information		*1..16*			–	
>FACH Scheduling Priority	M		Scheduling Priority Indicator 9.2.1.51A		–	
>MAC-c/sh SDU Length		*1..<maxNb MAC-c/shSDUL ength>*			–	
>>MAC-c/sh SDU Length	M		9.2.1.34		–	
>FACH Initial Window Size	M		9.2.1.27		–	

Range bound	Explanation
maxNbMAC-c/shSDULength	Maximum number of different MAC-c/sh SDU lengths.

9.2.1.27 FACH Initial Window Size

Indicates the initial number of MAC-c/sh SDUs that may be transmitted before an acknowledgement is received from the DRNC.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
FACH Initial Window Size			INTEGER(0..255)	Number of frames (MAC-c/sh SDUs.) 255 = Unlimited number of FACH data frames.

9.2.1.28 FACH Priority Indicator

Void

9.2.1.28A FN Reporting Indicator

Frame Number reporting indicator.

Indicates if the SFN or CFN shall be included together with the reported measurement value.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
FN reporting indicator			ENUMERATED(FN reporting required, FN reporting not required)	

9.2.1.29 Frame Handling Priority

This parameter indicates the priority level to be used during the lifetime of the DCH/DSCH for temporary restriction of the allocated resources due overload reason.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Frame Handling Priority			INTEGER (0..15)	0=Lowest Priority, … 15=Highest Priority

9.2.1.30   Frame Offset

Frame Offset is the required offset between the dedicated channel downlink transmission frames (CFN, Connection Frame Number) and the broadcast channel frame offset (Cell Frame Number). The Frame Offset is used in the translation between Connection Frame Number (CFN) on Iub/Iur and least significant 8 bits of SFN (System Frame Number) on Uu. The Frame Offset is UE and cell specific.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Frame Offset			INTEGER (0..255)	Frames

9.2.1.30A   GA Point with Uncertainty

This IE contains one of the possible descriptions of a Cell Geographical Area.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Geographical Coordinates	M		9.2.1.30F	
Uncertainty Code	M		INTEGER(0..127)	The uncertainty "r" is derived from the "uncertainty code" k by $r = 10x(1.1^k-1)$

9.2.1.30B   GA Ellipsoid Point with Uncertainty Ellipse

This IE contains one of the possible descriptions of a Cell Geographical Area.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Geographical Coordinates	M		9.2.1.30F	
Uncertainty Ellipse	M		9.2.1.68A	
Confidence	M		INTEGER(0..127)	

9.2.1.30C   GA Ellipsoid Point with Altitude

This IE contains one of the possible descriptions of a Cell Geographical Area.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Geographical Coordinates	M		9.2.1.30F	
Altitude and direction	M		9.2.1.2B	

9.2.1.30D   GA Ellipsoid Point with Altitude and Uncertainty Ellipsoid

This IE contains one of the possible descriptions of a Cell Geographical Area.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Geographical Coordinates	M		9.2.1.30F	
Altitude and direction	M		9.2.1.2B	
Uncertainty Ellipse	M		9.2.1.68A	
Uncertainty Altitude	M		INTEGER(0..127)	
Confidence	M		INTEGER(0..127)	

9.2.1.30E   GA Ellipsoid Arc

This IE contains one of the possible descriptions of a Cell Geographical Area.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Geographical Coordinates	M		9.2.1.30F	
Inner radius	M		INTEGER(0..2^{16}-1)	The relation between the value (N) and the radius (r) in meters it describes is $5N \leq r < 5(N+1)$, except for $N=2^{16}$-1 for which the range is extended to include all grater values of (r).
Uncertainty radius	M		INTEGER(0..127)	The uncertainty "r" is derived from the "uncertainty code" k by $r = 10 x (1.1^k - 1)$
Offset angle	M		INTEGER(0..179)	The relation between the value (N) and the angle (a) in degrees it describes is $2N \leq a < 2(N+1)$
Included angle	M		INTEGER(0..179)	The relation between the value (N) and the angle (a) in degrees it describes is $2N < a \leq 2(N+1)$
Confidence	M		INTEGER(0..127)	

9.2.1.30F   Geographical Coordinates

This IE contains the description of geographical coordinates.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Latitude Sign	M		ENUMERATED(North, South)	
Degrees Of Latitude	M		INTEGER(0..2^{23}-1)	The IE value (N) is derived by this formula: $N \leq 2^{23} X / 90 < N+1$ X being the latitude in degree (0°.. 90°)
Degrees Of Longitude	M		INTEGER(-2^{23}..2^{23}-1)	The IE value (N) is derived by this formula: $N \leq 2^{24} X / 360 < N+1$ X being the longitude in degree (-180°..+180°)

9.2.1.30Fa   GERAN Cell Capability

The *GERAN Cell Capability* IE is used to transfer the capabilities of a certain GERAN cell via the Iur interface.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
GERAN Cell Capability	M		BIT STRING (16)	Each bit indicates whether a cell supports a particular functionality or not. The value 1 of a bit indicates that the corresponding functionality is supported in a cell and value 0 indicates that the corresponding functionality is not supported in a cell. Each bit is defined as follows. The first bit: A/Gb mode. The second bit: Iu mode. Note that undefined bits are considered as a spare bit and spare bits shall be set to 0 by the transmitter and shall be ignored by the receiver.

9.2.1.30Fb   GERAN Classmark

The *GERAN Classmark* IE is used to transfer the capabilities of a certain GERAN Iu-mode capable cell via the Iur interface.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
GERAN Classmark	M		OCTET STRING	Contents defined in [38]

9.2.1.30G   GPS Almanac

This IE provides the information regarding the GPS Almanac. For further details on the meaning of parameters, see [30].

IE/Group name	Presence	Range	IE Type and Reference	Semantics Description
WN$_a$	M		BIT STRING(8)	
Satellite Almanac Information	M	1..<maxNoOfSatAlmanac>		See Note 1.
>DataID	M		INTEGER (0..3)	
>SatID	M		SAT ID 9.2.1.50A	Satellite ID
>e	M		BIT STRING(16)	
>t$_{oa}$	M		BIT STRING(8)	
>δI	M		BIT STRING(16)	
>OMEGADOT	M		BIT STRING(16)	
>SV Health	M		BIT STRING(8)	
>A$^{1/2}$	M		BIT STRING(24)	
>OMEGA$_0$	M		BIT STRING(24)	
>M$_0$	M		BIT STRING(24)	
>ω	M		BIT STRING(24)	
>af$_0$	M		BIT STRING(11)	
>af$_1$	M		BIT STRING(11)	
SV Global Health	O		BIT STRING(364)	

Range Bound	Explanation
maxNoOfSatAlmanac	Maximum number of satellite almanacs for which information can be provided

Note 1: This information element is a simplified representation of the ASN.1 description. Repetitions 1 through maxNoSat and repetitions maxNoSat+1 through maxNoOfSatAlmanac are represented by separate ASN.1 structures with different criticality.

9.2.1.30H   GPS Ionospheric Model

This IE provides the information regarding the GPS Ionospheric Model. For further details on the meaning of parameters, see [30].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
α_0	M		BIT STRING(8)	
α_1	M		BIT STRING(8)	
α_2	M		BIT STRING(8)	
α_3	M		BIT STRING(8)	
β_0	M		BIT STRING(8)	
β_1	M		BIT STRING(8)	
β_2	M		BIT STRING(8)	
β_3	M		BIT STRING(8)	

9.2.1.30l   GPS Navigation Model and Time Recovery

This IE contains subframes 1 to 3 of the GPS navigation message. For further details on the meaning of parameters, see [30].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Navigation Message 1to3		*1..<maxNoSat>*		
>Transmission TOW	M		INTEGER0.. 1048575)	Time of the Week when the message is broadcast.
>SatID	M		SAT ID 9.2.1.50A	Satellite ID of the satellite from which the information is obtained
>TLM Message	M		BIT STRING(14)	
>Tlm Revd (C)	M		BIT STRING(2)	
>HO-Word	M		BIT STRING(22)	
>WN	M		BIT STRING(10)	
>C/A or P on L2	M		BIT STRING(2)	
>User Range Accuracy Index	M		BIT STRING(4)	
>SV Health	M		BIT STRING(6)	
>IODC	M		BIT STRING(10)	
>L2 P Data Flag	M		BIT STRING(1)	
>SF 1 Reserved	M		BIT STRING(87)	
>T_{GD}	M		BIT STRING(8)	
>t_{oc}	M		BIT STRING(16)	
>af_2	M		BIT STRING(8)	
>af_1	M		BIT STRING(16)	
>af_0	M		BIT STRING(22)	
>C_{rs}	M		BIT STRING(16)	
>Δn	M		BIT STRING(16)	
>M_0	M		BIT STRING(32)	
>C_{uc}	M		BIT STRING(16)	
>e	M		BIT STRING(32)	
>C_{us}	M		BIT STRING(16)	
>$(A)^{1/2}$	M		BIT STRING(32)	
>t_{oe}	M		BIT STRING(16)	
>Fit Interval Flag	M		BIT STRING(1)	
>AODO	M		BIT STRING(5)	
>C_{ic}	M		BIT STRING(16)	
>$OMEGA_0$	M		BIT STRING(32)	
>C_{is}	M		BIT STRING(16)	
>i_0	M		BIT STRING(32)	
>C_{rc}	M		BIT	

ETSI

			STRING(16)	
>ω	M		BIT STRING(32)	
>OMEGAdot	M		BIT STRING(24)	
>Idot	M		BIT STRING(14)	
>Spare/zero fill	M		BIT STRING(20)	

Range Bound	Explanation
maxNoSat	Maximum number of satellites for which information can be provided

9.2.1.30J   GPS Real-Time Integrity

This IE provides the information regarding the status of the GPS constellation. For further details on the meaning of parameters, see [30].

IE/Group name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Bad Satellites Presence*	M			
>*Bad Satellites*				
>>Satellite Information		1..*<maxNoSat>*		
>>>BadSatID	M		SAT ID 9.2.1.50A	Satellite ID
>*No Bad Satellites*			NULL	

Range Bound	Explanation
MaxNoSat	Maximum number of satellites for which information can be provided

9.2.1.30K   GPS Receiver Geographical Position (GPS RX Pos)

The GPS Receiver Geographical Position is used to identify the geographical coordinates of a GPS receiver relevant for a certain Information Exchange Object.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Geographical Coordinates	M		9.2.1.30F	
Altitude and direction	M		9.2.1.2B	

9.2.1.30L   GPS UTC Model

This IE provides the information regarding the GPS UTC Model. For further details on the meaning of parameters, see [30].

IE/Group name	Presence	Range	IE Type and Reference	Semantics Description
A_1	M		BIT STRING(24)	
A_0	M		BIT STRING(32)	
t_{ot}	M		BIT STRING(8)	
Δt_{LS}	M		BIT STRING(8)	
WN_t	M		BIT STRING(8)	
WN_{LSF}	M		BIT STRING(8)	
DN	M		BIT STRING(8)	
Δt_{LSF}	M		BIT STRING(8)	

9.2.1.30M   Guaranteed Rate Information

The *Guaranteed Rate Information* IE indicates the TFI corresponding to the guaranteed bit rate for the uplink and/or the downlink of a DCH.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Guaranteed UL Rate	O		INTEGER(1..maxTFcount)	"1": TFI 0, "2": TFI 1, "3": TFI 2, …
Guaranteed DL Rate	O		INTEGER(1..maxTFcount)	"1": TFI 0, "2": TFI 1, "3": TFI 2, …

9.2.1.30N   HCS Prio

The HCS Prio is the characteristics of the cell as defined in [15].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HCS Prio			INTEGER (0..7)	0=Lowest Priority, … 7=Highest Priority

9.2.1.30NA   HS-DSCH Information To Modify Unsynchronised

The *HS-DSCH Information To Modify Unsynchronised* IE is used for modification of HS-DSCH information in a UE Context with the Unsynchronised Radio Link Reconfiguration procedure.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flow Specific Information		*0..<maxnoofMACdFlows>*		
>HS-DSCH MAC-d Flow ID	M		9.2.1.30O	
>Allocation/Retention Priority	O		9.2.1.1	
>Transport Bearer Request Indicator	M		9.2.1.61	
>Traffic Class	O		9.2.1.58A	
>Binding ID	O		9.2.1.3	Shall be ignored if bearer establishment with ALCAP.
>Transport Layer Address	O		9.2.1.62	Shall be ignored if bearer establishment with ALCAP.
Priority Queue Information		*0..<maxnoofPrioQueues>*		
>Priority Queue ID	M		9.2.1.45A	
>Scheduling Priority Indicator	O		9.2.1.51A	
>Discard Timer	O		9.2.1.19C	
>MAC-hs Guaranteed Bit Rate	O		9.2.1.34Aa	
CQI Power Offset	O		9.2.2.24b	For FDD only
ACK Power Offset	O		9.2.2.b	For FDD only
NACK Power Offset	O		9.2.2.26a	For FDD only
HS-SCCH Power Offset	O		9.2.2.19d	For FDD only
TDD ACK NACK Power Offset	O		9.2.3.7I	For TDD only

9.2.1.30Na   HS-DSCH Initial Capacity Allocation

The *HS-DSCH Initial Capacity Allocation* IE provides flow control information for each scheduling priority class for the HS-DSCH FP over Iur.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH Initial Capacity Allocation		*1..< maxnoofPrioQueues*		
>Scheduling Priority Indicator	M		9.2.1.51A	
>Maximum MAC-d PDU Size	M		MAC-d PDU Size 9.2.1.34A	
>HS-DSCH Initial Window Size	M		9.2.1.30Nb	

Range Bound	Explanation
maxnoofPrioQueues	Maximum number of Priority Queues

9.2.1.30Nb   HS-DSCH Initial Window Size

Indicates the initial number of MAC-d PDUs that may be transmitted before new credits are received from the DRNC.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
HS-DSCH Initial Window Size			INTEGER (1..255)	Number of MAC-d PDUs

9.2.1.30O   HS-DSCH MAC-d Flow ID

HS-DSCH MAC-d Flow ID is the unique identifier for one MAC-d flow.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flow ID			INTEGER (0..7)	

9.2.1.30OA   HS-DSCH MAC-d Flows Information

The *HS-DSCH MAC-d Flows Information* IE is used for the establishment of HS-DSCH MAC-d flows for a UE Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flow Specific Information		*1..<maxnoofMACdFlows>*		
>HS-DSCH MAC-d Flow ID	M		9.2.1.30O	
>Allocation/Retention Priority	M		9.2.1.1	
>Traffic Class	M		9.2.1.58A	
>Binding ID	O		9.2.1.3	Shall be ignored if bearer establishment with ALCAP.
>Transport Layer Address	O		9.2.1.62	Shall be ignored if bearer establishment with ALCAP.
Priority Queue Information		*1..<maxnoofPrioQueues>*		
>Priority Queue ID	M		9.2.1.45A	
>Associated HS-DSCH MAC-d Flow	M		HS-DSCH MAC-d Flow ID 9.2.1.30O	The HS-DSCH MAC-d Flow ID shall be one of the flow IDs defined in the HS-DSCH MAC-d Flow Specific Information of this IE. Multiple Priority Queues can be associated with the same HS-DSCH MAC-d Flow ID.
>Scheduling Priority Indicator	M		9.2.1.51A	
>T1	M		9.2.1.54A	
>Discard Timer	O		9.2.1.19C	
>MAC-hs Window Size	M		9.2.1.34C	
>MAC-hs Guaranteed Bit Rate	O		9.2.1.34Aa	
>MAC-d PDU Size Index		*1..<maxnoofMACdPDUindexes>*		
>>SID	M		9.2.1.52D	
>>MAC-d PDU Size	M		9.2.1.34A	
>RLC Mode	M		9.2.1.48D	

Range Bound	Explanation
maxnoofMACdFlows	Maximum number of HS-DSCH MAC-d flows
maxnoofPrioQueues	Maximum number of Priority Queues
maxnoofMACdPDUindexes	Maximum number of different MAC-d PDU SIDs

9.2.1.30OB HS-DSCH MAC-d Flows To Delete

The *HS-DSCH MAC-d Flows To Delete* IE is used for the removal of HS-DSCH MAC-d flows from a UE Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flows To Delete		*1..<maxnoofMACdFlows>*		
>HS-DSCH MAC-d Flow ID	M		9.2.1.30O	

Range Bound	Explanation
maxnoofMACdFlows	Maximum number of HS-DSCH MAC-d flows

9.2.1.30Oa   HS-DSCH Physical Layer Category

The *HS-DSCH Physical Layer Category* IE defines a set of UE radio access capabilities related to HSDPA, as defined in [42].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH Physical Layer Category			INTEGER (1..64,…)	

9.2.1.30P   HS-DSCH-RNTI

The HS-DSCH-RNTI is needed for the UE-specific CRC in HS-SCCH and HS-DSCH.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH-RNTI			INTEGER (0..65535)	

9.2.1.30Q   HS-DSCH Information To Modify

The *HS-DSCH Information To Modify* IE is used for modification of HS-DSCH information in a UE Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flow Specific Information		0..<maxnoofMAC dFlows>		
>HS-DSCH MAC-d Flow ID	M		9.2.1.30O	
>Allocation/Retention Priority	O		9.2.1.1	
>Transport Bearer Request Indicator	M		9.2.1.61	
>Traffic Class	O		9.2.1.58A	
>Binding ID	O		9.2.1.3	Shall be ignored if bearer establishment with ALCAP.
>Transport Layer Address	O		9.2.1.62	Shall be ignored if bearer establishment with ALCAP.
Priority Queue Information		0..<maxnoofPrioQ ueues>		
>CHOICE *Priority Queue*	M			
>>*Add Priority Queue*				
>>>Priority Queue ID	M		9.2.1.45A	
>>>Associated HS-DSCH MAC-d Flow	M		HS-DSCH MAC-d Flow ID 9.2.1.30O	Shall only refer to a HS-DSCH MAC-d flow already existing in the old configuration. Multiple Priority Queues can be associated with the same HS-DSCH MAC-d Flow ID.
>>>Scheduling Priority Indicator	M		9.2.1.51A	
>>>T1	M		9.2.1.54A	
>>>Discard Timer	O		9.2.1.19C	
>>>MAC-hs Window Size	M		9.2.1.34C	
>>>MAC-hs Guaranteed Bit Rate	O		9.2.1.34Aa	
>>>MAC-d PDU Size Index		1..<maxnoofMAC dPDUindexes>		
>>>>SID	M		9.2.1.52D	
>>>>MAC-d PDU Size	M		9.2.1.34A	
>>>RLC Mode	M		9.2.1.48D	
>>*Modify Priority Queue*				
>>>Priority Queue ID	M		9.2.1.45A	Shall only refer to a Priority Queue already existing in the old configuration.
>>>Scheduling Priority Indicator	O		9.2.1.51A	
>>>T1	O		9.2.1.54A	
>>>Discard Timer	O		9.2.1.19C	
>>>MAC-hs Window Size	O		9.2.1.34C	
>>>MAC-hs Guaranteed Bit Rate	O		9.2.1.34Aa	
>>>MAC-d PDU Size Index		0..<maxnoofMAC dPDUindexes>		
>>>>SID	M		9.2.1.52D	
>>>>MAC-d PDU Size	M		9.2.1.34A	
>>*Delete Priority Queue*				
>>>Priority Queue ID	M		9.2.1.45A	Shall only refer to a Priority Queue already existing in the old configuration.
MAC-hs Reordering Buffer Size for RLC-UM	O		9.2.1.34Ab	
CQI Feedback Cycle k	O		9.2.2.24a	For FDD only
CQI Repetition Factor	O		9.2.2.24c	For FDD only
ACK-NACK Repetition Factor	O		9.2.2.a	For FDD only
CQI Power Offset	O		9.2.2.24b	For FDD only
ACK Power Offset	O		9.2.2.b	For FDD only
NACK Power Offset	O		9.2.2.26a	For FDD only
HS-SCCH Power Offset	O		9.2.2.19d	For FDD only

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-SCCH Code Change Grant	O		9.2.1.30S	
TDD ACK NACK Power Offset	O		9.2.3.7I	For TDD only

Range bound	Explanation
maxnoofMACdFlows	Maximum number of MAC-d flows.
maxnoofPrioQueues	Maximum number of Priority Queues.
maxnoofMACdPDUindexes	Maximum number of MAC-d PDU Size Indexes (SIDs).

9.2.1.30R   HS-SCCH Code Change Indicator

The HS-SCCH Code Change Indicator indicates whether the HS-SCCH Code change is needed or not.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
HS-SCCH Code Change Indicator			ENUMERATED (HS-SCCH Code Change needed)	

9.2.1.30S   HS-SCCH Code Change Grant

The *HS-SCCH Code Change Grant* IE indicates that modification of HS-SCCH Codes is granted.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-SCCH Code Change Grant			ENUMERATED(Change Granted)	

9.2.1.31   IMSI

The IMSI is the permanent UE user Identity, see ref. [1].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
IMSI			OCTET STRING (SIZE(3..8))	-Decimal digits coded in BCD -'1111' used as filler -bit 4 to 1 of octet n is encoding digit 2n-1 -bit 8 to 5 of octet n is encoding digit 2n

9.2.1.31A   Information Exchange ID

The Information Exchange ID uniquely identifies any requested information per RNS.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Information Exchange ID	M		INTEGER(0 .. 2^20-1)	

9.2.1.31B   Information Exchange Object Type

Void.

9.2.1.31C   Information Report Characteristics

The information report characteristics define how the reporting shall be performed.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Information Report Characteristics Type*	M			
>*On Demand*			NULL	
>*Periodic*				
>>CHOICE *Information Report Periodicity Scale*	M			The frequency with which the Node B shall send information reports.
>>>*minute*				
>>>>Report Periodicity Value	M		INTEGER (1..60,…)	
>>>*hour*				
>>>>Report Periodicity Value	M		INTEGER (1..24,…)	
>*On Modification*				
>>Information Threshold	O		9.2.1.31D	

9.2.1.31D   Information Threshold

The Information Threshold indicates which kind of information shall trigger the Information Reporting procedure.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
CHOICE *Information Type Item*	M				-	
>*DGPS Corrections*					-	
>>PRC Deviation	M		ENUMERATED(1, 2, 5, 10, …)	PRC deviation in meters from the previously reported value, which shall trigger a report	-	

9.2.1.31E   Information Type

The Information Type indicates which kind of information the RNS shall provide.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Information Type Item	M		ENUMERATED (UTRAN Access Point Position with Altitude, UTRAN Access Point Position, IPDL Parameters, GPS Information, DGPS Corrections, GPS RX Pos, SFN-SFN Measurement Reference Point Position,…, Cell Capacity Class)	For information exchange on the Iur-g interface, only the Cell Capacity Class is used.
GPS Information	C-GPS	1..<maxnoofGPSTypes>		
>GPS Information Item			ENUMERATED (GPS Navigation Model and Time Recovery, GPS Ionospheric Model, GPS UTC Model, GPS Almanac, GPS Real-Time Integrity, …)	

Condition	Explanation
GPS	This IE shall be present if the *Information Type Item* IE indicates "GPS Information".

Range Bound	Explanation
maxnoofGPSTypes	Maximum number of GPS Information Types supported in one Information Exchange.

9.2.1.31F IPDL Parameters

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
CHOICE *IPDL Parameters*					-	
>*IPDL FDD Parameters*					-	
>>IPDL FDD parameters	M		9.2.2.21B		-	
>*IPDL TDD Parameters*				Applicable to 3.84Mcps TDD only	-	
>>IPDL TDD parameters	M		9.2.3.4B		-	
>*Additional IPDL Parameters*					–	
>>*IPDL TDD Parameters LCR*				Applicable to 1.28Mcps TDD only	-	
>>>IPDL TDD parameters LCR	M		9.2.3.4Bb		YES	reject

9.2.1.32 L3 Information

This parameter contains the Layer 3 Information from a Uu message as received from the UE over the Uu interface or the Layer 3 Information for a Uu message to be sent to a UE by the DRNC, as defined in ref. [16].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
L3 Information			BIT STRING	The content is defined in ref. [16]

9.2.1.33 Limited Power Increase

Void.

9.2.1.33A Load Value

The *Load Value* IE contains the total load on the measured object relative to the maximum planned load for both the uplink and downlink. It is defined as the load percentage of the Cell Capacity Class.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Uplink Load Value	M		INTEGER(0. .100)	Value 0 shall indicate the minimum load, and 100 shall indicate the maximum load. Load should be measured on a linear scale.
Downlink Load Value	M		INTEGER(0. .100)	Value 0 shall indicate the minimum load, and 100 shall indicate the maximum load. Load should be measured on a linear scale.

9.2.1.34 MAC-c/sh SDU Length

Indicates the MAC-c/sh SDU Length. Which is used for FACH, DSCH and USCH. There may be multiple MAC-c/sh SDU Lengths per priority class.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
MAC-c/sh SDU Length			INTEGER(1. .5000)	Size of the MAC-c/sh SDU in number of bits.

9.2.1.34A   MAC-d PDU Size

The *MAC-d PDU Size* IE provides the size in bits of the MAC-d PDU.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
MAC-d PDU Size			INTEGER (1..5000,…)	

9.2.1.34Aa   MAC-hs Guaranteed Bit Rate

The *MAC-hs Guaranteed Bit Rate* IE indicates the guaranteed number of bits per second that Node B should deliver over the air interface under normal operating conditions (provided there is data to deliver).

IE/Group Name	Presence	Range	IE type and reference	Semantics description
MAC-hs Guaranteed Bit Rate			INTEGER (0..2^24-1, …)	Unit: bit/s

9.2.1.34Ab   MAC-hs Reordering Buffer Size for RLC-UM

The *MAC-hs Reordering Buffer Size for RLC-UM* IE indicates the portion of the buffer in the UE that can be used for RLC-UM traffic (i.e. for Priority Queues whose *RLC Mode* IE is set to "RLC-UM").

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
MAC-hs Reordering Buffer Size for RLC-UM			INTEGER (0..300,…)	Unit: kBytes And N kBytes = N*1024 Bytes. The D R N S shall use this value to avoid the overflow of the UE buffer.

9.2.1.34B   MAC-hs Reset Indicator

The *MAC-hs Reset Indicator* IE indicates that a reset of the MAC-hs is not required.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
MAC-hs Reset Indicator			ENUMERATED (MAC-hs Not Reset)	

9.2.1.34C   MAC-hs Window Size

The *MAC-hs Window Size* IE is used for MAC-hs PDU retransmission as defined in [41].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
MAC-hs Window Size			ENUMERATED (4, 6, 8, 12, 16, 24, 32,…)	

9.2.1.35   Maximum Allowed UL Tx Power

Maximum Allowed UL Tx Power is the maximum power that a UE in a particular cell is allowed to transmit.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Maximum Allowed UL Tx Power			INTEGER(-50..+33)	dBm

9.2.1.35A   Measurement Availability Indicator

Void

9.2.1.35B   Measurement Change Time

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Measurement Change Time	M		INTEGER (1..6000,…)	Unit: ms Range: 10..60000 ms Step: 10 ms

9.2.1.36   Measurement Filter Coefficient

The Measurement Filter Coefficient determines the amount of filtering to be applied for measurements.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Measurement Filter Coefficient			ENUMERATED(0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 13, 15, 17, 19,…)	

9.2.1.36A   Measurement Hysteresis Time

The Measurement Hysteresis Time provides the duration during which a reporting criterion has to be fulfilled for the Measurement Reporting procedure to be triggered.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Measurement Hysteresis Time			INTEGER (1..6000,…)	Unit: ms Range: 10..60000 ms Step: 10 ms

9.2.1.37   Measurement ID

The Measurement ID uniquely identifies a dedicated measurement within a UE Context or a common measurement within a Distant RNC Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Measurement ID			INTEGER(0 .. 2^20-1)	

9.2.1.38   Measurement Increase/Decrease Threshold

The Measurement Increase/Decrease Threshold defines the threshold that shall trigger Event C or D.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
CHOICE *Measurement Increase/Decrease Threshold*	M				-	
>*SIR*					-	
>>SIR	M		INTEGER(0..62)	0: 0 dB 1: 0.5 dB 2: 1 dB … 62: 31dB	-	
>*SIR Error*				FDD Only	-	
>>SIR Error	M		INTEGER(0..124)	0: 0 dB 1: 0.5 dB 2: 1 dB … 124: 62 dB	-	
>*Transmitted Code Power*					-	
>>Transmitted Code Power	M		INTEGER(0..112,...)	0: 0 dB 1: 0.5 dB 2: 1 dB … 112: 56 dB	-	
>*RSCP*				TDD Only	-	
>>RSCP	M		INTEGER(0..126)	0: 0 dB 1: 0.5 dB 2: 1 dB … 126: 63 dB	-	
>*Round Trip Time*				FDD Only	-	
>>Round Trip Time	M		INTEGER(0..32766)	0: 0 chips 1: 0.0625 chips 2: 0.1250 chips … 32766: 2047.875 chips	-	
>*Additional Measurement Thresholds*					–	
>>*Load*					-	
>>>Load	M		INTEGER(0..100)	Units are the same as for the Uplink *Load Value* IE and *Downlink Load Value* IE.	-	
>>*Transmitted Carrier Power*					-	
>>>Transmitted Carrier Power	M		INTEGER(0..100)	According to mapping in [23] and [24].	YES	reject
>>*Received Total Wide Band Power*					-	
>>>Received Total Wide Band Power	M		INTEGER(0..620)	0: 0dB 1: 0.1dB 2: 0.2dB ... 620: 62dB	YES	reject
>>*UL Timeslot ISCP*				TDD Only	-	
>>>UL Timeslot ISCP			INTEGER(0..126)	0: 0dB 1: 0.5dB 2: 1dB ... 126: 63dB	YES	reject
>>*RT Load*					-	

>>>RT Load	M		INTEGER(0..100)	Units are the same as for the *Uplink RT Load Value* IE and *Downlink RT Load Value* IE.	YES	reject
>>*NRT Load Information*					-	
>>>NRT Load Information	M		INTEGER(0..3)		YES	reject

9.2.1.39 Measurement Threshold

The Measurement Threshold defines which threshold that shall trigger Event A, B, E, F or On Modification.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
CHOICE *Measurement Threshold*					-	
>*SIR*					-	
>>SIR	M		INTEGER(0..63)	According to mapping in ref. [23] and [24].	-	
>*SIR Error*				FDD Only	-	
>>SIR Error	M		INTEGER(0..125)	According to mapping in [23]	-	
>*Transmitted Carrier Power*					-	
>>Transmitted Code Power	M		INTEGER(0..127)	According to mapping in ref. [23] and [24].	-	
>*RSCP*				TDD Only	-	
>>RSCP	M		INTEGER(0..127)	According to mapping in ref. [24]	-	
>*Rx Timing Deviation*				Applicable to 3.84Mcps TDD Only	-	
>>Rx Timing Deviation	M		INTEGER(0..819 1)	According to mapping in [24]	-	
>*Round Trip Time*				FDD Only	-	
>>Round Trip Time	M		INTEGER(0..327 67)	According to mapping in [23]	-	
> *T_{UTRAN-GPS} Measurement Threshold Information*					-	
>>T_{UTRAN-GPS} Measurement Threshold Information	M		9.2.1.59C		YES	reject
> *SFN-SFN Measurement Threshold Information*					-	
>>SFN-SFN Measurement Threshold Information	M		9.2.1.52B		YES	reject
>*Load*					-	
>>Load	M		INTEGER(0..100)	0 is the minimum indicated load, and 100 is the maximum indicated load.	YES	reject
>*Transmitted Carrier Power*					-	
>>Transmitted Carrier Power	M		INTEGER(0..100)	According to mapping in [23] and [24].	YES	reject
>*Received Total Wide Band Power*					-	
>>Received Total Wide Band Power	M		INTEGER(0..621)	According to mapping in [23] and [24].	YES	reject
>*UL Timeslot ISCP*				TDD Only	-	
>>UL Timeslot ISCP	M		INTEGER(0..127)	According to mapping in [24]	YES	reject
>*RT Load*					-	
>>RT Load	M		INTEGER(0..100)		YES	reject
>*NRT Load Information*					-	
>>NRT Load Information	M		INTEGER(0..3)		YES	reject
>Rx Timing				Applicable to		

				1.28Mcps TDD Only		
Deviation LCR						
>>Rx Timing Deviation LCR	M		INTEGER(0..511)	According to mapping in [24]	YES	reject
>*HS-SICH reception quality*				Applicable to TDD Only	–	
>>HS-SICH reception quality	M		INTEGER (0..20)	According to mapping in [24]	YES	reject

9.2.1.39A   Message Structure

The *Message Structure* IE gives information for each level with assigned criticality in an hierarchical message structure from top level down to the lowest level above the reported level for the occurred error (reported in the *Information Element Criticality Diagnostics* IE).

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message structure		*1..<maxnooflevels>*		The first repetition of the *Message Structure* IE corresponds to the top level of the message. The last repetition of the *Message Structure* IE corresponds to the level above the reported level for the occurred error of the message.	-	
>IE ID	M		INTEGER(0..65535)	The IE ID of this level"s IE containing the not understood or missing IE.	-	
>Repetition Number	O		INTEGER(1..256)	The *Repetition Number* IE gives, if applicable, the number of occurrences of this level"s reported IE up to and including the occurrence containing the not understood or missing IE. Note: All the counted occurrences of the reported IE must have the same topdown hierarchical message structure of IEs with assigned criticality above them.	-	

Range bound	Explanation
maxnooflevels	Maximum no. of message levels to report. The value for maxnooflevels is 256.

9.2.1.40   Message Type

The Message Type uniquely identifies the message being sent.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Procedure ID		1		
>Procedure Code	M		INTEGER (0..255)	"0" = Common Transport Channel Resources Initialisation "1" = Common Transport Channel Resources Release "2" = Compressed Mode Command "3" = Downlink Power Control "4" = Downlink Power Timeslot Control "5" = Downlink Signalling Transfer "6" = Error Indication "7" = Dedicated Measurement Failure "8" = Dedicated Measurement Initiation "9" = Dedicated Measurement Reporting "10" = Dedicated Measurement Termination "11" = Paging "12" = Physical Channel Reconfiguration "14" = Radio Link Addition "15" = Radio Link Deletion "16" = Radio Link Failure "17" = Radio Link Preemption "18" = Radio Link Restoration "19" = Radio Link Setup "20" = Relocation Commit "21" = Synchronised Radio Link Reconfiguration Cancellation "22" = Synchronised Radio Link Reconfiguration Commit "23" = Synchronised Radio Link Reconfiguration Preparation "24" = UnSynchronised Radio Link Reconfiguration "25" = Uplink Signalling Transfer "26" = Common Measurement Failure "27" = Common Measurement Initiation "28" = Common Measurement Reporting "29" = Common Measurement Termination "30" = Information Exchange Failure "31" = Information Exchange Initiation "32" = Information Reporting "33" = Information Exchange Termination "34" = Radio Link Congestion "35" = Reset "36" = Radio Link Activation '38' = Radio Link Parameter Update
>Ddmode	M		ENUMERATED(FDD, TDD, Common, …)	Common = common to FDD and TDD.
Type of Message	M		ENUMERATED(Initiating Message, Successful Outcome, Unsuccessful Outcome, Outcome)	

9.2.1.41 Multiple URAs Indicator

The Multiple URAs Indicator indicates whether the accessed cell has multiple URAs.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Multiple URAs Indicator			ENUMERATED(Multiple URA s exist, Single URA Exists)	

9.2.1.41A   Neighbouring UMTS Cell Information

The *Neighbouring UMTS Cell Information* IE provides information for UMTS Cells that are neighbouring cells to a cell in the DRNC. The neighbouring cell information is provided for each RNC (including the DRNC) that has cells that are neighbouring cells to the cell in the DRNC.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Neighbouring UMTS Cell Information		1..<maxnoof neighbourin gRNCs>			EACH	ignore
>RNC-ID	M		9.2.1.50		–	
>CN PS Domain Identifier	O		9.2.1.12		–	
>CN CS Domain Identifier	O		9.2.1.11		–	
>Neighbouring FDD Cell Information	O		9.2.1.41B		–	
>Neighbouring TDD Cell Information	O		9.2.1.41D		–	
>Neighbouring TDD Cell Information LCR	O		9.2.1.72		YES	ignore

Range bound	Explanation
maxnoofneighbouringRNCs	Maximum number of neighbouring RNCs.

9.2.1.41B   Neighbouring FDD Cell Information

The *Neighbouring FDD Cell Information* IE provides information for FDD cells that are a neighbouring cells to a cell in the DRNC.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Neighbouring FDD Cell Information		*1..<max noofFDD neighbou rs>*			–	
>C-ID	M		9.2.1.6		–	
>UL UARFCN	M		UARFCN 9.2.1.66	Corresponds to Nu in ref. [6]	–	
>DL UARFCN	M		UARFCN 9.2.1.66	Corresponds to Nd in ref. [6]	–	
>Frame Offset	O		9.2.1.30		–	
>Primary Scrambling Code	M		9.2.1.45		–	
>Primary CPICH Power	O		9.2.1.44		–	
>Cell Individual Offset	O		9.2.1.7		–	
>Tx Diversity Indicator	M		9.2.2.50			
>STTD Support Indicator	O		9.2.2.45		–	
>Closed Loop Mode1 Support Indicator	O		9.2.2.2		–	
>Closed Loop Mode2 Support Indicator	O		9.2.2.3		–	
>Restriction State Indicator	O		9.2.1.48C		YES	ignore
>DPC Mode Change Support Indicator	O		9.2.2.56		YES	ignore
>Coverage Indicator	O		9.2.1.12G		YES	ignore
>Antenna Co-location Indicator	O		9.2.1.2C		YES	ignore
>HCS Prio	O		9.2.1.30N		YES	ignore
>Cell Capability Container FDD	O		9.2.2.D		YES	ignore
>SNA Information	O		9.2.1.52Ca		YES	ignore

Range bound	Explanation
maxnoofFDDneighbours	Maximum number of neighbouring FDD cell for one cell.

9.2.1.41C   Neighbouring GSM Cell Information

The *Neighbouring GSM Cell Information* IE provides information for all GSM Cells that are a neighbouring cell to a cell in the DRNC.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Neighbouring GSM Cell Information		*1..<max noofGS Mneighb ours>*			GLOBAL	ignore
>CGI		*1*		Cell Global Identity as defined in ref. [1].	–	
>>LAI		*1*			–	
>>>PLMN Identity	M		OCTET STRING (3)	- digits 0 to 9, two digits per octet, - each digit encoded 0000 to 1001, - 1111 used as filler - bit 4 to 1 of octet n encoding digit 2n-1 - bit 8 to 5 of octet n encoding digit 2n -The PLMN Identity consists of 3 digits from MCC followed by either -a filler plus 2 digits from MNC (in case of 2 digit MNC) or -3 digits from MNC (in case of a 3 digit MNC).	–	
>>>LAC	M		OCTET STRING (2)	0000 and FFFE not allowed	–	
>>CI	M		OCTET STRING (2)		–	
>Cell Individual Offset	O		9.2.1.7	The Cell Individual Offset to be used for UEs using DCHs. If the *Extended GSM Cell Individual Offset* IE is present, the *Cell Individual Offset* IE shall be set to a) –10dB if the *Extended GSM Cell Individual Offset* IE is < -10dB and b) 10dB if the *Extended GSM Cell Individual Offset* IE is > 10dB.	–	
>BSIC		*1*		Base Station Identity Code as defined in ref. [1].	–	
>>NCC	M		BIT STRING(3)	Network Colour Code.	–	
>>BCC	M		BIT STRING(3)	Base Station Colour Code.	–	
>Band Indicator	M		ENUMERAT ED(DCS 1800 band, PCS 1900 band, …)	Indicates whether or not the BCCH ARFCN belongs to the 1800 band or 1900 band of GSM frequencies.	–	
>BCCH ARFCN	M		INTEGER(0. .1023)	BCCH Frequency as defined in ref. [29].	–	
>Coverage Indicator	O		9.2.1.12G		YES	ignore
>Antenna Co-location Indicator	O		9.2.1.2C		YES	ignore
>HCS Prio	O		9.2.1.30N		YES	ignore

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> SNA Information	O		9.2.1.52Ca		YES	ignore
>GERAN Cell Capability	O		9.2.1.30Fa		YES	ignore
>GERAN Classmark	O		9.2.1.30Fb		YES	ignore
>Extended GSM Cell Individual Offset	O		9.2.1.26Bb	The Extended GSM Cell Individual Offset to be used for UEs using DCHs, for values that exceed the range of the *Cell Individual Offset* IE.	YES	ignore

Range bound	Explanation
maxnoofGSMneighbours	Maximum number of neighbouring GSM cells for one cell.

9.2.1.41D   Neighbouring TDD Cell Information

The *Neighbouring TDD Cell Information* IE provides information for 3.84Mcps TDD cells that are a neighbouring cells to a cell in the DRNC.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Neighbouring TDD Cell Information		1..*<maxnoofTDDneighbours>*			–	
>C-ID	M		9.2.1.6		–	
>UARFCN	M		9.2.1.66	Corresponds to Nt in ref. [7]	–	
>Frame Offset	O		9.2.1.30		–	
>Cell Parameter ID	M		9.2.1.8		–	
>Sync Case	M		9.2.1.54		–	
>Time Slot For SCH	C-Case1		Time Slot 9.2.1.56		–	
>SCH Time Slot	C-Case2		9.2.1.51		–	
>SCTD Indicator	M		9.2.1.78		–	
>Cell Individual Offset	O		9.2.1.7		–	
>DPCH Constant Value	O		9.2.1.23		–	
>PCCPCH Power	O		9.2.1.43		–	
>Restriction State Indicator	O		9.2.1.48C		YES	ignore
>Coverage Indicator	O		9.2.1.12G		YES	ignore
>Antenna Co-location Indicator	O		9.2.1.2C		YES	ignore
>HCS Prio	O		9.2.1.30N		YES	ignore
>Cell Capability Container TDD	O		9.2.3.1a		YES	ignore
> SNA Information	O		9.2.1.52Ca		YES	ignore

Condition	Explanation
Case1	The IE shall be present if the *Sync Case* IE is set to 'Case1'.
Case2	The IE shall be present if the *Sync Case* IE is set to 'Case2'.

Range bound	Explanation
maxnoofTDDneighbours	Maximum number of neighbouring 3.84Mcps TDD cell for one cell.

9.2.1.41Dd   Neighbouring TDD Cell Measurement Information LCR

This IE provides information on the 1.28Mcps TDD neighbouring cells used for the purpose of Measurements. Since the measurement can be performed on every time slot and midamble shift, the *Time slot LCR* IE and *Midamble shift LCR* IE shall be included if available.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
UTRAN Cell Identifier	M		9.2.1.71	
UARFCN	M		9.2.1.66	Corresponds to Nt [15]
Cell Parameter ID	M		9.2.1.8	
Time Slot LCR	O		9.2.3.12a	
Midamble shift LCR	O		9.2.3.4C	

9.2.1.41E Paging Cause

Cause for a CN originated page.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Paging Cause			ENUMERATED(Terminating Conversational Call, Terminating Streaming Call, Terminating Interactive Call, Terminating Background Call, Terminating Low Priority Signalling,…, Terminating High Priority Signalling, Terminating – cause unknown)	See in [16]

9.2.1.41F Paging Record Type

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Paging Record Type			ENUMERATED(IMSI (GSM-MAP), TMSI (GSM-MAP), P-TMSI (GSM-MAP), IMSI (DS-41), TMSI (DS-41),...)	See ref. [16]

9.2.1.41Fa Partial Reporting Indicator

This IE indicates if DRNS may report partially successful measurements.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Partial Reporting Indicator			ENUMERATED(partial reporting	

			allowed)	

9.2.1.41G   Neighbouring FDD Cell Measurement Information

This IE provides information on the FDD neighbouring cells used for the purpose of Measurements.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
UTRAN Cell Identifier	M		9.2.1.71	
UARFCN	M		9.2.1.66	Corresponds to Nd [6]
Primary Scrambling Code	M		9.2.1.45	

9.2.1.41H   Neighbouring TDD Cell Measurement Information

This IE provides information on the 3.84Mcps TDD neighbouring cells used for the purpose of Measurements. Since the measurement can be performed on every time slot and midamble shift, the *Time slot* IE and *Midamble shift and burst type* IE shall be included if available.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
UTRAN Cell Identifier	M		9.2.1.71	
UARFCN	M		9.2.1.66	Corresponds to Nt [15]
Cell Parameter ID	M		9.2.1.8	
Time slot	O		9.2.1.56	
Midamble Shift And Burst Type	O		9.2.3.4	

9.2.1.41I   NRT Load Information Value

The *NRT Load Information* IE indicates the load situation on the cell for the Non Real-Time traffic. Non Real Time traffic corresponds to the Interactive and Background traffic classes.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Uplink NRT Load Information Value	M		INTEGER(0..3)	Mapping of the status: 0: low: The Uplink NRT load is low. 1: medium: The Uplink NRT load is medium. 2: high: Uplink NRT load is high. Probability to admit a new user is low. 3: overloaded: Uplink NRT overload. The probability to admit a new user is low, packets are discarded and the source is recommended to reduce the data flow.
Downlink NRT Load Information Value	M		INTEGER(0..3)	Mapping of the status: 0: low: The Downlink NRT load is low. 1: medium: The Downlink NRT load is medium. 2: high: Downlink NRT load is high. Probability to admit a new user is low. 3: overloaded: Downlink NRT overload. The probability to admit a new user is low, packets are discarded and the source is recommended to reduce the data flow.

9.2.1.42 Payload CRC Present Indicator

This parameter indicates whether FP payload 16 bit CRC is used or not.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Payload CRC Presence Indicator			ENUMERATED(CRC Included, CRC not included)	

9.2.1.43 PCCPCH Power

Primary CCPCH power is the power that shall be used for reference power value in a TDD cell. The reference point is the antenna connector. If Transmit Diversity is applied to the Primary CCPCH, the PCCPCH Power is the linear sum of the power that is used for transmitting the PCCPCH on all branches.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
PCCPCH Power			NTEGER (-150..400,...)	Unit dBm Range –15.0 to 40.0 dBm, Step size 0.1 dB. -15.0 shall indicate $P \leq$ -15dBm +40.0 shall indicate $P \geq$ 40dBm.

9.2.1.44 Primary CPICH Power

Primary CPICH power is the power that is used for transmitting the Primary CPICH in a cell. The reference point is the antenna connector. If Transmit Diversity is applied to the Primary CPICH, the Primary CPICH Power is the linear sum of the power that is used for transmitting the Primary CPICH on all branches.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Primary CPICH Power			INTEGER (-100..500)	Value = Primary CPICH Power/10 Unit dBm Range −10.0..+50.0 Step 0.1 dB

9.2.1.45 Primary Scrambling Code

The Primary scrambling code to be used in the cell.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Primary Scrambling Code			INTEGER(0 .. 511)	

9.2.1.45A Priority Queue ID

The *Priority Queue ID* IE provides the identity of the Priority Queue. The Priority Queue ID is unique across all MAC-d flows that are currently allocated for one UE Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Priority Queue ID			INTEGER (0..7)	

9.2.1.45B Process Memory Size

The *Process Memory Size* IE is the size of an HARQ process in the DRNS expressed in bits. It provides the maximum number of soft channel bits in the virtual IR buffer [9] or [46].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Process Memory Size			ENUMERATED (800, 1600, 2400, 3200, 4000, 4800, 5600, 6400, 7200, 8000, 8800, 9600, 10400, 11200, 12000, 12800, 13600, 14400, 15200, 16000, 17600, 19200, 20800, 22400, 24000, 25600, 27200, 28800, 30400, 32000, 36000, 40000, 44000, 48000, 52000, 56000, 60000, 64000, 68000, 72000, 76000, 80000, 88000, 96000, 104000, 112000, 120000, 128000, 136000, 144000, 152000, 160000, 176000, 192000, 208000, 224000, 240000, 256000, 272000, 288000, 304000,…)	

9.2.1.46 Puncture Limit

The maximum amount of puncturing for a transport channel in rate matching.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Puncture Limit			INTEGER (0..15)	0: 40% 1: 44 % … 14: 96% 15: 100% (no puncturing)

9.2.1.46A QE-Selector

The QE-Selector indicates from which source the value for the quality estimate (QE) shall be taken.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
QE-Selector			ENUMERATED(selected, non-selected)	

9.2.1.47 RANAP Relocation Information

This parameter is transparent to the RNSAP. The parameter contains information for the Relocation procedure as defined in [2].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
RANAP Relocation Information			BIT STRING	The content is defined in ref. [2].

9.2.1.48 Report Characteristics

The Report Characteristics, defines how the reporting shall be performed.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
CHOICE *Report Characteristics*	M				–	
>*On Demand*			NULL		–	
>*Periodic*					–	
>>Report Periodicity	M		9.2.1.48a	The periodicity with which the DRNS shall send measurement reports.	–	
>*Event A*					–	
>>Measurement Threshold	M		9.2.1.39	The threshold for which the DRNS shall trigger a measurement report.	–	
>>Measurement Hysteresis Time	O		9.2.1.36A		–	
>*Event B*					–	
>>Measurement Threshold	M		9.2.1.39	The threshold for which the DRNS shall trigger a measurement report.	–	
>>Measurement Hysteresis Time	O		9.2.1.36A		–	
>*Event C*					–	
>>Measurement Increase/Decrease Threshold	M		9.2.1.38		–	
>>Measurement Change Time	M		9.2.1.35B	The time within which the measurement entity shall rise, in order to trigger a measurement report.	–	
>*Event D*					–	
>>Measurement Increase/Decrease Threshold	M		9.2.1.38		–	
>>Measurement Change Time	M		9.2.1.35B	The time within which the measurement entity shall fall, in order to trigger a measurement report.	–	
>*Event E*					–	
>>Measurement Threshold 1	M		Measurement Threshold 9.2.1.39		–	
>>Measurement Threshold 2	O		Measurement Threshold		–	

ETSI

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
			9.2.1.39			
>>Measurement Hysteresis Time	O		9.2.1.36A	The hysteresis time in ms	–	
>>Report Periodicity	O		9.2.1.48a	The periodicity with which the DRNS shall send measurement reports.	–	
>Event F					–	
>>Measurement Threshold 1	M		Measurement Threshold 9.2.1.39		–	
>>Measurement Threshold 2	O		Measurement Threshold 9.2.1.39		–	
>>Measurement Hysteresis Time	O		9.2.1.36A	The hysteresis time in ms	–	
>>Report Periodicity	O		9.2.1.48a	The periodicity with which the DRNS shall send measurement reports.	–	
>Additional Report Characteristics					–	
>>On Modification					–	
>>> **On Modification**		1			YES	reject
>>>>Measurement Threshold	M		9.2.1.39			

9.2.1.48a   Report Periodicity

The Report Periodicity defines the frequency at which the Node B shall send measurement reports.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Report Periodicity Scale*	M			
>*millisecond*				
>>Report Periodicity Value	M		INTEGER (1..6000,…)	Unit: ms Range: 10..60000 ms Step: 10 ms
>*minute*				
>>Report Periodicity Value	M		INTEGER (1..60,…)	Unit: min Range: 1..60 min Step: 1 min

9.2.1.48A   Requested Data Value

The Requested Data Value contains the relevant data concerned the ongoing information exchange. *Requested Data Value* IE shall include at least one of the following IE.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
UTRAN Access Point Position with Altitude	O		9.2.1.75		-	
IPDL Parameters	O		9.2.1.31F		-	
DGPS Corrections	O		9.2.1.19B		-	
GPS Navigation Model and Time Recovery	O		9.2.1.30I		-	
GPS Ionospheric Model	O		9.2.1.30H		-	
GPS UTC Model	O		9.2.1.30L		-	
GPS Almanac	O		9.2.1.30G		-	
GPS Real-Time Integrity	O		9.2.1.30J		-	
GPS RX Pos	O		9.2.1.30K		-	
SFN-SFN Measurement Reference Point Position	O		9.2.1.74		-	
Cell Capacity Class Value	O		9.2.1.5C		YES	ignore

9.2.1.48B   Requested Data Value Information

The *Requested Data Value Information* IE provides information on whether or not the Requested Data Value is available in the message and also the Requested Data Value itself if available. In case of "Periodic" and "On Modification" reporting, "Information Not Available" shall be used when at least one part of the requested information was not available at the moment of initiating the Information Reporting procedure.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
CHOICE Information Availability Indicator	M				–	
>Information Available					–	
>>Requested Data Value	M		9.2.1.48A		–	
>Information not Available			NULL		–	

9.2.1.48C   Restriction State Indicator

The Restriction state indicator is the identifier indicates whether the cell is "Cell Reserved for Operator Use" or not. It is provided by DRNS and reported to SRNC.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Restriction state indicator			ENUMERATED(Cell Not Reserved for Operator Use, Cell Reserved for Operator Use, …)	

9.2.1.48D   RLC Mode

The *RLC Mode* IE indicates the RLC Mode used for a Priority Queue.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
RLC Mode			ENUMERATED (RLC-AM, RLC-UM,…)	

9.2.1.49 RL ID

The RL ID is the unique identifier for one RL associated with a UE.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
RL ID			INTEGER (0..31)	

9.2.1.49A RL Specific DCH Information

The *RL Specific DCH Information* IE provides RL Specific DCH Information for DCHs. In case of a set of co-ordinated DCHs requiring a new transport bearer on Iur, the *Transport Layer Address* IE and the *Binding ID* IE in the *RL Specific DCH Information* IE shall be included only for one of the DCHs in the set of co-ordinated DCHs.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
RL Specific DCH Information		1..<maxno ofDCHs>			–	
>DCH ID	M		9.2.1.16		–	
>Binding ID	O		9.2.1.3	Shall be ignored if bearer establishme nt with ALCAP.	–	
>Transport Layer Address	O		9.2.1.62	Shall be ignored if bearer establishme nt with ALCAP.	–	

Range bound	Explanation
maxnoofDCHs	Maximum number of DCHs for one UE.

9.2.1.50 RNC-ID

This is the identifier of one RNC in UTRAN.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
RNC-ID			INTEGER(0. .4095)	

9.2.1.50A SAT ID

The SAT ID indicates the identity of the satellite.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
SAT ID			INTEGER(0..63)	

9.2.1.50B   RT Load Value

The *RT Load Value* IE indicates in percents the ratio of the load generated by Real Time traffic, relative to the measured Load Value. Real Time traffic corresponds to the Conversational and Streaming traffic classes.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Uplink RT Load Value	M		INTEGER(0..100)	
Downlink RT Load Value	M		INTEGER(0..100)	

9.2.1.51   SCH Time Slot

The *SCH Time Slot* IE represents the first time slot (k) of a pair of time slots inside a Radio Frame that is assigned to the Physical Channel SCH. The *SCH Time Slot* IE is only applicable if the value of *Sync Case* IE is Case 2 since in this case the SCH is allocated in TS#k and TS#k+8.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
SCH Time Slot			INTEGER(0..6)	

9.2.1.51A   Scheduling Priority Indicator

Indicates the relative priority of the FACH, DSCH, USCH or HS-DSCH data frame. Used by the DRNC when scheduling FACH, DSCH, USCH or HS-DSCH traffic.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Scheduling Priority Indicator			INTEGER(0..15)	Relative priority of the FACH, DSCH, USCH or HS-DSCH data frame: 0=Lowest Priority … 15=Highest Priority

9.2.1.52   Service Area Identifier (SAI)

This information element is used to identify an area consisting of one or more cells belonging to the same Location Area. Such an area is called a Service Area and can be used for indicating the location of a UE to the CN. For this protocol, only a Service Area that is defined to be applicable to the PS and CS domains shall be used.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
PLMN Identity	M		OCTET STRING (3)	- digits 0 to 9, two digits per octet, - each digit encoded 0000 to 1001, - 1111 used as filler - bit 4 to 1 of octet n encoding digit 2n-1 - bit 8 to 5 of octet n encoding digit 2n -The PLMN Identity consists of 3 digits from MCC followed by either -a filler plus 2 digits from MNC (in case of 2 digit MNC) or -3 digits from MNC (in case of a 3 digit MNC).
LAC	M		OCTET STRING (2)	0000 and FFFE not allowed
SAC	M		OCTET STRING (2)	

9.2.1.52A   SFN

System Frame Number of the cell, see ref. [17].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
SFN			INTEGER(0. .4095)	

9.2.1.52B   SFN-SFN Measurement Threshold Information

The SFN-SFN Measurement Threshold Information defines the related thresholds SFN-SFN Observed Time Difference measurements which shall trigger the Event On Modification.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
SFN-SFN Change Limit	O		INTEGER(1. .256)	Change of SFN-SFN value compared to previously reported value, which shall trigger a new report. Unit in 1/16 chip.
Predicted SFN-SFN Deviation Limit	O		INTEGER(1. .256)	Deviation the Predicted SFN-SFN from the latest measurement result, which shall trigger a new report. Unit in 1/16 chip.

9.2.1.52C   SFN-SFN Measurement Value Information

The SFN-SFN Measurement Value Information IE indicates the measurement result related to SFN-SFN Observed Time Difference measurements as well as other related information.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information		*1..<maxnoofMeasN Cell>*		
>UTRAN Cell Identifier	M		9.2.1.71	
>SFN-SFN Value	M		9.2.1.77	
>SFN-SFN Quality	O		INTEGER(0. .255)	Indicates the standard deviation (std) of the SFN-SFN otd (observed time difference) measurements in 1/16 chip. SFN-SFN Quality = $\sqrt{E[(x-\mu)^2]}$ = std of reported SFN-SFN Value, where x is the reported SFN-SFN Value and μ = E[x] is the expectation value of x.
>SFN-SFN Drift Rate	M		INTEGER(-100..100)	Indicates the SFN-SFN drift rate in 1/256 chip per second. A positive value indicates that the Reference cell clock is running at a greater frequency than the measured neighbouring cell.
>SFN-SFN Drift Rate Quality	O		INTEGER(0. .100)	Indicates the standard deviation (std) of the SFN-SFN drift rate measurements in 1/256 chip per second. SFN-SFN Drift Rate Quality = $\sqrt{E[(x-\mu)^2]}$ = std of reported SFN-SFN Drift Rate, where x is the reported SFN-SFN Drift Rate and μ = E[x] is the expectation value of x.
>SFN-SFN Measurement Time Stamp	M		9.2.1.76	
Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information		*0..<maxnoofMeasN Cell-1>*		
>UTRAN Cell Identifier	M		9.2.1.71	

Range bound	Explanation
maxnoofMeasNCell	Maximum number of neighbouring cells on which measurements can be performed.

9.2.1.52Ca   Shared Network Area (SNA) Information

This information element contains a list of Shared Network Areas, identified by the Shared Network Area Code (SNAC, see [1]) which a certain cell belongs to. For a broader description of the SNA access control see [40].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
PLMN Identity	M		OCTET STRING (3)	- digits 0 to 9, two digits per octet, - each digit encoded 0000 to 1001, - 1111 used as filler - bit 4 to 1 of octet n encoding digit 2n-1 - bit 8 to 5 of octet n encoding digit 2n -The PLMN Identity consists of 3 digits from MCC followed by either -a filler plus 2 digits from MNC (in case of 2 digit MNC) or -3 digits from MNC (in case of a 3 digit MNC).
List of SNAs		0..\<maxnoofSNAs\>		
> SNAC	M		INTEGER (0.. 65535)	

Range bound	Explanation
maxnoofSNAs	Maximum number of SNAs one cell can be part of.

9.2.1.52D SID

The *SID* IE provides the identity of the Size Index.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
SID			INTEGER (0..7)	

9.2.1.53 S-RNTI

The S-RNTI identifies the UE in the SRNC.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
S-RNTI			INTEGER(0..2^20 −1)	

9.2.1.53a S-RNTI Group

The S-RNTI Group identifies a group of UEs in the SRNC.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
S-RNTI	M		9.2.1.53	
S-RNTI bit mask index	M		Enumerated(b1, b2,..b19,…)	

The S-RNTI group is identified by all S-RNTI values whose bits starting from the most significant bit down to, and including, the bit indicated by S-RNTI bit mask index, are equal to the corresponding bits of the S-RNTI in this IE.

The bits of the S-RNTI in this IE that are less significant than the bit position indicated by the S-RNTI bit mask index shall be ignored.

9.2.1.54   Sync Case

The SCH and PCCPCH in a TDD cell are mapped on one or two downlink slots per frame. There are two cases of Sync Case as follows:

Case 1)   SCH and PCCPCH allocated in a single TS#k

Case 2)   SCH allocated in two TS: TS#k and TS#k+8
PCCPCH allocated in TS#k

[1.28Mcps TDD - There is no Sync Case indication needed for 1.28Mcps TDD. If the *Sync Case* IE must be included in a message from DRNC to SRNC used for 1.28Mcps TDD, the DRNC shall indicate Sync Case 1 and the SRNC shall ignore it.]

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Sync Case			INTEGER (1..2,...)	

9.2.1.54A   T1

The *T1* IE is used as described in ref [41] subclause 11.6.2.3.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
T1			ENUMERATED (10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 120, 140, 160, 200, 300, 400, …)	Unit: ms Node B may use this value to stop the re-transmission of the corresponding MAC-hs PDU.

9.2.1.55   TFCI Presence

The TFCI Presence parameter indicates whether the TFCI shall be included. [TDD - If it is present in the timeslot, it will be mapped to the channelisation code defined by [12].]

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
TFCI Presence			ENUMERATED(Present, not present)	

9.2.1.56   Time Slot

The Time Slot represents the time interval assigned to a Physical Channel referred to the start of a Radio Frame.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Time Slot			INTEGER (0..14)	

9.2.1.56A   TNL QoS

This IE indicates the TNL QoS characteristics of the transport bearer for the uplink data traffic.

When the *DS field* IE is used, the value of this IE is configurable by the operator.

When the G*eneric Traffic Category* IE is used, generic traffic categories are implementation-specific (e.g. they may be determined by the sender from the application parameters). The value assigned to each of these categories and sent in the *Generic Traffic Category* IE is configurable by the operator, as well as the mapping of this value to DS field [44] at the DRNS side.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *TNL QoS type*	M			
>*DS Field*				
>>DS field	M		BIT STRING (8)	DS field as defined in [44]. Typically used when the DRNS and its SRNC are in the same DS domain as defined in [45].
>*Generic Traffic Category*				
>>Generic Traffic Category	M		BIT STRING (8)	

9.2.1.57   ToAWE

ToAWE is the window endpoint. DL data frames are expected to be received before this window endpoint. ToAWE is defined with a positive value relative Latest Time of Arrival (LToA). A data frame arriving after ToAWE gives a Timing Adjustment Control frame response.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
ToAWE			INTEGER (0..2559)	Unit: msec.

9.2.1.58   ToAWS

ToAWS is the window startpoint. DL data frames are expected to be received after this window startpoint. ToAWS is defined with a positive value relative Time of Arrival Window Endpoint (ToAWE). A data frame arriving before ToAWS gives a Timing Adjustment Control frame response.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
ToAWS			INTEGER (0..1279)	Unit: msec.

9.2.1.58A   Traffic Class

This IE indicates the type of application the Radio Bearer is optimised for.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Traffic Class			ENUMERATED (conversational, streaming, interactive, background, ...)	

9.2.1.59 Transaction ID

The Transaction ID is used to associate all the messages belonging to the same procedure. Messages belonging to the same procedure shall use the same Transaction ID.

The Transaction ID is determined by the initiating peer of a procedure.

For procedures addressed to a specific UE Context, the Transaction ID shall uniquely identify a procedure among all ongoing parallel procedures for the same UE using the same procedure code, and initiated by the same protocol peer.

For procedures not addressed to a specific UE Context, the Transaction ID shall uniquely identify a procedure among all ongoing parallel procedures using the same procedure code, and initiated by the same protocol peer.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Transaction ID Length*				The Transaction ID shall be interpreted for its integer value, not for the type of encoding ('short' or 'long').
>*Short*				
>>Transaction ID Value	M		INTEGER (0..127)	
>*Long*				
>>Transaction ID Value	M		INTEGER (0..32767)	

9.2.1.59A Transmitted Carrier Power

The *Transmitted Carrier Power* IE contains the Transmitted Carrier Power in a cell, as defined in [11] & [14].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Transmitted Carrier Power			INTEGER(0..100)	According to mapping in [23] and [24].

9.2.1.59B T$_{UTRAN-GPS}$ Accuracy Class

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
T$_{UTRAN-GPS}$ Accuracy Class			ENUMERATED(Accuracy Class A, Accuracy Class B, Accuracy Class C,…)	More information about Measurement Accuracy Class is included in [23].

9.2.1.59C T$_{UTRAN-GPS}$ Measurement Threshold Information

The T$_{UTRAN-GPS}$ Measurement Threshold Information defines the related thresholds for UTRAN GPS Timing of Cell Frames for UE Positioning measurements shall trigger the Event On Modification.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
T$_{UTRAN-GPS}$ Change Limit	O		INTEGER(1..256)	Change of T$_{UTRAN-GPS}$ value compared to previously reported value, which shall trigger a new report. Unit in 1/16 chip.
Predicted T$_{UTRAN-GPS}$ Deviation Limit	O		INTEGER(1..256)	Deviation of the Predicted T$_{UTRAN-GPS}$ from the latest measurement result, which shall trigger a new report. Unit in 1/16 chip.

9.2.1.59D T$_{UTRAN-GPS}$ Measurement Value Information

The T$_{UTRAN-GPS}$ *Measurement Value Information* IE indicates the measurement results related to the UTRAN GPS Timing of Cell Frames for UE Positioning measurements.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
T$_{UTRAN-GPS}$		1		Indicates the UTRAN GPS Timing of Cell Frames for UE Positioning. According to mapping in [23] and [24]; significant values range from 0 to 37158911999999.
>MS	M		INTEGER (0..16383)	Most Significant Part
>LS	M		INTEGER (0..4294967295)	Least Significant Part
T$_{UTRAN-GPS}$ Quality	O		INTEGER(0..255)	Indicates the standard deviation (std) of the T$_{UTRAN-GPS}$ measurements in 1/16 chip. T$_{UTRAN-GPS}$ Quality = $\sqrt{E[(x-\mu)^2]}$ = std of reported T$_{UTRAN-GPS}$ Value, where x is the reported T$_{UTRAN-GPS}$ Value and $\mu = E[x]$ is the expectation value of x.
T$_{UTRAN-GPS}$ Drift Rate	M		INTEGER(-50..50)	Indicates the T$_{UTRAN-GPS}$ drift rate in 1/256 chip per second. A positive value indicates that the UTRAN clock is running at a lower frequency than GPS clock.
T$_{UTRAN-GPS}$ Drift Rate Quality	O		INTEGER(0..50)	Indicates the standard deviation (std) of the T$_{UTRAN-GPS}$ drift rate measurements in 1/256 chip per second. T$_{UTRAN-GPS}$ Drift Rate Quality = $\sqrt{E[(x-\mu)^2]}$ = std of reported T$_{UTRAN-GPS}$ Drift Rate, where x is the reported T$_{UTRAN-GPS}$ Drift Rate and $\mu = E[x]$ is the expectation value of x.

9.2.1.60 Transport Bearer ID

The Transport Bearer ID uniquely identifies an Iur transport bearer.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Transport Bearer ID			INTEGER(0..4095)	

9.2.1.61 Transport Bearer Request Indicator

Indicates whether a new Iur transport bearer needs to be established for carrying the corresponding data stream(s), or whether an existing transport bearer will be used.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Transport Bearer Request Indicator			ENUMERATED(Bearer Requested, Bearer not Requested, …)	

9.2.1.62 Transport Layer Address

In case of transport bearer establishment with ALCAP [3] [35], this IE contains the address to be used for Transport Network Control Plane signalling to establish the transport bearer according to [3] [35].

In order to allow transport bearer establishment without ALCAP, this IE contains the address of the transport bearer to be used for the user plane transport.

For details on the Transport Address used see [3].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Transport Layer Address			BIT STRING(1..160, …)	

9.2.1.63 Transport Format Combination Set (TFCS)

The Transport Format Combination Set is defined as a set of Transport Format Combinations on a Coded Composite Transport Channel. It is the allowed Transport Format Combinations of the corresponding Transport Channels. The DL Transport Format Combination Set is applicable to DL Transport Channels.

[FDD - Where the UE is assigned access to one or more DSCH transport channels then the UTRAN has the choice of two methods for signalling the mapping between TFCI(field 2) values and the corresponding TFC:
Method #1 - TFCI range
The mapping is described in terms of a number of groups, each group corresponding to a given transport format combination (value of CTFC(field2)). The CTFC(field2) value specified in the first group applies for all values of TFCI(field 2) between 0 and the specified 'Max TFCI(field2) value'. The CTFC(field2) value specified in the second group applies for all values of TFCI(field 2) between the 'Max TFCI(field2) value' specified in the last group plus one and the specified 'Max TFCI(field2) value' in the second group. The process continues in the same way for the following groups with the TFCI(field 2) value used by the UE in constructing its mapping table starting at the largest value reached in the previous group plus one.
Method #2 - Explicit
The mapping between TFCI(field 2) value and CTFC(field2) is spelt out explicitly for each value of TFCI (field2).

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *DSCH*	M			
>*No Split in the TFCI*				This choice is made if: a) The TFCS refers to the uplink OR b) The mode is FDD and none of the Radio Links of the concerned UE are assigned any DSCH transport channels OR c) The mode is TDD
>>TFCS		*1..<maxnoofTFCs>*		The first instance of the parameter corresponds to TFCI zero, the second to 1 and so on. [TDD - The first entry (for TFCI 0) should be ignored by the receiver.]
>>>CTFC	M		9.2.1.14A	
>>>CHOICE *Gain Factors*	C-PhysChan			
>>>>*Signalled Gain Factors*				
>>>>>Gain Factor β_C	M		INTEGER(0..15)	[FDD - For UL DPCCH or control part of PRACH ref. [21].] [TDD - β for UL DPCH mapping in accordance to [13].]
>>>>>Gain Factor β_D	M		INTEGER(0..15)	[FDD - For UL DPDCH or data part of PRACH ref. [21].] [TDD - Should be set to 0 by the sender, and shall be ignored by the receiver.]
>>>>>Reference TFC nr	O		INTEGER(0..15)	If this TFC is a reference TFC, this IE indicates the reference number
>>>>*Computed Gain Factors*				
>>>>>Reference TFC nr	M		INTEGER(0..15)	Indicates the reference TFC to be used to calculate the gain factors for this TFC
>*There is a split in the TFCI*				This choice is made if : a) The TFCS refers to the downlink AND b) The mode is FDD and one of the Radio Links of the concerned UE is assigned one or more DSCH transport channels
>>Transport Format Combination_DCH		*1..<maxTFCI_1_Combs>*		The first instance of the *Transport Format Combination_DCH* IE corresponds to TFCI (field 1) = 0, the second to TFCI (field 1) = 1 and so on.
>>>CTFC(field1)	M		9.2.1.14A	
>>Choice *Signalling Method*	M			
>>>*TFCI Range*				
>>>>TFC Mapping on DSCH		*1..<maxNoTFCIGroups>*		
>>>>>Max TFCI(field2)	M		INTEGER(1..<maxTFCI	This is the Maximum value in the range of TFCI(field2)

Value			_2_Combs - 1>)	values for which the specified CTFC(field2) applies
>>>>>CTFC(field 2)	M		9.2.1.14A	Integer number calculated according to [16] The calculation of CTFC ignores any DCH transport channels which may be assigned
>>>*Explicit*				
>>>>**Transport Format Combination_DSCH**		*1..<maxTFCI_2_Combs>*		The first instance of the *Transport Format Combination_DSCH* IE corresponds to TFCI (field2) = 0, the second to TFCI (field 2) = 1 and so on.
>>>>>CTFC(field 2)	M		9.2.1.14A	Integer number calculated according to [16] . The calculation of CTFC ignores any DCH transport channels which may be assigned

Condition	Explanation
PhysChan	The choice shall be present if the TFCS concerns a UL DPCH [FDD – or PRACH channel].

Range bound	Explanation
maxnoofTFCs	The maximum number of Transport Format Combinations.
maxTFCI_1_Combs	Maximum number of TFCI (field 1) combinations (given by 2 raised to the power of the length of the TFCI (field 1)).
maxTFCI_2_Combs	Maximum number of TFCI (field 2) combinations (given by 2 raised to the power of the length of the TFCI (field 2)).
maxNoTFCIGroups	Maximum number of groups, each group described in terms of a range of TFCI(field 2) values for which a single value of CTFC(field2) applies.
MaxCTFC	Maximum number of the CTFC value is calculated according to the following: $$\sum_{i=1}^{I} (L_i - 1) P_i$$ with the notation according to ref. [16].

9.2.1.64 Transport Format Set

The Transport Format Set is defined as the set of Transport Formats associated to a Transport Channel, e.g. DCH.

[TDD - The Transport Format Set for each transport channel within the same CCTrCH shall have the same value for the *2nd Interleaving Mode* IE.]

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Dynamic Transport Format Information		*1..<maxTFcount>*		The first instance of the parameter corresponds to TFI zero, the second to 1 and so on.
>Number of Transport Blocks	M		INTEGER (0..512)	
>Transport Block Size	C – Blocks		INTEGER (0..5000)	Unit: Bits
>CHOICE *Mode*	M			
>>*TDD*				
>>>**Transmission Time Interval Information**	C-TTIdynamic	*1..<maxTTIcount>*		
>>>>Transmission Time Interval	M		ENUMERATED(10, 20, 40, 80,…)	Unit: msec
Semi-static Transport Format Information		1		
>Transmission Time Interval	M		ENUMERATED (10, 20, 40, 80, dynamic, …)	Unit: msec Value 'dynamic' for TDD only
>Type of Channel Coding	M		ENUMERATED (No codingTDD, Convolutional, Turbo,…)	[FDD - The value "No codingTDD" shall be treated as logical error if received]
>Coding Rate	C – Coding		ENUMERATED (1/2, 1/3,…)	
>Rate Matching Attribute	M		INTEGER (1..maxRM)	
>CRC size	M		ENUMERATED (0, 8, 12, 16, 24,…)	
>CHOICE *Mode*	M			
>>*TDD*				
>>>2nd Interleaving Mode	M		ENUMERATED(Frame related, Timeslot related,…)	

Condition	Explanation
Blocks	The IE shall be present if the *Number of Transport Blocks* IE is set to a value greater than 0.
Coding	The IE shall be present if *Type of Channel Coding* IE is set to "Convolutional" or "Turbo".
TTIdynamic	The IE shall be present if the *Transmission Time Interval* IE in the *Semi-static Transport Format Information* IE is set to 'dynamic'.

Range bound	Explanation
maxTFcount	The maximum number of different transport formats that can be included in the Transport format set for one transport channel.
maxRM	The maximum number that could be set as rate matching attribute for a transport channel.
maxTTIcount	The amount of different TTI that are possible for that transport format is.

### 9.2.1.65	TrCH Source Statistics Descriptor

Defines the statistics of the data transmitted in the transport channel. This information may be used in reserving resources in the DRNS.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
TrCH Source Statistics Descriptor			ENUMERATED(Speech, RRC, Unknown, …)	"Speech" = Statistics of the data corresponds to speech. "RRC" = Statistics of the data corresponds to RRC signalling "Unknown" = The statistics of the data is unknown

### 9.2.1.66	UARFCN

The UTRA Absolute Radio Frequency Channel Number defines the carrier.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
UARFCN			INTEGER(0..16383, …)	Corresponds to: 0.0Hz.. 3276.6MHz see ref. [6] and ref. [7].

### 9.2.1.67	UL FP Mode

This parameter defines if normal or silent mode of the Frame Protocol shall be used for the UL.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
UL FP Mode			ENUMERATED(Normal, Silent,…)	

### 9.2.1.68	UL Interference Level

Void

### 9.2.1.68A	Uncertainty Ellipse

This IE contains the uncertainty ellipse used to describe a possible shape of the geographical area of a cell.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Uncertainty semi-major	M		INTEGER(0..127)	The uncertainty "r" is derived from the "uncertainty code" k by $r = 10 \times (1.1^k - 1)$
Uncertainty semi-minor	M		INTEGER(0..127)	The uncertainty "r" is derived from the "uncertainty code" k by $r = 10 \times (1.1^k - 1)$
Orientation of major axis	M		INTEGER(0..179)	The relation between the IE value (N) and the angle (a) in degrees it describes is $2N \leq a < 2(N+1)$. The values 90..179 shall not be used.

9.2.1.68B   Unidirectional DCH Indicator

The *Unidirectional DCH Indicator* IE indicates that the DCH is unidirectional.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Unidirectional DCH Indicator			ENUMERATED (Downlink DCH only, Uplink DCH only)	Downlink DCH only shall only be used by TDD.

9.2.1.69   Uplink SIR

The UL SIR indicates a received UL SIR.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Uplink SIR			INTEGER (-82..173)	Value = Uplink SIR/10 Unit dB Range -8.2..+17.3 Step 0.1 dB

9.2.1.70   URA ID

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
URA ID			INTEGER(0. .65 535)	

9.2.1.70A   UTRAN Access Point Position

The UTRAN Access Point Position indicates the exact geographical position of the base station antenna.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Latitude Sign	M		ENUMERATED(North, South)	
Degrees of Latitude	M		INTEGER($0..2^{23}-1$)	The IE value (N) is derived by this formula: $N \leq 2^{23} X /90 < N+1$ X being the latitude in degree (0°.. 90°)
Degrees of Longitude	M		INTEGER($-2^{23}..2^{23}-1$)	The IE value (N) is derived by this formula: $N \leq 2^{24} X /360 < N+1$ X being the longitude in degree (-180°..+180°)

9.2.1.70B   URA Information

The *URA Information* IE contains URA Information for one cell.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
URA ID	M		9.2.1.70	
Multiple URAs Indicator	M		9.2.1.41	
RNCs with Cells in the Accessed URA		*0 .. <maxRNCinURA-1>*		Other RNCs having at least one cell in the URA identified by the *URA ID* IE.
>RNC-ID	M		9.2.1.50	

Range Bound	Explanation
maxRNCinURA	Maximum number of RNC in one URA.

9.2.1.71 UTRAN Cell Identifier (UC-ID)

The UC-ID (UTRAN Cell identifier) is the identifier of a cell in one UTRAN.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
RNC-ID	M		9.2.1.50	
C-ID	M		9.2.1.6	

9.2.1.72 Neighbouring TDD Cell Information LCR

The *Neighbouring TDD Cell Information LCR* IE provides information for 1.28Mcps TDD cells that are a neighbouring cells to a cell in the DRNC.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Neighbouring TDD Cell Information LCR		*1..<maxnoofLCRTDDneighbours>*			–	
>C-ID	M		9.2.1.6		–	
>UARFCN	M		9.2.1.66	Corresponds to Nt in ref. [7]	–	
>Frame Offset	O		9.2.1.30		–	
>Cell Parameter ID	M		9.2.1.8		–	
>SCTD Indicator	M		9.2.1.78		–	
>Cell Individual Offset	O		9.2.1.7		–	
>DPCH Constant Value	O		9.2.1.23		–	
>PCCPCH Power	O		9.2.1.43		–	
>Restriction State Indicator	O		9.2.1.48C		–	
>Coverage Indicator	O		9.2.1.12G		YES	ignore
>Antenna Co-location Indicator	O		9.2.1.2C		YES	ignore
>HCS Prio	O		9.2.1.30N		YES	ignore
>Cell Capability Container TDD LCR	O		9.2.3.1b		YES	ignore
> SNA Information	O		9.2.1.52Ca		YES	ignore

Range bound	Explanation
maxnoofLCRTDDneighbours	Maximum number of neighbouring 1.28Mcps TDD cell for one cell.

9.2.1.73 Permanent NAS UE Identity

This element is used to identify the UE in UTRAN.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Choice *Permanent NAS UE Identity*				
>*IMSI*				
>>IMSI	M		9.2.1.31	

9.2.1.74 SFN-SFN Measurement Reference Point Position

The SFN-SFN Measurement Reference Point Position indicates the exact geographical position of the SFN-SFN measurement reference point. The altitude shall be included when available.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Geographical Coordinates	M		9.2.1.30F	
Altitude and direction	O		9.2.1.2B	

9.2.1.75 UTRAN Access Point Position with Altitude

The UTRAN Access Point Position with Altitude indicates the exact geographical position of the base station antenna. The altitude shall be included when available.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Geographical Coordinates	M		9.2.1.30F	
Altitude and direction	O		9.2.1.2B	

9.2.1.76 SFN-SFN Measurement Time Stamp

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Mode*	M			
>*FDD*				
>>SFN	M		9.2.1.52A	Indicates the SFN of the reference cell at which the measurement has been performed.
>*TDD*				
>>SFN	M		9.2.1.52A	Indicates the SFN of the reference cell at which the measurement has been performed.
>>Time Slot	M		9.2.1.56	Indicates the Time Slot of the reference cell at which this measurement has been performed.

9.2.1.77 SFN-SFN Value

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Mode*	M			
>*FDD*				
>>SFN-SFN	M		INTEGER(0. . 614399)	According to mapping in [23].
>*TDD*				
>>SFN-SFN	M		INTEGER(0. . 40961)	According to mapping in [24].

9.2.1.78 SCTD Indicator

Indicates if SCTD antenna diversity is applied or not to the PCCPCH and PICH [3.84Mcps TDD].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
SCTD Indicator			ENUMERATED(active, inactive)	

9.2.1.79 Congestion Cause

The *Congestion Cause* IE indicates the cause of a congestion situation:

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Congestion Cause			ENUMERATED (UTRAN Dynamic Resources, UTRAN Semistatic Resources, …)	

The meaning of the different congestion cause values is described in the following table:

Congestion cause	Meaning
UTRAN Dynamic Resources	UL and/or DL resource congestion situation mainly caused by the UL and/or DL UTRAN Dynamic Resources. This type of congestion situation is, e.g. related to the limitation of the DL transmitted carrier power of the cell(s), or the UL Interference situation in the concerned cell(s).
UTRAN Semistatic Resources	UL and/or DL resource congestion situation mainly related to UTRAN Semistatic Resources (e.g. channelisation codes, Node-B resources, ..).

9.2.2 FDD Specific Parameters

This subclause contains parameters that are specific to FDD.

9.2.2.a ACK-NACK Repetition Factor

The *ACK-NACK Repetition Factor* IE indicates the consecutive repetition of the ACK and NACK.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
ACK-NACK Repetition Factor			INTEGER (1..,4,...)	Step: 1

9.2.2.b ACK Power Offset

The *ACK Power Offset* IE indicates Power offset used in the UL between the HS-DPCCH slot carrying HARQ ACK information and the associated DPCCH.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
ACK Power Offset			INTEGER (0..8,…)	According to mapping in ref. [21] subclause 4.2.1.

9.2.2.A Active Pattern Sequence Information

Defines the parameters for the compressed mode gap pattern sequence activation. For details see ref. [16].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CM Configuration Change CFN	M		CFN 9.2.1.9	
Transmission Gap Pattern Sequence Status		*0.. <maxTGPS>*		If the group is not present, none of the pattern sequences are activated.
>TGPSI Identifier	M		INTEGER(1..<MaxTGPS>)	Establish a reference to the compressed mode pattern sequence. Up to <MaxTGPS> simultaneous compressed mode pattern sequences can be activated.
>TGPRC	M		INTEGER(0..511)	The number of transmission gap patterns within the Transmission Gap Pattern Sequence. 0=Infinity.
>TGCFN	M		CFN 9.2.1.9	Connection Frame Number of the first frame of the first pattern 1 within the Transmission Gap Pattern Sequence.

Range bound	Explanation
maxTGPS	Maximum number of active pattern sequences. Value 6.

9.2.2.B   Adjustment Period

Adjustment Period IE defines the period to be used for power balancing.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Adjustment Period			INTEGER (1 .. 256)	Unit: Frames

9.2.2.C   Adjustment Ratio

Adjustment Ratio IE *(Radj)* defines the convergence rate used for the associated Adjustment Period.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Adjustment Ratio			INTEGER (0 .. 100)	The Adjustment Ratio is given with a granularity of 0.01 0 -> 0.00 1 -> 0.01 ... 100 -> 1.00

9.2.2.D   Cell Capability Container FDD

The Cell Capability Container FDD indicates which functionalities a cell supports.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Cell Capability Container FDD			BIT STRING (32)	Each bit indicates whether a cell supports a particular functionality or not. The value 1 of a bit indicates that the corresponding functionality is supported in a cell and value 0 indicates that the corresponding functionality is not supported in a cell. Each bit is defined as follows. The first bit: Flexible Hard Split Support Indicator. The second bit: Delayed Activation Support Indicator. The third bit: HS-DSCH Support Indicator. The fourth bit: DSCH Support Indicator. Note that undefined bits are considered as a spare bit and spare bits shall be set to 0 by the transmitter and shall be ignored by the receiver.

9.2.2.1 Chip Offset

The Chip Offset is defined as the radio timing offset inside a radio frame. The Chip Offset is used as offset for the DL DPCH relative to the Primary CPICH timing.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Chip Offset			INTEGER (0..38399)	Unit: Chips

9.2.2.2 Closed Loop Mode1 Support Indicator

The Closed Loop Mode1 Support Indicator indicates whether the particular cell is capable to support Closed loop mode1 or not

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Closed Loop Mode1 Support Indicator			ENUMERATED(Closed loop mode1 Supported, Closed loop mode1 not supported).	

9.2.2.3 Closed Loop Mode2 Support Indicator

The Closed Loop Mode2 Support Indicator indicates whether the particular cell is capable to support Closed loop mode2 or not.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Closed Loop Mode2 Support Indicator			ENUMERATED(Closed loop mode2 Supported, Closed loop mode2 not supported).	

9.2.2.3A Closed Loop Timing Adjustment Mode

Indicates when the phase/amplitude adjustment is performed in the DL in relation to the receipt of the UL feedback command in case of closed loop mode transmit diversity on DPCH.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Closed Loop Timing Adjustment Mode			ENUMERATED(Offset1, Offset2,…)	According to [10] subclause 7.1: Offset1 = slot(j+1)mod15 Offset2 = slot(j+2)mod15

9.2.2.4 Compressed Mode Method

Void

9.2.2.4A DCH FDD Information

The *DCH FDD Information* IE provides information for DCHs to be established.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
DCH FDD Information		1..<maxnoofDCHs>			–	
>Payload CRC Presence Indicator	M		9.2.1.42		–	
>UL FP Mode	M		9.2.1.67		–	
>ToAWS	M		9.2.1.58		–	
>ToAWE	M		9.2.1.57		–	
>DCH Specific Info		1..<maxnoofDCHs>			–	
>>DCH ID	M		9.2.1.16		–	
>>TrCH Source Statistics Descriptor	M		9.2.1.65		–	
>>Transport Format Set	M		9.2.1.64	For the UL.	–	
>>Transport Format Set	M		9.2.1.64	For the DL.	–	
>>BLER	M		9.2.1.4	For the UL.	–	
>>BLER	M		9.2.1.4	For the DL.	–	
>>Allocation/Retention Priority	M		9.2.1.1		–	
>>Frame Handling Priority	M		9.2.1.29		–	
>>QE-Selector	M		9.2.1.46A		–	
>>DRAC control	M		9.2.2.13		–	
>>Guaranteed Rate Information	O		9.2.1.30M		YES	ignore
>>Traffic Class	M		9.2.1.58A		YES	ignore
>>Unidirectional DCH Indicator	O		9.2.1.68B		YES	reject
>TNL QoS	O		9.2.1.56A		YES	ignore

Range bound	Explanation
maxnoofDCHs	Maximum number of DCHs for one UE.

9.2.2.5 D-Field Length

Void

9.2.2.6 Diversity Control Field

Void.

9.2.2.7 Diversity Indication

Void.

9.2.2.8 Diversity Mode

Define the diversity mode to be applied.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Diversity Mode			ENUMERATED(None, STTD, Closed loop mode 1, Closed loop mode2,…)	

9.2.2.9 DL DPCH Slot Format

Indicates the slot format used in DPCH in DL, according to ref. [8].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DL DPCH Slot Format			INTEGER (0..16,…)	

9.2.2.9A DL DPCH Timing Adjustment

The DL DPCH Timing Adjustment indicates that a timing adjustment of the related radio link is required. It also indicates whether the timing adjustment shall consist of a timing advance or a timing delay with respect to the SFN timing. The adjustment always consists of 256 chips.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DL DPCH Timing Adjustment			ENUMERATED(timing advance, timing delay)	The size of the timing adjustment is 256 chips.

9.2.2.10 DL Power

Void

9.2.2.10A   DL Power Balancing Information

The *DL Power Balancing Information* IE provides information for power balancing to be activated in the relevant RL(s).

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Power Adjustment Type	M		9.2.2.28		–	
DL Reference Power	C-Common		DL power 9.2.1.21A	Power on DPCH	–	
DL Reference Power Information	C-Individual	*1..<maxnoof RLs>*			–	
>RL ID	M		9.2.1.49		–	
>DL Reference Power	M		DL power 9.2.1.21A	Power on DPCH	–	
Max Adjustment Step	C-CommonOrIndividual		9.2.2.23		–	
Adjustment Period	C-CommonOrIndividual		9.2.2.B		–	
Adjustment Ratio	C-CommonOrIndividual		9.2.2.C		–	

Condition	Explanation
Common	The IE shall be present if the *Power Adjustment Type* IE is set to "Common".
Individual	The IE shall be present if the *Power Adjustment Type* IE is set to "Individual".
CommonOrIndividual	The IE shall be present if the *Power Adjustment Type* IE is set to "Common" or "Individual".

Range Bound	Explanation
maxnoofRLs	Maximum number of Radio Links for a UE.

9.2.2.10B   DL Power Balancing Activation Indicator

The *DL Power Balancing Activation Indicator* IE indicates that the power balancing is activated in the RL.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DL Power Balancing Activation Indicator			ENUMERATED(DL Power Balancing Activated).	

9.2.2.10C   DL Reference Power Information

The *DL Reference Power Information* IE provides reference power of the power balancing to be used in the relevant RL(s).

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Common DL Reference Power	O		DL power 9.2.1.21A	Power on DPCH	–	
Individual DL Reference Power Information		0..<maxnoof RLs>			–	
>RL ID	M		9.2.1.49		–	
>DL Reference Power	M		DL power 9.2.1.21A	Power on DPCH	–	

Range bound	Explanation
maxnoofRLs	Maximum number of RLs for a UE.

9.2.2.10D   DL Power Balancing Updated Indicator

The *DL Power Balancing Updated Indicator* IE indicates that the power balancing related parameters is updated in the RL.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DL Power Balancing Updated Indicator			ENUMERATED(DL Power Balancing Updated).	

9.2.2.11   DL Scrambling Code

DL Scrambling code to be used by the RL. One cell may have multiple DL Scrambling codes available.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DL Scrambling Code			INTEGER (0..15)	0= Primary scrambling code of the cell 1…15= Secondary scrambling code

9.2.2.12   Downlink Frame Type

Void

9.2.2.12A   DPC Mode

The *DPC Mode* IE indicates the DPC mode to be applied [10].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DPC Mode			ENUMERATTED (Mode0, Mode1, …)	Mode0: The DRNS shall estimate the UE transmitted TPC command and update the DL power in every slot Mode1: The DRNS shall estimate the UE transmitted TPC command over three slots and shall update the DL power in every three slots

9.2.2.13   DRAC Control

This IE indicates whether the DCH is control by DRAC or not.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DRAC Control			ENUMERATED (Requested, Not-Requested)	Requested means that DCH is controlled by DRAC

9.2.2.13A   DSCH FDD Information

The *DSCH FDD Information* IE provides information for DSCHs to be established.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
DSCH Specific FDD Information		1..<maxnoofDSCHs>		See Note 1 below.	–	
>DSCH ID	M		9.2.1.26A		–	
>TrCH Source Statistics Descriptor	M		9.2.1.65		–	
>Transport Format Set	M		9.2.1.64	For DSCH	–	
>Allocation/Retention Priority	M		9.2.1.1		–	
>Scheduling Priority Indicator	M		9.2.1.51A		–	
>BLER	M		9.2.1.4		–	
>Traffic Class	M		9.2.1.58A		YES	ignore
>Binding ID	O		9.2.1.3	Shall be ignored if bearer establishment with ALCAP.	YES	ignore
>Transport Layer Address	O		9.2.1.62	Shall be ignored if bearer establishment with ALCAP.	YES	ignore
PDSCH RL ID	M		RL ID 9.2.1.49		–	
TFCS	M		9.2.1.63	For DSCH	–	
Enhanced DSCH PC	O		9.2.2.13D		YES	ignore

Range bound	Explanation
maxnoofDSCHs	Maximum number of DSCHs for one UE.

Note 1: This information element is a simplified representation of the ASN.1. Repetition 1 and repetition 2-maxnoofDSCHs are represented by separate ASN.1 structures with different criticality.

9.2.2.13B   DSCH FDD Information Response

The *DSCH FDD Information Response* IE provides information for DSCHs that have been established or modified.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
DSCH Specific FDD Information Response		1..<maxnoofDSCHs>			–	
>DSCH ID	M		9.2.1.26A		–	
>DSCH Flow Control Information	M		9.2.1.26B		–	
>Binding ID	O		9.2.1.3		–	
>Transport Layer Address	O		9.2.1.62		–	
PDSCH Code Mapping	M		9.2.2.27A	PDSCH code mapping to be used	–	

Range bound	Explanation
maxnoofDSCHs	Maximum number of DSCHs for one UE.

9.2.2.13Bb   DSCH-RNTI

Void.

9.2.2.13C   FDD DCHs To Modify

The *FDD DCHs To Modify* IE provides information for DCHs to be modified.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
FDD DCHs To Modify		1..<maxnoofDCHs>			–	
>UL FP Mode	O		9.2.1.67		–	
>ToAWS	O		9.2.1.58		–	
>ToAWE	O		9.2.1.57		–	
>Transport Bearer Request Indicator	M		9.2.1.61		–	
>DCH Specific Info		1..<maxnoofDCHs>			–	
>>DCH ID	M		9.2.1.16		–	
>>Transport Format Set	O		9.2.1.64	For the UL.	–	
>>Transport Format Set	O		9.2.1.64	For the DL.	–	
>>Allocation/Retention Priority	O		9.2.1.1		–	
>>Frame Handling Priority	O		9.2.1.29		–	
>>DRAC Control	O		9.2.2.13		–	
>>Guaranteed Rate Information	O		9.2.1.30M		YES	ignore
>>Traffic Class	O		9.2.1.58A		YES	ignore
>TNL QoS	O		9.2.1.56A		YES	ignore

Range bound	Explanation
maxnoofDCHs	Maximum number of DCHs for one UE.

9.2.2.13D   Enhanced DSCH PC

The Enhanced DSCH PC includes all the parameters which are needed for DSCH power control improvement during soft handover.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Enhanced DSCH PC Wnd	M		9.2.2.13G	
Enhanced DSCH PC Counter	M		9.2.2.13E	
Enhanced DSCH Power Offset	M		9.2.2.13H	

9.2.2.13E   Enhanced DSCH PC Counter

The Enhanced DSCH PC Counter parameter gives the number of correct cell ID command to receive in the averaging window, *Enhance DSCH PC Wnd* IE, see ref. [10] subclause 5.2.2.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Enhanced DSCH PC Counter			INTEGER(1..50)	

9.2.2.13F   Enhanced DSCH PC Indicator

The Enhanced DSCH PC Indicator indicates whether Enhanced DSCH PC is in use by the UE or not.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Enhanced DSCH PC Indicator			ENUMERATED(Enhanced DSCH PC Active in the UE, Enhanced DSCH PC not Active in the UE)	

9.2.2.13G   Enhanced DSCH PC Wnd

The Enhanced DSCH PC Wnd parameter shows the window size to decide primary or non-primary cell, see ref. [10] subclause 5.2.2.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Enhanced DSCH PC Wnd			INTEGER(1..10)	

9.2.2.13H   Enhanced DSCH Power Offset

The Enhanced DSCH Power Offset parameter gives the power offset to be added on DSCH when cell is decided to be primary.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Enhanced DSCH Power Offset			INTEGER(-15..0)	Unit dB, step 1 dB

9.2.2.13I   Enhanced Primary CPICH Ec/No

Energy per PN chip divided by the total received power spectral density measured on the Primary CPICH by the UE.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Enhanced Primary CPICH Ec/No			INTEGER(0. .49)	According to the mapping of the Primary CPICH Ec/Io UE measurement defined in ref. [23] and [24]

9.2.2.14   FDD DL Channelisation Code Number

The DL Channelisation Code Number indicates the DL Channelisation Code number for a specific DL physical channel.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
FDD DL Channelisation Code Number			INTEGER(0. . 511)	According to the mapping in [27]. The maximum value is equal to the DL spreading factor −1

9.2.2.14A   FDD DL Code Information

The *FDD DL Code Information* IE provides FDD DL Code information for all DPCHs of one Radio Link.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
FDD DL Code Information		1.. <maxnoof DLCodes			−	
>DL Scrambling Code	M		9.2.2.11		−	
>FDD DL Channelisation Code Number	M		9.2.2.14		−	
>Transmission Gap Pattern Sequence Scrambling Code Information	O		9.2.2.47B		−	

Range bound	Explanation
maxnoofDLCodes	Maximum number of DL Channelisation Codes for one UE.

9.2.2.15   FDD S-CCPCH Offset

The Secondary CCPCH offset is defined as the time offset towards the Primary CCPCH in the cell. The offset is a multiple of 256 chips.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
FDD S-CCPCH Offset			INTEGER(0. . 149)	0: 0 chip 1: 256 chip 2: 512 chip .. 149: 38144 chip ref. [8]

9.2.2.16   FDD TPC Downlink Step Size

This parameter indicates step size for the DL power adjustment.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
FDD TPC Downlink Step Size			ENUMERATED(0.5, 1, 1.5, 2,…)	

9.2.2.16A First RLS Indicator

The First *RLS Indicator* IE indicates if a specific Radio Link and all Radio Links which are part of the same Radio Link Set, shall be considered as the first radio links established towards the UE or not.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
First RLS Indicator			ENUMERATED(first RLS, not first RLS)	

9.2.2.17 Gap Position Mode

Void.

9.2.2.18 Gap Period (TGP)

Void.

9.2.2.19 Gap Starting Slot Number (SN)

Void

9.2.2.19a HS-DSCH FDD Information

The *HS-DSCH FDD Information* IE is used for initial addition of HS-DSCH information to UE Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flows Information	M		9.2.1.30OA	
UE Capabilities Information		1		
>HS-DSCH Physical Layer Category	M		9.2.1.30Oa	
MAC-hs Reordering Buffer Size for RLC-UM	M		9.2.1.34Ab	
CQI Feedback Cycle k	M		9.2.2.24a	
CQI Repetition Factor	C-CQICyclek		9.2.2.24c	
ACK-NACK Repetition Factor	M		9.2.2.a	
CQI Power Offset	M		9.2.2.24b	
ACK Power Offset	M		9.2.2.b	
NACK Power Offset	M		9.2.2.26a	
HS-SCCH Power Offset	O		9.2.2.19d	

Condition	Explanation
CQICyclek	The IE shall be present if the *CQI Feedback Cycle k* IE is set to a value greater than 0.

9.2.2.19b HS-DSCH FDD Information Response

The *HS-DSCH FDD Information Response* IE provides information for HS-DSCH MAC-d flows that have been established or modified. It also provides additional HS-DSCH information determined within the DRNS.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flow Specific Information Response		*0..<maxnoof MACdFlows >*		
>HS-DSCH MAC-d Flow ID	M		9.2.1.30O	
>Binding ID	O		9.2.1.3	
>Transport Layer Address	O		9.2.1.62	
>HS-DSCH Initial Capacity Allocation	O		9.2.1.30Na	
HS-SCCH Specific Information Response		*0..<maxnoof HSSCCHco des>*		
>Code Number	M		INTEGER (0..127)	
HS-PDSCH And HS-SCCH Scrambling Code	O		DL Scrambling Code 9.2.2.11	
Measurement Power Offset	O		9.2.2.24d	
CHOICE *HARQ Memory Partitioning*	O			
>*Implicit*				
>>Number of Processes	M		INTEGER (1..8,...)	For HARQ process IDs going from 0 to 'Number of Processes' – 1 the Total number of soft channel bits [42] is partitioned equally between all HARQ processes according to the rules in [16].
>*Explicit*				
>>HARQ Memory Partitioning Information		*1..<maxnoof HARQproce sses>*		The first instance of the parameter corresponds to HARQ process with identifier 0, the second instance to HARQ process with identifier 1, and so on.
>>>Process Memory Size	M		9.2.1.45B	See [16]

Range bound	Explanation
maxnoofMACdFlows	Maximum number of MAC-d flows.
maxnoofHSSCCHcodes	Maximum number of HS-SCCH codes.
maxnoofHARQprocesses	Maximum number of HARQ processes.

9.2.2.19c HS-DSCH FDD Update Information

The *HS-DSCH FDD Update Information* IE provides information for HS-DSCH to be updated. At least one IE shall be presented.

IE/Group name	Presence	Range	IE Type and Reference	Semantic Description	Criticality	Assigned Criticality
HS-SCCH Code Change Indicator	O		9.2.1.30R		–	
CQI Feedback Cycle k	O		9.2.2.24a		–	
CQI Repetition Factor	O		9.2.2.24c		–	
ACK-NACK Repetition Factor	O		9.2.2.a		–	
CQI Power Offset	O		9.2.2.24b		–	
ACK Power Offset	O		9.2.2.b		–	
NACK Power Offset	O		9.2.2.26a		–	

9.2.2.19d HS-SCCH Power Offset

The *HS-SCCH Power Offset* IE indicates the Power offset relative to the pilot bits on the DL DPCCH.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
HS-SCCH Power Offset			INTEGER (0…255)	Step 0.25 dB, range -32- +31.75 dB

9.2.2.20 IB_SG_POS

First position of an Information Block segment in the SFN cycle (IB_SG_POS < IB_SG_REP).

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
IB_SG_POS			INTEGER (0..4094)	Only even positions allowed. Reference [16]

9.2.2.21 IB_SG_REP

Repetition distance for an Information Block segment. The segment shall be transmitted when SFN mod IB_SG_REP = IB_SG_POS.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
IB_SG_REP			ENUMERATED(4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096)	Repetition period for the IB segment in frames

9.2.2.21a Inner Loop DL PC Status

The *Inner Loop DL PC Status* IE indicates whether inner loop DL control shall be active or inactive for all radio links for the UE Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Inner Loop DL PC Status			ENUMERATED(Active, Inactive)	

9.2.2.21A   Limited Power Increase

The parameter is used for a more efficient use of the inner loop DL power control for non real time data.

If the limited power increase is used, DRNS shall use the limited power increase algorithm as specified in [10], subclause 5.2.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Limited Power Increase			ENUMERATED(Used, Not used ,)	

9.2.2.21B   IPDL FDD Parameters

The *IPDL FDD Parameters* IE provides the information for the IPDL Configuration applied in FDD mode.

IE/Group name	Presence	Range	IE Type and Reference	Semantics Description
IP spacing FDD	M		ENUMERATED(5,7,10,15,20,30,40,50,…)	See [10]
IP length	M		ENUMERATED(5,10,…)	See [10]
IP offset	M		INTEGER(0..9)	See [10]
Seed	M		INTEGER(0..63)	See [10]
Burst mode parameters	O		9.2.1.4B	

9.2.2.21C   Length of TFCI2

This IE indicates the length measured in number of bits of TFCI(field 2). The length of TFCI (field 1) is set to the 10"s complement of the length of TFCI(field 2).

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Length of TFCI2			INTEGER(1..10)	

9.2.2.22   Max Adjustment Period

Void.

9.2.2.23   Max Adjustment Step

Defines the maximum allowed value for the change of DL power level during a certain number of slots that can be utilised by the downlink power balancing algorithm. *Max Adjustment Step* IE defines a time period, in terms of number of slots, in which the accumulated power adjustments shall be maximum 1 dB. This value does not include the DL inner loop PC adjustment.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Max Adjustment Step			INTEGER(1..10)	Slots

9.2.2.24 Max Number of UL DPDCHs

Maximum number of uplink DPDCHs during the connection. Needed by the rate matching algorithm.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Max Number of UL DPDCHs			INTEGER (1..6)	

9.2.2.24a CQI Feedback Cycle k

The *CQI Feedback Cycle k* IE provides the duration of the CQI feedback cycle.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CQI Feedback Cycle k			ENUMERATED (0, 2, 4, 8, 10, 20, 40, 80, 160,…)	Unit ms

9.2.2.24b CQI Power Offset

The *CQI Power Offset* IE indicates Power offset used in the UL between the HS-DPCCH slots carrying CQI information and the associated DPCCH.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CQI Power Offset			INTEGER (0..8,…)	According to mapping in ref. [21] subclause 4.2.1.

9.2.2.24c CQI Repetition Factor

The *CQI Repetition Factor* IE indicates the consecutive repetition of the CQI.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CQI Repetition Factor			INTEGER (1..,4,...)	Step: 1

9.2.2.24d Measurement Power Offset

The *Measurement Power Offset* IE is used as defined in [10] subclause 6A.2.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Measurement Power Offset			INTEGER (-12..26)	Unit: dB Range: -6..13dB Step: 0.5dB

9.2.2.24A Min DL Channelisation Code Length

Void

9.2.2.25 Min UL Channelisation Code Length

Minimum UL channelisation code length (spreading factor) of a DPDCH during the connection. Needed by rate matching algorithm.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Min UL Channelisation Code Length			ENUMERATED(4,8,16, 32,64,128, 256)	

9.2.2.26 Multiplexing Position

Multiplexing Position specifies whether fixed or flexible positions of transport channels shall be used in the physical channel.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Multiplexing Position			ENUMERATED(Fixed, Flexible)	

9.2.2.26a NACK Power Offset

The *NACK Power Offset* IE indicates Power offset used in the UL between the HS-DPCCH slot carrying HARQ NACK information and the associated DPCCH.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
NACK Power Offset			INTEGER (0..8,…)	According to mapping in ref. [21] subclause 4.2.1.

9.2.2.26A Number of DL Channelisation Codes

This parameter notifies DRNS of the number of DL channelisation codes required for the Radio Link(s).

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Number of DL Channelisation Codes			INTEGER(1. .8)	

9.2.2.27 Pattern Duration (PD)

Void

9.2.2.27a PC Preamble

Indicates DPDCH power control preamble length see ref. [7].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
PCP Preamble			INTEGER(0. .7,…)	In number of frames.

9.2.2.27A PDSCH Code Mapping

This IE indicates the association between each possible value of TFCI(field 2) and the corresponding PDSCH channelisation code. There are three ways which the UTRAN must choose between in order to signal the mapping information, these are described below. The signalling capacity consumed by the different methods will typically vary depending on the way in which the UTRAN configures usage of the DSCH. A fourth option is also provided which allows the UTRAN to replace individual entries in the TFCI(field 2) to PDSCH code mapping table with new PDSCH code values.

Method #1 - Using code range

The mapping is described in terms of a number of groups, each group associated with a given spreading factor. Each TFCI(field2) value corresponds to a given PDSCH channelisation code or set of PDSCH codes for multi-code. The DRNS maps TFCI(field2) values to PDSCH codes in the following way:

- The PDSCH codes used for TFCI(field 2) = 0 are given by the SF of the Code Group 1 (i.e. first instance in *PDSCH code mapping*) and the code numbers between $CodeNumber_0$ (where $CodeNumber_0$ = "Start code number" of Code Group 1) and $CodeNumber_0$ + "multi-code info" - 1.

- This continues with unit increments in the value of TFCI (Field2) mapped to either unit increments in code numbers or groups of contiguous code numbers in case of multi-code, this until "Stop code number" is reached: So the PDSCH codes used for TFCI(field 2) = k (for k > 0 and k < ("Stop code number"– "Start code number"+ 1) DIV k) are given by the SF of the Code Group 1 and the code numbers between $CodeNumber_k$ = $CodeNumber_{k-1}$ + "multi-code info" and $CodeNumber_k$ + "multi-code info" - 1. If "Stop code number" = "Start code number"+ "multi-code info" – 1 then this is to be interpreted as defining the mapping between the channelisation code(s) and a single TFCI.

- The DRNS constructs its mapping table by repeating this process for all the Code Groups in the order they are instantiated in *PDSCH code mapping*. The first TFCI(field 2) value used in each group is the largest TFCI(field 2) value reached in the previous group incremented by one.

Note: This imposes that "Stop code number"– "Start code number"+ 1 is a multiple of the value "multi-code info" for each instance of *PDSCH code mapping*. Furthermore, in the case in which multi-code is not used, then "multi-code info" = 1 and the process above also applies.

Method #2 - Using TFCI range

The mapping is described in terms of a number of groups, each group corresponding to a given PDSCH channelisation code or set of PDSCH codes for multi-code.

- The set of PDSCH codes specified in the first instance applies for all values of TFCI(field 2) between 0 and the specified "Max TFCI(field2)".

- The process continues in the same way for the following groups with the TFCI(field 2) value starting at the largest value reached in the previous instance incremented by one. So the set of PDSCH codes specified in a given instance apply for all the values of TFCI(field 2) between the "Max TFCI(field2) value" specified in the previous instance incremented by one and the specified "Max TFCI(field2)" of the considered instance.

A set of PDSCH codes is composed of all the codes between "Code Number" and "Code Number" + "multicode" – 1. So if multi-code is not used, the set of PDSCH codes is reduced to one element indicated by the *Code Number* IE.

Method #3 - Explicit

The mapping between TFCI (field 2) value and PDSCH channelisation code (or a set of PDSCH codes for multicode) is spelt out explicitly for each value of TFCI (field2).

A set of PDSCH codes is composed of all the codes between "Code Number" and "Code Number" + "multicode" – 1. So if multi-code is not used, the set of PDSCH codes is reduced to one element indicated by the *Code Number* IE.

Method #4 - Replace

The "TFCI (field2)" value(s) for which the mapping to PDSCH channelisation code (or a set of PDSCH codes for multicode) is changed are explicitly signalled. Furthermore, the new mapping between TFCI(field 2) value and PDSCH channelisation code(s) is spelt out explicitly for each value of TFCI (field2).

A set of PDSCH codes is composed of all the codes between "Code Number" and "Code Number" + "multicode" – 1. So if multi-code is not used, the set of PDSCH codes is reduced to one element indicated by the *Code Number* IE.

IE/Group name	Presence	Range	IE Type and Reference	Semantics Description
DL Scrambling Code	M		9.2.2.11	

Choice *Signalling Method*	M			
>*Code Range*				
>>PDSCH Code Mapping		*1..<maxNo CodeGroups>*		
>>>Spreading Factor	M		INTEGER (4, 8, 16, 32, 64, 128, 256)	
>>>Multi-code Info	M		INTEGER(1..16)	
>>>Start Code Number	M		INTEGER(0..maxCodeNumComp-1)	PDSCH code start, Numbering as described in [16]
>>>Stop Code Number	M		INTEGER(0..maxCodeNumComp-1)	PDSCH code stop, Numbering as described in [16]
>*TFCI Range*				
>>DSCH Mapping		*1..<maxNo TFCIGroups>*		
>>>Max TFCI(field2) Value	M		INTEGER(1..1023)	This is the maximum value in the range of TFCI(field 2) values for which the specified PDSCH code applies
>>>Spreading Factor	M		INTEGER (4, 8, 16, 32, 64, 128, 256)	SF of PDSCH code
>>>Multi-code Info	M		INTEGER(1..16)	
>>>Code Number	M		INTEGER(0..maxCodeNumComp-1)	Code number of PDSCH code. Numbering as described in [16]
>*Explicit*				
>>PDSCH Code		*1..<maxTFCI_2_Combs>*		The first instance of the parameter PDSCH code corresponds to TFCI (field2) = 0, the second to TFCI(field 2) = 1 and so on.
>>>Spreading Factor	M		INTEGER (4, 8, 16, 32, 64, 128, 256)	SF of PDSCH code
>>>Multi-code Info	M		INTEGER(1..16)	
>>>Code Number	M		INTEGER(0..maxCodeNumComp-1)	Code number of PDSCH code. Numbering as described in [16]
>*Replace*				
>>Replaced PDSCH code		*1..<maxTFCI_2_Combs>*		
>>>TFCI (field2)	M		INTEGER(1..1023)	Value of TFCI(field 2) for which PDSCH code mapping will be changed
>>>Spreading Factor	M		INTEGER (4, 8, 16, 32, 64, 128, 256)	SF of PDSCH code
>>>Multi-code Info	M		INTEGER(1..16)	
>>>Code Number	M		INTEGER(0..maxCodeNumComp-1)	Code number of PDSCH code. Numbering as described in [16]

Range Bound	Explanation
maxCodeNumComp	Maximum number of codes at the defined spreading factor, within the complete code tree.
maxTFCI_2_Combs	Maximum number of TFCI (field 2) combinations (given by 2 raised to the power of the length of the TFCI field 2)
maxNoTFCIGroups	Maximum number of groups, each group described in terms of a range of TFCI(field 2) values for which a single PDSCH code applies.
maxNoCodeGroups	Maximum number of groups, each group described in terms of a range of PDSCH channelisation code values for which a single spreading factor applies.

9.2.2.27B   Phase Reference Update Indicator

The *Phase Reference Update Indicator* IE indicates that the phase reference for the radio link needs to be changed.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Phase Reference Update indicator			ENUMERATED (Phase Reference needs to be changed)	

9.2.2.28   Power Adjustment Type

Defines the characteristic of the power adjustment.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Power Adjustment Type			ENUMERATED(None, Common, Individual)	

9.2.2.29   Power Control Mode (PCM)

Void.

9.2.2.30   Power Offset

This IE defines a power offset respect the Downlink transmission power of a DPCH.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Power Offset			INTEGER(0. .24)	Unit dB, Step 0.25 dB, range 0-6 dB

9.2.2.31   Power Resume Mode (PRM)

Void.

9.2.2.31A   Preamble Signatures

Void.

9.2.2.32   Primary CPICH Ec/No

Energy per chip divided by the power density per band measured on the Primary CPICH by the terminal.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Primary CPICH Ec/No			INTEGER(-30..+30)	Unit dB, step 1 dB The value range is typically within the range of -24 dB to 0 dB according to the CPICH Ec/Io UE measurement defined in ref. [23].

9.2.2.32A   Primary CPICH Usage For Channel Estimation

The *Primary CPICH Usage For Channel Estimation* IE indicates whether the Primary CPICH may be used for channel estimation or not.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Primary CPICH Usage For Channel Estimation			ENUMERATED (Primary CPICH may be used, Primary CPICH shall not be used)	

9.2.2.33   Propagation Delay (PD)

Propagation delay is the one-way propagation delay of the radio signal from the UE to the Node B.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Propagation Delay			INTEGER(0..255)	Unit: Chips. Step: 3 chips. 0=0 chips, 1=3 chips, …

9.2.2.33A   PRACH Minimum Spreading Factor

Void.

9.2.2.34   QE-Selector

Void.

9.2.2.34a   Qth Parameter

This parameter indicates the Quality threshold for reliable detection of primary cell ID in SSDT [10].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Qth Parameter			INTEGER (-20..0)	Unit dB Range: - 20 .. 0 dB Step 1 dB

9.2.2.34A   RACH Sub Channel Numbers

Void.

9.2.2.35 RL Set ID

The RL Set ID uniquely identifies one RL Set within a UE Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
RL Set ID			INTEGER (0..31)	

9.2.2.35A Received Total Wide Band Power

The parameter indicates the Received total wide band power in a cell, see ref. [11].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Received Total Wide Band Power			INTEGER(0..621)	According to mapping in [23].

9.2.2.36 S-Field Length

The UE uses the S Field of the UL DPCCH slot to send the SSDT Cell ID to the network.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
S Field Length			ENUMERATED(1, 2,…)	

9.2.2.37 Scrambling Code Change

Void.

9.2.2.37A Scrambling Code Number

Void.

9.2.2.37B Secondary CCPCH Info

The *Secondary CCPCH Info* IE provides information on scheduling of broadcast information for DRAC on a Secondary CCPCH in one cell.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
FDD S-CCPCH Offset	M		9.2.2.15	Corresponds to: $\tau_{\text{S-CCPCH,k}}$, see ref. [8]	–	
DL Scrambling Code	M		9.2.2.11		–	
FDD DL Channelisation Code Number	M		9.2.2.14		–	
TFCS	M		9.2.1.63	For the DL.	–	
Secondary CCPCH Slot Format	M		9.2.2.38		–	
TFCI Presence	C - SlotFormat		9.2.1.55		–	
Multiplexing Position	M		9.2.2.26		–	
STTD Indicator	M		9.2.2.44		–	
FACH/PCH Information		*1 .. <maxFACHcount+1>*			–	
>TFS			9.2.1.64	For each FACH, and the PCH when multiplexed on the same Secondary CCPCH	–	
IB Scheduling Information		*1*			–	
>IB_SG_REP	M		9.2.2.21		–	
>IB Segment Information		*1.. <maxIBSEG>*			–	
>>IB_SG_POS	M		9.2.2.20		–	

Condition	Explanation
SlotFormat	The IE shall be present if the *Secondary CCPCH Slot Format* IE is equal to any of the values from 8 to 17.

Range bound	Explanation
maxFACHCount	Maximum number of FACHs mapped onto a Secondary CCPCH.
maxIBSEG	Maximum number of segments for one Information Block.

9.2.2.38   Secondary CCPCH Slot Format

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Secondary CCPCH Slot Format			INTEGER(0..17,…)	See ref. [8].

9.2.2.38A   Secondary CPICH Information

The *Secondary CPICH Information* IE provides the information on the Secondary CPICH when it can be used for channel estimation.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DL Scrambling Code	M		9.2.2.11	
FDD DL Channelisation Code Number	M		9.2.2.14	

9.2.2.38B Secondary CPICH Information Change

The *Secondary CPICH Information Change* IE indicates modification of information of the Secondary CPICH for channel estimation.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Secondary CPICH Information Change*	M			
>*New Secondary CPICH*				
>>Secondary CPICH Information	M		9.2.2.38A	
>*Secondary CPICH Shall Not Be Used*			NULL	

9.2.2.39 Slot Number (SN)

Void

9.2.2.39a Split Type

This parameter indicates if the "Hard" or "Logical" is used for the TFCI split mode.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Split Type			ENUMERATED(Hard, Logical)	'Hard' : meaning that TFCI (field 1) and TFCI (field 2) are each 5 bits long and each field is block coded separately. 'Logical' : meaning that on the physical layer TFCI (field 1) and TFCI (field 2) are concatenated, field 1 taking the most significant bits and field 2 taking the least significant bits). The whole is then encoded with a single block code.

9.2.2.39A SRB Delay

Indicates the number of frames after the PC Preamble period during which transmission of data on some RRC Signalling Bearers shall be prohibited by UE in accordance with ref. [16].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
SRB Delay			INTEGER(0..7,…)	In number of frames.

9.2.2.40 SSDT Cell Identity

The SSDT Cell Identity is a temporary ID for SSDT assigned to a cell.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
SSDT Cell Identity			ENUMERATED(a, b, c, d, e, f, g, h)	

9.2.2.40A SSDT Cell Identity for EDSCHPC

The SSDT Cell Identity for EDSCHPC is a temporary ID for enhanced DSCH power control assigned to a cell.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
SSDT Cell Identity for EDSCHPC			SSDT Cell Identity 9.2.2.40	

9.2.2.41 SSDT Cell Identity Length

The SSDT Cell Identity Length parameter shows the length of the SSDT Cell ID.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
SSDT Cell Identity Length			ENUMERATED(Short, Medium, Long)	

9.2.2.42 SSDT Indication

The SSDT Indication indicates whether SSDT is in use by the UE or not.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
SSDT Indication			ENUMERATED(SSDT Active in the UE, SSDT not Active in the UE)	

9.2.2.43 SSDT Support Indicator

The SSDT Support Indicator indicates whether a RL supports SSDT or not.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
SSDT Support Indicator			ENUMERATED(SSDT Supported, SSDT not supported).	

9.2.2.44 STTD Indicator

Indicates if STTD is active or not.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
STTD Indicator			ENUMERATED(active, inactive)	

9.2.2.45   STTD Support Indicator

The STTD Support Indicator indicates whether the STTD can be applied to DL DPCH in the cell or not.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
STTD Support Indicator			ENUMERATED(STTD Supported, STTD not Supported).	

9.2.2.46   TFCI Signalling Mode

This parameter indicates if the normal or split mode is used for the TFCI.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
TFCI Signalling Mode			ENUMERATED(Normal, Split)	

9.2.2.46A   TFCI PC Support Indicator

The TFCI PC Support Indicator indicates whether the TFCI power control in the DSCH hard split mode can be applied to DL DPCH in the cell or not. TFCI PC Mode 1 means that the only one power offset(TFCI PO[4]) is applied in TFCI power control. TFCI PC Mode 2 means that the cell also supports enhanced DSCH power control and two power offset(TFCI PO and TFCI PO_primary[4]) are applied in TFCI power control.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
TFCI PC Support Indicator			ENUMERATED(TFCI PC Mode 1 Supported, TFCI PC Mode 2 Supported)	

9.2.2.47   Transmission Gap Distance (TGD)

Void.

9.2.2.47A   Transmission Gap Pattern Sequence Information

Defines the parameters for the compressed mode gap pattern sequence. For details see [16].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Transmission Gap Pattern Sequence Information		1..<maxTGPS>		
>TGPSI Identifier	M		INTEGER(1. .<MaxTGPS>)	Transmission Gap Pattern Sequence Identifier Establish a reference to the compressed mode pattern sequence. Up to <MaxTGPS> simultaneous compressed mode pattern sequences can be used.
>TGSN	M		INTEGER(0. .14)	Transmission Gap Starting Slot Number The slot number of the first transmission gap slot within the TGCFN.
>TGL1	M		INTEGER(1. .14)	The length of the first Transmission Gap within the transmission gap pattern expressed in number of slots.
>TGL2	O		INTEGER(1. .14)	The length of the second Transmission Gap within the transmission gap pattern. If omitted, then TGL2=TGL1.
>TGD	M		INTEGER (0, 15.. 269)	Transmission gap distance indicates the number of slots between the starting slots of two consecutive transmission gaps within a transmission gap pattern. If there is only one transmission gap in the transmission gap pattern, this parameter shall be set to 0 (0 =undefined).
>TGPL1	M		INTEGER(1..144,…)	The duration of transmission gap pattern 1 in frames.
>TGPL2	O		INTEGER(1..144,…)	The duration of transmission gap pattern 2 in frames. If omitted, then TGPL2=TGPL1.
>UL/DL mode	M		ENUMERAT ED(UL only, DL only, UL/DL)	Defines whether only DL, only UL, or combined UL/DL compressed mode is used.
>Downlink Compressed Mode Method	C-DL		ENUMERAT ED(puncturin g, SF/2, higher layer scheduling, …)	Method for generating downlink compressed mode gap .
>Uplink Compressed Mode Method	C-UL		ENUMERAT ED(SF/2, higher layer scheduling, …)	Method for generating uplink compressed mode gap.
>Downlink Frame Type	M		ENUMERAT ED(A, B,...)	Defines if frame type 'A' or 'B' shall be used in downlink compressed mode.
>DeltaSIR1	M		INTEGER(0. .30)	Delta in SIR target value to be set in the DRNS during the frame containing the start of the first transmission gap in the transmission gap pattern (without including the effect of the bit-rate increase) Step 0.1 dB, Range 0-3dB
>DeltaSIRafter1	M		INTEGER (0..30)	Delta in SIR target value to be set in the DRNS one frame after

				the frame containing the start of the first transmission gap in the transmission gap pattern,. Step 0.1 dB, Range 0-3dB
>DeltaSIR2	O		INTEGER (0..30)	Delta in SIR target value to be set in the DRNS during the frame containing the start of the second transmission gap in the transmission gap pattern (without including the effect of the bit-rate increase) When omitted, DeltaSIR2 = DeltaSIR1. Step 0.1 dB, Range 0-3dB
>DeltaSIRafter2	O		INTEGER (0..30)	Delta in SIR target value to be set in the DRNS one frame after the frame containing the start of the second transmission gap in the transmission gap pattern. When omitted, DeltaSIRafter2 = DeltaSIRafter1. Step 0.1 dB, Range 0-3dB

Condition	Explanation
UL	The IE shall be present if the *UL/DL mode* IE is set to "UL only" or "UL/DL".
DL	The IE shall be present if the *UL/DL mode* IE is set to "DL only" or "UL/DL".

Range bound	Explanation
maxTGPS	Maximum number of transmission gap pattern sequences.

9.2.2.47B Transmission Gap Pattern Sequence Scrambling Code Information

This IE indicates whether or not the alternative scrambling code will be used in the DRNS for the Downlink compressed mode method "SF/2" in the Transmission Gap Pattern Sequence. For details see ref. [16].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Transmission Gap Pattern Sequence Scrambling Code Information			ENUMERATED(code change, no code change)	Code change = alternative scrambling code will be used.

9.2.2.48 Transmit Diversity Indicator

The Transmit Diversity Indicator indicates whether Transmit Diversity shall be active or not.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Transmit Diversity Indicator			ENUMERATED(active, inactive)	

9.2.2.49 Transmit Gap Length (TGL)

Void

9.2.2.50   Tx Diversity Indicator

The Tx Diversity Indicator indicates if the following conditions are satisfied:

- Primary CPICH is broadcast from two antennas

- STTD is applied to Primary CCPCH

- TSTD is applied to Primary SCH and Secondary SCH

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Tx Diversity Indicator			ENUMERATED(true, false).	

9.2.2.50A   UE Support Of Dedicated Pilots For Channel Estimation

The *UE Support Of Dedicated Pilots For Channel Estimation* IE indicates whether the UE supports dedicated pilots for channel estimation or not for DCH or DSCH.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
UE Support Of Dedicated Pilots For Channel Estimation			ENUMERATED (Dedicated pilots for channel estimation supported)	

9.2.2.50B   UE Support Of Dedicated Pilots For Channel Estimation Of HS-DSCH

The *UE Support Of Dedicated Pilots For Channel Estimation Of HS-DSCH* IE indicates whether the UE supports dedicated pilots for channel estimation or not for HS-DSCH.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
UE Support Of Dedicated Pilots For Channel Estimation Of HS-DSCH			ENUMERATED (Dedicated pilots for channel estimation supported)	

9.2.2.51   UL/DL Compressed Mode Selection

Void

9.2.2.52   UL DPCCH Slot Format

Indicates the slot format used in DPCCH in UL, according to ref. [8].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
UL DPCCH Slot Format			INTEGER (0..5,…)	

9.2.2.53   UL Scrambling Code

The UL Scrambling Code is the scrambling code used by UE. Every UE has its specific UL Scrambling Code.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
UL Scrambling Code Number	M		INTEGER (0.. 2^{24}-1)	
UL Scrambling Code Length	M		ENUMERATED(Short, Long)	

9.2.2.54 Uplink Delta SIR

Void

9.2.2.55 Uplink Delta SIR After

Void

9.2.2.56 DPC Mode Change Support Indicator

The *DPC Mode Change Support Indicator* IE indicates that the particular cell is capable to support DPC mode change.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DPC Mode Change Support Indicator			ENUMERATTED (DPC Mode Change Supported)	

9.2.3 TDD Specific Parameters

This subclause contains parameters that are specific to TDD.

9.2.3.a Alpha Value

Used to support signalling of cell specific Alpha Value to SRNS.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Alpha Value			ENUMERATED(0, 1/8, 2/8, 3/8, 4/8, 5/8, 6/8, 7/8, 1)	

9.2.3.A Block STTD Indicator

Void.

9.2.3.1 Burst Type

Void.

9.2.3.1a Cell Capability Container TDD

The Cell Capability Container TDD indicates which functionalities a cell supports.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Cell Capability Container TDD			BIT STRING (32)	Each bit indicates whether a cell supports a particular functionality or not. The value 1 of a bit indicates that the corresponding functionality is supported in a cell and value 0 indicates that the corresponding functionality is not supported in a cell. Each bit is defined as follows. The first bit: Delayed Activation Support Indicator. The second bit: HS-DSCH Support Indicator. The third bit: DSCH Support Indicator. Note that undefined bits are considered as a spare bit and spare bits shall be set to 0 by the transmitter and shall be ignored by the receiver.

9.2.3.1b   Cell Capability Container TDD LCR

The Cell Capability Container TDD LCR indicates which functionalities a cell supports.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Cell Capability Container TDD LCR			BIT STRING (32)	Each bit indicates whether a cell supports a particular functionality or not. The value 1 of a bit indicates that the corresponding functionality is supported in a cell and value 0 indicates that the corresponding functionality is not supported in a cell. Each bit is defined as follows. The first bit: Delayed Activation Support Indicator. The second bit: HS-DSCH Support Indicator. The third bit: DSCH Support Indicator. Note that undefined bits are considered as a spare bit and spare bits shall be set to 0 by the transmitter and shall be ignored by the receiver.

9.2.3.2   CCTrCH ID

The CCTrCH ID identifies unambiguously a CCTrCH inside a Radio Link.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CCTrCH ID			INTEGER (0..15)	

9.2.3.2A DCH TDD Information

The *DCH TDD Information* IE provides information for DCHs to be established.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
DCH Information		1..<maxnoofDCHs>			–	
>Payload CRC Presence Indicator	M		9.2.1.42		–	
>UL FP Mode	M		9.2.1.67		–	
>ToAWS	M		9.2.1.58		–	
>ToAWE	M		9.2.1.57		–	
>DCH Specific Info		1..<maxnoofDCHs>			–	
>>DCH ID	M		9.2.1.16		–	
>>CCTrCH ID	M		9.2.3.2	UL CCTrCH in which the DCH is mapped	–	
>>CCTrCH ID	M		9.2.3.2	DL CCTrCH in which the DCH is mapped	–	
>>TrCH Source Statistics Descriptor	M		9.2.1.65		–	
>>Transport Format Set	M		9.2.1.64	For the UL.	–	
>>Transport Format Set	M		9.2.1.64	For the DL.	–	
>>BLER	M		9.2.1.4	For the UL.	–	
>>BLER	M		9.2.1.4	For the DL.	–	
>>Allocation/Retention Priority	M		9.2.1.1		–	
>>Frame Handling Priority	M		9.2.1.29		–	
>>QE-Selector	C-CoorDCH		9.2.1.46A		–	
>>Guaranteed Rate Information	O		9.2.1.30M		YES	ignore
>>Traffic Class	M		9.2.1.58A		YES	ignore
>>Unidirectional DCH Indicator	O		9.2.1.68B		YES	reject
>TNL QoS	O		9.2.1.56A		YES	ignore

Condition	Explanation
CoorDCH	The IE shall be present if this DCH is part of a set of coordinated DCHs (number of instances of the *DCH Specific Info* IE is greater than 1).

Range bound	Explanation
maxnoofDCHs	Maximum number of DCHs for one UE.

9.2.3.2B DCH TDD Information Response

Void

9.2.3.2C DL Timeslot Information

The *DL Timeslot Information* IE provides information on the time slot allocation for a DL DPCH.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
DL Timeslot Information		1..<maxnoOfTS>			–	
>Time Slot	M		9.2.1.56		–	
>Midamble Shift And Burst Type	M		9.2.3.4		–	
>TFCI Presence	M		9.2.1.55		–	
>DL Code Information	M		TDD DL Code Information 9.2.3.8C		–	

Range bound	Explanation
maxnoofTSs	Maximum number of Timeslots for a UE.

9.2.3.2D DL Time Slot ISCP Info

The *DL Time Slot ISCP Info* IE gives interference level for each DL time slot within the Radio Link.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
DL Time Slot ISCP Info		1..<maxnoofDLts>			–	
>Time Slot	M		9.2.1.56		–	
>DL Timeslot ISCP	M		9.2.3.12		–	

Range bound	Explanation
maxnoofDLts	Maximum number of downlink time slots per Radio Link for 3.84Mcps TDD.

9.2.3.2E DL Timeslot Information LCR

The *DL Timeslot Information LCR* IE provides information for DL Timeslot to be established for 1.28Mcps TDD.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
DL Timeslot Information LCR		1 .. <maxnoofDLtsLCR>			–	
>Time Slot LCR	M		9.2.3.12a		–	
>Midamble Shift LCR	M		9.2.3.4C		–	
>TFCI Presence	M		9.2.1.57		–	
>DL Code Information LCR	M		TDD DL Code Information LCR 9.2.3.8D		–	
>Maximum DL TX Power	O		DL Power 9.2.1.21A	Maximum allowed power on DPCH	YES	ignore
>Minimum DL TX Power	O		DL Power 9.2.1.21A	Minimum allowed power on DPCH	YES	ignore

Range bound	Explanation
maxnoofDLtSLCR	Maximum number of Downlink time slots per Radio Link for 1.28Mcps TDD.

9.2.3.2F   DL Time Slot ISCP Info LCR

The D*L Time Slot ISCP Info LCR* IE provides information for DL Interference level for each time slot within the Radio Link for 1.28Mcps TDD.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
DL Time Slot ISCP Info LCR		*1 .. <maxnoofULtsLCR>*			–	
>Time Slot LCR	M		9.2.3.12a		–	
>DL Timeslot ISCP	M		9.2.3.12		–	

Range bound	Explanation
maxnoofULtsLCR	Maximum number of Uplink time slots per Radio Link for 1.28Mcps TDD

9.2.3.3   DPCH ID

The DPCH ID identifies unambiguously a DPCH inside a Radio Link.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DPCH ID			INTEGER (0..239)	

9.2.3.3a   DSCH TDD Information

The *DSCH TDD Information* IE provides information for DSCHs to be established.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
DSCH TDD Information		1..<maxnoofDSCHs>			–	
>DSCH ID	M		9.2.1.26A		–	
>CCTrCH ID	M		9.2.3.2	DL CCTrCH in which the DSCH is mapped.	–	
>TrCH Source Statistics Descriptor	M		9.2.1.65		–	
>Transport Format Set	M		9.2.1.64		–	
>Allocation/Retention Priority	M		9.2.1.1		–	
>Scheduling Priority Indicator	M		9.2.1.51A		–	
>BLER	M		9.2.1.4		–	
>Traffic Class	M		9.2.1.58A		YES	ignore
>Binding ID	O		9.2.1.3	Shall be ignored if bearer establishment with ALCAP.	YES	ignore
>Transport Layer Address	O		9.2.1.62	Shall be ignored if bearer establishment with ALCAP.	YES	ignore

Range bound	Explanation
maxnoofDSCHs	Maximum number of DSCHs for one UE.

9.2.3.3aa   HS-DSCH TDD Information

The *HS-DSCH TDD Information* IE is used for initial addition of HS-DSCH information to a UE Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flows Information	M		9.2.1.30OA	
UE Capabilities Information		1		
>HS-DSCH Physical Layer Category	M		9.2.1.30Oa	
MAC-hs Reordering Buffer Size for RLC-UM	M		9.2.1.34Ab	
TDD ACK NACK Power Offset	M		9.2.3.7l	

9.2.3.3ab   HS-DSCH TDD Information Response

The *HS-DSCH TDD Information Response* IE provides information for HS-DSCH that have been established or modified. It also provides additional HS-DSCH information determined within the DRNS.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
HS-DSCH MAC-d Flow Specific Information Response		0..<maxno ofMACdFl ows>			–	
>HS-DSCH MAC-d Flow ID	M		9.2.1.30O		–	
>Binding ID	O		9.2.1.3		–	
>Transport Layer Address	O		9.2.1.62		–	
>HS-DSCH Initial Capacity Allocation	O		9.2.1.30Na		–	
HS-SCCH Specific Information Response		0..<maxno ofHSSCC Hcodes>		Not applicable to 1.28 Mcps TDD	GLOBAL	reject
>Time Slot	M		9.2.1.56		–	
>Midamble Shift And Burst Type	M		9.2.3.4		–	
>TDD Channelisation Code	M		9.2.3.8		–	
>HS-SICH Information		1			–	
>>HS SICH ID	M		9.2.3.3ad		–	
>>Time Slot	M		9.2.1.56		–	
>>Midamble Shift And Burst Type	M		9.2.3.4		–	
>>TDD Channelisation Code	M		9.2.3.8		–	
HS-SCCH Specific Information Response LCR		0..<maxno ofHSSCC Hcodes>		Not applicable to 3.84 Mcps TDD	GLOBAL	reject
>Time Slot LCR	M		9.2.3.12a		–	
>Midamble shift LCR	M		9.2.3.4C		–	
>First TDD Channelisation Code	M		TDD Channelisa tion Code 9.2.3.8		–	
>Second TDD Channelisation Code	M		TDD Channelisa tion Code 9.2.3.8		–	
>HS-SICH Information LCR		1			–	
>>HS SICH ID	M		9.2.3.3ad		–	
>>Time Slot LCR	M		9.2.3.12a		–	
>>Midamble shift LCR	M		9.2.3.4C		–	
>>TDD Channelisation Code	M		9.2.3.8		–	
HS-PDSCH Timeslot Specific Information Response		0..<maxno ofDLts>		Not Applicable to 1.28Mcps TDD.	GLOBAL	reject
>Time Slot	M		9.2.1.56		–	
>Midamble Shift And Burst Type	M		9.2.3.4		–	
HS-PDSCH Timeslot Specific Information Response LCR		0..<maxno ofDLtsLCR >		Not Applicable to 3.84Mcps TDD.	GLOBAL	reject
>Time Slot LCR	M		9.2.3.12a		–	
>Midamble Shift LCR	M		9.2.3.4C		–	
CHOICE *HARQ Memory Partitioning*	O				–	
>*Implicit*					–	
>>Number of Processes	M		INTEGER (1..8)	For HARQ process IDs going from 0 to 'Number of	–	

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
				Processes' – 1 the Total number of soft channel bits [42] is partitioned equally between all HARQ processes according to the rules in [16].		
>Explicit					–	
>>HARQ Memory Partitioning Information		*1..<maxno ofHARQpr ocesses>*		The first instance of the parameter corresponds to HARQ process with identifier 0, the second instance to HARQ process with identifier 1, and so on.	–	
>>>Process Memory Size	M		9.2.1.45B	See [16]	–	

Range bound	Explanation
maxnoofMACdFlows	Maximum number of MAC-d flows.
maxnoofHSSCCHcodes	Maximum number of HS-SCCH codes.
maxnoofDLts	Maximum number of downlink time slots per Radio Link for 3.84Mcps TDD.
maxnoofDLtsLCR	Maximum number of Downlink time slots per Radio Link for 1.28Mcps TDD.
maxnoofHARQprocesses	Maximum number of HARQ processes.

9.2.3.3ac   HS-DSCH TDD Update Information

The *HS-DSCH TDD Update Information* IE provides information for HS-DSCH to be updated. At least one IE shall be presented.

IE/Group name	Presence	Range	IE Type and Reference	Semantic Description	Criticality	Assigned Criticality
HS-SCCH Code Change Indicator	O		9.2.1.30R		–	
TDD ACK NACK Power Offset	O		9.2.3.7I		–	

9.2.3.3ad   HS-SICH ID

The HS-SICH ID identifies unambiguously a HS-SICH.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS SICH ID			INTEGER (0..31)	

9.2.3.3A Maximum Number of Timeslots

Defines the maximum number of timeslots the UE has the capability of receiving or transmitting. [3.84Mcps TDD – in a frame] [1.28Mcps TDD – in a subframe]

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Maximum Number of Timeslots			INTEGER (1..14)	For 1.28Mcps TDD the values 7 through 14 are not used.

9.2.3.3B Maximum Number of UL Physical Channels per Timeslot

Defines the maximum number of physical channels [3.84Mcps TDD – per frame] [1.28Mcps TDD – per subframe] that the UE is capable to transmit.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Maximum Number of UL Physical Channels per Timeslot			INTEGER (1..2)	

9.2.3.3C Maximum Number of DL Physical Channels

Defines the maximum number of physical channels [3.84Mcps TDD – per frame] [1.28Mcps TDD – per subframe] that the UE is capable to receive.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Maximum Number of DL Physical Channels			INTEGER (1..224)	For 1.28Mcps TDD the values 97 through 224 are not used.

9.2.3.3D Maximum Number of DL Physical Channels per Timeslot

Defines the maximum number of physical channels per timeslot that the UE is capable to receive.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Maximum Number of DL Physical Channels per Timeslot			INTEGER (1..16)	

9.2.3.4 Midamble Shift And Burst Type

This information element indicates burst type and midamble allocation.

Three different midamble allocation schemes exist:

- Default midamble: the midamble is allocated by layer 1 depending on the associated channelisation code (DL and UL);

- Common midamble: the midamble is allocated by layer 1 depending on the number of channelisation codes (possible in DL only);

- UE specific midamble: a UE specific midamble is explicitly assigned (DL and UL).

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Burst Type*				
>*Type 1*				
>> Midamble Configuration Burst Type 1 And 3	M		ENUMERATED(4, 8, 16)	As defined in [12]
>>Midamble Allocation Mode	M		ENUMERATED(Default midamble, Common midamble, UE specific midamble)	
>>Midamble Shift Long	C-UE		INTEGER(0..15)	
>*Type 2*				
>> Midamble Configuration Burst Type 2	M		ENUMERATED (3, 6)	As defined in [12]
>>Midamble Allocation Mode	M		ENUMERATED(Default midamble, Common midamble, UE specific midamble)	
>>Midamble Shift Short	C-UE		INTEGER (0..15)	
>*Type 3*				UL only
>> Midamble Configuration Burst Type 1 And 3	M		ENUMERATED (4, 8, 16)	As defined in [12]
>>Midamble Allocation Mode	M		ENUMERATED(Default midamble, UE specific midamble)	
>>Midamble Shift Long	C-UE		INTEGER(0..15)	

Condition	Explanation
UE	The IE shall be present if the *Midamble Allocation Mode* IE is set to "UE-specific midamble".

9.2.3.4A   Minimum Spreading Factor

Defines the minimum spreading factor the UE has the capability of receiving or transmitting.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Minimum Spreading Factor			INTEGER (1..16)	

9.2.3.4B   IPDL TDD parameters

The *IPDL TDD Parameters* IE provides the information for the IPDL Configuration applied in 3.84Mcps TDD mode.

IE/Group name	Presence	Range	IE Type and Reference	Semantics Description
IP Spacing TDD	M		ENUMERATED(30,40,50, 70, 100,…)	See [22]
IP Start	M		INTEGER(0..4095)	See [22]
IP Slot	M		INTEGER(0..14)	See [22]
IP P-CCPCH	M		ENUMERATED(Switch off 1 frame, Switch off 2 frames)	See [22]
Burst mode parameters	O		9.2.1.4B	

9.2.3.4Bb   IPDL TDD parameters LCR

The *IPDL TDD Parameters LCR* IE provides the information for the IPDL Configuration applied in 1.28Mcps TDD mode.

IE/Group name	Presence	Range	IE Type and Reference	Semantics Description
IP Spacing TDD	M		ENUMERATED(30,40,50, 70, 100,…)	See [22]
IP Start	M		INTEGER(0..4095)	See [22]
IP_Sub	M		ENUMERATED(First,Second,Both)	See [22]
Burst mode parameters	O		9.2.1.4B	

9.2.3.4C   Midamble shift LCR

This information element indicates midamble allocation in 1.28Mcps TDD.

Three different midamble allocation schemes exist:

- Default midamble: the midamble is allocated by layer 1 depending on the associated channelisation code (DL and UL);

- Common midamble: the midamble is allocated by layer 1 depending on the number of channelisation codes (possible in DL only);

- UE specific midamble: a UE specific midamble is explicitly assigned (DL and UL).

IE/Group name	Presence	Range	IE Type and Reference	Semantics Description
Midamble Allocation Mode	M		*ENUMERAT E*D(Default midamble, Common midamble, UE specific midamble,...)	
Midamble Shift Long	C-UE		INTEGER(0..15)	
Midamble Configuration LCR	M		ENUMERATED (2, 4, 6, 8, 10, 12, 14, 16, ...)	As defined in [12]

Condition	Explanation
UE	The IE shall be present if the *Midamble Allocation Mode* IE is set to "UE-specific midamble".

9.2.3.4D Neighbouring TDD Cell Information LCR

Void

9.2.3.5 Primary CCPCH RSCP

Received Signal Code Power is the received power on PCCPCH of the target cell after despreading. The reference point for the RSCP is the antenna connector at the UE, see ref. [14].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Primary CCPCH RSCP			INTEGER(0..91)	According to mapping of the non-negative values in ref. [24].

9.2.3.5a Primary CCPCH RSCP Delta

Primary CCPCH RSCP Delta is the offset used to report the negative reporting range of P-CCPCH RSCP as per [24].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Primary CCPCH RSCP Delta			INTEGER(-5..-1,…)	If present, the actual value of Primary CCPCH RSCP = Primary CCPCH RSCP Delta

9.2.3.5A PRACH Midamble

Void.

9.2.3.5B RB Identity

The RB Identity is the identifier of a radio bearer. It is unique for each active Radio bearer among the active radio bearers simultaneously allocated for the same UE.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
RB Identity			INTEGER (0..31)	In line with [16], ch. 10.3.4.11

9.2.3.6 Repetition Length

The Repetition Length represents the number of consecutive Radio Frames inside a Repetition Period in which the same Time Slot is assigned to the same Physical Channel see ref. [16].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Repetition Length			INTEGER(1..63)	

9.2.3.7 Repetition Period

The Repetition Period represents the number of consecutive Radio Frames after which the same assignment scheme of Time Slots to a Physical Channel is repeated. This means that if the Time Slot *K* is assigned to a physical channel in the Radio Frame *J*, it is assigned to the same physical channel also in all the Radio Frames *J+n*Repetition Period* (where *n* is an integer) see ref. [16].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Repetition Period			ENUMERATED (1,2,4,8,16,32,64)	

9.2.3.7A Rx Timing Deviation

Measured Rx Timing Deviation as a basis for timing advance, either measured directly from a RACH burst, or calculated from the Rx Timing Deviation measurement on the USCH by adding the current Timing Advance value. For 1.28Mcps TDD this IE must be set to 0.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Rx Timing Deviation			INTEGER (0..127)	As specified in [5], ch. 6.2.7.6

9.2.3.7B Secondary CCPCH Info TDD

The *Secondary CCPCH Info TDD* IE provides information on the Secondary CCPCH that carries the logical channel SHCCH for the UE.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
TFCS	M		9.2.1.63	For the DL.	–	
TFCI Coding	M		9.2.3.11		–	
Secondary CCPCH		*0..<maxnoofSCCPCHs>*			–	
>Time Slot	M		9.2.1.56		–	
>Midamble Shift And Burst Type	M		9.2.3.4		–	
>TFCI Presence	M		9.2.1.55		–	
> Secondary CCPCH TDD Code Information	M		9.2.3.7C		–	
>TDD Physical Channel Offset	M		9.2.3.9			
>Repetition Length	M		9.2.3.6		–	
>Repetition Period	M		9.2.3.7		–	
FACH		0..maxnoofFACHs			–	
> TFS	M		9.2.1.64	For the DL.	–	
PCH		0..1			–	
> TFS	M		9.2.1.64	For the DL.	–	

Range bound	Explanation
maxnoofSCCPCHs	Maximum number of Secondary CCPCHs per CCTrCH.
maxnoofFACHs	Maximum number of FACHs mapped onto a Secondary CCPCH.

9.2.3.7C   Secondary CCPCH TDD Code Information

The *Secondary CCPCH TDD Code Information* IE provides TDD Channelisation Code information for all SCCPCHs of one Time Slot.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Secondary CCPCH TDD Code Information		*1..<maxno OfSCCPC Hs>*			–	
>TDD Channelisation Code	M		9.2.3.8		–	

Range bound	Explanation
maxnoofSCCPCHs	Maximum number of SCCPCHs for one CCTrCH.

9.2.3.7D   Special Burst Scheduling

The number of frames between special burst transmissions during DTX.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Special Burst Scheduling			*INTEGE*R(1, 2, .., 256)	Number of frames between special burst transmissions during DTX

9.2.3.7E   Synchronisation Configuration

The Synchronisation Configuration parameters that are used by the DRNS in the Radio Link Failure/Restore procedure.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
N_INSYNC_IND	M		*INTEGE*R(1, 2, .., 256)	
N_OUTSYNC_IND	M		*INTEGE*R(1, 2, .., 256)	
T_RLFAILURE	M		ENUMERAT ED(0, 0.1, 0.2, .., 25.5)	Unit: seconds

9.2.3.7F   Secondary CCPCH Info TDD LCR

The *Secondary CCPCH Info TDD LCR* IE provides information on the Secondary CCPCH that carries the logical channel SHCCH for the UE.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
TFCS	M		9.2.1.63	For the DL.	–	
TFCI Coding	M		9.2.3.11		–	
Secondary CCPCH		*0..<maxnoofSCCPCHs>*			–	
>Time Slot LCR	M		9.2.3.12a		–	
>Midamble Shift LCR	M		9.2.3.4C		–	
>TFCI Presence	M		9.2.1.55		–	
> Secondary CCPCH TDD Code Information LCR	M		9.2.3.7G		–	
>TDD Physical Channel Offset	M		9.2.3.9			
>Repetition Length	M		9.2.3.6		–	
>Repetition Period	M		9.2.3.7		–	
FACH		*0..<maxnoofFACHs>*			–	
> TFS	M		9.2.1.64	For the DL.	–	
PCH		0..1			–	
> TFS	M		9.2.1.64	For the DL.	–	

Range bound	Explanation
maxnoofSCCPCHs	Maximum number of Secondary CCPCHs per CCTrCH.
maxnoofFACHs	Maximum number of FACHs mapped onto a Secondary CCPCH.

9.2.3.7G Secondary CCPCH TDD Code Information LCR

The *Secondary CCPCH TDD Code Information LCR* IE provides LCR TDD Channelisation Code information for all SCCPCHs of one Time Slot.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Secondary CCPCH TDD Code Information		*1..<maxnoOfSCCPCHs>*			–	
>TDD Channelisation Code LCR	M		9.2.3.8a		–	
>SCCPCH Time Slot Format LCR	M		TDD DL DPCH Time Slot Format LCR 9.2.3.8E		–	

Range bound	Explanation
maxnoofSCCPCHs	Maximum number of SCCPCHs for one CCTrCH.

9.2.3.7H Support of 8PSK

The *Support of 8PSK* IE indicates whether 8PSK is supported or not.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Support of 8PSK			ENUMERATED(supported)	

9.2.3.7l   TDD ACK NACK Power Offset

The *TDD ACK NACK Power Offset* IE indicates Power offset used in the UL in the HS-SICH between transmissions carrying positive and negative acknowledgements as per [16].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
TDD ACK NACK Power Offset			INTEGER (-7..8,…)	Unit: dB Range: -7..+8 dB Step: 1 dB

9.2.3.8   TDD Channelisation Code

The Channelisation Code Number indicates which Channelisation Code is used for a given Physical Channel. In TDD the Channelisation Code is an Orthogonal Variable Spreading Factor code that can have a spreading factor of 1, 2, 4, 8 or 16.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
TDD Channelisation Code			ENUMERATED ((1/1), (2/1), (2/2), (4/1), .. (4/4), (8/1), .. (8/8), (16/1), .. (16/16),…)	

9.2.3.8a   TDD Channelisation Code LCR

The Channelisation Code Number indicates which Channelisation Code is used for a given Physical Channel. In 1.28Mcps TDD the Channelisation Code is an Orthogonal Variable Spreading Factor code, that can have a spreading factor of 1, 2, 4, 8 or 16 and there is a choice between QPSK and 8PSK modulation.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
TDD Channelisation Code	M		ENUMERATED((1/1), (2/1), (2/2), (4/1),..(4/4), (8/1), .. (8/8), (16/1).. (16/16) ,…)	
Modulation	M		ENUMERATED(QPSK, 8PSK, …)	Modulation options for 1.28Mcps TDD in contrast to 3.84Mcps TDD

9.2.3.8A   TDD DPCH Offset

The Offset represents the phase information for the allocation of a group of dedicated physical channels. The *Offset Type* IE = "No Initial Offset" is used when a starting offset is not required and the TDD Physical channel offset for each DPCH in the CCTrCH shall be directly determined from the TDD DPCH Offset. The *Offset Type* IE = "Initial Offset" is used when a starting offset is required. The TDD DPCH Offset shall map to the CFN and the TDD Physical Channel Offset for each DPCH in this CCTrCH shall calculated by TDD DPCH Offset *mod* Repetition period, see ref. [16].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
CHOICE *Offset Type*				
>*Initial Offset*				
>>TDD DPCH Offset Value	M		INTEGER (0..255)	
>*No Initial Offset*				
>>TDD DPCH Offset Value	M		INTEGER (0..63)	

9.2.3.8B   TDD DCHs To Modify

The *TDD DCHs To Modify* IE provides information for DCHs to be modified.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
TDD DCHs To Modify		*1..<maxno ofDCHs>*			–	
>UL FP Mode	O		9.2.1.67		–	
>ToAWS	O		9.2.1.58		–	
>ToAWE	O		9.2.1.57		–	
>Transport Bearer Request Indicator	M		9.2.1.61		–	
>DCH Specific Info		*1..<maxno ofDCHs>*			–	
>>DCH ID	M		9.2.1.16		–	
>>CCTrCH ID	O		9.2.3.2	UL CCTrCH in which the DCH is mapped.	–	
>>CCTrCH ID	O		9.2.3.2	DL CCTrCH in which the DCH is mapped	–	
>>Transport Format Set	O		9.2.1.64	For the UL.	–	
>>Transport Format Set	O		9.2.1.64	For the DL.	–	
>>Allocation/Retention Priority	O		9.2.1.1		–	
>>Frame Handling Priority	O		9.2.1.29		–	
>>Traffic Class	O		9.2.1.58A		YES	ignore
>>Guaranteed Rate Information	O		9.2.1.30M		YES	ignore
>TNL QoS	O		9.2.1.56A		YES	ignore

Range bound	Explanation
maxnoofDCHs	Maximum number of DCHs for one UE.

9.2.3.8C   TDD DL Code Information

The *TDD DL Code Information* IE provides TDD DL Code information for all DPCHs of one DL Time Slot.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
TDD DL Code Information		*1..<maxno OfDPCHs>*			–	
>DPCH ID	M		9.2.3.3		–	
>TDD Channelisation Code	M		9.2.3.8		–	

Range bound	Explanation
maxnoofDPCHs	Maximum number of DPCHs for one CCTrCH.

9.2.3.8D   TDD DL Code Information LCR

The *TDD DL Code Information LCR* IE provides DL Code information for the RL for 1.28Mcps TDD.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
TDD DL Code Information LCR		*1 .. <maxnoOf DPCHLCR >*			–	
>DPCH ID	M		9.2.3.5		–	
>TDD Channelisation Code LCR	M		9.2.3.8a		–	
> TDD DL DPCH Time Slot Format LCR	M		9.2.3.8E		–	

Range bound	Explanation
maxnoOfDPCHLCR	Maximum number of DPCH in one CCTrCH for 1.28Mcps TDD

9.2.3.8E   TDD DL DPCH Time Slot Format LCR

TDD DL DPCH Time Slot Format LCR indicates the time slot formats used in DL DPCH for 1.28Mcps TDD (see ref. [12]).

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CHOICE *Modulation*				
> *QPSK*				
>>QPSK TDD DL DPCH TimeSlot Format LCR	M		INTEGER (0..24,…)	
> *8PSK*				
>>8PSK TDD DL DPCH TimeSlot Format LCR	M		INTEGER (0..24,…)	

9.2.3.9   TDD Physical Channel Offset

The TDD Physical Channel Offset represents the phase information for the allocation of a non DPCH physical channel. (CFN mod Repetition Period = TDD Physical Channel Offset) see ref. [16].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
TDD Physical Channel Offset			INTEGER (0..63)	

9.2.3.10   TDD TPC Downlink Step Size

This parameter indicates step size for the DL power adjustment (see ref [22]).

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
TDD TPC Downlink Step Size			ENUMERATED(1, 2, 3,…)	Unit: dB

9.2.3.10a   TDD TPC Uplink Step Size

This parameter indicates step size for the UL power adjustment (see ref [22]).

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
TDD TPC Uplink Step Size			ENUMERATED (1, 2, 3,…)	Unit: dB

9.2.3.10A   TDD UL Code Information

The *TDD UL Code Information* IE provides TDD UL Code information for all DPCHs of one UL Time Slot.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
TDD UL Code Information		*1..<maxnoOfDPCHs>*			–	
>DPCH ID	M		9.2.3.3		–	
>TDD Channelisation Code	M		9.2.3.8		–	

Range bound	Explanation
maxnoofDPCHs	Maximum number of DPCHs for one CCTrCH.

9.2.3.10B   TDD UL Code Information LCR

The *TDD UL Code Information LCR* IE provides information for UL Code to be established for 1.28Mcps TDD.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
TDD UL Code Information LCR		*1 .. <maxnoOfDPCHLCR>*			–	
>DPCH ID	M		9.2.3.5		–	
>TDD Channelisation Code LCR	M		9.2.3.8a		–	
> TDD UL DPCH Time Slot Format LCR	M		9.2.3.10C		–	

Range bound	Explanation
maxnoOfDPCHLCR	Maximum number of DPCH in one CCTrCH for 1.28Mcps TDD.

9.2.3.10C   TDD UL DPCH Time Slot Format LCR

TDD UL DPCH Time Slot Format LCR indicates the time slot formats used in UL DPCH for 1.28Mcps TDD (see ref. [12]).

IE/Group Name	Presence	Range	IE type and reference	Semantics description
CHOICE *Modulation*				
> *QPSK*				
>>QPSK TDD UL DPCH Time Slot Format LCR	M		INTEGER (0..69,…)	
> *8PSK*				
>>8PSK TDD UL DPCH Time Slot Format LCR	M		INTEGER (0..24,…)	

9.2.3.11 TFCI Coding

The TFCI Coding describes how the TFCI bits are coded. By default 1 TFCI bit is coded with 4 bits, 2 TFCI bits are coded with 8 bits, 3-5 TFCI bits are coded with 16 bits and 6-10 TFCI bits are coded with 32 bits.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
TFCI Coding			ENUMERATED(4, 8, 16, 32,…)	

9.2.3.12 DL Timeslot ISCP

DL Timeslot ISCP is the measured interference in a downlink timeslot at the UE, see ref. [14].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
DL Timeslot ISCP			INTEGER(0..91)	According to mapping in [24].

9.2.3.12a Time Slot LCR

The Time Slot LCR is the number of the traffic time slot within a 5 ms subframe of LCR TDD.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Time Slot LCR			INTEGER (0..6)	

9.2.3.12A Timing Advance Applied

Defines the need for Timing Advance functions such as Rx Timing Deviation measurement in a particular cell.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Timing Advance Applied			ENUMERATED(Yes, No)	

9.2.3.13 Transport Format Management

Defines whether the cell transmits the transport format information via broadcast or whether the transport format information is transmitted to the UE using dedicated RRC procedures

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Transport Format Management			ENUMERATED(Cell Based, UE Based,…)	

9.2.3.13A   UL Timeslot ISCP

UL Timeslot ISCP is the measured interference in a uplink timeslot at the DRNS, see ref. [14].

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
UL Timeslot ISCP			INTEGER(0..127)	According to mapping in [24].

9.2.3.13B   UL PhysCH SF Variation

Indicates whether variation of SF in UL is supported by Radio Link or not.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
UL PhysCH SF Variation			ENUMERATED(SF_Variation_supported, SF_Variation _NOT_supported)	

9.2.3.13C   UL Timeslot Information

The *UL Timeslot Information* IE provides information on the time slot allocation for a UL DPCH.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
UL Timeslot Information		*1..<maxnoOfTS>*			–	
>Time Slot	M		9.2.1.56		–	
>Midamble Shift And Burst Type	M		9.2.3.4		–	
>TFCI Presence	M		9.2.1.55		–	
>UL Code Information	M		TDD UL Code Information 9.2.3.10A		–	

Range bound	Explanation
maxnoofTSs	Maximum number of Timeslots for a UE.

9.2.3.13D   UL Time Slot ISCP Info

The *UL Time Slot ISCP Info* IE gives interference level for each UL time slot within the Radio Link.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
UL Time Slot ISCP Info		1 .. <maxnoof ULts>			–	
>Time Slot	M		9.2.1.56		–	
>UL Timeslot ISCP	M		9.2.3.13A		–	

Range bound	Explanation
maxnoofULts	Maximum number of uplink time slots per Radio Link.

9.2.3.13E   TSTD Indicator

Indicates if TSTD shall be active or not for the DL DPCH.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
TSTD Indicator			ENUMERATED(active, inactive)	

9.2.3.13F   TSTD Support Indicator

Indicates if UE support TSTD or not for DL DPCH.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
TSTD Support Indicator			ENUMERATED(TSTD supported, TSTD not supported)	

9.2.3.13G   UL Timeslot Information LCR

The *UL Timeslot Information LCR* IE provides information on the timeslot allocation for an UL DPCH.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
UL Timeslot Information LCR		1 .. <maxn oofULts LCR>			–	
>Time Slot LCR	M		9.2.3.12a		–	
>Midamble Shift LCR	M		9.2.3.4C		–	
>TFCI Presence	M		9.2.1.57		–	
>UL Code Information LCR	M		TDD UL Code Information LCR 9.2.3.10B			

Range bound	Explanation
maxnoofULtsLCR	Maximum number of Uplink time slots per Radio Link for 1.28Mcps TDD.

9.2.3.13H   UL Time Slot ISCP Info LCR

The *UL Time Slot ISCP Info LCR* IE provides information for UL Interference level for each time slot within the Radio Link for 1.28Mcps TDD.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
UL Time Slot ISCP Info		*1 .. <maxnoofULtsLCR>*			–	
>Time Slot LCR	M		9.2.3.12a		–	
>UL Timeslot ISCP	M		9.2.3.26A		–	

Range bound	Explanation
maxnoofULtsLCR	Maximum number of Uplink time slots per Radio Link for 1.28Mcps TDD

9.2.3.13I   Uplink Synchronisation Frequency

The *UL Synchronisation Frequency* IE specifies the frequency of the adjustment of the uplink transmission timing.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Uplink synchronisation frequency			INTEGER (1..8)	Unit: subframe, step: 1

9.2.3.13J   Uplink Synchronisation Step Size

The *UL Synchronisation Step Size* IE specifies the step size to be used for the adjustment of the uplink transmission timing.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Uplink synchronisation step size			INTEGER (1..8)	Unit: 1/8 chip, step: 1.

9.2.3.13K   Uplink Timing Advance Control LCR

The Uplink Timing Advance Control LCR indicates the parameters which are used to support Uplink Synchronisation for the UE in 1.28Mcps TDD.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
SYNC UL codes bitmap	M		BITSTRING (8)	Each bit indicates the availability of a SYNC_UL code.
FPACH info		1		
>Time Slot LCR	M		9.2.3.12a	
>TDD Channelisation Code LCR	M		9.2.3.8a	
>Midamble Shift LCR	M		9.2.3.4C	
>WT	M		INTEGER (1..4)	Maximum number of subframes to wait for transmission of FPACH.
PRXupPCHdes	M		INTEGER (-120 .. – 58, ...)	Desired UpPCH receive power. Unit: dBm Step size: 1
SYNC UL procedure parameters		1		
>Maximum Sync UL transmissions	M		ENUMERATED (1,2,4,8,...)	
>Power Ramp Step	M		INTEGER (0..3, ...)	
Mmax	M		INTEGER (1..32)	Maximum number of synchronisation attempts

9.2.3.14   USCH ID

The USCH ID is the identifier of an uplink shared channel. It is unique among the USCHs simultaneously allocated for the same UE.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
USCH ID			INTEGER (0..255)	

9.2.3.15   USCH Information

The *USCH Information* IE provides information for USCHs to be established.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
USCH Information		*1 to <maxnoofUSCHs>*			–	
>USCH ID	M		9.2.3.14		–	
>CCTrCH ID	M		9.2.3.2	UL CCTrCH in which the USCH is mapped	–	
>TrCH Source Statistics Descriptor	M		9.2.1.65		–	
>Transport Format Set	M		9.2.1.64	For USCH	–	
>Allocation/Retention Priority	M		9.2.1.1		–	
>Scheduling Priority Indicator	M		9.2.1.51A		–	
>BLER	M		9.2.1.4			
>RB Info		*1..<maxnoofRB>*		All Radio Bearers using this USCH	–	
>>RB Identity	M		9.2.3.5B		–	
>Traffic class	M		9.2.1.58A		YES	ignore
>Binding ID	O		9.2.1.3	Shall be ignored if bearer establishment with ALCAP.	YES	ignore
>Transport Layer Address	O		9.2.1.62	Shall be ignored if bearer establishment with ALCAP.	YES	ignore
>TNL QoS	O		9.2.1.56A		YES	ignore

Range bound	Explanation
maxnoofUSCHs	Maximum number of USCHs for one UE.
maxnoofRBs	Maximum number of Radio Bearers for one UE.

9.3 Message and Information Element Abstract Syntax (with ASN.1)

9.3.0 General

Subclause 9.3 presents the Abstract Syntax of RNSAP protocol with ASN.1. In case there is contradiction between the ASN.1 definition in this subclause and the tabular format in subclause 9.1 and 9.2, the ASN.1 shall take precedence, except for the definition of conditions for the presence of conditional elements, in which the tabular format shall take precedence.

The ASN.1 definition specifies the structure and content of RNSAP messages. RNSAP messages can contain any IEs specified in the object set definitions for that message without the order or number of occurrence being restricted by ASN.1. However, for this version of the standard, a sending entity shall construct a RNSAP message according to the PDU definitions module and with the following additional rules (Note that in the following IE means an IE in the object set with an explicit id. If one IE needed to appear more than once in one object set, then the different occurrences have different IE ids):

- IEs shall be ordered (in an IE container) in the order they appear in object set definitions.

- Object set definitions specify how many times IEs may appear. An IE shall appear exactly once if the presence field in an object has value "mandatory". An IE may appear at most once if the presence field in an object has value "optional" or "conditional". If in a tabular format there is multiplicity specified for an IE (i.e. an IE list) then in the corresponding ASN.1 definition the list definition is separated into two parts. The first part defines an IE container list in which the list elements reside. The second part defines list elements. The IE container list appears as an IE of its own. For this version of the standard an IE container list may contain only one kind of list elements.

If a RNSAP message that is not constructed as defined above is received, this shall be considered as Abstract Syntax Error, and the message shall be handled as defined for Abstract Syntax Error in subclause 10.3.6.

9.3.1 Usage of Private Message Mechanism for Non-standard Use

The private message mechanism for non-standard use may be used:

- for special operator (and/or vendor) specific features considered not to be part of the basic functionality, i.e. the functionality required for a complete and high-quality specification in order to guarantee multivendor inter-operability.

- by vendors for research purposes, e.g. to implement and evaluate new algorithms/features before such features are proposed for standardisation.

The private message mechanism shall not be used for basic functionality. Such functionality shall be standardised.

9.3.2 Elementary Procedure Definitions

```
-- **************************************************************
--
-- Elementary Procedure definitions
--
-- **************************************************************

RNSAP-PDU-Descriptions {
```

```
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-PDU-Descriptions (0) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- ***************************************************************
--
-- IE parameter types from other modules.
--
-- ***************************************************************

IMPORTS
    Criticality,
    ProcedureID,
    TransactionID
FROM RNSAP-CommonDataTypes

    CommonMeasurementFailureIndication,
    CommonMeasurementInitiationFailure,
    CommonMeasurementInitiationRequest,
    CommonMeasurementInitiationResponse,
    CommonMeasurementReport,
    CommonMeasurementTerminationRequest,
    CommonTransportChannelResourcesFailure,
    CommonTransportChannelResourcesRequest,
    CommonTransportChannelResourcesReleaseRequest,
    CommonTransportChannelResourcesResponseFDD,
    CommonTransportChannelResourcesResponseTDD,
    CompressedModeCommand,
    DedicatedMeasurementFailureIndication,
    DedicatedMeasurementInitiationFailure,
    DedicatedMeasurementInitiationRequest,
    DedicatedMeasurementInitiationResponse,
    DedicatedMeasurementReport,
    DedicatedMeasurementTerminationRequest,
    DL-PowerControlRequest,
    DL-PowerTimeslotControlRequest,
    DownlinkSignallingTransferRequest,
    ErrorIndication,
    InformationExchangeFailureIndication,
    InformationExchangeInitiationFailure,
    InformationExchangeInitiationRequest,
    InformationExchangeInitiationResponse,
    InformationExchangeTerminationRequest,
    InformationReport,
    PagingRequest,
    PhysicalChannelReconfigurationCommand,
    PhysicalChannelReconfigurationFailure,
    PhysicalChannelReconfigurationRequestFDD,
    PhysicalChannelReconfigurationRequestTDD,
    PrivateMessage,
    RadioLinkActivationCommandFDD,
```

ETSI

```
    RadioLinkActivationCommandTDD,
    RadioLinkAdditionFailureFDD,
    RadioLinkAdditionFailureTDD,
    RadioLinkAdditionRequestFDD,
    RadioLinkAdditionRequestTDD,
    RadioLinkAdditionResponseFDD,
    RadioLinkAdditionResponseTDD,
    RadioLinkCongestionIndication,
    RadioLinkDeletionRequest,
    RadioLinkDeletionResponse,
    RadioLinkFailureIndication,
    RadioLinkParameterUpdateIndicationFDD,
    RadioLinkParameterUpdateIndicationTDD,
    RadioLinkPreemptionRequiredIndication,
    RadioLinkReconfigurationCancel,
    RadioLinkReconfigurationCommit,
    RadioLinkReconfigurationFailure,
    RadioLinkReconfigurationPrepareFDD,
    RadioLinkReconfigurationPrepareTDD,
    RadioLinkReconfigurationReadyFDD,
    RadioLinkReconfigurationReadyTDD,
    RadioLinkReconfigurationRequestFDD,
    RadioLinkReconfigurationRequestTDD,
    RadioLinkReconfigurationResponseFDD,
    RadioLinkReconfigurationResponseTDD,
    RadioLinkRestoreIndication,
    RadioLinkSetupFailureFDD,
    RadioLinkSetupFailureTDD,
    RadioLinkSetupRequestFDD,
    RadioLinkSetupRequestTDD,
    RadioLinkSetupResponseFDD,
    RadioLinkSetupResponseTDD,
    RelocationCommit,
    ResetRequest,
    ResetResponse,
    UplinkSignallingTransferIndicationFDD,
    UplinkSignallingTransferIndicationTDD,
    GERANUplinkSignallingTransferIndication
FROM RNSAP-PDU-Contents

    id-commonMeasurementFailure,
    id-commonMeasurementInitiation,
    id-commonMeasurementReporting,
    id-commonMeasurementTermination,
    id-commonTransportChannelResourcesInitialisation,
    id-commonTransportChannelResourcesRelease,
    id-compressedModeCommand,
    id-downlinkPowerControl,
    id-downlinkSignallingTransfer,
    id-downlinkPowerTimeslotControl,
    id-errorIndication,
    id-informationExchangeFailure,
    id-informationExchangeInitiation,
    id-informationReporting,
```

```
    id-informationExchangeTermination,
    id-dedicatedMeasurementFailure,
    id-dedicatedMeasurementInitiation,
    id-dedicatedMeasurementReporting,
    id-dedicatedMeasurementTermination,
    id-paging,
    id-physicalChannelReconfiguration,
    id-privateMessage,
    id-radioLinkActivation,
    id-radioLinkAddition,
    id-radioLinkCongestion,
    id-radioLinkDeletion,
    id-radioLinkFailure,
    id-radioLinkParameterUpdate,
    id-radioLinkPreemption,
    id-radioLinkRestoration,
    id-radioLinkSetup,
    id-relocationCommit,
    id-reset,
    id-synchronisedRadioLinkReconfigurationCancellation,
    id-synchronisedRadioLinkReconfigurationCommit,
    id-synchronisedRadioLinkReconfigurationPreparation,
    id-unSynchronisedRadioLinkReconfiguration,
    id-uplinkSignallingTransfer,
    id-gERANuplinkSignallingTransfer
FROM RNSAP-Constants;

-- **************************************************************
--
-- Interface Elementary Procedure Class
--
-- **************************************************************

RNSAP-ELEMENTARY-PROCEDURE ::= CLASS {
    &InitiatingMessage                  ,
    &SuccessfulOutcome              OPTIONAL,
    &UnsuccessfulOutcome                OPTIONAL,
    &Outcome                    OPTIONAL,
    &procedureID            ProcedureID    UNIQUE,
    &criticality            Criticality    DEFAULT ignore
}
WITH SYNTAX {
    INITIATING MESSAGE      &InitiatingMessage
    [SUCCESSFUL OUTCOME     &SuccessfulOutcome]
    [UNSUCCESSFUL OUTCOME       &UnsuccessfulOutcome]
    [OUTCOME            &Outcome]
    PROCEDURE ID            &procedureID
    [CRITICALITY            &criticality]
}

-- **************************************************************
--
-- Interface PDU Definition
--
```

```
-- ************************************************************

RNSAP-PDU ::= CHOICE {
    initiatingMessage   InitiatingMessage,
    successfulOutcome   SuccessfulOutcome,
    unsuccessfulOutcome UnsuccessfulOutcome,
    outcome         Outcome,
    ...
}

InitiatingMessage ::= SEQUENCE {
    procedureID RNSAP-ELEMENTARY-PROCEDURE.&procedureID      ({RNSAP-ELEMENTARY-PROCEDURES}),
    criticality RNSAP-ELEMENTARY-PROCEDURE.&criticality      ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID}),
    transactionID   TransactionID,
    value       RNSAP-ELEMENTARY-PROCEDURE.&InitiatingMessage  ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID})
}

SuccessfulOutcome ::= SEQUENCE {
    procedureID RNSAP-ELEMENTARY-PROCEDURE.&procedureID      ({RNSAP-ELEMENTARY-PROCEDURES}),
    criticality RNSAP-ELEMENTARY-PROCEDURE.&criticality      ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID}),
    transactionID   TransactionID,
    value       RNSAP-ELEMENTARY-PROCEDURE.&SuccessfulOutcome  ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID})
}

UnsuccessfulOutcome ::= SEQUENCE {
    procedureID RNSAP-ELEMENTARY-PROCEDURE.&procedureID      ({RNSAP-ELEMENTARY-PROCEDURES}),
    criticality RNSAP-ELEMENTARY-PROCEDURE.&criticality      ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID}),
    transactionID   TransactionID,
    value       RNSAP-ELEMENTARY-PROCEDURE.&UnsuccessfulOutcome ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID})
}

Outcome ::= SEQUENCE {
    procedureID RNSAP-ELEMENTARY-PROCEDURE.&procedureID      ({RNSAP-ELEMENTARY-PROCEDURES}),
    criticality RNSAP-ELEMENTARY-PROCEDURE.&criticality      ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID}),
    transactionID   TransactionID,
    value       RNSAP-ELEMENTARY-PROCEDURE.&Outcome      ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID})
}

-- ************************************************************
--
-- Interface Elementary Procedure List
--
-- ************************************************************

RNSAP-ELEMENTARY-PROCEDURES RNSAP-ELEMENTARY-PROCEDURE ::= {
    RNSAP-ELEMENTARY-PROCEDURES-CLASS-1         |
    RNSAP-ELEMENTARY-PROCEDURES-CLASS-2         |
    RNSAP-ELEMENTARY-PROCEDURES-CLASS-3         ,
    ...
}

RNSAP-ELEMENTARY-PROCEDURES-CLASS-1 RNSAP-ELEMENTARY-PROCEDURE ::= {
    radioLinkSetupFDD                           |
    radioLinkSetupTDD                           |
```

```
        radioLinkAdditionFDD                                          |
        radioLinkAdditionTDD                                          |
        radioLinkDeletion                                             |
        synchronisedRadioLinkReconfigurationPreparationFDD            |
        synchronisedRadioLinkReconfigurationPreparationTDD            |
        unSynchronisedRadioLinkReconfigurationFDD                     |
        unSynchronisedRadioLinkReconfigurationTDD                     |
        physicalChannelReconfigurationFDD                             |
        physicalChannelReconfigurationTDD                             |
        dedicatedMeasurementInitiation                                |
        commonTransportChannelResourcesInitialisationFDD              |
        commonTransportChannelResourcesInitialisationTDD              ,
        ...,
        commonMeasurementInitiation                                   |
        informationExchangeInitiation                                 |
        reset
}

RNSAP-ELEMENTARY-PROCEDURES-CLASS-2 RNSAP-ELEMENTARY-PROCEDURE ::= {
        uplinkSignallingTransferFDD                          |
        uplinkSignallingTransferTDD                          |
        downlinkSignallingTransfer                           |
        relocationCommit                                     |
        paging                                               |
        synchronisedRadioLinkReconfigurationCommit           |
        synchronisedRadioLinkReconfigurationCancellation     |
        radioLinkFailure                                     |
        radioLinkPreemption                                  |
        radioLinkRestoration                                 |
        dedicatedMeasurementReporting                        |
        dedicatedMeasurementTermination                      |
        dedicatedMeasurementFailure                          |
        downlinkPowerControlFDD                              |
        downlinkPowerTimeslotControl                         |
        compressedModeCommandFDD                             |
        commonTransportChannelResourcesRelease               |
        errorIndication                                      |
        privateMessage                                       ,
        ...,
        radioLinkCongestion                                  |
        commonMeasurementFailure                             |
        commonMeasurementReporting                           |
        commonMeasurementTermination                         |
        informationExchangeFailure                           |
        informationExchangeTermination                       |
        informationReporting                                 |
        radioLinkActivationFDD                               |
        radioLinkActivationTDD                               |
        gERANuplinkSignallingTransfer                        |
        radioLinkParameterUpdateFDD                          |
        radioLinkParameterUpdateTDD
}

RNSAP-ELEMENTARY-PROCEDURES-CLASS-3 RNSAP-ELEMENTARY-PROCEDURE ::= {
```

```
    ...
}

-- **************************************************************
--
-- Interface Elementary Procedures
--
-- **************************************************************

radioLinkSetupFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkSetupRequestFDD
    SUCCESSFUL OUTCOME  RadioLinkSetupResponseFDD
    UNSUCCESSFUL OUTCOME    RadioLinkSetupFailureFDD
    PROCEDURE ID          { procedureCode id-radioLinkSetup, ddMode fdd }
    CRITICALITY     reject
}

radioLinkSetupTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkSetupRequestTDD
    SUCCESSFUL OUTCOME  RadioLinkSetupResponseTDD
    UNSUCCESSFUL OUTCOME    RadioLinkSetupFailureTDD
    PROCEDURE ID          { procedureCode id-radioLinkSetup, ddMode tdd }
    CRITICALITY     reject
}

radioLinkAdditionFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkAdditionRequestFDD
    SUCCESSFUL OUTCOME  RadioLinkAdditionResponseFDD
    UNSUCCESSFUL OUTCOME    RadioLinkAdditionFailureFDD
    PROCEDURE ID          { procedureCode id-radioLinkAddition , ddMode fdd }
    CRITICALITY     reject
}

radioLinkAdditionTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkAdditionRequestTDD
    SUCCESSFUL OUTCOME  RadioLinkAdditionResponseTDD
    UNSUCCESSFUL OUTCOME    RadioLinkAdditionFailureTDD
    PROCEDURE ID          { procedureCode id-radioLinkAddition , ddMode tdd }
    CRITICALITY     reject
}

radioLinkDeletion RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkDeletionRequest
    SUCCESSFUL OUTCOME  RadioLinkDeletionResponse
    PROCEDURE ID          { procedureCode id-radioLinkDeletion, ddMode common }
    CRITICALITY     reject
}

synchronisedRadioLinkReconfigurationPreparationFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationPrepareFDD
    SUCCESSFUL OUTCOME  RadioLinkReconfigurationReadyFDD
    UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
    PROCEDURE ID          { procedureCode id-synchronisedRadioLinkReconfigurationPreparation, ddMode fdd }
    CRITICALITY     reject
```

```
}

synchronisedRadioLinkReconfigurationPreparationTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationPrepareTDD
    SUCCESSFUL OUTCOME  RadioLinkReconfigurationReadyTDD
    UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
    PROCEDURE ID        { procedureCode id-synchronisedRadioLinkReconfigurationPreparation, ddMode tdd }
    CRITICALITY     reject
}

unSynchronisedRadioLinkReconfigurationFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationRequestFDD
    SUCCESSFUL OUTCOME  RadioLinkReconfigurationResponseFDD
    UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
    PROCEDURE ID        { procedureCode id-unSynchronisedRadioLinkReconfiguration, ddMode fdd }
    CRITICALITY     reject
}

unSynchronisedRadioLinkReconfigurationTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationRequestTDD
    SUCCESSFUL OUTCOME  RadioLinkReconfigurationResponseTDD
    UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
    PROCEDURE ID        { procedureCode id-unSynchronisedRadioLinkReconfiguration, ddMode tdd }
    CRITICALITY     reject
}

physicalChannelReconfigurationFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  PhysicalChannelReconfigurationRequestFDD
    SUCCESSFUL OUTCOME  PhysicalChannelReconfigurationCommand
    UNSUCCESSFUL OUTCOME    PhysicalChannelReconfigurationFailure
    PROCEDURE ID        { procedureCode id-physicalChannelReconfiguration, ddMode fdd }
    CRITICALITY     reject
}

physicalChannelReconfigurationTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  PhysicalChannelReconfigurationRequestTDD
    SUCCESSFUL OUTCOME  PhysicalChannelReconfigurationCommand
    UNSUCCESSFUL OUTCOME    PhysicalChannelReconfigurationFailure
    PROCEDURE ID        { procedureCode id-physicalChannelReconfiguration, ddMode tdd }
    CRITICALITY     reject
}

dedicatedMeasurementInitiation RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DedicatedMeasurementInitiationRequest
    SUCCESSFUL OUTCOME  DedicatedMeasurementInitiationResponse
    UNSUCCESSFUL OUTCOME    DedicatedMeasurementInitiationFailure
    PROCEDURE ID        { procedureCode id-dedicatedMeasurementInitiation, ddMode common }
    CRITICALITY     reject
}

commonTransportChannelResourcesInitialisationFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CommonTransportChannelResourcesRequest
    SUCCESSFUL OUTCOME  CommonTransportChannelResourcesResponseFDD
    UNSUCCESSFUL OUTCOME    CommonTransportChannelResourcesFailure
```

```
    PROCEDURE ID        { procedureCode id-commonTransportChannelResourcesInitialisation, ddMode fdd }
    CRITICALITY     reject
}

commonTransportChannelResourcesInitialisationTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CommonTransportChannelResourcesRequest
    SUCCESSFUL OUTCOME  CommonTransportChannelResourcesResponseTDD
    UNSUCCESSFUL OUTCOME    CommonTransportChannelResourcesFailure
    PROCEDURE ID        { procedureCode id-commonTransportChannelResourcesInitialisation, ddMode tdd }
    CRITICALITY     reject
}

uplinkSignallingTransferFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  UplinkSignallingTransferIndicationFDD
    PROCEDURE ID        { procedureCode id-uplinkSignallingTransfer, ddMode fdd }
    CRITICALITY     ignore
}

uplinkSignallingTransferTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  UplinkSignallingTransferIndicationTDD
    PROCEDURE ID        { procedureCode id-uplinkSignallingTransfer, ddMode tdd }
    CRITICALITY     ignore
}

downlinkSignallingTransfer RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DownlinkSignallingTransferRequest
    PROCEDURE ID        { procedureCode id-downlinkSignallingTransfer, ddMode common }
    CRITICALITY     ignore
}

relocationCommit RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RelocationCommit
    PROCEDURE ID        { procedureCode id-relocationCommit, ddMode common }
    CRITICALITY     ignore
}

paging RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  PagingRequest
    PROCEDURE ID        { procedureCode id-paging, ddMode common }
    CRITICALITY     ignore
}

synchronisedRadioLinkReconfigurationCommit RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationCommit
    PROCEDURE ID        { procedureCode id-synchronisedRadioLinkReconfigurationCommit, ddMode common }
    CRITICALITY     ignore
}

synchronisedRadioLinkReconfigurationCancellation RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationCancel
    PROCEDURE ID        { procedureCode id-synchronisedRadioLinkReconfigurationCancellation, ddMode common }
    CRITICALITY     ignore
}
```

```
radioLinkFailure RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkFailureIndication
    PROCEDURE ID        { procedureCode id-radioLinkFailure, ddMode common }
    CRITICALITY    ignore
}

radioLinkPreemption RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkPreemptionRequiredIndication
    PROCEDURE ID        { procedureCode id-radioLinkPreemption, ddMode common }
    CRITICALITY    ignore
}

radioLinkRestoration RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkRestoreIndication
    PROCEDURE ID        { procedureCode id-radioLinkRestoration, ddMode common }
    CRITICALITY    ignore
}

dedicatedMeasurementReporting RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DedicatedMeasurementReport
    PROCEDURE ID        { procedureCode id-dedicatedMeasurementReporting, ddMode common }
    CRITICALITY    ignore
}

dedicatedMeasurementTermination RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DedicatedMeasurementTerminationRequest
    PROCEDURE ID        { procedureCode id-dedicatedMeasurementTermination, ddMode common }
    CRITICALITY    ignore
}

dedicatedMeasurementFailure RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DedicatedMeasurementFailureIndication
    PROCEDURE ID        { procedureCode id-dedicatedMeasurementFailure, ddMode common }
    CRITICALITY    ignore
}

radioLinkCongestion RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkCongestionIndication
    PROCEDURE ID        { procedureCode id-radioLinkCongestion, ddMode common }
    CRITICALITY    ignore
}

downlinkPowerControlFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DL-PowerControlRequest
    PROCEDURE ID        { procedureCode id-downlinkPowerControl, ddMode fdd }
    CRITICALITY    ignore
}

downlinkPowerTimeslotControl RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DL-PowerTimeslotControlRequest
    PROCEDURE ID        { procedureCode id-downlinkPowerTimeslotControl, ddMode tdd }
    CRITICALITY    ignore
}
```

```
compressedModeCommandFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE   CompressedModeCommand
    PROCEDURE ID         { procedureCode id-compressedModeCommand, ddMode fdd }
    CRITICALITY     ignore
}

commonTransportChannelResourcesRelease RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE   CommonTransportChannelResourcesReleaseRequest
    PROCEDURE ID         { procedureCode id-commonTransportChannelResourcesRelease, ddMode common }
    CRITICALITY     ignore
}

errorIndication RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE   ErrorIndication
    PROCEDURE ID         { procedureCode id-errorIndication, ddMode common }
    CRITICALITY     ignore
}

commonMeasurementInitiation RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CommonMeasurementInitiationRequest
    SUCCESSFUL OUTCOME      CommonMeasurementInitiationResponse
    UNSUCCESSFUL OUTCOME    CommonMeasurementInitiationFailure
    PROCEDURE ID            { procedureCode id-commonMeasurementInitiation, ddMode common }
    CRITICALITY         reject
}

commonMeasurementReporting RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE   CommonMeasurementReport
    PROCEDURE ID         { procedureCode id-commonMeasurementReporting, ddMode common }
    CRITICALITY         ignore
}

commonMeasurementTermination RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE   CommonMeasurementTerminationRequest
    PROCEDURE ID         { procedureCode id-commonMeasurementTermination, ddMode common }
    CRITICALITY     ignore
}

commonMeasurementFailure RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE   CommonMeasurementFailureIndication
    PROCEDURE ID         { procedureCode id-commonMeasurementFailure, ddMode common }
    CRITICALITY     ignore
}

informationExchangeInitiation RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      InformationExchangeInitiationRequest
    SUCCESSFUL OUTCOME      InformationExchangeInitiationResponse
    UNSUCCESSFUL OUTCOME    InformationExchangeInitiationFailure
    PROCEDURE ID            { procedureCode id-informationExchangeInitiation, ddMode common }
    CRITICALITY         reject
}

informationReporting RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      InformationReport
```

```
    PROCEDURE ID            { procedureCode id-informationReporting, ddMode common }
    CRITICALITY             ignore
}

informationExchangeTermination RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      InformationExchangeTerminationRequest
    PROCEDURE ID            { procedureCode id-informationExchangeTermination, ddMode common }
    CRITICALITY             ignore
}

informationExchangeFailure RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      InformationExchangeFailureIndication
    PROCEDURE ID            { procedureCode id-informationExchangeFailure, ddMode common }
    CRITICALITY             ignore
}

privateMessage RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  PrivateMessage
    PROCEDURE ID            { procedureCode id-privateMessage, ddMode common }
    CRITICALITY     ignore
}

reset RNSAP-ELEMENTARY-PROCEDURE ::= {

    INITIATING MESSAGE      ResetRequest

    SUCCESSFUL OUTCOME      ResetResponse

    PROCEDURE ID            { procedureCode id-reset, ddMode common }

    CRITICALITY             reject
}

radioLinkActivationFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkActivationCommandFDD
    PROCEDURE ID            { procedureCode id-radioLinkActivation, ddMode fdd }
    CRITICALITY             ignore
}

radioLinkActivationTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkActivationCommandTDD
    PROCEDURE ID            { procedureCode id-radioLinkActivation, ddMode tdd }
    CRITICALITY             ignore
}

gERANuplinkSignallingTransfer RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  GERANUplinkSignallingTransferIndication
    PROCEDURE ID            { procedureCode id-gERANuplinkSignallingTransfer, ddMode common }
    CRITICALITY     ignore
}

radioLinkParameterUpdateFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      RadioLinkParameterUpdateIndicationFDD
    PROCEDURE ID            { procedureCode id-radioLinkParameterUpdate, ddMode fdd }
    CRITICALITY             ignore
}
```

```
radioLinkParameterUpdateTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE        RadioLinkParameterUpdateIndicationTDD
    PROCEDURE ID              { procedureCode id-radioLinkParameterUpdate, ddMode tdd }
    CRITICALITY               ignore
}

END
```

9.3.3   PDU Definitions

```
-- **************************************************************
--
-- PDU definitions for RNSAP.
--
-- **************************************************************

RNSAP-PDU-Contents {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- **************************************************************
--
-- IE parameter types from other modules.
--
-- **************************************************************

IMPORTS
    Active-Pattern-Sequence-Information,
    AllocationRetentionPriority,
    AllowedQueuingTime,
    Allowed-Rate-Information,
    AlphaValue,
    AntennaColocationIndicator,
    BLER,
    SCTD-Indicator,
    BindingID,
    C-ID,
    C-RNTI,
    CCTrCH-ID,
    CFN,
    ClosedLoopMode1-SupportIndicator,
    ClosedLoopMode2-SupportIndicator,
    Closedlooptimingadjustmentmode,
    CN-CS-DomainIdentifier,
    CN-PS-DomainIdentifier,
    CNDomainType,
    Cause,
    CellCapabilityContainer-FDD,
    CellCapabilityContainer-TDD,
```

ETSI

```
CellCapabilityContainer-TDD-LCR,
CellParameterID,
ChipOffset,
CommonMeasurementAccuracy,
CommonMeasurementType,
CommonMeasurementValue,
CommonMeasurementValueInformation,
CommonTransportChannelResourcesInitialisationNotRequired,
CongestionCause,
CoverageIndicator,
CriticalityDiagnostics,
D-RNTI,
D-RNTI-ReleaseIndication,
DCH-FDD-Information,
DCH-ID,
DCH-InformationResponse,
DCH-TDD-Information,
DL-DPCH-SlotFormat,
DL-TimeslotISCP,
DL-Power,
DL-PowerBalancing-Information,
DL-PowerBalancing-ActivationIndicator,
DL-PowerBalancing-UpdatedIndicator,
DL-ReferencePowerInformation,
DL-ScramblingCode,
DL-Timeslot-Information,
DL-TimeslotLCR-Information,
DL-TimeSlot-ISCP-Info,
DL-TimeSlot-ISCP-LCR-Information,
DPC-Mode,
DPC-Mode-Change-SupportIndicator,
DPCH-ID,
DL-DPCH-TimingAdjustment,
DRACControl,
DRXCycleLengthCoefficient,
DedicatedMeasurementType,
DedicatedMeasurementValue,
DedicatedMeasurementValueInformation,
DelayedActivation,
DelayedActivationUpdate,
DiversityControlField,
DiversityMode,
DSCH-FDD-Information,
DSCH-FDD-InformationResponse,
DSCH-FlowControlInformation,
DSCH-FlowControlItem,
DSCH-TDD-Information,
DSCH-ID,
DSCH-RNTI,
SchedulingPriorityIndicator,
EnhancedDSCHPC,
EnhancedDSCHPCCounter,
EnhancedDSCHPCIndicator,
EnhancedDSCHPCWnd,
```

```
        EnhancedDSCHPowerOffset,
        Enhanced-PrimaryCPICH-EcNo,
        FACH-FlowControlInformation,
        FDD-DCHs-to-Modify,
        FDD-DL-ChannelisationCodeNumber,
        FDD-DL-CodeInformation,
        FDD-S-CCPCH-Offset,
        FDD-TPC-DownlinkStepSize,
        FirstRLS-Indicator,
        FNReportingIndicator,
        FrameHandlingPriority,
        FrameOffset,
        GA-AccessPointPosition,
        GA-Cell,

        GA-CellAdditionalShapes,
        HCS-Prio,
        HSDSCH-FDD-Information,
        HSDSCH-FDD-Information-Response,
        HSDSCH-FDD-Update-Information,
        HSDSCH-TDD-Update-Information,
        HSDSCH-Information-to-Modify,
        HSDSCH-Information-to-Modify-Unsynchronised,
        HSDSCH-MACdFlow-ID,
        HSDSCH-MACdFlows-Information,
        HSDSCH-MACdFlows-to-Delete,
        HSDSCH-RNTI,
        HSDSCH-TDD-Information,
        HSDSCH-TDD-Information-Response,
        HS-SICH-ID,
        IMSI,
        InformationExchangeID,
        InformationReportCharacteristics,
        InformationType,
        InnerLoopDLPCStatus,
        L3-Information,
        SplitType,
        LengthOfTFCI2,
        LimitedPowerIncrease,
        MaximumAllowedULTxPower,
        MaxNrDLPhysicalchannels,
        MaxNrDLPhysicalchannelsTS,
        MaxNrOfUL-DPCHs,
        MaxNrTimeslots,
        MaxNrULPhysicalchannels,
        MeasurementFilterCoefficient,
        MeasurementID,
        MidambleAllocationMode,
        MidambleShiftAndBurstType,
        MidambleShiftLCR,
        MinimumSpreadingFactor,
        MinUL-ChannelisationCodeLength,
        MultiplexingPosition,
        NeighbouringFDDCellMeasurementInformation,
        NeighbouringTDDCellMeasurementInformation,
```

```
       Neighbouring-GSM-CellInformation,
       Neighbouring-UMTS-CellInformation,
       NeighbouringTDDCellMeasurementInformationLCR,
       NrOfDLchannelisationcodes,
       PagingCause,
       PagingRecordType,
       PartialReportingIndicator,
       PDSCHCodeMapping,
       PayloadCRC-PresenceIndicator,
       PCCPCH-Power,
       PC-Preamble,
       Permanent-NAS-UE-Identity,
       Phase-Reference-Update-Indicator,
       PowerAdjustmentType,
       PowerOffset,
       PrimaryCCPCH-RSCP,
       PrimaryCPICH-EcNo,
       PrimaryCPICH-Power,
       Primary-CPICH-Usage-For-Channel-Estimation,
       PrimaryScramblingCode,
       PropagationDelay,
       PunctureLimit,
       QE-Selector,
       Qth-Parameter,
       RANAP-RelocationInformation,
       RB-Info,
       RL-ID,
       RL-Set-ID,
       RNC-ID,
       RepetitionLength,
       RepetitionPeriod,
       ReportCharacteristics,
       Received-total-wide-band-power,
       RequestedDataValue,
       RequestedDataValueInformation,
       RL-Specific-DCH-Info,
       RxTimingDeviationForTA,
       S-FieldLength,
       S-RNTI,
       S-RNTI-Group,
       SCH-TimeSlot,
       SAI,
       SFN,
       Secondary-CCPCH-Info,
       Secondary-CCPCH-Info-TDD,
       Secondary-CPICH-Information-Change,
       Secondary-LCR-CCPCH-Info-TDD,
       SNA-Information,
       SpecialBurstScheduling,
       SSDT-CellID,
       SSDT-CellID-Length,
       SSDT-Indication,
       SSDT-SupportIndicator,
       STTD-Indicator,
```

```
                 STTD-SupportIndicator,
                 AdjustmentPeriod,
                 ScaledAdjustmentRatio,
                 MaxAdjustmentStep,
                 SecondaryCCPCH-SlotFormat,
                 SRB-Delay,
                 Support-8PSK,
                 SyncCase,
                 SynchronisationConfiguration,
                 TDD-ChannelisationCode,
                 TDD-DCHs-to-Modify,
                 TDD-DL-Code-Information,
                 TDD-DPCHOffset,
                 TDD-PhysicalChannelOffset,
                 TDD-TPC-DownlinkStepSize,
                 TDD-ChannelisationCodeLCR,
                 TDD-DL-Code-LCR-Information,
                 TDD-UL-Code-Information,
                 TDD-UL-Code-LCR-Information,
                 TFCI-Coding,
                 TFCI-PC-SupportIndicator,
                 TFCI-Presence,
                 TFCI-SignallingMode,
                 TimeSlot,
                 TimeSlotLCR,
                 TimingAdvanceApplied,
                 TnlQos,
                 ToAWE,
                 ToAWS,
                 TrafficClass,
                 TransmitDiversityIndicator,
                 TransportBearerID,
                 TransportBearerRequestIndicator,
                 TFCS,
                 Transmission-Gap-Pattern-Sequence-Information,
                 TransportFormatManagement,
                 TransportFormatSet,
                 TransportLayerAddress,
                 TrCH-SrcStatisticsDescr,
                 TSTD-Indicator,
                 TSTD-Support-Indicator,
                 UARFCN,
                 UC-ID,
                 UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation,
                 UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation-Of-HS-DSCH,
                 UL-DPCCH-SlotFormat,
                 UL-SIR,
                 UL-FP-Mode,
                 UL-PhysCH-SF-Variation,
                 UL-ScramblingCode,
                 UL-Timeslot-Information,
                 UL-TimeslotLCR-Information,
                 UL-TimeSlot-ISCP-Info,
                 UL-TimeSlot-ISCP-LCR-Info,
```

```
        URA-ID,
        URA-Information,
        USCH-ID,
        USCH-Information,
        UL-Synchronisation-Parameters-LCR,
        TDD-DL-DPCH-TimeSlotFormat-LCR,
        TDD-UL-DPCH-TimeSlotFormat-LCR,
        MAChs-ResetIndicator,
        UL-TimingAdvanceCtrl-LCR,
        TDD-TPC-UplinkStepSize-LCR,
        PrimaryCCPCH-RSCP-Delta
FROM RNSAP-IEs

        PrivateIE-Container{},
        ProtocolExtensionContainer{},
        ProtocolIE-ContainerList{},
        ProtocolIE-ContainerPair{},
        ProtocolIE-ContainerPairList{},
        ProtocolIE-Container{},
        ProtocolIE-Single-Container{},
        RNSAP-PRIVATE-IES,
        RNSAP-PROTOCOL-EXTENSION,
        RNSAP-PROTOCOL-IES,
        RNSAP-PROTOCOL-IES-PAIR
FROM RNSAP-Containers

        maxNoOfDSCHs,
        maxNoOfUSCHs,
        maxNrOfCCTrCHs,
        maxNrOfDCHs,
        maxNrOfTS,
        maxNrOfDPCHs,
        maxNrOfRLs,
        maxNrOfRLSets,
        maxNrOfRLSets-1,
        maxNrOfRLs-1,
        maxNrOfRLs-2,
        maxNrOfULTs,
        maxNrOfDLTs,
        maxResetContext,
        maxResetContextGroup,
        maxNoOfDSCHsLCR,
        maxNoOfUSCHsLCR,
        maxNrOfCCTrCHsLCR,
        maxNrOfTsLCR,
        maxNrOfDLTsLCR,
        maxNrOfULTsLCR,
        maxNrOfDPCHsLCR,
        maxNrOfLCRTDDNeighboursPerRNC,
        maxNrOfMeasNCell,
        maxNrOfMACdFlows,
        maxNrOfHSSICHs,

        id-Active-Pattern-Sequence-Information,
```

```
id-AdjustmentRatio,
id-AllowedQueuingTime,
id-AntennaColocationIndicator,
id-BindingID,
id-C-ID,
id-C-RNTI,
id-CFN,
id-CFNReportingIndicator,
id-CN-CS-DomainIdentifier,
id-CN-PS-DomainIdentifier,
id-Cause,
id-CauseLevel-RL-AdditionFailureFDD,
id-CauseLevel-RL-AdditionFailureTDD,
id-CauseLevel-RL-ReconfFailure,
id-CauseLevel-RL-SetupFailureFDD,
id-CauseLevel-RL-SetupFailureTDD,
id-CCTrCH-InformationItem-RL-FailureInd,
id-CCTrCH-InformationItem-RL-RestoreInd,
id-CellCapabilityContainer-FDD,
id-CellCapabilityContainer-TDD,
id-CellCapabilityContainer-TDD-LCR,
id-ClosedLoopMode1-SupportIndicator,
id-ClosedLoopMode2-SupportIndicator,
id-CNOriginatedPage-PagingRqst,
id-CommonMeasurementAccuracy,
id-CommonMeasurementObjectType-CM-Rprt,
id-CommonMeasurementObjectType-CM-Rqst,
id-CommonMeasurementObjectType-CM-Rsp,
id-CommonMeasurementType,
id-CommonTransportChannelResourcesInitialisationNotRequired,
id-CongestionCause,
id-CoverageIndicator,
id-CriticalityDiagnostics,
id-D-RNTI,
id-D-RNTI-ReleaseIndication,
id-DCHs-to-Add-FDD,
id-DCHs-to-Add-TDD,
id-DCH-DeleteList-RL-ReconfPrepFDD,
id-DCH-DeleteList-RL-ReconfPrepTDD,
id-DCH-DeleteList-RL-ReconfRqstFDD,
id-DCH-DeleteList-RL-ReconfRqstTDD,
id-DCH-FDD-Information,
id-DCH-TDD-Information,
id-FDD-DCHs-to-Modify,
id-TDD-DCHs-to-Modify,
id-DCH-InformationResponse,
id-DCH-Rate-InformationItem-RL-CongestInd,
id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD,
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD,
```

```
    id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD,
    id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD,
    id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD,
    id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,
    id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,
    id-DL-CCTrCH-InformationList-RL-SetupRqstTDD,
    id-FDD-DL-CodeInformation,
    id-DL-DPCH-Information-RL-ReconfPrepFDD,
    id-DL-DPCH-Information-RL-SetupRqstFDD,
    id-DL-DPCH-Information-RL-ReconfRqstFDD,
    id-DL-DPCH-InformationItem-PhyChReconfRqstTDD,
    id-DL-DPCH-InformationItem-RL-AdditionRspTDD,
    id-DL-DPCH-InformationItem-RL-SetupRspTDD,
    id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD,
    id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD,
    id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD,
    id-DL-DPCH-TimingAdjustment,
    id-DL-Physical-Channel-Information-RL-SetupRqstTDD,
    id-DL-PowerBalancing-Information,
    id-DL-PowerBalancing-ActivationIndicator,
    id-DL-PowerBalancing-UpdatedIndicator,
    id-DL-ReferencePowerInformation,
    id-DLReferencePower,
    id-DLReferencePowerList-DL-PC-Rqst,
    id-DL-ReferencePowerInformation-DL-PC-Rqst,
    id-DRXCycleLengthCoefficient,
    id-DedicatedMeasurementObjectType-DM-Fail,
    id-DedicatedMeasurementObjectType-DM-Fail-Ind,
    id-DedicatedMeasurementObjectType-DM-Rprt,
    id-DedicatedMeasurementObjectType-DM-Rqst,
    id-DedicatedMeasurementObjectType-DM-Rsp,
    id-DedicatedMeasurementType,
    id-DelayedActivation,
    id-DelayedActivationList-RL-ActivationCmdFDD,
    id-DelayedActivationList-RL-ActivationCmdTDD,
    id-DelayedActivationInformation-RL-ActivationCmdFDD,
    id-DelayedActivationInformation-RL-ActivationCmdTDD,
    id-DPC-Mode,
    id-DPC-Mode-Change-SupportIndicator,
    id-DSCHs-to-Add-FDD,
    id-DSCHs-to-Add-TDD,
    id-DSCH-DeleteList-RL-ReconfPrepTDD,
    id-DSCH-Delete-RL-ReconfPrepFDD,
    id-DSCH-FDD-Information,
    id-DSCH-InformationListIE-RL-AdditionRspTDD,
    id-DSCH-InformationListIEs-RL-SetupRspTDD,
    id-DSCH-TDD-Information,
    id-DSCH-FDD-InformationResponse,
    id-DSCH-ModifyList-RL-ReconfPrepTDD,
    id-DSCH-Modify-RL-ReconfPrepFDD,
    id-DSCH-RNTI,
```

```
    id-DSCHsToBeAddedOrModified-FDD,
    id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD,
    id-EnhancedDSCHPC,
    id-EnhancedDSCHPCIndicator,
    id-Enhanced-PrimaryCPICH-EcNo,
    id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD,
    id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD,
    id-GA-Cell,
    id-GA-CellAdditionalShapes,
    id-HCS-Prio,
    id-HSDSCH-FDD-Information,
    id-HSDSCH-FDD-Information-Response,
    id-HSDSCH-FDD-Update-Information,
    id-HSDSCH-TDD-Update-Information,
    id-HSDSCH-Information-to-Modify,
    id-HSDSCH-Information-to-Modify-Unsynchronised,
    id-HSDSCH-MACdFlows-to-Add,
    id-HSDSCH-MACdFlows-to-Delete,
    id-HSDSCHMacdFlowSpecificInformationList-RL-PreemptRequiredInd,
    id-HSDSCHMacdFlowSpecificInformationItem-RL-PreemptRequiredInd,
    id-HSDSCH-RNTI,
    id-HSDSCH-TDD-Information,
    id-HSDSCH-TDD-Information-Response,
    id-HSPDSCH-RL-ID,
    id-HSPDSCH-Timeslot-InformationList-PhyChReconfRqstTDD,
    id-HSPDSCH-Timeslot-InformationListLCR-PhyChReconfRqstTDD,
    id-HSSICH-Info-DM-Rprt,
    id-HSSICH-Info-DM-Rqst,
    id-HSSICH-Info-DM,
    id-IMSI,
    id-InformationExchangeID,
    id-InformationExchangeObjectType-InfEx-Rprt,
    id-InformationExchangeObjectType-InfEx-Rqst,
    id-InformationExchangeObjectType-InfEx-Rsp,
    id-InformationReportCharacteristics,
    id-InformationType,
    id-InnerLoopDLPCStatus,
    id-SplitType,
    id-LengthOfTFCI2,
    id-L3-Information,
    id-AdjustmentPeriod,
    id-MaxAdjustmentStep,
    id-MeasurementFilterCoefficient,
    id-MeasurementID,
    id-Multiple-RL-InformationResponse-RL-ReconfReadyTDD,
    id-PagingArea-PagingRqst,
    id-PartialReportingIndicator,
    id-PDSCH-RL-ID,
    id-Permanent-NAS-UE-Identity,
    id-Phase-Reference-Update-Indicator,
    id-FACH-FlowControlInformation,
    id-PowerAdjustmentType,
    id-PrimCCPCH-RSCP-DL-PC-RqstTDD,
    id-Primary-CPICH-Usage-For-Channel-Estimation,
```

ETSI

```
        id-PropagationDelay,
        id-Qth-Parameter,
        id-RANAP-RelocationInformation,
        id-ResetIndicator,
        id-RL-Information-PhyChReconfRqstFDD,
        id-RL-Information-PhyChReconfRqstTDD,
        id-RL-Information-RL-AdditionRqstFDD,
        id-RL-Information-RL-AdditionRqstTDD,
        id-RL-Information-RL-DeletionRqst,
        id-RL-Information-RL-FailureInd,
        id-RL-Information-RL-ReconfPrepFDD,
        id-RL-Information-RL-ReconfPrepTDD,
        id-RL-Information-RL-RestoreInd,
        id-RL-Information-RL-SetupRqstFDD,
        id-RL-Information-RL-SetupRqstTDD,
        id-RL-InformationItem-RL-CongestInd,
        id-RL-InformationItem-DM-Rprt,
        id-RL-InformationItem-DM-Rqst,
        id-RL-InformationItem-DM-Rsp,
        id-RL-InformationItem-RL-PreemptRequiredInd,
        id-RL-InformationItem-RL-SetupRqstFDD,
        id-RL-InformationList-RL-CongestInd,
        id-RL-InformationList-RL-AdditionRqstFDD,
        id-RL-InformationList-RL-DeletionRqst,
        id-RL-InformationList-RL-PreemptRequiredInd,
        id-RL-InformationList-RL-ReconfPrepFDD,
        id-RL-InformationResponse-RL-AdditionRspTDD,
        id-RL-InformationResponse-RL-ReconfReadyTDD,
        id-RL-InformationResponse-RL-ReconfRspTDD,
        id-RL-InformationResponse-RL-SetupRspTDD,
        id-RL-InformationResponseItem-RL-AdditionRspFDD,
        id-RL-InformationResponseItem-RL-ReconfReadyFDD,
        id-RL-InformationResponseItem-RL-ReconfRspFDD,
        id-RL-InformationResponseItem-RL-SetupRspFDD,
        id-RL-InformationResponseList-RL-AdditionRspFDD,
        id-RL-InformationResponseList-RL-ReconfReadyFDD,
        id-RL-InformationResponseList-RL-ReconfRspFDD,
        id-RL-InformationResponseList-RL-SetupRspFDD,
        id-RL-ParameterUpdateIndicationFDD-RL-Information-Item,
        id-RL-ParameterUpdateIndicationFDD-RL-InformationList,
        id-RL-ReconfigurationFailure-RL-ReconfFail,
        id-RL-ReconfigurationRequestFDD-RL-InformationList,
        id-RL-ReconfigurationRequestFDD-RL-Information-IEs,
        id-RL-ReconfigurationRequestTDD-RL-Information,
        id-RL-ReconfigurationResponseTDD-RL-Information,
        id-RL-Specific-DCH-Info,
        id-RL-Set-InformationItem-DM-Rprt,
        id-RL-Set-InformationItem-DM-Rqst,
        id-RL-Set-InformationItem-DM-Rsp,
        id-RL-Set-Information-RL-FailureInd,
        id-RL-Set-Information-RL-RestoreInd,
        id-RL-Set-Successful-InformationItem-DM-Fail,
        id-RL-Set-Unsuccessful-InformationItem-DM-Fail,
        id-RL-Set-Unsuccessful-InformationItem-DM-Fail-Ind,
```

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id-RL-Successful-InformationItem-DM-Fail,
id-RL-Unsuccessful-InformationItem-DM-Fail,
id-RL-Unsuccessful-InformationItem-DM-Fail-Ind,
id-ReportCharacteristics,
id-Reporting-Object-RL-FailureInd,
id-Reporing-Object-RL-RestoreInd,
id-RNC-ID,
id-RxTimingDeviationForTA,
id-S-RNTI,
id-SAI,
id-Secondary-CPICH-Information-Change,
id-SFN,
id-SFNReportingIndicator,
id-SNA-Information,
id-SRNC-ID,
id-SSDT-CellIDforEDSCHPC,
id-STTD-SupportIndicator,
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD,
id-TDD-maxNrDLPhysicalchannels,
id-TDD-Support-8PSK,
id-TFCI-PC-SupportIndicator,
id-timeSlot-ISCP,
id-TimeSlot-RL-SetupRspTDD,
id-TnlQos,
id-TransportBearerID,
id-TransportBearerRequestIndicator,
id-TransportLayerAddress,
id-UC-ID,
id-ContextInfoItem-Reset,
id-ContextGroupInfoItem-Reset,
id-Transmission-Gap-Pattern-Sequence-Information,
id-UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation,
id-UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation-Of-HS-DSCH,
id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD,
id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD,
id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD,
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD,
id-UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD,
id-UL-CCTrCH-InformationListIE-RL-AdditionRspTDD,
id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD,
id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD,
id-UL-DPCH-Information-RL-ReconfPrepFDD,
id-UL-DPCH-Information-RL-ReconfRqstFDD,
id-UL-DPCH-Information-RL-SetupRqstFDD,
id-UL-DPCH-InformationItem-PhyChReconfRqstTDD,
```

```
        id-UL-DPCH-InformationItem-RL-AdditionRspTDD,
        id-UL-DPCH-InformationItem-RL-SetupRspTDD,
        id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD,
        id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD,
        id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD,
        id-UL-Physical-Channel-Information-RL-SetupRqstTDD,
        id-UL-SIRTarget,
        id-URA-Information,
        id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
        id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD,
        id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD,
        id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD,
        id-USCHs-to-Add,
        id-USCH-DeleteList-RL-ReconfPrepTDD,
        id-USCH-InformationListIE-RL-AdditionRspTDD,
        id-USCH-InformationListIEs-RL-SetupRspTDD,
        id-USCH-Information,
        id-USCH-ModifyList-RL-ReconfPrepTDD,
        id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD,
        id-DL-Timeslot-ISCP-LCR-Information-RL-SetupRqstTDD,
        id-RL-LCR-InformationResponse-RL-SetupRspTDD,
        id-UL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD,
        id-UL-DPCH-LCR-InformationItem-RL-SetupRspTDD,
        id-DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD,
        id-DL-DPCH-LCR-InformationItem-RL-SetupRspTDD,
        id-DSCH-LCR-InformationListIEs-RL-SetupRspTDD,
        id-USCH-LCR-InformationListIEs-RL-SetupRspTDD,
        id-DL-Timeslot-ISCP-LCR-Information-RL-AdditionRqstTDD,
        id-RL-LCR-InformationResponse-RL-AdditionRspTDD,
        id-UL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD,
        id-UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD,
        id-DL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD,
        id-DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD,
        id-DSCH-LCR-InformationListIEs-RL-AdditionRspTDD,
        id-USCH-LCR-InformationListIEs-RL-AdditionRspTDD,
        id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD,
        id-UL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD,
        id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD,
        id-DL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD,
        id-UL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD,
        id-DL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD,
        id-timeSlot-ISCP-LCR-List-DL-PC-Rqst-TDD,
        id-TSTD-Support-Indicator-RL-SetupRqstTDD,
        id-PrimaryCCPCH-RSCP-RL-ReconfPrepTDD,
        id-DL-TimeSlot-ISCP-Info-RL-ReconfPrepTDD,
        id-DL-Timeslot-ISCP-LCR-Information-RL-ReconfPrepTDD,
        id-neighbouringTDDCellMeasurementInformationLCR,
        id-UL-SIR-Target-CCTrCH-InformationItem-RL-SetupRspTDD,
        id-UL-SIR-Target-CCTrCH-LCR-InformationItem-RL-SetupRspTDD,
        id-TrafficClass,
        id-UL-Synchronisation-Parameters-LCR,
        id-TDD-DL-DPCH-TimeSlotFormatModifyItem-LCR-RL-ReconfReadyTDD,
        id-TDD-UL-DPCH-TimeSlotFormatModifyItem-LCR-RL-ReconfReadyTDD,
        id-MAChs-ResetIndicator,
```

```
    id-UL-TimingAdvanceCtrl-LCR,
    id-CCTrCH-Maximum-DL-Power-RL-SetupRspTDD,
    id-CCTrCH-Minimum-DL-Power-RL-SetupRspTDD,
    id-CCTrCH-Maximum-DL-Power-RL-AdditionRspTDD,
    id-CCTrCH-Minimum-DL-Power-RL-AdditionRspTDD,
    id-CCTrCH-Maximum-DL-Power-RL-ReconfReadyTDD,
    id-CCTrCH-Minimum-DL-Power-RL-ReconfReadyTDD,
    id-Maximum-DL-Power-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD,
    id-Minimum-DL-Power-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD,
    id-DL-CCTrCH-InformationList-RL-ReconfRspTDD,
    id-DL-DPCH-InformationModifyItem-LCR-RL-ReconfRspTDD,
    id-TDD-TPC-UplinkStepSize-LCR-RL-SetupRqstTDD,
    id-UL-CCTrCH-InformationList-RL-AdditionRqstTDD,
    id-UL-CCTrCH-InformationItem-RL-AdditionRqstTDD,
    id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD,
    id-DL-CCTrCH-InformationItem-RL-AdditionRqstTDD,
    id-TDD-TPC-UplinkStepSize-InformationAdd-LCR-RL-ReconfPrepTDD,
    id-TDD-TPC-UplinkStepSize-InformationModify-LCR-RL-ReconfPrepTDD,
    id-TDD-TPC-DownlinkStepSize-InformationAdd-RL-ReconfPrepTDD,
    id-TDD-TPC-DownlinkStepSize-InformationModify-RL-ReconfPrepTDD,
    id-PrimaryCCPCH-RSCP-Delta

FROM RNSAP-Constants;

-- **************************************************************
--
-- RADIO LINK SETUP REQUEST FDD
--
-- **************************************************************

RadioLinkSetupRequestFDD ::= SEQUENCE {
    protocolIEs                   ProtocolIE-Container      {{RadioLinkSetupRequestFDD-IEs}},
    protocolExtensions            ProtocolExtensionContainer {{RadioLinkSetupRequestFDD-Extensions}}                OPTIONAL,
    ...
}

RadioLinkSetupRequestFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-SRNC-ID                 CRITICALITY reject  TYPE RNC-ID                        PRESENCE mandatory} |
    { ID id-S-RNTI                  CRITICALITY reject  TYPE S-RNTI                        PRESENCE mandatory } |
    { ID id-D-RNTI                  CRITICALITY reject  TYPE D-RNTI                    PRESENCE optional   } |
    { ID id-AllowedQueuingTime      CRITICALITY reject  TYPE AllowedQueuingTime            PRESENCE optional   } |
    { ID id-UL-DPCH-Information-RL-SetupRqstFDD CRITICALITY reject  TYPE UL-DPCH-Information-RL-SetupRqstFDD    PRESENCE mandatory   } |
    { ID id-DL-DPCH-Information-RL-SetupRqstFDD CRITICALITY reject  TYPE DL-DPCH-Information-RL-SetupRqstFDD    PRESENCE mandatory   } |
    { ID id-DCH-FDD-Information      CRITICALITY reject  TYPE DCH-FDD-Information        PRESENCE mandatory } |
    { ID id-DSCH-FDD-Information     CRITICALITY reject  TYPE DSCH-FDD-Information           PRESENCE optional   } |
    { ID id-RL-Information-RL-SetupRqstFDD     CRITICALITY notify  TYPE RL-InformationList-RL-SetupRqstFDD     PRESENCE mandatory   }|
    { ID id-Transmission-Gap-Pattern-Sequence-Information        CRITICALITY reject  TYPE Transmission-Gap-Pattern-Sequence-Information   PRESENCE
    optional } |
    { ID id-Active-Pattern-Sequence-Information CRITICALITY reject  TYPE Active-Pattern-Sequence-Information   PRESENCE optional },
    ...
}

UL-DPCH-Information-RL-SetupRqstFDD ::= SEQUENCE {
    ul-ScramblingCode             UL-ScramblingCode,
```

```
    minUL-ChannelisationCodeLength          MinUL-ChannelisationCodeLength,
    maxNrOfUL-DPCHs                  MaxNrOfUL-DPCHs          OPTIONAL
    -- This IE shall be present if minUL-ChannelisationCodeLength equals to 4 -- ,
    ul-PunctureLimit                 PunctureLimit,
    ul-TFCS                          TFCS,
    ul-DPCCH-SlotFormat              UL-DPCCH-SlotFormat,
    ul-SIRTarget                     UL-SIR          OPTIONAL,
    diversityMode                    DiversityMode,
    sSDT-CellIdLength                SSDT-CellID-Length       OPTIONAL,
    s-FieldLength                    S-FieldLength            OPTIONAL,
    iE-Extensions                    ProtocolExtensionContainer { {UL-DPCH-Information-RL-SetupRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-Information-RL-SetupRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DPC-Mode              CRITICALITY reject     EXTENSION DPC-Mode   PRESENCE optional  },
    ...
}

DL-DPCH-Information-RL-SetupRqstFDD ::= SEQUENCE {
    tFCS                          TFCS,
    dl-DPCH-SlotFormat            DL-DPCH-SlotFormat,
    nrOfDLchannelisationcodes     NrOfDLchannelisationcodes,
    tFCI-SignallingMode           TFCI-SignallingMode,
    tFCI-Presence                 TFCI-Presence           OPTIONAL
    -- This IE shall be present if DL DPCH Slot Format IE is equal to any of the values from 12 to 16 --,
    multiplexingPosition              MultiplexingPosition,
    powerOffsetInformation            PowerOffsetInformation-RL-SetupRqstFDD,
    fdd-dl-TPC-DownlinkStepSize    FDD-TPC-DownlinkStepSize,
    limitedPowerIncrease          LimitedPowerIncrease,
    innerLoopDLPCStatus           InnerLoopDLPCStatus,
    iE-Extensions                 ProtocolExtensionContainer { {DL-DPCH-Information-RL-SetupRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-Information-RL-SetupRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-SplitType   CRITICALITY reject EXTENSION   SplitType   PRESENCE optional   }|
    { ID id-LengthOfTFCI2   CRITICALITY reject EXTENSION   LengthOfTFCI2   PRESENCE optional   },
    ...
}

PowerOffsetInformation-RL-SetupRqstFDD ::= SEQUENCE {
    po1-ForTFCI-Bits              PowerOffset,
    po2-ForTPC-Bits              PowerOffset,
    po3-ForPilotBits              PowerOffset,
    iE-Extensions                 ProtocolExtensionContainer { { PowerOffsetInformation-RL-SetupRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

PowerOffsetInformation-RL-SetupRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
RL-InformationList-RL-SetupRqstFDD            ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-InformationItemIEs-RL-
SetupRqstFDD} }

RL-InformationItemIEs-RL-SetupRqstFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-RL-SetupRqstFDD  CRITICALITY notify  TYPE RL-InformationItem-RL-SetupRqstFDD    PRESENCE mandatory   }
}

RL-InformationItem-RL-SetupRqstFDD ::= SEQUENCE {
    rL-ID                        RL-ID,
    c-ID                         C-ID,
    firstRLS-indicator           FirstRLS-Indicator,
    frameOffset                  FrameOffset,
    chipOffset                   ChipOffset,
    propagationDelay             PropagationDelay       OPTIONAL,
    diversityControlField        DiversityControlField    OPTIONAL
    -- This IE shall be present if the RL is not the first one in the RL-InformationList-RL-SetupRqstFDD --,
    dl-InitialTX-Power           DL-Power             OPTIONAL,
    primaryCPICH-EcNo            PrimaryCPICH-EcNo           OPTIONAL,
    sSDT-CellID                  SSDT-CellID         OPTIONAL,
    transmitDiversityIndicator   TransmitDiversityIndicator    OPTIONAL,
    -- This IE shall be present unless Diversity Mode IE in UL DPCH Information group is "none"
    iE-Extensions                ProtocolExtensionContainer { {RL-InformationItem-RL-SetupRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationItem-RL-SetupRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-SSDT-CellIDforEDSCHPC CRITICALITY ignore EXTENSION SSDT-CellID        PRESENCE conditional }|
    -- This IE shall be present if Enhanced DSCH PC IE is present in the DSCH Information IE.
    { ID id-Enhanced-PrimaryCPICH-EcNo            CRITICALITY ignore            EXTENSION Enhanced-PrimaryCPICH-EcNo    PRESENCE optional }|
    { ID id-RL-Specific-DCH-Info    CRITICALITY ignore       EXTENSION   RL-Specific-DCH-Info    PRESENCE  optional }|
    { ID id-DelayedActivation CRITICALITY reject EXTENSION DelayedActivation PRESENCE optional }|
    { ID id-Qth-Parameter   CRITICALITY ignore       EXTENSION   Qth-Parameter     PRESENCE optional },
    ...
}

RadioLinkSetupRequestFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-Permanent-NAS-UE-Identity               CRITICALITY ignore            EXTENSION Permanent-NAS-UE-Identity    PRESENCE optional }|
    { ID id-DL-PowerBalancing-Information      CRITICALITY ignore      EXTENSION   DL-PowerBalancing-Information       PRESENCE optional}|
    { ID id-HSDSCH-FDD-Information                CRITICALITY reject            EXTENSION HSDSCH-FDD-Information        PRESENCE optional }|
    { ID id-HSPDSCH-RL-ID                        CRITICALITY reject            EXTENSION RL-ID                         PRESENCE conditional }|
    -- This IE shall be present if HS-DSCH Information IE is present.
    { ID id-UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation      CRITICALITY ignore      EXTENSION UE-Support-Of-Dedicated-Pilots-For-
Channel-Estimation       PRESENCE optional}|
    { ID id-UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation-Of-HS-DSCH         CRITICALITY ignore    EXTENSION  UE-Support-Of-Dedicated-
Pilots-For-Channel-Estimation-Of-HS-DSCH         PRESENCE optional},
    ...
}

-- **************************************************************
--
-- RADIO LINK SETUP REQUEST TDD
--
-- **************************************************************
```

```
RadioLinkSetupRequestTDD ::= SEQUENCE {
    protocolIEs                     ProtocolIE-Container        {{RadioLinkSetupRequestTDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{RadioLinkSetupRequestTDD-Extensions}}                    OPTIONAL,
    ...
}

RadioLinkSetupRequestTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-SRNC-ID                                       CRITICALITY reject   TYPE RNC-ID                                              PRESENCE mandatory} |
    { ID id-S-RNTI                                        CRITICALITY reject   TYPE S-RNTI                                              PRESENCE mandatory} |
    { ID id-D-RNTI                                        CRITICALITY reject   TYPE D-RNTI                                              PRESENCE optional } |
    { ID id-UL-Physical-Channel-Information-RL-SetupRqstTDD CRITICALITY reject  TYPE UL-Physical-Channel-Information-RL-SetupRqstTDD     PRESENCE
mandatory    } |
    { ID id-DL-Physical-Channel-Information-RL-SetupRqstTDD CRITICALITY reject  TYPE DL-Physical-Channel-Information-RL-SetupRqstTDD     PRESENCE
mandatory    } |
    { ID id-AllowedQueuingTime                            CRITICALITY reject   TYPE AllowedQueuingTime                      PRESENCE optional } |
    { ID id-UL-CCTrCH-InformationList-RL-SetupRqstTDD     CRITICALITY notify   TYPE UL-CCTrCH-InformationList-RL-SetupRqstTDD  PRESENCE optional } |
    { ID id-DL-CCTrCH-InformationList-RL-SetupRqstTDD     CRITICALITY notify   TYPE DL-CCTrCH-InformationList-RL-SetupRqstTDD  PRESENCE optional } |
    { ID id-DCH-TDD-Information             CRITICALITY reject   TYPE DCH-TDD-Information                     PRESENCE optional    } |
    { ID id-DSCH-TDD-Information            CRITICALITY reject   TYPE DSCH-TDD-Information                    PRESENCE optional    } |
    { ID id-USCH-Information            CRITICALITY reject   TYPE USCH-Information             PRESENCE optional } |
    { ID id-RL-Information-RL-SetupRqstTDD                CRITICALITY reject   TYPE RL-Information-RL-SetupRqstTDD              PRESENCE mandatory},
    ...
}

UL-Physical-Channel-Information-RL-SetupRqstTDD ::= SEQUENCE {
    maxNrTimeslots-UL            MaxNrTimeslots,
    minimumSpreadingFactor-UL    MinimumSpreadingFactor,
    maxNrULPhysicalchannels      MaxNrULPhysicalchannels,
    iE-Extensions                ProtocolExtensionContainer { {UL-Physical-Channel-InformationItem-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-Physical-Channel-InformationItem-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-TDD-Support-8PSK        CRITICALITY ignore      EXTENSION Support-8PSK      PRESENCE optional },
    -- Applicable to 1.28Mcps TDD only
    ...
}

DL-Physical-Channel-Information-RL-SetupRqstTDD ::= SEQUENCE {
    maxNrTimeslots-DL            MaxNrTimeslots,
    minimumSpreadingFactor-DL    MinimumSpreadingFactor,
    maxNrDLPhysicalchannels      MaxNrDLPhysicalchannels,
    iE-Extensions                ProtocolExtensionContainer { {DL-Physical-Channel-InformationItem-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-Physical-Channel-InformationItem-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-TDD-maxNrDLPhysicalchannels    CRITICALITY ignore          EXTENSION MaxNrDLPhysicalchannelsTS    PRESENCE optional }|
    { ID id-TDD-Support-8PSK               CRITICALITY ignore          EXTENSION Support-8PSK                 PRESENCE optional },
    -- Applicable to 1.28Mcps TDD only
    ...
}
```

```
UL-CCTrCH-InformationList-RL-SetupRqstTDD                 ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {UL-CCTrCH-
InformationItemIEs-RL-SetupRqstTDD} }

UL-CCTrCH-InformationItemIEs-RL-SetupRqstTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD   CRITICALITY notify  TYPE UL-CCTrCH-InformationItem-RL-SetupRqstTDD  PRESENCE mandatory   }
}

UL-CCTrCH-InformationItem-RL-SetupRqstTDD ::= SEQUENCE {
    cCTrCH-ID                 CCTrCH-ID,
    ul-TFCS                   TFCS,
    tFCI-Coding               TFCI-Coding,
    ul-PunctureLimit          PunctureLimit,
    iE-Extensions             ProtocolExtensionContainer { {UL-CCTrCH-InformationItem-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-InformationItem-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-TDD-TPC-UplinkStepSize-LCR-RL-SetupRqstTDD    CRITICALITY reject    EXTENSION  TDD-TPC-UplinkStepSize-LCR    PRESENCE optional },
    -- Mandatory for 1.28Mcps TDD, not applicable to 3.84Mcps TDD
    ...
}

DL-CCTrCH-InformationList-RL-SetupRqstTDD                 ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {DL-CCTrCH-
InformationItemIEs-RL-SetupRqstTDD} }

DL-CCTrCH-InformationItemIEs-RL-SetupRqstTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD   CRITICALITY notify  TYPE DL-CCTrCH-InformationItem-RL-SetupRqstTDD  PRESENCE mandatory   }
}

DL-CCTrCH-InformationItem-RL-SetupRqstTDD ::= SEQUENCE {
    cCTrCH-ID                 CCTrCH-ID,
    dl-TFCS                   TFCS,
    tFCI-Coding               TFCI-Coding,
    dl-PunctureLimit          PunctureLimit,
    tdd-TPC-DownlinkStepSize  TDD-TPC-DownlinkStepSize,
    cCTrCH-TPCList            CCTrCH-TPCList-RL-SetupRqstTDD  OPTIONAL,
    iE-Extensions             ProtocolExtensionContainer { {DL-CCTrCH-InformationItem-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationItem-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-TPCList-RL-SetupRqstTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF CCTrCH-TPCItem-RL-SetupRqstTDD

CCTrCH-TPCItem-RL-SetupRqstTDD   ::= SEQUENCE {
    cCTrCH-ID                     CCTrCH-ID,
    iE-Extensions                 ProtocolExtensionContainer { { CCTrCH-TPCItem-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

CCTrCH-TPCItem-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

RL-Information-RL-SetupRqstTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    c-ID                        C-ID,
    frameOffset                 FrameOffset,
    specialBurstScheduling      SpecialBurstScheduling,
    primaryCCPCH-RSCP                PrimaryCCPCH-RSCP        OPTIONAL,
    dL-TimeSlot-ISCP                 DL-TimeSlot-ISCP-Info   OPTIONAL,
    --for 3.84Mcps TDD only
    iE-Extensions                    ProtocolExtensionContainer { {RL-Information-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DL-Timeslot-ISCP-LCR-Information-RL-SetupRqstTDD    CRITICALITY reject      EXTENSION    DL-TimeSlot-ISCP-LCR-Information PRESENCE
optional    }|
    { ID id-TSTD-Support-Indicator-RL-SetupRqstTDD             CRITICALITY ignore      EXTENSION    TSTD-Support-Indicator        PRESENCE
optional    }|
    --for 1.28Mcps TDD only
    { ID id-RL-Specific-DCH-Info    CRITICALITY ignore      EXTENSION    RL-Specific-DCH-Info    PRESENCE   optional }|
    { ID id-DelayedActivation CRITICALITY reject EXTENSION DelayedActivation PRESENCE optional }|
    { ID id-UL-Synchronisation-Parameters-LCR             CRITICALITY reject      EXTENSION    UL-Synchronisation-Parameters-LCR     PRESENCE
    optional    }|  -- Mandatory for 1.28Mcps TDD, Not Applicable to 3.84Mcps TDD
    { ID id-PrimaryCCPCH-RSCP-Delta     CRITICALITY ignore      EXTENSION    PrimaryCCPCH-RSCP-Delta     PRESENCE    optional },
    ...
}

RadioLinkSetupRequestTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-Permanent-NAS-UE-Identity                 CRITICALITY ignore       EXTENSION Permanent-NAS-UE-Identity    PRESENCE optional }|
    { ID id-HSDSCH-TDD-Information                     CRITICALITY reject       EXTENSION HSDSCH-TDD-Information    PRESENCE optional }|
    { ID id-HSPDSCH-RL-ID                             CRITICALITY reject       EXTENSION RL-ID                        PRESENCE conditional }|
    -- This IE shall be present if HS-DSCH Information IE is present.
    { ID id-PDSCH-RL-ID             CRITICALITY ignore      EXTENSION RL-ID     PRESENCE optional },
    ...
}

-- **************************************************************
--
-- RADIO LINK SETUP RESPONSE FDD
--
-- **************************************************************

RadioLinkSetupResponseFDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container     {{RadioLinkSetupResponseFDD-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{RadioLinkSetupResponseFDD-Extensions}}              OPTIONAL,
    ...
}

RadioLinkSetupResponseFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                      CRITICALITY ignore  TYPE D-RNTI                      PRESENCE optional  } |
    { ID id-CN-PS-DomainIdentifier      CRITICALITY ignore  TYPE CN-PS-DomainIdentifier      PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier      CRITICALITY ignore  TYPE CN-CS-DomainIdentifier      PRESENCE optional } |
```

```
    { ID id-RL-InformationResponseList-RL-SetupRspFDD   CRITICALITY ignore  TYPE RL-InformationResponseList-RL-SetupRspFDD  PRESENCE mandatory   }
|
    { ID id-UL-SIRTarget                    CRITICALITY ignore  TYPE UL-SIR                    PRESENCE optional } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics        PRESENCE optional },
    ...
}

RL-InformationResponseList-RL-SetupRspFDD       ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-
InformationResponseItemIEs-RL-SetupRspFDD} }

RL-InformationResponseItemIEs-RL-SetupRspFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseItem-RL-SetupRspFDD  CRITICALITY ignore  TYPE RL-InformationResponseItem-RL-SetupRspFDD  PRESENCE mandatory   }
}

RL-InformationResponseItem-RL-SetupRspFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    rL-Set-ID                   RL-Set-ID,
    uRA-Information             URA-Information    OPTIONAL,
    sAI                         SAI,
    gA-Cell                     GA-Cell    OPTIONAL,
    gA-AccessPointPosition       GA-AccessPointPosition    OPTIONAL,
    received-total-wide-band-power  Received-total-wide-band-power,
    secondary-CCPCH-Info         Secondary-CCPCH-Info       OPTIONAL,
    dl-CodeInformation           FDD-DL-CodeInformation,
    diversityIndication          DiversityIndication-RL-SetupRspFDD,

    sSDT-SupportIndicator        SSDT-SupportIndicator,
    maxUL-SIR                    UL-SIR,
    minUL-SIR                    UL-SIR,
    closedlooptimingadjustmentmode Closedlooptimingadjustmentmode  OPTIONAL,
    maximumAllowedULTxPower       MaximumAllowedULTxPower,
    maximumDLTxPower             DL-Power,
    minimumDLTxPower             DL-Power,
    primaryScramblingCode         PrimaryScramblingCode   OPTIONAL,
    uL-UARFCN                    UARFCN                 OPTIONAL,
    dL-UARFCN                    UARFCN                 OPTIONAL,
    primaryCPICH-Power           PrimaryCPICH-Power,
    dSCHInformationResponse       DSCH-InformationResponse-RL-SetupRspFDD OPTIONAL,
    neighbouring-UMTS-CellInformation   Neighbouring-UMTS-CellInformation OPTIONAL,
    neighbouring-GSM-CellInformation    Neighbouring-GSM-CellInformation OPTIONAL,
    pC-Preamble                  PC-Preamble,
    sRB-Delay                    SRB-Delay,
    iE-Extensions                ProtocolExtensionContainer { {RL-InformationResponseItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-SetupRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes         CRITICALITY ignore EXTENSION  GA-CellAdditionalShapes      PRESENCE optional }|
    { ID id-DL-PowerBalancing-ActivationIndicator   CRITICALITY ignore     EXTENSION      DL-PowerBalancing-ActivationIndicator    PRESENCE
optional}|
    { ID id-TFCI-PC-SupportIndicator         CRITICALITY ignore EXTENSION  TFCI-PC-SupportIndicator   PRESENCE optional }|
    { ID id-HCS-Prio          CRITICALITY ignore EXTENSION  HCS-Prio        PRESENCE optional }|
    { ID id-Primary-CPICH-Usage-For-Channel-Estimation    CRITICALITY ignore EXTENSION  Primary-CPICH-Usage-For-Channel-Estimation    PRESENCE
optional },
```

```
    ...
}

DiversityIndication-RL-SetupRspFDD ::= CHOICE {
    combining                           Combining-RL-SetupRspFDD,
    nonCombiningOrFirstRL               NonCombiningOrFirstRL-RL-SetupRspFDD
}

Combining-RL-SetupRspFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    iE-Extensions               ProtocolExtensionContainer { { CombiningItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}

CombiningItem-RL-SetupRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DCH-InformationResponse      CRITICALITY ignore  EXTENSION DCH-InformationResponse      PRESENCE optional },
    ...
}

NonCombiningOrFirstRL-RL-SetupRspFDD ::= SEQUENCE {
    dCH-InformationResponse     DCH-InformationResponse,
    iE-Extensions               ProtocolExtensionContainer { { NonCombiningOrFirstRLItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}

NonCombiningOrFirstRLItem-RL-SetupRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-InformationResponse-RL-SetupRspFDD ::= ProtocolIE-Single-Container {{ DSCH-InformationResponseIE-RL-SetupRspFDD }}

DSCH-InformationResponseIE-RL-SetupRspFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCH-FDD-InformationResponse   CRITICALITY ignore   TYPE    DSCH-FDD-InformationResponse PRESENCE mandatory }
}

RadioLinkSetupResponseFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DSCH-RNTI                           CRITICALITY ignore      EXTENSION DSCH-RNTI                              PRESENCE optional }|
    { ID id-HSDSCH-RNTI                         CRITICALITY ignore      EXTENSION HSDSCH-RNTI                            PRESENCE optional }|
    { ID id-HSDSCH-FDD-Information-Response     CRITICALITY ignore      EXTENSION HSDSCH-FDD-Information-Response     PRESENCE optional },
    ...
}

-- **************************************************************
--
-- RADIO LINK SETUP RESPONSE TDD
--
-- **************************************************************

RadioLinkSetupResponseTDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkSetupResponseTDD-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{RadioLinkSetupResponseTDD-Extensions}}                OPTIONAL,
    ...
}
```

```
RadioLinkSetupResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                         CRITICALITY ignore  TYPE D-RNTI                             PRESENCE optional } |
    { ID id-CN-PS-DomainIdentifier         CRITICALITY ignore  TYPE CN-PS-DomainIdentifier      PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier         CRITICALITY ignore  TYPE CN-CS-DomainIdentifier      PRESENCE optional } |
    { ID id-RL-InformationResponse-RL-SetupRspTDD   CRITICALITY ignore  TYPE RL-InformationResponse-RL-SetupRspTDD PRESENCE optional } |
    --Mandatory for 3.84Mcps TDD only
    { ID id-UL-SIRTarget                   CRITICALITY ignore  TYPE UL-SIR                        PRESENCE mandatory } |
    { ID id-CriticalityDiagnostics         CRITICALITY ignore  TYPE CriticalityDiagnostics        PRESENCE optional },
    ...
}

RL-InformationResponse-RL-SetupRspTDD ::= SEQUENCE {
    rL-ID                     RL-ID,
    uRA-Information           URA-Information     OPTIONAL,
    sAI                       SAI,
    gA-Cell                   GA-Cell     OPTIONAL,
    gA-AccessPointPosition     GA-AccessPointPosition  OPTIONAL,
    ul-TimeSlot-ISCP-Info     UL-TimeSlot-ISCP-Info,
    maxUL-SIR                 UL-SIR,
    minUL-SIR                 UL-SIR,
    maximumAllowedULTxPower    MaximumAllowedULTxPower,
    maximumDLTxPower          DL-Power,
    minimumDLTxPower          DL-Power,
    uARFCNforNt               UARFCN              OPTIONAL,
    cellParameterID           CellParameterID     OPTIONAL,
    syncCase                  SyncCase            OPTIONAL,
    sCH-TimeSlot              SCH-TimeSlot        OPTIONAL,
    -- This IE shall be present if Sync Case IE is equal to "Case2". --
    sCTD-Indicator            SCTD-Indicator  OPTIONAL,
    pCCPCH-Power              PCCPCH-Power,
    timingAdvanceApplied      TimingAdvanceApplied,
    alphaValue                AlphaValue,
    ul-PhysCH-SF-Variation     UL-PhysCH-SF-Variation,
    synchronisationConfiguration      SynchronisationConfiguration,
    secondary-CCPCH-Info-TDD          Secondary-CCPCH-Info-TDD    OPTIONAL,
    ul-CCTrCHInformation              UL-CCTrCHInformationList-RL-SetupRspTDD    OPTIONAL,
    dl-CCTrCHInformation              DL-CCTrCHInformationList-RL-SetupRspTDD    OPTIONAL,
    dCH-InformationResponse           DCH-InformationResponseList-RL-SetupRspTDD  OPTIONAL,
    dsch-InformationResponse          DSCH-InformationResponse-RL-SetupRspTDD OPTIONAL,
    usch-InformationResponse          USCH-InformationResponse-RL-SetupRspTDD OPTIONAL,
    neighbouring-UMTS-CellInformation        Neighbouring-UMTS-CellInformation OPTIONAL,
    neighbouring-GSM-CellInformation         Neighbouring-GSM-CellInformation OPTIONAL,
    iE-Extensions                     ProtocolExtensionContainer { {RL-InformationResponse-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponse-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes        CRITICALITY ignore EXTENSION  GA-CellAdditionalShapes     PRESENCE optional }|
    { ID id-HCS-Prio            CRITICALITY ignore EXTENSION  HCS-Prio        PRESENCE optional }|
    { ID id-TimeSlot-RL-SetupRspTDD    CRITICALITY ignore EXTENSION  TimeSlot    PRESENCE conditional  },
    -- This IE shall be present if Sync Case IE is Case1. --
    ...
}
```

```
UL-CCTrCHInformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{UL-CCTrCHInformationListIEs-RL-SetupRspTDD}}

UL-CCTrCHInformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD   CRITICALITY ignore TYPE UL-CCTrCHInformationListIE-RL-SetupRspTDD     PRESENCE mandatory }
}

UL-CCTrCHInformationListIE-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF UL-CCTrCHInformationItem-RL-SetupRspTDD

UL-CCTrCHInformationItem-RL-SetupRspTDD ::= SEQUENCE {
    cCTrCH-ID                    CCTrCH-ID,
    ul-DPCH-Information           UL-DPCH-InformationList-RL-SetupRspTDD     OPTIONAL,
    iE-Extensions                 ProtocolExtensionContainer { {UL-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    {ID id-UL-SIR-Target-CCTrCH-InformationItem-RL-SetupRspTDD     CRITICALITY ignore     EXTENSION UL-SIR     PRESENCE optional},
    ...
}

UL-DPCH-InformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container { {UL-DPCH-InformationListIEs-RL-SetupRspTDD} }

UL-DPCH-InformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-InformationItem-RL-SetupRspTDD     CRITICALITY ignore  TYPE UL-DPCH-InformationItem-RL-SetupRspTDD  PRESENCE mandatory}
}


UL-DPCH-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    repetitionPeriod             RepetitionPeriod,
    repetitionLength             RepetitionLength,
    tDD-DPCHOffset               TDD-DPCHOffset,
    uL-Timeslot-Information       UL-Timeslot-Information,
    iE-Extensions                 ProtocolExtensionContainer { {UL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCHInformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{DL-CCTrCHInformationListIEs-RL-SetupRspTDD}}

DL-CCTrCHInformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD   CRITICALITY ignore TYPE DL-CCTrCHInformationListIE-RL-SetupRspTDD   PRESENCE mandatory }
}

DL-CCTrCHInformationListIE-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-CCTrCHInformationItem-RL-SetupRspTDD

DL-CCTrCHInformationItem-RL-SetupRspTDD ::= SEQUENCE {
    cCTrCH-ID                    CCTrCH-ID,
    dl-DPCH-Information           DL-DPCH-InformationList-RL-SetupRspTDD     OPTIONAL,
    iE-Extensions                 ProtocolExtensionContainer { {DL-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}
```

```
DL-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-CCTrCH-Maximum-DL-Power-RL-SetupRspTDD      CRITICALITY ignore      EXTENSION  DL-Power    PRESENCE optional }| -- this is a DCH type
CCTrCH power
    { ID id-CCTrCH-Minimum-DL-Power-RL-SetupRspTDD      CRITICALITY ignore      EXTENSION  DL-Power    PRESENCE optional }, -- this is a DCH type
CCTrCH power
    ...
}

DL-DPCH-InformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container { {DL-DPCH-InformationListIEs-RL-SetupRspTDD} }

DL-DPCH-InformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationItem-RL-SetupRspTDD      CRITICALITY ignore  TYPE DL-DPCH-InformationItem-RL-SetupRspTDD  PRESENCE mandatory}
}

DL-DPCH-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    dL-Timeslot-Information         DL-Timeslot-Information,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-InformationResponseList-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{DCH-InformationResponseListIEs-RL-SetupRspTDD}}

DCH-InformationResponseListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse   CRITICALITY ignore    TYPE DCH-InformationResponse   PRESENCE mandatory }
}

DSCH-InformationResponse-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{DSCH-InformationList-RL-SetupRspTDD}}

DSCH-InformationList-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCH-InformationListIEs-RL-SetupRspTDD      CRITICALITY ignore  TYPE DSCH-InformationListIEs-RL-SetupRspTDD PRESENCE mandatory }
}

DSCH-InformationListIEs-RL-SetupRspTDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHs)) OF DSCHInformationItem-RL-SetupRspTDD

DSCHInformationItem-RL-SetupRspTDD ::= SEQUENCE {
    dsch-ID                 DSCH-ID,
    dSCH-FlowControlInformation     DSCH-FlowControlInformation,
    bindingID               BindingID  OPTIONAL,
    transportLayerAddress   TransportLayerAddress   OPTIONAL,
    transportFormatManagement   TransportFormatManagement,
    iE-Extensions           ProtocolExtensionContainer { {DSCHInformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DSCHInformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

USCH-InformationResponse-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{USCH-InformationList-RL-SetupRspTDD}}

USCH-InformationList-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-USCH-InformationListIEs-RL-SetupRspTDD     CRITICALITY ignore  TYPE USCH-InformationListIEs-RL-SetupRspTDD PRESENCE mandatory }
}

USCH-InformationListIEs-RL-SetupRspTDD ::= SEQUENCE (SIZE(0..maxNoOfUSCHs)) OF USCHInformationItem-RL-SetupRspTDD

USCHInformationItem-RL-SetupRspTDD ::= SEQUENCE {
    usch-ID                    USCH-ID,
    bindingID                  BindingID   OPTIONAL,
    transportLayerAddress      TransportLayerAddress   OPTIONAL,
    transportFormatManagement  TransportFormatManagement,
    iE-Extensions              ProtocolExtensionContainer { {USCHInformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

USCHInformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkSetupResponseTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-RL-LCR-InformationResponse-RL-SetupRspTDD   CRITICALITY ignore  EXTENSION   RL-LCR-InformationResponse-RL-SetupRspTDD     PRESENCE
optional}|
    --Mandatory for 1.28Mcps TDD only
    { ID id-HSDSCH-RNTI                         CRITICALITY ignore     EXTENSION HSDSCH-RNTI                         PRESENCE optional }|
    { ID id-HSDSCH-TDD-Information-Response      CRITICALITY ignore     EXTENSION HSDSCH-TDD-Information-Response     PRESENCE optional }|
    { ID id-DSCH-RNTI                           CRITICALITY ignore     EXTENSION DSCH-RNTI                           PRESENCE optional },
    ...
}

RL-LCR-InformationResponse-RL-SetupRspTDD ::= SEQUENCE {
    rL-ID                      RL-ID,
    uRA-Information            URA-Information,
    sAI                        SAI,
    gA-Cell                    GA-Cell     OPTIONAL,
    gA-AccessPointPosition     GA-AccessPointPosition  OPTIONAL,
    ul-TimeSlot-ISCP-LCR-Info  UL-TimeSlot-ISCP-LCR-Info,
    maxUL-SIR                  UL-SIR,
    minUL-SIR                  UL-SIR,
    maximumAllowedULTxPower     MaximumAllowedULTxPower,
    maximumDLTxPower           DL-Power,
    minimumDLTxPower           DL-Power,
    uARFCNforNt                UARFCN                  OPTIONAL,
    cellParameterID            CellParameterID         OPTIONAL,
    sCTD-Indicator       SCTD-Indicator  OPTIONAL,
    pCCPCH-Power               PCCPCH-Power,
    alphaValue                 AlphaValue,
    ul-PhysCH-SF-Variation     UL-PhysCH-SF-Variation,
    synchronisationConfiguration            SynchronisationConfiguration,
    secondary-LCR-CCPCH-Info-TDD            Secondary-LCR-CCPCH-Info-TDD                   OPTIONAL,
    ul-LCR-CCTrCHInformation                UL-LCR-CCTrCHInformationList-RL-SetupRspTDD    OPTIONAL,
```

```
    dl-LCR-CCTrCHInformation              DL-LCR-CCTrCHInformationList-RL-SetupRspTDD      OPTIONAL,
    dCH-InformationResponse               DCH-InformationResponseList-RL-SetupRspTDD      OPTIONAL,
    dsch-LCR-InformationResponse          DSCH-LCR-InformationResponse-RL-SetupRspTDD      OPTIONAL,
    usch-LCR-InformationResponse          USCH-LCR-InformationResponse-RL-SetupRspTDD      OPTIONAL,
    neighbouring-UMTS-CellInformation     Neighbouring-UMTS-CellInformation               OPTIONAL,
    neighbouring-GSM-CellInformation      Neighbouring-GSM-CellInformation                OPTIONAL,
    iE-Extensions                         ProtocolExtensionContainer { { RL-LCR-InformationResponseList-RL-SetupRspTDD-ExtIEs} }   OPTIONAL,
    ...
}


RL-LCR-InformationResponseList-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes            CRITICALITY ignore  EXTENSION   GA-CellAdditionalShapes     PRESENCE optional }|
    { ID id-HCS-Prio                           CRITICALITY ignore  EXTENSION   HCS-Prio                    PRESENCE optional }|
    { ID id-UL-TimingAdvanceCtrl-LCR           CRITICALITY ignore  EXTENSION   UL-TimingAdvanceCtrl-LCR    PRESENCE optional },
    --Mandatory for 1.28Mcps TDD only
    ...
}


UL-LCR-CCTrCHInformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{UL-LCR-CCTrCHInformationListIEs-RL-SetupRspTDD}}


UL-LCR-CCTrCHInformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD   CRITICALITY ignore TYPE UL-LCR-CCTrCHInformationListIE-RL-SetupRspTDD   PRESENCE
mandatory }
}


UL-LCR-CCTrCHInformationListIE-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHsLCR)) OF UL-LCR-CCTrCHInformationItem-RL-SetupRspTDD


UL-LCR-CCTrCHInformationItem-RL-SetupRspTDD ::= SEQUENCE {
    cCTrCH-ID                CCTrCH-ID,
    ul-DPCH-LCR-Information   UL-DPCH-LCR-InformationList-RL-SetupRspTDD       OPTIONAL,
    iE-Extensions            ProtocolExtensionContainer { {UL-LCR-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}


UL-LCR-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    {ID id-UL-SIR-Target-CCTrCH-LCR-InformationItem-RL-SetupRspTDD    CRITICALITY ignore    EXTENSION UL-SIR    PRESENCE optional},
    ...
}


UL-DPCH-LCR-InformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container { {UL-DPCH-LCR-InformationListIEs-RL-SetupRspTDD} }


UL-DPCH-LCR-InformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-LCR-InformationItem-RL-SetupRspTDD     CRITICALITY ignore  TYPE UL-DPCH-LCR-InformationItem-RL-SetupRspTDD  PRESENCE mandatory
    }
}


UL-DPCH-LCR-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    repetitionPeriod               RepetitionPeriod,
    repetitionLength               RepetitionLength,
    tDD-DPCHOffset                 TDD-DPCHOffset,
    uL-TimeslotLCR-Information      UL-TimeslotLCR-Information,
    iE-Extensions                  ProtocolExtensionContainer { {UL-DPCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}
```

```
UL-DPCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
DL-LCR-CCTrCHInformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{DL-LCR-CCTrCHInformationListIEs-RL-SetupRspTDD}}

DL-LCR-CCTrCHInformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD   CRITICALITY ignore TYPE DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD  PRESENCE
mandatory }
}

DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHsLCR)) OF DL-CCTrCH-LCR-InformationItem-RL-SetupRspTDD

DL-CCTrCH-LCR-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    dl-DPCH-LCR-Information      DL-DPCH-LCR-InformationList-RL-SetupRspTDD      OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {DL-CCTrCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-LCR-InformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container { {DL-DPCH-LCR-InformationListIEs-RL-SetupRspTDD} }

DL-DPCH-LCR-InformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-LCR-InformationItem-RL-SetupRspTDD     CRITICALITY ignore  TYPE DL-DPCH-LCR-InformationItem-RL-SetupRspTDD  PRESENCE mandatory
    }
}

DL-DPCH-LCR-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    dL-Timeslot-LCR-Information      DL-TimeslotLCR-Information,
    tSTD-Indicator                  TSTD-Indicator,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-LCR-InformationResponse-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{DSCH-LCR-InformationList-RL-SetupRspTDD}}

DSCH-LCR-InformationList-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCH-LCR-InformationListIEs-RL-SetupRspTDD      CRITICALITY ignore  TYPE DSCH-LCR-InformationListIEs-RL-SetupRspTDD PRESENCE mandatory
}
}

DSCH-LCR-InformationListIEs-RL-SetupRspTDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHsLCR)) OF DSCH-LCR-InformationItem-RL-SetupRspTDD
```

ETSI

```
DSCH-LCR-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    dsch-ID                   DSCH-ID,
    dSCH-FlowControlInformation    DSCH-FlowControlInformation,
    bindingID                 BindingID  OPTIONAL,
    transportLayerAddress     TransportLayerAddress   OPTIONAL,
    transportFormatManagement    TransportFormatManagement,
    iE-Extensions             ProtocolExtensionContainer { {DSCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCH-LCR-InformationResponse-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{USCH-LCR-InformationList-RL-SetupRspTDD}}

USCH-LCR-InformationList-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-USCH-LCR-InformationListIEs-RL-SetupRspTDD    CRITICALITY ignore  TYPE USCH-LCR-InformationListIEs-RL-SetupRspTDD PRESENCE mandatory
}
}

USCH-LCR-InformationListIEs-RL-SetupRspTDD ::= SEQUENCE (SIZE(0..maxNoOfUSCHsLCR)) OF USCH-LCR-InformationItem-RL-SetupRspTDD

USCH-LCR-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    usch-ID                   USCH-ID,
    bindingID                 BindingID  OPTIONAL,
    transportLayerAddress     TransportLayerAddress   OPTIONAL,
    transportFormatManagement    TransportFormatManagement,
    iE-Extensions             ProtocolExtensionContainer { {USCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

USCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- RADIO LINK SETUP FAILURE FDD
--
-- *************************************************************

RadioLinkSetupFailureFDD ::= SEQUENCE {
    protocolIEs               ProtocolIE-Container       {{RadioLinkSetupFailureFDD-IEs}},
    protocolExtensions        ProtocolExtensionContainer {{RadioLinkSetupFailureFDD-Extensions}}            OPTIONAL,
    ...
}

RadioLinkSetupFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                    CRITICALITY ignore  TYPE D-RNTI                    PRESENCE optional  } |
    { ID id-CN-PS-DomainIdentifier         CRITICALITY ignore  TYPE CN-PS-DomainIdentifier     PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier         CRITICALITY ignore  TYPE CN-CS-DomainIdentifier     PRESENCE optional } |
    { ID id-CauseLevel-RL-SetupFailureFDD           CRITICALITY ignore   TYPE CauseLevel-RL-SetupFailureFDD    PRESENCE mandatory }|
    { ID id-UL-SIRTarget              CRITICALITY ignore  TYPE UL-SIR                    PRESENCE optional } |
```

```
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

CauseLevel-RL-SetupFailureFDD ::= CHOICE {
    generalCause        GeneralCauseList-RL-SetupFailureFDD,
    rLSpecificCause     RLSpecificCauseList-RL-SetupFailureFDD,
    ...
}

GeneralCauseList-RL-SetupFailureFDD ::= SEQUENCE {
    cause                                   Cause,
    iE-Extensions                           ProtocolExtensionContainer { { GeneralCauseItem-RL-SetupFailureFDD-ExtIEs} }   OPTIONAL,
    ...
}

GeneralCauseItem-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RLSpecificCauseList-RL-SetupFailureFDD ::= SEQUENCE {
    unsuccessful-RL-InformationRespList-RL-SetupFailureFDD     UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD,
    successful-RL-InformationRespList-RL-SetupFailureFDD       SuccessfulRL-InformationResponseList-RL-SetupFailureFDD  OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { RLSpecificCauseItem-RL-SetupFailureFDD-ExtIEs} }   OPTIONAL,
    ...
}

RLSpecificCauseItem-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DSCH-RNTI                       CRITICALITY ignore    EXTENSION DSCH-RNTI                         PRESENCE optional }|
    { ID id-HSDSCH-RNTI                     CRITICALITY ignore    EXTENSION HSDSCH-RNTI                       PRESENCE optional }|
    { ID id-HSDSCH-FDD-Information-Response  CRITICALITY ignore    EXTENSION HSDSCH-FDD-Information-Response   PRESENCE optional },
    ...
}

UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {UnsuccessfulRL-
InformationResponse-RL-SetupFailureFDD-IEs} }

UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD     CRITICALITY ignore  TYPE UnsuccessfulRL-InformationResponse-RL-
SetupFailureFDD     PRESENCE mandatory  }
}

UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD ::= SEQUENCE {
    rL-ID                   RL-ID,
    cause                   Cause,
    iE-Extensions               ProtocolExtensionContainer { {UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
SuccessfulRL-InformationResponseList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (0..maxNrOfRLs-1)) OF ProtocolIE-Single-Container { {SuccessfulRL-
InformationResponse-RL-SetupFailureFDD-IEs} }

SuccessfulRL-InformationResponse-RL-SetupFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD    CRITICALITY ignore  TYPE SuccessfulRL-InformationResponse-RL-SetupFailureFDD
    PRESENCE mandatory  }
}

SuccessfulRL-InformationResponse-RL-SetupFailureFDD ::= SEQUENCE {
    rL-ID                                 RL-ID,
    rL-Set-ID                             RL-Set-ID,
    uRA-Information                       URA-Information     OPTIONAL,
    sAI                                   SAI,
    gA-Cell                               GA-Cell     OPTIONAL,
    gA-AccessPointPosition                GA-AccessPointPosition     OPTIONAL,
    received-total-wide-band-power                                  Received-total-wide-band-power,
    secondary-CCPCH-Info                  Secondary-CCPCH-Info     OPTIONAL,
    dl-CodeInformation                    FDD-DL-CodeInformation,
    diversityIndication                   DiversityIndication-RL-SetupFailureFDD,

    sSDT-SupportIndicator                 SSDT-SupportIndicator,
    maxUL-SIR                             UL-SIR,
    minUL-SIR                             UL-SIR,
    closedlooptimingadjustmentmode        Closedlooptimingadjustmentmode  OPTIONAL,
    maximumAllowedULTxPower               MaximumAllowedULTxPower,
    maximumDLTxPower                      DL-Power,
    minimumDLTxPower                      DL-Power,
    primaryCPICH-Power                    PrimaryCPICH-Power,
    primaryScramblingCode                 PrimaryScramblingCode   OPTIONAL,
    uL-UARFCN                                            UARFCN     OPTIONAL,
    dL-UARFCN                                            UARFCN     OPTIONAL,
    dSCH-InformationResponse-RL-SetupFailureFDD    DSCH-InformationResponseList-RL-SetupFailureFDD    OPTIONAL,
    neighbouring-UMTS-CellInformation     Neighbouring-UMTS-CellInformation OPTIONAL,
    neighbouring-GSM-CellInformation      Neighbouring-GSM-CellInformation OPTIONAL,
    pC-Preamble                           PC-Preamble,
    sRB-Delay                             SRB-Delay,
    iE-Extensions                         ProtocolExtensionContainer { {SuccessfulRL-InformationResponse-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

SuccessfulRL-InformationResponse-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes         CRITICALITY ignore EXTENSION  GA-CellAdditionalShapes     PRESENCE optional }|
    { ID id-DL-PowerBalancing-ActivationIndicator   CRITICALITY ignore    EXTENSION      DL-PowerBalancing-ActivationIndicator    PRESENCE
optional}|
    { ID id-TFCI-PC-SupportIndicator        CRITICALITY ignore EXTENSION  TFCI-PC-SupportIndicator   PRESENCE optional }|
    { ID id-HCS-Prio            CRITICALITY ignore EXTENSION  HCS-Prio         PRESENCE optional }|
    { ID id-Primary-CPICH-Usage-For-Channel-Estimation    CRITICALITY ignore EXTENSION   Primary-CPICH-Usage-For-Channel-Estimation     PRESENCE
optional },
    ...
}

DiversityIndication-RL-SetupFailureFDD ::= CHOICE {
    combining                   Combining-RL-SetupFailureFDD,
    nonCombiningOrFirstRL       NonCombiningOrFirstRL-RL-SetupFailureFDD
```

```
}

Combining-RL-SetupFailureFDD ::= SEQUENCE {
    rL-ID                         RL-ID,
    iE-Extensions                 ProtocolExtensionContainer { { CombiningItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

CombiningItem-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DCH-InformationResponse        CRITICALITY ignore  EXTENSION DCH-InformationResponse      PRESENCE optional },
    ...
}

NonCombiningOrFirstRL-RL-SetupFailureFDD ::= SEQUENCE {
    dCH-InformationResponse              DCH-InformationResponse,
    iE-Extensions                        ProtocolExtensionContainer { { NonCombiningOrFirstRLItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

NonCombiningOrFirstRLItem-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-InformationResponseList-RL-SetupFailureFDD ::= ProtocolIE-Single-Container {{ DSCH-InformationResponseListIEs-RL-SetupFailureFDD }}

DSCH-InformationResponseListIEs-RL-SetupFailureFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCH-FDD-InformationResponse   CRITICALITY ignore   TYPE DSCH-FDD-InformationResponse    PRESENCE mandatory }
}

RadioLinkSetupFailureFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK SETUP FAILURE TDD
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-- **************************************************************

RadioLinkSetupFailureTDD ::= SEQUENCE {
    protocolIEs                   ProtocolIE-Container      {{RadioLinkSetupFailureTDD-IEs}},
    protocolExtensions            ProtocolExtensionContainer {{RadioLinkSetupFailureTDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkSetupFailureTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CauseLevel-RL-SetupFailureTDD   CRITICALITY ignore  TYPE CauseLevel-RL-SetupFailureTDD     PRESENCE mandatory }|
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics            PRESENCE optional },
    ...
}

CauseLevel-RL-SetupFailureTDD ::= CHOICE {
    generalCause      GeneralCauseList-RL-SetupFailureTDD,
    rLSpecificCause   RLSpecificCauseList-RL-SetupFailureTDD,
```

```
    ...
}

GeneralCauseList-RL-SetupFailureTDD ::= SEQUENCE {
    cause                       Cause,
    iE-Extensions               ProtocolExtensionContainer { { GeneralCauseItem-RL-SetupFailureTDD-ExtIEs} }    OPTIONAL,
    ...
}

GeneralCauseItem-RL-SetupFailureTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RLSpecificCauseList-RL-SetupFailureTDD ::= SEQUENCE {
    unsuccessful-RL-InformationRespItem-RL-SetupFailureTDD  Unsuccessful-RL-InformationRespItem-RL-SetupFailureTDD,
    iE-Extensions                                           ProtocolExtensionContainer { { RLSpecificCauseItem-RL-SetupFailureTDD-ExtIEs} }
    OPTIONAL,
    ...
}

RLSpecificCauseItem-RL-SetupFailureTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Unsuccessful-RL-InformationRespItem-RL-SetupFailureTDD ::= ProtocolIE-Single-Container { {Unsuccessful-RL-InformationRespItemIE-RL-SetupFailureTDD}
}

Unsuccessful-RL-InformationRespItemIE-RL-SetupFailureTDD RNSAP-PROTOCOL-IES ::= {
    { ID    id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD       CRITICALITY ignore   TYPE  UnsuccessfulRL-InformationResponse-RL-
SetupFailureTDD     PRESENCE    mandatory    }
}

UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    cause                       Cause,
    iE-Extensions               ProtocolExtensionContainer { {UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD-ExtIEs} } OPTIONAL,
    ...
}

UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkSetupFailureTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- RADIO LINK ADDITION REQUEST FDD
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-- *************************************************************

RadioLinkAdditionRequestFDD ::= SEQUENCE {
```

```
    protocolIEs                    ProtocolIE-Container      {{RadioLinkAdditionRequestFDD-IEs}},
    protocolExtensions             ProtocolExtensionContainer {{RadioLinkAdditionRequestFDD-Extensions}}              OPTIONAL,
    ...
}

RadioLinkAdditionRequestFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-SIRTarget                   CRITICALITY reject  TYPE UL-SIR                      PRESENCE mandatory } |
    { ID id-RL-InformationList-RL-AdditionRqstFDD   CRITICALITY notify  TYPE RL-InformationList-RL-AdditionRqstFDD PRESENCE mandatory   }|
    { ID id-Active-Pattern-Sequence-Information CRITICALITY reject  TYPE Active-Pattern-Sequence-Information  PRESENCE optional },
    ...
}

RL-InformationList-RL-AdditionRqstFDD            ::= SEQUENCE (SIZE (1..maxNrOfRLs-1)) OF ProtocolIE-Single-Container { {RL-Information-RL-
AdditionRqstFDD-IEs} }

RL-Information-RL-AdditionRqstFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-AdditionRqstFDD   CRITICALITY notify  TYPE RL-Information-RL-AdditionRqstFDD    PRESENCE mandatory   }
}

RL-Information-RL-AdditionRqstFDD ::= SEQUENCE {
    rL-ID                      RL-ID,
    c-ID                       C-ID,
    frameOffset                FrameOffset,
    chipOffset                 ChipOffset,
    diversityControlField      DiversityControlField,
    primaryCPICH-EcNo          PrimaryCPICH-EcNo       OPTIONAL,
    sSDT-CellID                SSDT-CellID        OPTIONAL,
    transmitDiversityIndicator TransmitDiversityIndicator    OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { {RL-Information-RL-AdditionRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-AdditionRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DLReferencePower    CRITICALITY ignore     EXTENSION DL-Power        PRESENCE optional}|
    { ID id-Enhanced-PrimaryCPICH-EcNo             CRITICALITY ignore         EXTENSION Enhanced-PrimaryCPICH-EcNo     PRESENCE optional }|
    { ID id-RL-Specific-DCH-Info      CRITICALITY ignore     EXTENSION   RL-Specific-DCH-Info PRESENCE    optional }|
    { ID id-DelayedActivation CRITICALITY reject EXTENSION DelayedActivation PRESENCE optional }|
    { ID id-Qth-Parameter    CRITICALITY ignore     EXTENSION   Qth-Parameter       PRESENCE optional },
    ...
}

RadioLinkAdditionRequestFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DPC-Mode             CRITICALITY reject     EXTENSION   DPC-Mode       PRESENCE optional  }|
    { ID id-Permanent-NAS-UE-Identity            CRITICALITY ignore       EXTENSION Permanent-NAS-UE-Identity   PRESENCE optional },
    ...
}

-- ****************************************************************
--
-- RADIO LINK ADDITION REQUEST TDD
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-- ****************************************************************

RadioLinkAdditionRequestTDD ::= SEQUENCE {
```

```
    protocolIEs                      ProtocolIE-Container       {{RadioLinkAdditionRequestTDD-IEs}},
    protocolExtensions               ProtocolExtensionContainer {{RadioLinkAdditionRequestTDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkAdditionRequestTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-AdditionRqstTDD   CRITICALITY reject  TYPE RL-Information-RL-AdditionRqstTDD   PRESENCE mandatory   },
    ...
}

RL-Information-RL-AdditionRqstTDD ::= SEQUENCE {
    rL-ID                         RL-ID,
    c-ID                          C-ID,
    frameOffset                   FrameOffset,
    diversityControlField         DiversityControlField,
    primaryCCPCH-RSCP             PrimaryCCPCH-RSCP      OPTIONAL,
    dL-TimeSlot-ISCP-Info         DL-TimeSlot-ISCP-Info  OPTIONAL,
    --for 3.84Mcps TDD only
    iE-Extensions                 ProtocolExtensionContainer { {RL-Information-RL-AdditionRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-AdditionRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DL-Timeslot-ISCP-LCR-Information-RL-AdditionRqstTDD CRITICALITY reject     EXTENSION   DL-TimeSlot-ISCP-LCR-Information   PRESENCE
optional    }|
    --for 1.28Mcps TDD only
    { ID id-RL-Specific-DCH-Info        CRITICALITY ignore     EXTENSION   RL-Specific-DCH-Info PRESENCE    optional }|
    { ID id-DelayedActivation CRITICALITY reject EXTENSION DelayedActivation PRESENCE optional }|
    { ID id-UL-Synchronisation-Parameters-LCR         CRITICALITY reject       EXTENSION   UL-Synchronisation-Parameters-LCR      PRESENCE
    optional   }| -- Mandatory for 1.28Mcps TDD, Not Applicable to 3.84Mcps TDD
    { ID id-PrimaryCCPCH-RSCP-Delta     CRITICALITY ignore      EXTENSION   PrimaryCCPCH-RSCP-Delta     PRESENCE    optional },
    ...
}

RadioLinkAdditionRequestTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-Permanent-NAS-UE-Identity                 CRITICALITY ignore        EXTENSION Permanent-NAS-UE-Identity   PRESENCE optional }|
    { ID id-UL-CCTrCH-InformationList-RL-AdditionRqstTDD   CRITICALITY notify  EXTENSION UL-CCTrCH-InformationList-RL-AdditionRqstTDD PRESENCE
optional    } |
    { ID id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD   CRITICALITY notify  EXTENSION DL-CCTrCH-InformationList-RL-AdditionRqstTDD PRESENCE
optional    },
    ...
}

UL-CCTrCH-InformationList-RL-AdditionRqstTDD    ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {UL-CCTrCH-
InformationItemIEs-RL-AdditionRqstTDD} }

UL-CCTrCH-InformationItemIEs-RL-AdditionRqstTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-InformationItem-RL-AdditionRqstTDD    CRITICALITY notify  TYPE UL-CCTrCH-InformationItem-RL-AdditionRqstTDD PRESENCE
optional},
    ...
}

UL-CCTrCH-InformationItem-RL-AdditionRqstTDD ::= SEQUENCE {
    cCTrCH-ID                     CCTrCH-ID,
```

```
    uplinkStepSizeLCR              TDD-TPC-UplinkStepSize-LCR    OPTIONAL,
    -- Applicable to 1.28Mcps TDD only
    iE-Extensions                 ProtocolExtensionContainer { {UL-CCTrCH-InformationItem-RL-AdditionRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-InformationItem-RL-AdditionRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationList-RL-AdditionRqstTDD    ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {DL-CCTrCH-
InformationItemIEs-RL-AdditionRqstTDD} }

DL-CCTrCH-InformationItemIEs-RL-AdditionRqstTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationItem-RL-AdditionRqstTDD   CRITICALITY notify  TYPE DL-CCTrCH-InformationItem-RL-AdditionRqstTDD PRESENCE
optional},
    ...
}

DL-CCTrCH-InformationItem-RL-AdditionRqstTDD ::= SEQUENCE {
    cCTrCH-ID                     CCTrCH-ID,
    downlinkStepSize              TDD-TPC-DownlinkStepSize   OPTIONAL,
    iE-Extensions                 ProtocolExtensionContainer { {DL-CCTrCH-InformationItem-RL-AdditionRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationItem-RL-AdditionRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK ADDITION RESPONSE FDD
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-- **************************************************************

RadioLinkAdditionResponseFDD ::= SEQUENCE {
    protocolIEs                   ProtocolIE-Container       {{RadioLinkAdditionResponseFDD-IEs}},
    protocolExtensions            ProtocolExtensionContainer {{RadioLinkAdditionResponseFDD-Extensions}}            OPTIONAL,
    ...
}

RadioLinkAdditionResponseFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseList-RL-AdditionRspFDD   CRITICALITY ignore  TYPE RL-InformationResponseList-RL-AdditionRspFDD    PRESENCE
mandatory   } |
    { ID id-CriticalityDiagnostics        CRITICALITY ignore  TYPE CriticalityDiagnostics        PRESENCE optional },
    ...
}

RL-InformationResponseList-RL-AdditionRspFDD        ::= SEQUENCE (SIZE (1..maxNrOfRLs-1)) OF ProtocolIE-Single-Container { {RL-
InformationResponseItemIEs-RL-AdditionRspFDD} }

RL-InformationResponseItemIEs-RL-AdditionRspFDD RNSAP-PROTOCOL-IES ::= {
```

```
    { ID id-RL-InformationResponseItem-RL-AdditionRspFDD        CRITICALITY ignore  TYPE RL-InformationResponseItem-RL-AdditionRspFDD    PRESENCE
mandatory   }
}

RL-InformationResponseItem-RL-AdditionRspFDD ::= SEQUENCE {
    rL-ID                          RL-ID,
    rL-Set-ID                      RL-Set-ID,
    uRA-Information                URA-Information    OPTIONAL,
    sAI                            SAI,
    gA-Cell                        GA-Cell    OPTIONAL,
    gA-AccessPointPosition         GA-AccessPointPosition  OPTIONAL,
    received-total-wide-band-power Received-total-wide-band-power,
    secondary-CCPCH-Info           Secondary-CCPCH-Info        OPTIONAL,
    dl-CodeInformation             DL-CodeInformationList-RL-AdditionRspFDD,
    diversityIndication            DiversityIndication-RL-AdditionRspFDD,

    sSDT-SupportIndicator          SSDT-SupportIndicator,
    minUL-SIR                      UL-SIR,
    maxUL-SIR                      UL-SIR,
    closedlooptimingadjustmentmode Closedlooptimingadjustmentmode  OPTIONAL,
    maximumAllowedULTxPower        MaximumAllowedULTxPower,
    maximumDLTxPower               DL-Power,
    minimumDLTxPower               DL-Power,
    neighbouring-UMTS-CellInformation  Neighbouring-UMTS-CellInformation   OPTIONAL,
    neighbouring-GSM-CellInformation   Neighbouring-GSM-CellInformation OPTIONAL,
    pC-Preamble                    PC-Preamble,
    sRB-Delay                      SRB-Delay,
    primaryCPICH-Power             PrimaryCPICH-Power,
    iE-Extensions                  ProtocolExtensionContainer { {RL-InformationResponseItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes         CRITICALITY ignore EXTENSION  GA-CellAdditionalShapes    PRESENCE optional }|
    { ID id-DL-PowerBalancing-ActivationIndicator   CRITICALITY ignore      EXTENSION       DL-PowerBalancing-ActivationIndicator    PRESENCE
optional}|
    { ID id-TFCI-PC-SupportIndicator        CRITICALITY ignore EXTENSION  TFCI-PC-SupportIndicator    PRESENCE optional }|
    { ID id-HCS-Prio            CRITICALITY ignore EXTENSION  HCS-Prio        PRESENCE optional }|
    { ID id-Primary-CPICH-Usage-For-Channel-Estimation    CRITICALITY ignore EXTENSION  Primary-CPICH-Usage-For-Channel-Estimation     PRESENCE
optional },
    ...
}

DL-CodeInformationList-RL-AdditionRspFDD ::= ProtocolIE-Single-Container {{ DL-CodeInformationListIEs-RL-AdditionRspFDD }}

DL-CodeInformationListIEs-RL-AdditionRspFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-FDD-DL-CodeInformation   CRITICALITY ignore TYPE FDD-DL-CodeInformation     PRESENCE mandatory }
}

DiversityIndication-RL-AdditionRspFDD ::= CHOICE {
    combining                      Combining-RL-AdditionRspFDD,
    nonCombining                   NonCombining-RL-AdditionRspFDD
}
```

```
Combining-RL-AdditionRspFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    iE-Extensions               ProtocolExtensionContainer { { CombiningItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}

CombiningItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DCH-InformationResponse      CRITICALITY ignore  EXTENSION DCH-InformationResponse      PRESENCE optional },
    ...
}

NonCombining-RL-AdditionRspFDD ::= SEQUENCE {
    dCH-InformationResponse             DCH-InformationResponse,
    iE-Extensions                       ProtocolExtensionContainer { { NonCombiningItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}

NonCombiningItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkAdditionResponseFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- RADIO LINK ADDITION RESPONSE TDD
--
-- *************************************************************

RadioLinkAdditionResponseTDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container       {{RadioLinkAdditionResponseTDD-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{RadioLinkAdditionResponseTDD-Extensions}}          OPTIONAL,
    ...
}

RadioLinkAdditionResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponse-RL-AdditionRspTDD      CRITICALITY ignore  TYPE RL-InformationResponse-RL-AdditionRspTDD  PRESENCE optional }
|
    --Mandatory for 3.84Mcps TDD only
    { ID id-CriticalityDiagnostics           CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

RL-InformationResponse-RL-AdditionRspTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    uRA-Information             URA-Information    OPTIONAL,
    sAI                         SAI,
    gA-Cell                     GA-Cell    OPTIONAL,
    gA-AccessPointPosition       GA-AccessPointPosition  OPTIONAL,
    ul-TimeSlot-ISCP-Info        UL-TimeSlot-ISCP-Info,
    minUL-SIR                   UL-SIR,
    maxUL-SIR                   UL-SIR,
```

```
    maximumAllowedULTxPower              MaximumAllowedULTxPower,
    maximumDLTxPower                     DL-Power,
    minimumDLTxPower                     DL-Power,
    pCCPCH-Power                         PCCPCH-Power,
    timingAdvanceApplied                 TimingAdvanceApplied,
    alphaValue                           AlphaValue,
    ul-PhysCH-SF-Variation               UL-PhysCH-SF-Variation,
    synchronisationConfiguration         SynchronisationConfiguration,
    secondary-CCPCH-Info-TDD             Secondary-CCPCH-Info-TDD                      OPTIONAL,
    ul-CCTrCHInformation                 UL-CCTrCHInformationList-RL-AdditionRspTDD    OPTIONAL,
    dl-CCTrCHInformation                 DL-CCTrCHInformationList-RL-AdditionRspTDD    OPTIONAL,
    dCH-Information                       DCH-Information-RL-AdditionRspTDD             OPTIONAL,
    dSCH-InformationResponse             DSCH-InformationResponse-RL-AdditionRspTDD    OPTIONAL,
    uSCH-InformationResponse             USCH-InformationResponse-RL-AdditionRspTDD    OPTIONAL,
    neighbouring-UMTS-CellInformation    Neighbouring-UMTS-CellInformation    OPTIONAL,
    neighbouring-GSM-CellInformation     Neighbouring-GSM-CellInformation OPTIONAL,
    iE-Extensions                        ProtocolExtensionContainer { {RL-InformationResponse-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponse-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes       CRITICALITY ignore  EXTENSION  GA-CellAdditionalShapes    PRESENCE optional }|
    { ID id-HCS-Prio               CRITICALITY ignore  EXTENSION  HCS-Prio          PRESENCE optional },
    ...
}

UL-CCTrCHInformationList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{UL-CCTrCHInformationListIEs-RL-AdditionRspTDD}}

UL-CCTrCHInformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-InformationListIE-RL-AdditionRspTDD   CRITICALITY ignore  TYPE UL-CCTrCHInformationListIE-RL-AdditionRspTDD    PRESENCE
mandatory }
}

UL-CCTrCHInformationListIE-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF UL-CCTrCHInformationItem-RL-AdditionRspTDD

UL-CCTrCHInformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    cCTrCH-ID                 CCTrCH-ID,
    ul-DPCH-Information            UL-DPCH-InformationList-RL-AdditionRspTDD      OPTIONAL,
    iE-Extensions                 ProtocolExtensionContainer { {UL-CCTrCHInformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCHInformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-InformationList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container { {UL-DPCH-InformationListIEs-RL-AdditionRspTDD} }

UL-DPCH-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-InformationItem-RL-AdditionRspTDD      CRITICALITY ignore  TYPE UL-DPCH-InformationItem-RL-AdditionRspTDD  PRESENCE mandatory
    }
}

UL-DPCH-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
```

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```
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    uL-Timeslot-Information         UL-Timeslot-Information,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-InformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCHInformationList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{DL-CCTrCHInformationListIEs-RL-AdditionRspTDD}}

DL-CCTrCHInformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD   CRITICALITY ignore  TYPE DL-CCTrCHInformationListIE-RL-AdditionRspTDD    PRESENCE
mandatory }
}

DL-CCTrCHInformationListIE-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-CCTrCHInformationItem-RL-AdditionRspTDD

DL-CCTrCHInformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    cCTrCH-ID                 CCTrCH-ID,
    dl-DPCH-Information        DL-DPCH-InformationList-RL-AdditionRspTDD        OPTIONAL,
    iE-Extensions             ProtocolExtensionContainer { {DL-CCTrCHInformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCHInformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-CCTrCH-Maximum-DL-Power-RL-AdditionRspTDD        CRITICALITY ignore      EXTENSION  DL-Power    PRESENCE optional}| -- this is a DCH
type CCTrCH power
    { ID id-CCTrCH-Minimum-DL-Power-RL-AdditionRspTDD        CRITICALITY ignore      EXTENSION  DL-Power    PRESENCE optional}, -- this is a DCH
type CCTrCH power
    ...
}

DL-DPCH-InformationList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container { {DL-DPCH-InformationListIEs-RL-AdditionRspTDD} }

DL-DPCH-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationItem-RL-AdditionRspTDD        CRITICALITY ignore  TYPE DL-DPCH-InformationItem-RL-AdditionRspTDD  PRESENCE mandatory
    }
}

DL-DPCH-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    dL-Timeslot-Information         DL-Timeslot-Information,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-InformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

DCH-Information-RL-AdditionRspTDD ::= SEQUENCE {
    diversityIndication                 DiversityIndication-RL-AdditionRspTDD,

    iE-Extensions                       ProtocolExtensionContainer { { DCH-Information-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-Information-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DiversityIndication-RL-AdditionRspTDD ::= CHOICE {
    combining       Combining-RL-AdditionRspTDD,
    nonCombining    NonCombining-RL-AdditionRspTDD
}

Combining-RL-AdditionRspTDD ::= SEQUENCE {
    rL-ID                   RL-ID,
    iE-Extensions           ProtocolExtensionContainer { { CombiningItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

CombiningItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DCH-InformationResponse       CRITICALITY ignore  EXTENSION DCH-InformationResponse      PRESENCE optional },
    ...
}

NonCombining-RL-AdditionRspTDD  ::= SEQUENCE {
    dCH-InformationResponse     DCH-InformationResponse,
    iE-Extensions                   ProtocolExtensionContainer { { NonCombiningItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

NonCombiningItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-InformationResponse-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{DSCH-InformationListIEs-RL-AdditionRspTDD}}

DSCH-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCH-InformationListIE-RL-AdditionRspTDD    CRITICALITY ignore  TYPE DSCH-InformationListIE-RL-AdditionRspTDD    PRESENCE mandatory }
}

DSCH-InformationListIE-RL-AdditionRspTDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHs)) OF DSCHInformationItem-RL-AdditionRspTDD

DSCHInformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    dsch-ID                 DSCH-ID,
    transportFormatManagement   TransportFormatManagement,
    dSCH-FlowControlInformation     DSCH-FlowControlInformation,
    diversityIndication     DiversityIndication-RL-AdditionRspTDD2 OPTIONAL,
    -- diversityIndication present, if CHOICE = nonCombining
    iE-Extensions           ProtocolExtensionContainer { {DSCHInformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
```

```
    ...
}

DSCHInformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DiversityIndication-RL-AdditionRspTDD2 ::= SEQUENCE {
    bindingID               BindingID   OPTIONAL,
    transportLayerAddress   TransportLayerAddress   OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {DiversityIndication-RL-AdditionRspTDD2-ExtIEs} } OPTIONAL,
    ...
}
DiversityIndication-RL-AdditionRspTDD2-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCH-InformationResponse-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{USCH-InformationListIEs-RL-AdditionRspTDD}}

USCH-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-USCH-InformationListIE-RL-AdditionRspTDD   CRITICALITY ignore  TYPE USCH-InformationListIE-RL-AdditionRspTDD   PRESENCE mandatory }
}

USCH-InformationListIE-RL-AdditionRspTDD ::= SEQUENCE (SIZE(0..maxNoOfUSCHs)) OF USCHInformationItem-RL-AdditionRspTDD

USCHInformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    uSCH-ID              USCH-ID,
    transportFormatManagement   TransportFormatManagement,
    diversityIndication     DiversityIndication-RL-AdditionRspTDD2 OPTIONAL,
    -- diversityIndication present, if CHOICE = nonCombining
    iE-Extensions           ProtocolExtensionContainer { {USCHInformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

USCHInformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkAdditionResponseTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-RL-LCR-InformationResponse-RL-AdditionRspTDD   CRITICALITY ignore      EXTENSION   RL-LCR-InformationResponse-RL-AdditionRspTDD
    PRESENCE optional    },
    --Mandatory for 1.28Mcps TDD only
    ...
}

RL-LCR-InformationResponse-RL-AdditionRspTDD ::= SEQUENCE {
    rL-ID                   RL-ID,
    uRA-Information         URA-Information,
    sAI                     SAI,
    gA-Cell                 GA-Cell     OPTIONAL,
    gA-AccessPointPosition  GA-AccessPointPosition  OPTIONAL,
    ul-TimeSlot-ISCP-LCR-Info   UL-TimeSlot-ISCP-LCR-Info,
    maxUL-SIR               UL-SIR,
    minUL-SIR               UL-SIR,
```

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    pCCPCH-Power                      PCCPCH-Power,
    maximumAllowedULTxPower           MaximumAllowedULTxPower,
    maximumDLTxPower                  DL-Power,
    minimumDLTxPower                  DL-Power,
    alphaValue                        AlphaValue,
    ul-PhysCH-SF-Variation            UL-PhysCH-SF-Variation,
    synchronisationConfiguration         SynchronisationConfiguration,
    secondary-LCR-CCPCH-Info-TDD         Secondary-LCR-CCPCH-Info-TDD                    OPTIONAL,
    ul-CCTrCH-LCR-Information             UL-CCTrCH-LCR-InformationList-RL-AdditionRspTDD    OPTIONAL,
    dl-CCTrCH-LCR-Information             DL-CCTrCH-LCR-InformationList-RL-AdditionRspTDD    OPTIONAL,
    dCH-InformationResponse              DCH-InformationResponseList-RL-AdditionRspTDD      OPTIONAL,
    dsch-LCR-InformationResponse         DSCH-LCR-InformationResponse-RL-AdditionRspTDD    OPTIONAL,
    usch-LCR-InformationResponse         USCH-LCR-InformationResponse-RL-AdditionRspTDD     OPTIONAL,
    neighbouring-UMTS-CellInformation         Neighbouring-UMTS-CellInformation               OPTIONAL,
    neighbouring-GSM-CellInformation          Neighbouring-GSM-CellInformation              OPTIONAL,
    iE-Extensions                             ProtocolExtensionContainer { { RL-LCR-InformationResponseList-RL-AdditionRspTDD-ExtIEs} }
    OPTIONAL,
    ...
}

RL-LCR-InformationResponseList-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes    CRITICALITY ignore  EXTENSION    GA-CellAdditionalShapes    PRESENCE optional }|
    { ID id-HCS-Prio                   CRITICALITY ignore  EXTENSION    HCS-Prio                   PRESENCE optional }|
    { ID id-UL-TimingAdvanceCtrl-LCR   CRITICALITY ignore  EXTENSION    UL-TimingAdvanceCtrl-LCR   PRESENCE optional },
    --Mandatory for 1.28Mcps TDD only
    ...
}

UL-CCTrCH-LCR-InformationList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{UL-CCTrCH-LCR-InformationListIEs-RL-AdditionRspTDD }}

UL-CCTrCH-LCR-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD   CRITICALITY ignore  TYPE UL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD
    PRESENCE mandatory }
}

UL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHsLCR)) OF UL-CCTrCH-LCR-InformationItem-RL-AdditionRspTDD

UL-CCTrCH-LCR-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    cCTrCH-ID                CCTrCH-ID,
    ul-DPCH-LCR-Information          UL-DPCH-LCR-InformationList-RL-AdditionRspTDD       OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-CCTrCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-LCR-InformationList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container { {UL-DPCH-LCR-InformationListIEs-RL-AdditionRspTDD} }

UL-DPCH-LCR-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD    CRITICALITY ignore  TYPE UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD  PRESENCE
mandatory   }
}
```

```
UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    uL-TimeslotLCR-Information       UL-TimeslotLCR-Information,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-LCR-InformationList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{DL-CCTrCH-LCR-InformationListIEs-RL-AdditionRspTDD}}

DL-CCTrCH-LCR-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD   CRITICALITY ignore  TYPE DL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD
PRESENCE mandatory }
}

DL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHsLCR)) OF DL-CCTrCH-LCR-InformationItem-RL-AdditionRspTDD

DL-CCTrCH-LCR-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    cCTrCH-ID                 CCTrCH-ID,
    dl-DPCH-LCR-Information    DL-DPCH-LCR-InformationList-RL-AdditionRspTDD      OPTIONAL,
    iE-Extensions             ProtocolExtensionContainer { {DL-CCTrCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-LCR-InformationList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container { {DL-DPCH-LCR-InformationListIEs-RL-AdditionRspTDD} }

DL-DPCH-LCR-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD      CRITICALITY ignore  TYPE DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD  PRESENCE
mandatory    }
}

DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    dL-TimeslotLCR-Information       DL-TimeslotLCR-Information,
    tSTD-Indicator                  TSTD-Indicator,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

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DCH-InformationResponseList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{DCH-InformationResponseListIEs-RL-AdditionRspTDD}}

DCH-InformationResponseListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse   CRITICALITY ignore    TYPE DCH-InformationResponse  PRESENCE mandatory }
}

DSCH-LCR-InformationResponse-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{DSCH-LCR-InformationList-RL-AdditionRspTDD}}

DSCH-LCR-InformationList-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCH-LCR-InformationListIEs-RL-AdditionRspTDD      CRITICALITY ignore  TYPE DSCH-LCR-InformationListIEs-RL-AdditionRspTDD PRESENCE
mandatory }
}

DSCH-LCR-InformationListIEs-RL-AdditionRspTDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHsLCR)) OF DSCH-LCR-InformationItem-RL-AdditionRspTDD

DSCH-LCR-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    dsch-ID                 DSCH-ID,
    dSCH-FlowControlInformation       DSCH-FlowControlInformation,
    bindingID               BindingID  OPTIONAL,
    transportLayerAddress   TransportLayerAddress   OPTIONAL,
    transportFormatManagement   TransportFormatManagement,
    iE-Extensions           ProtocolExtensionContainer { {DSCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCH-LCR-InformationResponse-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{USCH-LCR-InformationList-RL-AdditionRspTDD}}

USCH-LCR-InformationList-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-USCH-LCR-InformationListIEs-RL-AdditionRspTDD      CRITICALITY ignore  TYPE USCH-LCR-InformationListIEs-RL-AdditionRspTDD PRESENCE
mandatory }
}

USCH-LCR-InformationListIEs-RL-AdditionRspTDD ::= SEQUENCE (SIZE(0..maxNoOfUSCHsLCR)) OF USCH-LCR-InformationItem-RL-AdditionRspTDD

USCH-LCR-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    usch-ID                 USCH-ID,
    transportFormatManagement   TransportFormatManagement,
    diversityIndication         DiversityIndication-RL-AdditionRspTDD2      OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {USCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

USCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ************************************************************
--
-- RADIO LINK ADDITION FAILURE FDD
```

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-- *************************************************************

RadioLinkAdditionFailureFDD ::= SEQUENCE {
    protocolIEs                      ProtocolIE-Container       {{RadioLinkAdditionFailureFDD-IEs}},
    protocolExtensions               ProtocolExtensionContainer {{RadioLinkAdditionFailureFDD-Extensions}}                        OPTIONAL,
    ...
}

RadioLinkAdditionFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CauseLevel-RL-AdditionFailureFDD                         CRITICALITY     ignore          TYPE CauseLevel-RL-AdditionFailureFDD
         PRESENCE    mandatory }|
    { ID id-CriticalityDiagnostics       CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

CauseLevel-RL-AdditionFailureFDD ::= CHOICE {
    generalCause      GeneralCauseList-RL-AdditionFailureFDD,
    rLSpecificCause   RLSpecificCauseList-RL-AdditionFailureFDD,
    ...
}

GeneralCauseList-RL-AdditionFailureFDD ::= SEQUENCE {
    cause                                 Cause,
    iE-Extensions                         ProtocolExtensionContainer { { GeneralCauseItem-RL-AdditionFailureFDD-ExtIEs} }      OPTIONAL,
    ...
}

GeneralCauseItem-RL-AdditionFailureFDD-ExtIEs  RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RLSpecificCauseList-RL-AdditionFailureFDD ::= SEQUENCE {
    unsuccessful-RL-InformationRespList-RL-AdditionFailureFDD    UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD,
    successful-RL-InformationRespList-RL-AdditionFailureFDD      SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD  OPTIONAL,
    iE-Extensions                         ProtocolExtensionContainer { { RLSpecificCauseItem-RL-AdditionFailureFDD-ExtIEs} }      OPTIONAL,
    ...
}

RLSpecificCauseItem-RL-AdditionFailureFDD-ExtIEs  RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfRLs-1)) OF ProtocolIE-Single-Container {
{UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD-IEs} }

UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD   CRITICALITY ignore  TYPE UnsuccessfulRL-InformationResponse-RL-
AdditionFailureFDD      PRESENCE mandatory  }
}

UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD ::= SEQUENCE {
    rL-ID                    RL-ID,
    cause                    Cause,
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    iE-Extensions                        ProtocolExtensionContainer { {UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (0..maxNrOfRLs-2)) OF ProtocolIE-Single-Container { {SuccessfulRL-
InformationResponse-RL-AdditionFailureFDD-IEs} }

SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD    CRITICALITY ignore  TYPE SuccessfulRL-InformationResponse-RL-
AdditionFailureFDD       PRESENCE mandatory  }
}

SuccessfulRL-InformationResponse-RL-AdditionFailureFDD ::= SEQUENCE {
    rL-ID                            RL-ID,
    rL-Set-ID                        RL-Set-ID,
    uRA-Information                  URA-Information     OPTIONAL,
    sAI                              SAI,
    gA-Cell                          GA-Cell    OPTIONAL,
    gA-AccessPointPosition           GA-AccessPointPosition     OPTIONAL,
    received-total-wide-band-power   Received-total-wide-band-power,
    secondary-CCPCH-Info             Secondary-CCPCH-Info        OPTIONAL,
    dl-CodeInformation               DL-CodeInformationList-RL-AdditionFailureFDD,
    diversityIndication              DiversityIndication-RL-AdditionFailureFDD,
    -- This IE represents both the Diversity Indication IE and the choice based on the diversity indication as described in
    -- the tabular message format in subclause 9.1.
    sSDT-SupportIndicator            SSDT-SupportIndicator,
    minUL-SIR                        UL-SIR,
    maxUL-SIR                        UL-SIR,
    closedlooptimingadjustmentmode   Closedlooptimingadjustmentmode  OPTIONAL,
    maximumAllowedULTxPower          MaximumAllowedULTxPower,
    maximumDLTxPower                 DL-Power,
    minimumDLTxPower                 DL-Power,
    neighbouring-UMTS-CellInformation   Neighbouring-UMTS-CellInformation OPTIONAL,
    neighbouring-GSM-CellInformation    Neighbouring-GSM-CellInformation OPTIONAL,
    primaryCPICH-Power               PrimaryCPICH-Power,
    pC-Preamble                      PC-Preamble,
    sRB-Delay                        SRB-Delay,
    iE-Extensions                    ProtocolExtensionContainer { {SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes                 CRITICALITY ignore EXTENSION   GA-CellAdditionalShapes     PRESENCE optional }|
    { ID id-DL-PowerBalancing-ActivationIndicator   CRITICALITY ignore EXTENSION   DL-PowerBalancing-ActivationIndicator   PRESENCE optional}|
    { ID id-TFCI-PC-SupportIndicator                CRITICALITY ignore EXTENSION   TFCI-PC-SupportIndicator    PRESENCE optional }|
    { ID id-HCS-Prio                                CRITICALITY ignore EXTENSION   HCS-Prio     PRESENCE optional }|
    { ID id-Primary-CPICH-Usage-For-Channel-Estimation    CRITICALITY ignore EXTENSION   Primary-CPICH-Usage-For-Channel-Estimation    PRESENCE
optional },
    ...
}
```

```
DL-CodeInformationList-RL-AdditionFailureFDD ::= ProtocolIE-Single-Container {{ DL-CodeInformationListIEs-RL-AdditionFailureFDD }}

DL-CodeInformationListIEs-RL-AdditionFailureFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-FDD-DL-CodeInformation   CRITICALITY ignore TYPE FDD-DL-CodeInformation     PRESENCE mandatory }
}

DiversityIndication-RL-AdditionFailureFDD ::= CHOICE {
    combining                        Combining-RL-AdditionFailureFDD,
    nonCombining                     NonCombining-RL-AdditionFailureFDD
}

Combining-RL-AdditionFailureFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    iE-Extensions               ProtocolExtensionContainer { { CombiningItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

CombiningItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DCH-InformationResponse        CRITICALITY ignore  EXTENSION DCH-InformationResponse      PRESENCE optional },
    ...
}

NonCombining-RL-AdditionFailureFDD ::= SEQUENCE {
    dCH-InformationResponse     DCH-InformationResponse,
    iE-Extensions                           ProtocolExtensionContainer { { NonCombiningItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

NonCombiningItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkAdditionFailureFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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--
-- RADIO LINK ADDITION FAILURE TDD
--
-- **************************************************************

RadioLinkAdditionFailureTDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container     {{RadioLinkAdditionFailureTDD-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{RadioLinkAdditionFailureTDD-Extensions}}                OPTIONAL,
    ...
}

RadioLinkAdditionFailureTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CauseLevel-RL-AdditionFailureTDD   CRITICALITY ignore  TYPE CauseLevel-RL-AdditionFailureTDD PRESENCE mandatory }|
    { ID id-CriticalityDiagnostics         CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}
```

```
CauseLevel-RL-AdditionFailureTDD ::= CHOICE {
    generalCause          GeneralCauseList-RL-AdditionFailureTDD,
    rLSpecificCause       RLSpecificCauseList-RL-AdditionFailureTDD,
    ...
}

GeneralCauseList-RL-AdditionFailureTDD ::= SEQUENCE {
    cause                          Cause,
    iE-Extensions                  ProtocolExtensionContainer { { GeneralCauseItem-RL-AdditionFailureTDD-ExtIEs} }    OPTIONAL,
    ...
}

GeneralCauseItem-RL-AdditionFailureTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RLSpecificCauseList-RL-AdditionFailureTDD ::= SEQUENCE {
    unsuccessful-RL-InformationRespItem-RL-AdditionFailureTDD   Unsuccessful-RL-InformationRespItem-RL-AdditionFailureTDD,
    iE-Extensions                                               ProtocolExtensionContainer { { RLSpecificCauseItem-RL-AdditionFailureTDD-ExtIEs} }
        OPTIONAL,
    ...
}

RLSpecificCauseItem-RL-AdditionFailureTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Unsuccessful-RL-InformationRespItem-RL-AdditionFailureTDD ::= ProtocolIE-Single-Container { {Unsuccessful-RL-InformationRespItemIE-RL-
AdditionFailureTDD} }

Unsuccessful-RL-InformationRespItemIE-RL-AdditionFailureTDD RNSAP-PROTOCOL-IES ::= {
    { ID    id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD    CRITICALITY ignore   TYPE UnsuccessfulRL-InformationResponse-RL-
AdditionFailureTDD  PRESENCE mandatory}
}

UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD ::= SEQUENCE {
    rL-ID                     RL-ID,
    cause                     Cause,
    iE-Extensions             ProtocolExtensionContainer { {UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD-ExtIEs} } OPTIONAL,
    ...
}

UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkAdditionFailureTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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--
-- RADIO LINK DELETION REQUEST
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RadioLinkDeletionRequest ::= SEQUENCE {
    protocolIEs                     ProtocolIE-Container        {{RadioLinkDeletionRequest-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{RadioLinkDeletionRequest-Extensions}}                    OPTIONAL,
    ...
}

RadioLinkDeletionRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationList-RL-DeletionRqst  CRITICALITY notify  TYPE RL-InformationList-RL-DeletionRqst      PRESENCE mandatory   },
    ...
}

RL-InformationList-RL-DeletionRqst           ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-Information-RL-DeletionRqst-
IEs} }

RL-Information-RL-DeletionRqst-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-DeletionRqst     CRITICALITY notify  TYPE RL-Information-RL-DeletionRqst   PRESENCE mandatory   }
}

RL-Information-RL-DeletionRqst ::= SEQUENCE {
    rL-ID                     RL-ID,
    iE-Extensions             ProtocolExtensionContainer { {RL-Information-RL-DeletionRqst-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-DeletionRqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkDeletionRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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--
-- RADIO LINK DELETION RESPONSE
--
-- **************************************************************

RadioLinkDeletionResponse ::= SEQUENCE {
    protocolIEs                     ProtocolIE-Container        {{RadioLinkDeletionResponse-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{RadioLinkDeletionResponse-Extensions}}                    OPTIONAL,
    ...
}

RadioLinkDeletionResponse-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CriticalityDiagnostics         CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

RadioLinkDeletionResponse-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
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}

-- ****************************************************************
--
-- RADIO LINK RECONFIGURATION PREPARE FDD
--
-- ****************************************************************

RadioLinkReconfigurationPrepareFDD ::= SEQUENCE {
    protocolIEs                  ProtocolIE-Container      {{RadioLinkReconfigurationPrepareFDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkReconfigurationPrepareFDD-Extensions}}                    OPTIONAL,
    ...
}

RadioLinkReconfigurationPrepareFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-AllowedQueuingTime          CRITICALITY reject  TYPE AllowedQueuingTime              PRESENCE optional   } |
    { ID id-UL-DPCH-Information-RL-ReconfPrepFDD           CRITICALITY reject  TYPE UL-DPCH-Information-RL-ReconfPrepFDD      PRESENCE optional }
|
    { ID id-DL-DPCH-Information-RL-ReconfPrepFDD           CRITICALITY reject  TYPE DL-DPCH-Information-RL-ReconfPrepFDD      PRESENCE optional }
|
    { ID id-FDD-DCHs-to-Modify      CRITICALITY reject  TYPE FDD-DCHs-to-Modify     PRESENCE optional   } |
    { ID id-DCHs-to-Add-FDD     CRITICALITY reject  TYPE DCH-FDD-Information          PRESENCE optional   } |
    { ID id-DCH-DeleteList-RL-ReconfPrepFDD    CRITICALITY reject  TYPE DCH-DeleteList-RL-ReconfPrepFDD     PRESENCE optional } |
    { ID id-DSCH-Modify-RL-ReconfPrepFDD        CRITICALITY reject  TYPE DSCH-Modify-RL-ReconfPrepFDD     PRESENCE optional } |
    { ID id-DSCHs-to-Add-FDD            CRITICALITY reject  TYPE DSCH-FDD-Information            PRESENCE optional   } |
    { ID id-DSCH-Delete-RL-ReconfPrepFDD        CRITICALITY reject  TYPE DSCH-Delete-RL-ReconfPrepFDD     PRESENCE optional } |
    { ID id-RL-InformationList-RL-ReconfPrepFDD CRITICALITY reject  TYPE RL-InformationList-RL-ReconfPrepFDD PRESENCE optional }|
    { ID id-Transmission-Gap-Pattern-Sequence-Information   CRITICALITY reject  TYPE Transmission-Gap-Pattern-Sequence-Information PRESENCE
optional },
    ...
}

UL-DPCH-Information-RL-ReconfPrepFDD ::= SEQUENCE {
    ul-ScramblingCode             UL-ScramblingCode       OPTIONAL,
    ul-SIRTarget                  UL-SIR                  OPTIONAL,
    minUL-ChannelisationCodeLength  MinUL-ChannelisationCodeLength  OPTIONAL,
    maxNrOfUL-DPDCHs              MaxNrOfUL-DPCHs         OPTIONAL
    -- This IE shall be present if minUL-ChannelisationCodeLength equals to 4 --,
    ul-PunctureLimit              PunctureLimit           OPTIONAL,
    tFCS                         TFCS    OPTIONAL,
    ul-DPCCH-SlotFormat           UL-DPCCH-SlotFormat     OPTIONAL,
    diversityMode                DiversityMode           OPTIONAL,
    sSDT-CellIDLength             SSDT-CellID-Length      OPTIONAL,
    s-FieldLength                S-FieldLength           OPTIONAL,
    iE-Extensions                ProtocolExtensionContainer { {UL-DPCH-Information-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-Information-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-Information-RL-ReconfPrepFDD ::= SEQUENCE {
    tFCS                              TFCS    OPTIONAL,
```

```
    dl-DPCH-SlotFormat              DL-DPCH-SlotFormat      OPTIONAL,
    nrOfDLchannelisationcodes       NrOfDLchannelisationcodes  OPTIONAL,
    tFCI-SignallingMode             TFCI-SignallingMode     OPTIONAL,
    tFCI-Presence                   TFCI-Presence           OPTIONAL
    -- This IE shall be present if DL DPCH Slot Format IE is from 12 to 16 --,
    multiplexingPosition            MultiplexingPosition        OPTIONAL,
    limitedPowerIncrease            LimitedPowerIncrease        OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-Information-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-Information-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-SplitType   CRITICALITY reject  EXTENSION   SplitType   PRESENCE optional   }|
    { ID id-LengthOfTFCI2   CRITICALITY reject   EXTENSION   LengthOfTFCI2   PRESENCE optional   },
    ...
}

DCH-DeleteList-RL-ReconfPrepFDD              ::= SEQUENCE (SIZE (0..maxNrOfDCHs)) OF DCH-DeleteItem-RL-ReconfPrepFDD

DCH-DeleteItem-RL-ReconfPrepFDD ::= SEQUENCE {
    dCH-ID                          DCH-ID,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-DeleteItem-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-DeleteItem-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-Modify-RL-ReconfPrepFDD ::= SEQUENCE {
    dSCH-Information                DSCH-ModifyInfo-RL-ReconfPrepFDD    OPTIONAL,
    pdSCH-RL-ID                     RL-ID                       OPTIONAL,
    tFCS                            TFCS                        OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DSCH-Modify-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-Modify-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-EnhancedDSCHPCIndicator         CRITICALITY ignore  EXTENSION EnhancedDSCHPCIndicator    PRESENCE optional}|
    { ID id-EnhancedDSCHPC                  CRITICALITY ignore  EXTENSION EnhancedDSCHPC         PRESENCE conditional},
    -- The IE shall be present if the Enhanced DSCH PC Indicator IE is set to "Enhanced DSCH PC Active in the UE".
    ...
}

DSCH-ModifyInfo-RL-ReconfPrepFDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHs)) OF DSCH-ModifyInformationItem-RL-ReconfPrepFDD

DSCH-ModifyInformationItem-RL-ReconfPrepFDD ::= SEQUENCE {
    dSCH-ID                         DSCH-ID,
    trChSourceStatisticsDescriptor  TrCH-SrcStatisticsDescr OPTIONAL,
    transportFormatSet              TransportFormatSet          OPTIONAL,
    allocationRetentionPriority     AllocationRetentionPriority     OPTIONAL,
    schedulingPriorityIndicator     SchedulingPriorityIndicator     OPTIONAL,
    bLER                            BLER                        OPTIONAL,
    transportBearerRequestIndicator TransportBearerRequestIndicator,
```

```
    iE-Extensions                            ProtocolExtensionContainer { {DSCH-ModifyInformationItem-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-ModifyInformationItem-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-TrafficClass           CRITICALITY ignore  EXTENSION TrafficClass              PRESENCE optional }|
    { ID id-BindingID              CRITICALITY ignore  EXTENSION  BindingID     PRESENCE            optional }|
    -- Shall be ignored if bearer establishment with ALCAP.
    { ID id-TransportLayerAddress  CRITICALITY ignore  EXTENSION  TransportLayerAddress  PRESENCE  optional },
    -- Shall be ignored if bearer establishment with ALCAP.
    ...
}

DSCH-Delete-RL-ReconfPrepFDD ::= SEQUENCE {
    dSCH-Information                  DSCH-Info-Delete-RL-ReconfPrepFDD,
    iE-Extensions                    ProtocolExtensionContainer { {DSCH-Delete-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-Delete-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-Info-Delete-RL-ReconfPrepFDD ::= SEQUENCE (SIZE(1..maxNoOfDSCHs)) OF DSCH-DeleteInformationItem-RL-REconfPrepFDD

DSCH-DeleteInformationItem-RL-REconfPrepFDD ::= SEQUENCE {
    dSCH-ID                      DSCH-ID,
    iE-Extensions                ProtocolExtensionContainer { {DSCH-DeleteInformationItem-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-DeleteInformationItem-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-RL-ReconfPrepFDD        ::= SEQUENCE (SIZE (0..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-Information-RL-ReconfPrepFDD-
IEs} }

RL-Information-RL-ReconfPrepFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-ReconfPrepFDD    CRITICALITY reject  TYPE RL-Information-RL-ReconfPrepFDD     PRESENCE mandatory   }
}

RL-Information-RL-ReconfPrepFDD ::= SEQUENCE {
    rL-ID                    RL-ID,
    sSDT-Indication          SSDT-Indication    OPTIONAL,
    sSDT-CellIdentity        SSDT-CellID    OPTIONAL
    -- The IE shall be present if the sSDT-Indication is set to 'sSDT-active-in-the-UE' --,
    transmitDiversityIndicator    TransmitDiversityIndicator     OPTIONAL,
    -- This IE shall be present if Diversity Mode IE is present in UL DPCH Information IE and is not equal to 'none'
    iE-Extensions            ProtocolExtensionContainer { {RL-Information-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    { ID id-SSDT-CellIDforEDSCHPC              CRITICALITY ignore  EXTENSION SSDT-CellID         PRESENCE conditional }|
    -- This IE shall be present if Enhanced DSCH PC IE is present in either the DSCHs to Modify IE or the DSCHs to Add IE.
    { ID id-DLReferencePower                   CRITICALITY ignore  EXTENSION   DL-Power            PRESENCE optional }|
    { ID id-RL-Specific-DCH-Info               CRITICALITY ignore  EXTENSION RL-Specific-DCH-Info  PRESENCE   optional }|
    { ID id-DL-DPCH-TimingAdjustment           CRITICALITY reject  EXTENSION DL-DPCH-TimingAdjustment PRESENCE optional }|
    { ID id-Qth-Parameter                      CRITICALITY ignore  EXTENSION Qth-Parameter         PRESENCE optional }|
    { ID id-Phase-Reference-Update-Indicator   CRITICALITY ignore  EXTENSION Phase-Reference-Update-Indicator  PRESENCE optional },
    ...
}


RadioLinkReconfigurationPrepareFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-HSDSCH-FDD-Information                           CRITICALITY reject  EXTENSION HSDSCH-FDD-Information        PRESENCE optional}|
    { ID id-HSDSCH-Information-to-Modify                     CRITICALITY reject  EXTENSION HSDSCH-Information-to-Modify  PRESENCE optional}|
    { ID id-HSDSCH-MACdFlows-to-Add                          CRITICALITY reject  EXTENSION HSDSCH-MACdFlows-Information      PRESENCE optional}|
    { ID id-HSDSCH-MACdFlows-to-Delete                       CRITICALITY reject  EXTENSION HSDSCH-MACdFlows-to-Delete   PRESENCE optional}|
    { ID id-HSPDSCH-RL-ID                                    CRITICALITY reject  EXTENSION RL-ID PRESENCE optional}|
    { ID id-UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation  CRITICALITY ignore  EXTENSION UE-Support-Of-Dedicated-Pilots-For-Channel-
Estimation      PRESENCE optional}|
    { ID id-UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation-Of-HS-DSCH   CRITICALITY ignore  EXTENSION UE-Support-Of-Dedicated-Pilots-For-
Channel-Estimation-Of-HS-DSCH   PRESENCE optional},
    ...
}



-- ****************************************************************
--
-- RADIO LINK RECONFIGURATION PREPARE TDD
--
-- ****************************************************************

RadioLinkReconfigurationPrepareTDD ::= SEQUENCE {
    protocolIEs                     ProtocolIE-Container      {{RadioLinkReconfigurationPrepareTDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{RadioLinkReconfigurationPrepareTDD-Extensions}}                        OPTIONAL,
    ...
}

RadioLinkReconfigurationPrepareTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-AllowedQueuingTime          CRITICALITY reject  TYPE AllowedQueuingTime            PRESENCE optional   } |
    { ID id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD    CRITICALITY notify  TYPE UL-CCTrCH-InformationAddList-RL-ReconfPrepTDDPRESENCE optional
    } |
    { ID id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD    CRITICALITY notify  TYPE UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD  PRESENCE
optional    } |
    { ID id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD    CRITICALITY notify  TYPE UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD  PRESENCE
optional    } |
    { ID id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD    CRITICALITY notify  TYPE DL-CCTrCH-InformationAddList-RL-ReconfPrepTDDPRESENCE optional
    } |
    { ID id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD    CRITICALITY notify  TYPE DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD  PRESENCE
optional    } |
    { ID id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD    CRITICALITY notify  TYPE DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD  PRESENCE
optional    } |
    { ID id-TDD-DCHs-to-Modify       CRITICALITY reject  TYPE TDD-DCHs-to-Modify       PRESENCE optional   } |
    { ID id-DCHs-to-Add-TDD     CRITICALITY reject  TYPE DCH-TDD-Information          PRESENCE optional   } |
    { ID id-DCH-DeleteList-RL-ReconfPrepTDD     CRITICALITY reject  TYPE DCH-DeleteList-RL-ReconfPrepTDD     PRESENCE optional }|
    { ID id-DSCH-ModifyList-RL-ReconfPrepTDD    CRITICALITY reject  TYPE DSCH-ModifyList-RL-ReconfPrepTDD     PRESENCE optional } |
```

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```
    { ID id-DSCHs-to-Add-TDD           CRITICALITY reject  TYPE DSCH-TDD-Information           PRESENCE optional } |
    { ID id-DSCH-DeleteList-RL-ReconfPrepTDD   CRITICALITY reject  TYPE DSCH-DeleteList-RL-ReconfPrepTDD   PRESENCE optional } |
    { ID id-USCH-ModifyList-RL-ReconfPrepTDD   CRITICALITY reject  TYPE USCH-ModifyList-RL-ReconfPrepTDD   PRESENCE optional } |
    { ID id-USCHs-to-Add           CRITICALITY reject  TYPE USCH-Information           PRESENCE optional  } |
    { ID id-USCH-DeleteList-RL-ReconfPrepTDD   CRITICALITY reject  TYPE USCH-DeleteList-RL-ReconfPrepTDD   PRESENCE optional },
    ...
}

UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD      ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {UL-CCTrCH-
AddInformation-RL-ReconfPrepTDD-IEs} }

UL-CCTrCH-AddInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD   CRITICALITY notify  TYPE UL-CCTrCH-AddInformation-RL-ReconfPrepTDD  PRESENCE mandatory   }
}

UL-CCTrCH-AddInformation-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                 CCTrCH-ID,
    tFCS                      TFCS,
    tFCI-Coding               TFCI-Coding,
    punctureLimit             PunctureLimit,
    iE-Extensions             ProtocolExtensionContainer { {UL-CCTrCH-AddInformation-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-AddInformation-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-UL-SIRTarget         CRITICALITY reject       EXTENSION      UL-SIR     PRESENCE optional}|
    -- This IE shall be mandatory for 1.28Mcps TDD, not applicable for 3.84Mcps TDD.
     { ID id-TDD-TPC-UplinkStepSize-InformationAdd-LCR-RL-ReconfPrepTDD CRITICALITY reject  EXTENSION TDD-TPC-UplinkStepSize-LCR  PRESENCE optional
       },
    -- Mandatory for 1.28Mcps TDD, not applicable to 3.84Mcps TDD
    ...
}

UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD      ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {UL-CCTrCH-
ModifyInformation-RL-ReconfPrepTDD-IEs} }

UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD   CRITICALITY notify  TYPE UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD PRESENCE
mandatory   }
}

UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                 CCTrCH-ID,
    tFCS                      TFCS         OPTIONAL,
    tFCI-Coding               TFCI-Coding           OPTIONAL,
    punctureLimit             PunctureLimit          OPTIONAL,
    iE-Extensions             ProtocolExtensionContainer { {UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-UL-SIRTarget         CRITICALITY reject       EXTENSION      UL-SIR     PRESENCE optional}|
    -- This IE shall be applicable for 1.28Mcps TDD only.
```

```
    { ID id-TDD-TPC-UplinkStepSize-InformationModify-LCR-RL-ReconfPrepTDD   CRITICALITY reject  EXTENSION TDD-TPC-UplinkStepSize-LCR    PRESENCE
    optional    },
    -- Applicable to 1.28Mcps TDD only
    ...
}

UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD          ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {UL-CCTrCH-
DeleteInformation-RL-ReconfPrepTDD-IEs} }

UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD   CRITICALITY notify  TYPE UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD PRESENCE
mandatory   }
}

UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                 CCTrCH-ID,
    iE-Extensions             ProtocolExtensionContainer { {UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD          ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {DL-CCTrCH-
AddInformation-RL-ReconfPrepTDD-IEs} }

DL-CCTrCH-AddInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD   CRITICALITY notify  TYPE DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDDPRESENCE
mandatory   }
}

DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                 CCTrCH-ID,
    tFCS                      TFCS,
    tFCI-Coding               TFCI-Coding,
    punctureLimit             PunctureLimit,
    cCTrCH-TPCList            CCTrCH-TPCAddList-RL-ReconfPrepTDD  OPTIONAL,
    iE-Extensions             ProtocolExtensionContainer { {DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-TDD-TPC-DownlinkStepSize-InformationAdd-RL-ReconfPrepTDD   CRITICALITY reject  EXTENSION  TDD-TPC-DownlinkStepSize   PRESENCE optional
      },
    ...
}

CCTrCH-TPCAddList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF CCTrCH-TPCAddItem-RL-ReconfPrepTDD

CCTrCH-TPCAddItem-RL-ReconfPrepTDD   ::= SEQUENCE {
    cCTrCH-ID                 CCTrCH-ID,
    iE-Extensions             ProtocolExtensionContainer { { CCTrCH-TPCAddItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
```

```
}

CCTrCH-TPCAddItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD        ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {DL-CCTrCH-
ModifyInformation-RL-ReconfPrepTDD-IEs} }

DL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD   CRITICALITY notify  TYPE DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD  PRESENCE
mandatory   }
}

DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                  CCTrCH-ID,
    tFCS                       TFCS        OPTIONAL,
    tFCI-Coding                TFCI-Coding            OPTIONAL,
    punctureLimit              PunctureLimit          OPTIONAL,
    cCTrCH-TPCList             CCTrCH-TPCModifyList-RL-ReconfPrepTDD      OPTIONAL,
    iE-Extensions              ProtocolExtensionContainer { {DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-TDD-TPC-DownlinkStepSize-InformationModify-RL-ReconfPrepTDD  CRITICALITY reject   EXTENSION TDD-TPC-DownlinkStepSize   PRESENCE
    optional},
    ...
}

CCTrCH-TPCModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF CCTrCH-TPCModifyItem-RL-ReconfPrepTDD

CCTrCH-TPCModifyItem-RL-ReconfPrepTDD    ::= SEQUENCE {
    cCTrCH-ID                  CCTrCH-ID,
    iE-Extensions              ProtocolExtensionContainer { { CCTrCH-TPCModifyItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

CCTrCH-TPCModifyItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD        ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {DL-CCTrCH-
DeleteInformation-RL-ReconfPrepTDD-IEs} }

DL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD   CRITICALITY notify  TYPE DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD  PRESENCE
mandatory   }
}

DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                  CCTrCH-ID,
    iE-Extensions              ProtocolExtensionContainer { {DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
```

```
}

DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-DeleteList-RL-ReconfPrepTDD              ::= SEQUENCE (SIZE (0..maxNrOfDCHs)) OF DCH-DeleteItem-RL-ReconfPrepTDD

DCH-DeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    iE-Extensions               ProtocolExtensionContainer { {DCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHs)) OF DSCH-ModifyItem-RL-ReconfPrepTDD

DSCH-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
    dSCH-ID                         DSCH-ID,
    dl-ccTrCHID                     CCTrCH-ID                       OPTIONAL,
    trChSourceStatisticsDescriptor  TrCH-SrcStatisticsDescr OPTIONAL,
    transportFormatSet              TransportFormatSet              OPTIONAL,
    allocationRetentionPriority     AllocationRetentionPriority     OPTIONAL,
    schedulingPriorityIndicator     SchedulingPriorityIndicator     OPTIONAL,
    bLER                            BLER                            OPTIONAL,
    transportBearerRequestIndicator TransportBearerRequestIndicator,
    iE-Extensions                   ProtocolExtensionContainer { {DSCH-ModifyItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-ModifyItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-TrafficClass          CRITICALITY ignore  EXTENSION TrafficClass          PRESENCE optional }|
    { ID id-BindingID             CRITICALITY ignore  EXTENSION  BindingID            PRESENCE  optional }|
    -- Shall be ignored if bearer establishment with ALCAP.
    { ID id-TransportLayerAddress CRITICALITY ignore  EXTENSION  TransportLayerAddress PRESENCE  optional },
    -- Shall be ignored if bearer establishment with ALCAP.
    ...
}

DSCH-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHs)) OF DSCH-DeleteItem-RL-ReconfPrepTDD

DSCH-DeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
    dSCH-ID                     DSCH-ID,
    iE-Extensions               ProtocolExtensionContainer { {DSCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
USCH-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE(0..maxNoOfUSCHs)) OF USCH-ModifyItem-RL-ReconfPrepTDD


USCH-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
    uSCH-ID                            USCH-ID,
    ul-ccTrCHID                        CCTrCH-ID                   OPTIONAL,
    trChSourceStatisticsDescriptor     TrCH-SrcStatisticsDescr OPTIONAL,
    transportFormatSet                 TransportFormatSet              OPTIONAL,
    allocationRetentionPriority        AllocationRetentionPriority    OPTIONAL,
    schedulingPriorityIndicator        SchedulingPriorityIndicator    OPTIONAL,
    bLER                               BLER                           OPTIONAL,
    transportBearerRequestIndicator    TransportBearerRequestIndicator,
    rb-Info                            RB-Info                        OPTIONAL,
    iE-Extensions                      ProtocolExtensionContainer { {USCH-ModifyItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}


USCH-ModifyItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-TrafficClass           CRITICALITY ignore  EXTENSION TrafficClass           PRESENCE optional }|
    { ID id-BindingID              CRITICALITY ignore  EXTENSION  BindingID   PRESENCE         optional          }|
    -- Shall be ignored if bearer establishment with ALCAP.
    { ID id-TransportLayerAddress           CRITICALITY ignore     EXTENSION   TransportLayerAddress     PRESENCE   optional }|
    -- Shall be ignored if bearer establishment with ALCAP.
    { ID id-TnlQos                 CRITICALITY    ignore    EXTENSION    TnlQos      PRESENCE       optional },
    ...
}


USCH-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE(0..maxNoOfUSCHs)) OF USCH-DeleteItem-RL-ReconfPrepTDD


USCH-DeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
    uSCH-ID                            USCH-ID,
    iE-Extensions                      ProtocolExtensionContainer { {USCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}


USCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


RadioLinkReconfigurationPrepareTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-PrimaryCCPCH-RSCP-RL-ReconfPrepTDD                    CRITICALITY ignore     EXTENSION   PrimaryCCPCH-RSCP PRESENCE optional }|
    { ID id-DL-TimeSlot-ISCP-Info-RL-ReconfPrepTDD               CRITICALITY ignore     EXTENSION   DL-TimeSlot-ISCP-Info   PRESENCE optional }|
    { ID id-DL-Timeslot-ISCP-LCR-Information-RL-ReconfPrepTDD    CRITICALITY ignore     EXTENSION   DL-TimeSlot-ISCP-LCR-Information PRESENCE
optional    }|
    { ID id-HSDSCH-TDD-Information                                CRITICALITY reject     EXTENSION HSDSCH-TDD-Information    PRESENCE optional}|
    { ID id-HSDSCH-Information-to-Modify                          CRITICALITY reject     EXTENSION HSDSCH-Information-to-Modify    PRESENCE
optional}|
    { ID id-HSDSCH-MACdFlows-to-Add            CRITICALITY reject     EXTENSION HSDSCH-MACdFlows-Information          PRESENCE optional}|
    { ID id-HSDSCH-MACdFlows-to-Delete         CRITICALITY reject     EXTENSION HSDSCH-MACdFlows-to-Delete       PRESENCE optional}|
    { ID id-HSPDSCH-RL-ID                      CRITICALITY reject     EXTENSION RL-ID                 PRESENCE optional}|
    { ID id-PDSCH-RL-ID         CRITICALITY ignore     EXTENSION RL-ID     PRESENCE optional }|
    { ID id-UL-Synchronisation-Parameters-LCR          CRITICALITY ignore     EXTENSION   UL-Synchronisation-Parameters-LCR     PRESENCE
    optional    }|  -- Mandatory for 1.28Mcps TDD, Not Applicable to 3.84Mcps TDD
    { ID id-RL-Information-RL-ReconfPrepTDD    CRITICALITY ignore     EXTENSION   RL-Information-RL-ReconfPrepTDD   PRESENCE    optional }|
    { ID id-PrimaryCCPCH-RSCP-Delta     CRITICALITY ignore     EXTENSION   PrimaryCCPCH-RSCP-Delta    PRESENCE     optional },
```

```
    ...
}


RL-Information-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF RL-InformationIE-RL-ReconfPrepTDD

RL-InformationIE-RL-ReconfPrepTDD ::= SEQUENCE {
    rL-ID                           RL-ID,
    rL-Specific-DCH-Info            RL-Specific-DCH-Info        OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { { RL-InformationIE-RL-ReconfPrepTDD-ExtIEs} }    OPTIONAL,
    ...
}

RL-InformationIE-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- RADIO LINK RECONFIGURATION READY FDD
--
-- *************************************************************

RadioLinkReconfigurationReadyFDD ::= SEQUENCE {
    protocolIEs                     ProtocolIE-Container      {{RadioLinkReconfigurationReadyFDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{RadioLinkReconfigurationReadyFDD-Extensions}}                OPTIONAL,
    ...
}

RadioLinkReconfigurationReadyFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseList-RL-ReconfReadyFDD   CRITICALITY ignore  TYPE RL-InformationResponseList-RL-ReconfReadyFDD    PRESENCE
optional   } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

RL-InformationResponseList-RL-ReconfReadyFDD       ::= SEQUENCE (SIZE (0..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-InformationResponse-
RL-ReconfReadyFDD-IEs} }

RL-InformationResponse-RL-ReconfReadyFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseItem-RL-ReconfReadyFDD   CRITICALITY ignore  TYPE RL-InformationResponseItem-RL-ReconfReadyFDD    PRESENCE
mandatory   }
}

RL-InformationResponseItem-RL-ReconfReadyFDD ::= SEQUENCE {
    rL-ID                           RL-ID,
    max-UL-SIR                      UL-SIR        OPTIONAL,
    min-UL-SIR                      UL-SIR        OPTIONAL,
    maximumDLTxPower                DL-Power        OPTIONAL,
    minimumDLTxPower                DL-Power        OPTIONAL,
    secondary-CCPCH-Info            Secondary-CCPCH-Info        OPTIONAL,
    dl-CodeInformationList          DL-CodeInformationList-RL-ReconfReadyFDD    OPTIONAL,
    dCHInformationResponse          DCH-InformationResponseList-RL-ReconfReadyFDD   OPTIONAL,
    dSCHsToBeAddedOrModified        DSCHsToBeAddedOrModified-RL-ReconfReadyFDD        OPTIONAL,
```

```
    iE-Extensions                       ProtocolExtensionContainer { {RL-InformationResponseItem-RL-ReconfReadyFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-ReconfReadyFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DL-PowerBalancing-UpdatedIndicator          CRITICALITY ignore  EXTENSION DL-PowerBalancing-UpdatedIndicator      PRESENCE optional}|
    { ID id-Primary-CPICH-Usage-For-Channel-Estimation  CRITICALITY ignore  EXTENSION Primary-CPICH-Usage-For-Channel-Estimation  PRESENCE
optional }|
    { ID id-Secondary-CPICH-Information-Change           CRITICALITY ignore  EXTENSION Secondary-CPICH-Information-Change          PRESENCE
optional },
    ...
}

DL-CodeInformationList-RL-ReconfReadyFDD ::= ProtocolIE-Single-Container {{ DL-CodeInformationListIEs-RL-ReconfReadyFDD }}

DL-CodeInformationListIEs-RL-ReconfReadyFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-FDD-DL-CodeInformation   CRITICALITY ignore TYPE FDD-DL-CodeInformation     PRESENCE mandatory }
}

DCH-InformationResponseList-RL-ReconfReadyFDD                  ::= ProtocolIE-Single-Container { {DCH-InformationResponseListIEs-RL-ReconfReadyFDD} }

DCH-InformationResponseListIEs-RL-ReconfReadyFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse    CRITICALITY ignore  TYPE DCH-InformationResponse       PRESENCE mandatory }
}

DSCHsToBeAddedOrModified-RL-ReconfReadyFDD ::= ProtocolIE-Single-Container { {DSCHsToBeAddedOrModifiedIEs-RL-ReconfReadyFDD} }

DSCHsToBeAddedOrModifiedIEs-RL-ReconfReadyFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCHsToBeAddedOrModified-FDD    CRITICALITY ignore  TYPE DSCH-FDD-InformationResponse    PRESENCE mandatory   }
}

RadioLinkReconfigurationReadyFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DSCH-RNTI                              CRITICALITY ignore      EXTENSION DSCH-RNTI                          PRESENCE optional }|
    { ID id-HSDSCH-RNTI                            CRITICALITY ignore      EXTENSION HSDSCH-RNTI                        PRESENCE optional }|
    { ID id-HSDSCH-FDD-Information-Response         CRITICALITY ignore      EXTENSION HSDSCH-FDD-Information-Response     PRESENCE optional }|
    { ID id-MAChs-ResetIndicator                    CRITICALITY ignore      EXTENSION MAChs-ResetIndicator               PRESENCE optional },
    ...
}

-- *************************************************************
--
-- RADIO LINK RECONFIGURATION READY TDD
--
-- *************************************************************

RadioLinkReconfigurationReadyTDD ::= SEQUENCE {
    protocolIEs                     ProtocolIE-Container      {{RadioLinkReconfigurationReadyTDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{RadioLinkReconfigurationReadyTDD-Extensions}}                OPTIONAL,
    ...
}

RadioLinkReconfigurationReadyTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponse-RL-ReconfReadyTDD
                        CRITICALITY ignore  TYPE RL-InformationResponse-RL-ReconfReadyTDD   PRESENCE optional  } |
```

```
    --This RL-InformationResponse-RL-ReconfReadyTDD is for the first RL repetition in the list.
    --Repetitions 2 and on are defined in Multiple-RL-InformationResponse-RL-ReconfReadyTDD.
    { ID id-CriticalityDiagnostics        CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

RL-InformationResponse-RL-ReconfReadyTDD ::= SEQUENCE {
    rL-ID                         RL-ID,
    max-UL-SIR                    UL-SIR          OPTIONAL,
    min-UL-SIR                    UL-SIR          OPTIONAL,
    maximumDLTxPower              DL-Power        OPTIONAL,
    minimumDLTxPower              DL-Power        OPTIONAL,
    secondary-CCPCH-Info-TDD      Secondary-CCPCH-Info-TDD   OPTIONAL,
    ul-CCTrCH-Information         UL-CCTrCH-InformationList-RL-ReconfReadyTDD    OPTIONAL,
    dl-CCTrCH-Information         DL-CCTrCH-InformationList-RL-ReconfReadyTDD OPTIONAL,
    dCHInformationResponse        DCH-InformationResponseList-RL-ReconfReadyTDD   OPTIONAL,
    dSCHsToBeAddedOrModified      DSCHToBeAddedOrModified-RL-ReconfReadyTDD   OPTIONAL,
    uSCHsToBeAddedOrModified      USCHToBeAddedOrModified-RL-ReconfReadyTDD   OPTIONAL,
    iE-Extensions                 ProtocolExtensionContainer { {RL-InformationResponse-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponse-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-UL-TimingAdvanceCtrl-LCR          CRITICALITY ignore  EXTENSION   UL-TimingAdvanceCtrl-LCR     PRESENCE optional },
    --For 1.28Mcps TDD only
    ...
}

UL-CCTrCH-InformationList-RL-ReconfReadyTDD        ::= ProtocolIE-Single-Container {{UL-CCTrCHInformationListIEs-RL-ReconfReadyTDD}}

UL-CCTrCHInformationListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD  CRITICALITY ignore  TYPE UL-CCTrCHInformationListIE-RL-ReconfReadyTDD    PRESENCE
mandatory }
}

UL-CCTrCHInformationListIE-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF UL-CCTrCH-InformationItem-RL-ReconfReadyTDD

UL-CCTrCH-InformationItem-RL-ReconfReadyTDD ::= SEQUENCE {
    cCTrCH-ID                     CCTrCH-ID,
    ul-DPCH-AddInformation        UL-DPCH-InformationAddList-RL-ReconfReadyTDD          OPTIONAL,
    --For 3.84Mcps TDD only
    ul-DPCH-ModifyInformation     UL-DPCH-InformationModifyList-RL-ReconfReadyTDD          OPTIONAL,
    --For 3.84Mcps TDD only
    ul-DPCH-DeleteInformation     UL-DPCH-InformationDeleteList-RL-ReconfReadyTDD          OPTIONAL,
    iE-Extensions                 ProtocolExtensionContainer { {UL-CCTrCH-InformationItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-InformationItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD  CRITICALITY ignore    EXTENSION   UL-DPCH-LCR-InformationAddList-RL-
ReconfReadyTDD      PRESENCE optional },
    --For 1.28Mcps TDD only
    ...
}
```

```
UL-DPCH-LCR-InformationAddList-RL-ReconfReadyTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    uL-TimeslotLCR-Info             UL-TimeslotLCR-Information,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-LCR-InformationAddItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-LCR-InformationAddItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-InformationAddList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{UL-DPCH-InformationAddListIEs-RL-ReconfReadyTDD}}

UL-DPCH-InformationAddListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD   CRITICALITY ignore TYPE UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD     PRESENCE
optional }
}

UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    rxTimingDeviationForTA          RxTimingDeviationForTA          OPTIONAL,
    uL-Timeslot-Information         UL-Timeslot-Information,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-InformationAddItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-InformationAddItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-InformationModifyList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{UL-DPCH-InformationModifyListIEs-RL-ReconfReadyTDD}}

UL-DPCH-InformationModifyListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD   CRITICALITY ignore  TYPE UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD
    PRESENCE mandatory }
}

UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod           OPTIONAL,
    repetitionLength                RepetitionLength           OPTIONAL,
    tDD-DPCHOffset                  TDD-DPCHOffset             OPTIONAL,
    uL-Timeslot-InformationModifyList-RL-ReconfReadyTDD        UL-Timeslot-InformationModifyList-RL-ReconfReadyTDD     OPTIONAL,
    --For 3.84Mcps TDD only
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    { ID id-UL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD    CRITICALITY ignore     EXTENSION  UL-TimeslotLCR-InformationModifyList-RL-
ReconfReadyTDD       PRESENCE optional },
    --For 1.28Mcps TDD only
    ...
}

UL-TimeslotLCR-InformationModifyList-RL-ReconfReadyTDD::= SEQUENCE ( SIZE (1..maxNrOfTsLCR)) OF UL-TimeslotLCR-InformationModifyItem-RL-
ReconfReadyTDD

UL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    timeSlotLCR                     TimeSlotLCR,
    midambleShiftLCR                MidambleShiftLCR          OPTIONAL,
    tFCI-Presence                   TFCI-Presence             OPTIONAL,
    tDD-uL-Code-LCR-Information         TDD-UL-Code-LCR-InformationModifyList-RL-ReconfReadyTDD     OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

TDD-UL-Code-LCR-InformationModifyList-RL-ReconfReadyTDD::= SEQUENCE ( SIZE (1..maxNrOfDPCHsLCR)) OF TDD-UL-Code-LCR-InformationModifyItem-RL-
ReconfReadyTDD

TDD-UL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dPCH-ID                         DPCH-ID,
    tDD-ChannelisationCodeLCR           TDD-ChannelisationCodeLCR       OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {TDD-UL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

TDD-UL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-TDD-UL-DPCH-TimeSlotFormatModifyItem-LCR-RL-ReconfReadyTDD   CRITICALITY    reject   EXTENSION TDD-UL-DPCH-TimeSlotFormat-LCR
PRESENCE  optional},
    ...
}

UL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-Timeslot-InformationModifyList-RL-ReconfReadyTDD::= SEQUENCE ( SIZE (1..maxNrOfTS)) OF UL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD

UL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    timeSlot                        TimeSlot,
    midambleShiftAndBurstType                MidambleShiftAndBurstType           OPTIONAL,
    tFCI-Presence                   TFCI-Presence             OPTIONAL,
    uL-Code-Information          TDD-UL-Code-InformationModifyList-RL-ReconfReadyTDD          OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TDD-UL-Code-InformationModifyList-RL-ReconfReadyTDD::= SEQUENCE ( SIZE (1..maxNrOfDPCHs)) OF TDD-UL-Code-InformationModifyItem-RL-ReconfReadyTDD
```

```
TDD-UL-Code-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dPCH-ID                         DPCH-ID,
    tDD-ChannelisationCode          TDD-ChannelisationCode    OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {TDD-UL-Code-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

TDD-UL-Code-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-InformationDeleteList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{UL-DPCH-InformationDeleteListIEs-RL-ReconfReadyTDD}}

UL-DPCH-InformationDeleteListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD   CRITICALITY ignore  TYPE UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD
    PRESENCE mandatory }
}

UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNrOfDPCHs)) OF UL-DPCH-InformationDeleteItem-RL-ReconfReadyTDD

UL-DPCH-InformationDeleteItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dPCH-ID                     DPCH-ID,
    iE-Extensions               ProtocolExtensionContainer { {UL-DPCH-InformationDeleteList-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-InformationDeleteList-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationList-RL-ReconfReadyTDD        ::= ProtocolIE-Single-Container {{DL-CCTrCHInformationListIEs-RL-ReconfReadyTDD}}

DL-CCTrCHInformationListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD   CRITICALITY ignore  TYPE DL-CCTrCHInformationListIE-RL-ReconfReadyTDD     PRESENCE
mandatory }
}

DL-CCTrCHInformationListIE-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF DL-CCTrCH-InformationItem-RL-ReconfReadyTDD

DL-CCTrCH-InformationItem-RL-ReconfReadyTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    dl-DPCH-AddInformation      DL-DPCH-InformationAddList-RL-ReconfReadyTDD        OPTIONAL,
    --For 3.84Mcps TDD only
    dl-DPCH-ModifyInformation   DL-DPCH-InformationModifyList-RL-ReconfReadyTDD     OPTIONAL,
    --For 3.84Mcps TDD only
    dl-DPCH-DeleteInformation   DL-DPCH-InformationDeleteList-RL-ReconfReadyTDD     OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {DL-CCTrCH-InformationItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD   CRITICALITY ignore      EXTENSION    DL-DPCH-LCR-InformationAddList-RL-
ReconfReadyTDD      PRESENCE  optional}|
```

ETSI

```
    --For 1.28Mcps TDD only
    { ID id-CCTrCH-Maximum-DL-Power-RL-ReconfReadyTDD        CRITICALITY ignore  EXTENSION DL-Power                    PRESENCE optional }|
    -- Applicable to 3.84Mcps TDD only, this is a DCH type CCTrCH power
    { ID id-CCTrCH-Minimum-DL-Power-RL-ReconfReadyTDD        CRITICALITY ignore  EXTENSION DL-Power                    PRESENCE optional },
    -- Applicable to 3.84Mcps TDD only, this is a DCH type CCTrCH power
    ...
}

DL-DPCH-LCR-InformationAddList-RL-ReconfReadyTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    dL-TimeslotLCR-Info             DL-TimeslotLCR-Information,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-LCR-InformationAddItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-LCR-InformationAddItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-InformationAddList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{DL-DPCH-InformationAddListIEs-RL-ReconfReadyTDD}}

DL-DPCH-InformationAddListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD  CRITICALITY ignore TYPE DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD     PRESENCE
mandatory }
}

DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    dL-Timeslot-Information         DL-Timeslot-Information,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-InformationAddItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-InformationAddItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-InformationModifyList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{DL-DPCH-InformationModifyListIEs-RL-ReconfReadyTDD}}

DL-DPCH-InformationModifyListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD  CRITICALITY ignore  TYPE DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD
    PRESENCE mandatory }
}

DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod              OPTIONAL,
    repetitionLength                RepetitionLength              OPTIONAL,
    tDD-DPCHOffset                  TDD-DPCHOffset                OPTIONAL,
    dL-Timeslot-InformationModifyList-RL-ReconfReadyTDD          DL-Timeslot-InformationModifyList-RL-ReconfReadyTDD     OPTIONAL,
    --For 3.84Mcps TDD only
```

```
    iE-Extensions                       ProtocolExtensionContainer { {DL-DPCH-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD   CRITICALITY ignore   EXTENSION  DL-TimeslotLCR-InformationModifyList-RL-
ReconfReadyTDD      PRESENCE optional },
    --For 1.28Mcps TDD only
    ...
}

DL-TimeslotLCR-InformationModifyList-RL-ReconfReadyTDD::= SEQUENCE ( SIZE (1..maxNrOfTsLCR)) OF DL-TimeslotLCR-InformationModifyItem-RL-
ReconfReadyTDD

DL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    timeSlotLCR                   TimeSlotLCR,
    midambleShiftLCR              MidambleShiftLCR            OPTIONAL,
    tFCI-Presence                 TFCI-Presence              OPTIONAL,
    tDD-dL-Code-LCR-Information    TDD-DL-Code-LCR-InformationModifyList-RL-ReconfReadyTDD      OPTIONAL,
    iE-Extensions                 ProtocolExtensionContainer { {DL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

TDD-DL-Code-LCR-InformationModifyList-RL-ReconfReadyTDD::= SEQUENCE ( SIZE (1..maxNrOfDPCHsLCR)) OF TDD-DL-Code-LCR-InformationModifyItem-RL-
ReconfReadyTDD

TDD-DL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dPCH-ID                       DPCH-ID,
    tDD-ChannelisationCodeLCR     TDD-ChannelisationCodeLCR        OPTIONAL,
    iE-Extensions                 ProtocolExtensionContainer { {TDD-DL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

TDD-DL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-Maximum-DL-Power-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD   CRITICALITY ignore   EXTENSION   DL-Power    PRESENCE optional }|
    { ID id-Minimum-DL-Power-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD   CRITICALITY ignore   EXTENSION   DL-Power    PRESENCE optional },
    ...
}

DL-Timeslot-InformationModifyList-RL-ReconfReadyTDD::= SEQUENCE ( SIZE (1..maxNrOfTS)) OF DL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD

DL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    timeSlot                      TimeSlot,
    midambleShiftAndBurstType     MidambleShiftAndBurstType            OPTIONAL,
    tFCI-Presence                 TFCI-Presence              OPTIONAL,
    dL-Code-Information            TDD-DL-Code-InformationModifyList-RL-ReconfReadyTDD        OPTIONAL,
    iE-Extensions                 ProtocolExtensionContainer { {DL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}
```

```
DL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TDD-DL-Code-InformationModifyList-RL-ReconfReadyTDD::= SEQUENCE ( SIZE (1..maxNrOfDPCHs)) OF TDD-DL-Code-InformationModifyItem-RL-ReconfReadyTDD

TDD-DL-Code-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dPCH-ID                     DPCH-ID,
    tDD-ChannelisationCode      TDD-ChannelisationCode      OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {TDD-DL-Code-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

TDD-DL-Code-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-TDD-DL-DPCH-TimeSlotFormatModifyItem-LCR-RL-ReconfReadyTDD   CRITICALITY   reject   EXTENSION TDD-DL-DPCH-TimeSlotFormat-LCR
PRESENCE  optional},
    ...
}

DL-DPCH-InformationDeleteList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{DL-DPCH-InformationDeleteListIEs-RL-ReconfReadyTDD}}

DL-DPCH-InformationDeleteListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD   CRITICALITY ignore  TYPE DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD
    PRESENCE mandatory }
}

DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNrOfDPCHs)) OF DL-DPCH-InformationDeleteItem-RL-ReconfReadyTDD

DL-DPCH-InformationDeleteItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dPCH-ID                     DPCH-ID,
    iE-Extensions               ProtocolExtensionContainer { {DL-DPCH-InformationDeleteList-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-InformationDeleteList-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-InformationResponseList-RL-ReconfReadyTDD                ::= ProtocolIE-Single-Container { {DCH-InformationResponseListIEs-RL-ReconfReadyTDD} }

DCH-InformationResponseListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse     CRITICALITY ignore  TYPE DCH-InformationResponse        PRESENCE mandatory }
}

DSCHToBeAddedOrModified-RL-ReconfReadyTDD                ::= ProtocolIE-Single-Container { {DSCHToBeAddedOrModifiedIEs-RL-ReconfReadyTDD} }

DSCHToBeAddedOrModifiedIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD   CRITICALITY ignore  TYPE DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD    PRESENCE
mandatory   }
}

DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNoOfDSCHs)) OF DSCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD

DSCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD ::= SEQUENCE {
```

```
    dsch-ID                 DSCH-ID,
    transportFormatManagement   TransportFormatManagement,
    dSCH-FlowControlInformation DSCH-FlowControlInformation,
    bindingID               BindingID  OPTIONAL,
    transportLayerAddress   TransportLayerAddress   OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {DSCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DSCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCHToBeAddedOrModified-RL-ReconfReadyTDD            ::= ProtocolIE-Single-Container { {USCHToBeAddedOrModifiedIEs-RL-ReconfReadyTDD}
}USCHToBeAddedOrModifiedIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD   CRITICALITY ignore  TYPE USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD   PRESENCE
mandatory   }
}

USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNoOfUSCHs)) OF USCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD

USCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD ::= SEQUENCE {
    uSCH-ID                 USCH-ID,
    transportFormatManagement   TransportFormatManagement,
    bindingID               BindingID  OPTIONAL,
    transportLayerAddress   TransportLayerAddress   OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {USCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

USCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkReconfigurationReadyTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-HSDSCH-RNTI                         CRITICALITY ignore      EXTENSION HSDSCH-RNTI                            PRESENCE optional }|
    { ID id-DSCH-RNTI                           CRITICALITY ignore      EXTENSION DSCH-RNTI                             PRESENCE optional }|
    { ID id-HSDSCH-TDD-Information-Response      CRITICALITY ignore      EXTENSION HSDSCH-TDD-Information-Response        PRESENCE optional }|
    { ID id-MAChs-ResetIndicator                CRITICALITY ignore      EXTENSION MAChs-ResetIndicator                  PRESENCE optional }|
    { ID id-Multiple-RL-InformationResponse-RL-ReconfReadyTDD  CRITICALITY ignore      EXTENSION   Multiple-RL-InformationResponse-RL-
ReconfReadyTDD      PRESENCE    optional},
-- This is for RL repetitions 2 and on in RL list.
    ...
}

Multiple-RL-InformationResponse-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (1..maxNrOfRLs-1)) OF RL-InformationResponse-RL-ReconfReadyTDD


-- *************************************************************
--
-- RADIO LINK RECONFIGURATION COMMIT
--
-- *************************************************************
```

```
RadioLinkReconfigurationCommit ::= SEQUENCE {
    protocolIEs                    ProtocolIE-Container        {{RadioLinkReconfigurationCommit-IEs}},
    protocolExtensions             ProtocolExtensionContainer {{RadioLinkReconfigurationCommit-Extensions}}            OPTIONAL,
    ...
}

RadioLinkReconfigurationCommit-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CFN                    CRITICALITY ignore  TYPE CFN                            PRESENCE mandatory  }|
    { ID id-Active-Pattern-Sequence-Information    CRITICALITY ignore  TYPE Active-Pattern-Sequence-Information    PRESENCE optional  },--FDD only
    ...
}

RadioLinkReconfigurationCommit-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- RADIO LINK RECONFIGURATION FAILURE
--
-- *************************************************************

RadioLinkReconfigurationFailure ::= SEQUENCE {
    protocolIEs                    ProtocolIE-Container        {{RadioLinkReconfigurationFailure-IEs}},
    protocolExtensions             ProtocolExtensionContainer {{RadioLinkReconfigurationFailure-Extensions}}            OPTIONAL,
    ...
}

RadioLinkReconfigurationFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CauseLevel-RL-ReconfFailure    CRITICALITY ignore  TYPE CauseLevel-RL-ReconfFailure  PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics         CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

CauseLevel-RL-ReconfFailure ::= CHOICE {
    generalCause       GeneralCauseList-RL-ReconfFailure,
    rLSpecificCause    RLSpecificCauseList-RL-ReconfFailure,
    ...
}

GeneralCauseList-RL-ReconfFailure ::= SEQUENCE {
    cause                          Cause,
    iE-Extensions                  ProtocolExtensionContainer { { GeneralCauseItem-RL-ReconfFailure-ExtIEs} }        OPTIONAL,
    ...
 }

GeneralCauseItem-RL-ReconfFailure-ExtIEs  RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RLSpecificCauseList-RL-ReconfFailure ::= SEQUENCE {
    rL-ReconfigurationFailureList-RL-ReconfFailure      RL-ReconfigurationFailureList-RL-ReconfFailure    OPTIONAL,
    iE-Extensions                                       ProtocolExtensionContainer { { RLSpecificCauseItem-RL-ReconfFailure-ExtIEs} }
    OPTIONAL,
```

```
    ...
 }

RLSpecificCauseItem-RL-ReconfFailure-ExtIEs  RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-ReconfigurationFailureList-RL-ReconfFailure ::= SEQUENCE (SIZE (0..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-ReconfigurationFailure-RL-
ReconfFailure-IEs} }

RL-ReconfigurationFailure-RL-ReconfFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-ReconfigurationFailure-RL-ReconfFail CRITICALITY ignore  TYPE RL-ReconfigurationFailure-RL-ReconfFail  PRESENCE mandatory   }
}

RL-ReconfigurationFailure-RL-ReconfFail ::= SEQUENCE {
    rL-ID                      RL-ID,
    cause                      Cause,
    iE-Extensions                  ProtocolExtensionContainer { {RL-ReconfigurationFailure-RL-ReconfFailure-ExtIEs} } OPTIONAL,
    ...
}

RL-ReconfigurationFailure-RL-ReconfFailure-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkReconfigurationFailure-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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--
-- RADIO LINK RECONFIGURATION CANCEL
--
-- *************************************************************

RadioLinkReconfigurationCancel ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container      {{RadioLinkReconfigurationCancel-IEs}},
    protocolExtensions             ProtocolExtensionContainer {{RadioLinkReconfigurationCancel-Extensions}}            OPTIONAL,
    ...
}

RadioLinkReconfigurationCancel-IEs RNSAP-PROTOCOL-IES ::= {
    ...
}

RadioLinkReconfigurationCancel-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- RADIO LINK RECONFIGURATION REQUEST FDD
--
-- *************************************************************
```

```
RadioLinkReconfigurationRequestFDD ::= SEQUENCE {
    protocolIEs                     ProtocolIE-Container       {{RadioLinkReconfigurationRequestFDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{RadioLinkReconfigurationRequestFDD-Extensions}}                OPTIONAL,
    ...
}

RadioLinkReconfigurationRequestFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-AllowedQueuingTime          CRITICALITY reject  TYPE AllowedQueuingTime            PRESENCE optional   } |
    { ID id-UL-DPCH-Information-RL-ReconfRqstFDD            CRITICALITY reject  TYPE UL-DPCH-Information-RL-ReconfRqstFDD PRESENCE optional } |
    { ID id-DL-DPCH-Information-RL-ReconfRqstFDD            CRITICALITY reject  TYPE DL-DPCH-Information-RL-ReconfRqstFDD PRESENCE optional } |
    { ID id-FDD-DCHs-to-Modify     CRITICALITY reject  TYPE FDD-DCHs-to-Modify      PRESENCE optional   } |
    { ID id-DCHs-to-Add-FDD    CRITICALITY reject  TYPE DCH-FDD-Information       PRESENCE optional   } |
    { ID id-DCH-DeleteList-RL-ReconfRqstFDD    CRITICALITY reject  TYPE DCH-DeleteList-RL-ReconfRqstFDD     PRESENCE optional }|
    { ID id-Transmission-Gap-Pattern-Sequence-Information  CRITICALITY reject  TYPE Transmission-Gap-Pattern-Sequence-Information PRESENCE
optional },
    ...
}

UL-DPCH-Information-RL-ReconfRqstFDD ::= SEQUENCE {
    tFCS                            TFCS    OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-Information-RL-ReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-Information-RL-ReconfRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-Information-RL-ReconfRqstFDD ::= SEQUENCE {
    tFCS                            TFCS    OPTIONAL,
    tFCI-SignallingMode             TFCI-SignallingMode OPTIONAL,
    limitedPowerIncrease            LimitedPowerIncrease    OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-Information-RL-ReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-Information-RL-ReconfRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-DeleteList-RL-ReconfRqstFDD              ::= SEQUENCE (SIZE (0..maxNrOfDCHs)) OF DCH-DeleteItem-RL-ReconfRqstFDD

DCH-DeleteItem-RL-ReconfRqstFDD ::= SEQUENCE {
    dCH-ID                          DCH-ID,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-DeleteItem-RL-ReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-DeleteItem-RL-ReconfRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkReconfigurationRequestFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    { ID id-RL-ReconfigurationRequestFDD-RL-InformationList CRITICALITY ignore  EXTENSION RL-ReconfigurationRequestFDD-RL-InformationList
    PRESENCE    optional}|
    { ID id-DL-ReferencePowerInformation                      CRITICALITY ignore  EXTENSION DL-ReferencePowerInformation        PRESENCE optional }|
    { ID id-UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation              CRITICALITY ignore  EXTENSION UE-Support-Of-Dedicated-Pilots-For-
Channel-Estimation      PRESENCE optional}|
    { ID id-UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation-Of-HS-DSCH   CRITICALITY ignore  EXTENSION UE-Support-Of-Dedicated-Pilots-For-
Channel-Estimation-Of-HS-DSCH        PRESENCE optional}|
    { ID id-HSDSCH-FDD-Information                 CRITICALITY reject  EXTENSION HSDSCH-FDD-Information                 PRESENCE optional}|
    { ID id-HSDSCH-Information-to-Modify-Unsynchronised CRITICALITY reject     EXTENSION HSDSCH-Information-to-Modify-UnsynchronisedPRESENCE
optional}|
    { ID id-HSDSCH-MACdFlows-to-Add                CRITICALITY reject     EXTENSION HSDSCH-MACdFlows-Information        PRESENCE optional}|
    { ID id-HSDSCH-MACdFlows-to-Delete             CRITICALITY reject     EXTENSION HSDSCH-MACdFlows-to-Delete          PRESENCE optional}|
    { ID id-HSPDSCH-RL-ID                          CRITICALITY reject     EXTENSION RL-ID                               PRESENCE optional},
    ...
}

RL-ReconfigurationRequestFDD-RL-InformationList ::= SEQUENCE (SIZE (0..maxNrOfRLs)) OF ProtocolIE-Single-Container {
    {RL-ReconfigurationRequestFDD-RL-Information-ListItem} }

RL-ReconfigurationRequestFDD-RL-Information-ListItem RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-ReconfigurationRequestFDD-RL-Information-IEs CRITICALITY ignore  TYPE RL-ReconfigurationRequestFDD-RL-Information-IEs PRESENCE
optional    }
}

RL-ReconfigurationRequestFDD-RL-Information-IEs ::= SEQUENCE {
    rL-ID                 RL-ID,
    rL-Specific-DCH-Info    RL-Specific-DCH-Info OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { { RL-ReconfigurationRequestFDD-RL-Information-ExtIEs} } OPTIONAL,
    ...
}

RL-ReconfigurationRequestFDD-RL-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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--
-- RADIO LINK RECONFIGURATION REQUEST TDD
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-- *************************************************************

RadioLinkReconfigurationRequestTDD ::= SEQUENCE {
    protocolIEs                    ProtocolIE-Container      {{RadioLinkReconfigurationRequestTDD-IEs}},
    protocolExtensions             ProtocolExtensionContainer {{RadioLinkReconfigurationRequestTDD-Extensions}}                 OPTIONAL,
    ...
}

RadioLinkReconfigurationRequestTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-AllowedQueuingTime         CRITICALITY reject  TYPE AllowedQueuingTime           PRESENCE optional  } |
    { ID id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD   CRITICALITY notify  TYPE UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD  PRESENCE
optional    } |
    { ID id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD   CRITICALITY notify  TYPE UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD  PRESENCE
optional    } |
```

```
    { ID id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD    CRITICALITY notify  TYPE DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD  PRESENCE
optional    } |
    { ID id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD    CRITICALITY notify  TYPE DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD  PRESENCE
optional    } |
    { ID id-TDD-DCHs-to-Modify     CRITICALITY reject  TYPE TDD-DCHs-to-Modify     PRESENCE optional    } |
    { ID id-DCHs-to-Add-TDD    CRITICALITY reject  TYPE DCH-TDD-Information     PRESENCE optional    } |
    { ID id-DCH-DeleteList-RL-ReconfRqstTDD    CRITICALITY reject  TYPE DCH-DeleteList-RL-ReconfRqstTDD    PRESENCE optional },
    ...
}

UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD       ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {UL-CCTrCH-
InformationModifyList-RL-ReconfRqstTDD-IEs} }

UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD    CRITICALITY notify  TYPE UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD  PRESENCE
mandatory    }
}

UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD ::= SEQUENCE {
    cCTrCH-ID                CCTrCH-ID,
    tFCS                TFCS        OPTIONAL,
    iE-Extensions             ProtocolExtensionContainer { {UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-UL-SIRTarget    CRITICALITY reject     EXTENSION     UL-SIR    PRESENCE   optional   },
    -- Applicable to 1.28Mcps TDD only
    ...
}

UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD       ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {UL-CCTrCH-
InformationDeleteList-RL-ReconfRqstTDD-IEs} }

UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD    CRITICALITY notify  TYPE UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD  PRESENCE
mandatory    }
}

UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD ::= SEQUENCE {
    cCTrCH-ID                CCTrCH-ID,
    iE-Extensions             ProtocolExtensionContainer { {UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD       ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {DL-CCTrCH-
InformationModifyList-RL-ReconfRqstTDD-IEs} }

DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
```

```
    { ID id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD    CRITICALITY notify  TYPE DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD  PRESENCE
mandatory    }
}

DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD ::= SEQUENCE {
    cCTrCH-ID                    CCTrCH-ID,
    tFCS                         TFCS        OPTIONAL,
    iE-Extensions                    ProtocolExtensionContainer { {DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD         ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {DL-CCTrCH-
InformationDeleteList-RL-ReconfRqstTDD-IEs} }

DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD    CRITICALITY notify  TYPE DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD  PRESENCE
mandatory    }
}

DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD ::= SEQUENCE {
    cCTrCH-ID                    CCTrCH-ID,
    iE-Extensions                    ProtocolExtensionContainer { {DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-DeleteList-RL-ReconfRqstTDD              ::= SEQUENCE (SIZE(0..maxNrOfDCHs)) OF DCH-DeleteItem-RL-ReconfRqstTDD

DCH-DeleteItem-RL-ReconfRqstTDD ::= SEQUENCE {
    dCH-ID                    DCH-ID,
    iE-Extensions                    ProtocolExtensionContainer { {DCH-DeleteItem-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-DeleteItem-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkReconfigurationRequestTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
  { ID id-RL-ReconfigurationRequestTDD-RL-Information   CRITICALITY ignore     EXTENSION   Multiple-RL-ReconfigurationRequestTDD-RL-Information
    PRESENCE    optional}|
    { ID id-HSDSCH-TDD-Information                CRITICALITY reject     EXTENSION HSDSCH-TDD-Information            PRESENCE optional}|
    { ID id-HSDSCH-Information-to-Modify-Unsynchronised CRITICALITY reject     EXTENSION HSDSCH-Information-to-Modify-UnsynchronisedPRESENCE
optional}|
    { ID id-HSDSCH-MACdFlows-to-Add              CRITICALITY reject     EXTENSION HSDSCH-MACdFlows-Information          PRESENCE optional}|
    { ID id-HSDSCH-MACdFlows-to-Delete           CRITICALITY reject     EXTENSION HSDSCH-MACdFlows-to-Delete          PRESENCE optional}|
    { ID id-HSPDSCH-RL-ID                        CRITICALITY reject     EXTENSION RL-ID                               PRESENCE optional},
```

```
    ...
}

Multiple-RL-ReconfigurationRequestTDD-RL-Information ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF RL-ReconfigurationRequestTDD-RL-Information

RL-ReconfigurationRequestTDD-RL-Information ::= SEQUENCE {
    rL-ID                   RL-ID,
    rL-Specific-DCH-Info    RL-Specific-DCH-Info OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { { RL-ReconfigurationRequestTDD-RL-Information-ExtIEs} } OPTIONAL,
    ...
}

RL-ReconfigurationRequestTDD-RL-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID    id-UL-Synchronisation-Parameters-LCR          CRITICALITY ignore     EXTENSION   UL-Synchronisation-Parameters-LCR    PRESENCE
    optional   },  -- Mandatory for 1.28Mcps TDD, Not Applicable to 3.84Mcps TDD
    ...
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION RESPONSE FDD
--
-- **************************************************************

RadioLinkReconfigurationResponseFDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container       {{RadioLinkReconfigurationResponseFDD-IEs}},
    protocolExtensions      ProtocolExtensionContainer {{RadioLinkReconfigurationResponseFDD-Extensions}}              OPTIONAL,
    ...
}

RadioLinkReconfigurationResponseFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseList-RL-ReconfRspFDD     CRITICALITY ignore  TYPE RL-InformationResponseList-RL-ReconfRspFDD     PRESENCE
optional   } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

RL-InformationResponseList-RL-ReconfRspFDD        ::= SEQUENCE (SIZE (0..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-InformationResponse-RL-
ReconfRspFDD-IEs} }

RL-InformationResponse-RL-ReconfRspFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseItem-RL-ReconfRspFDD      CRITICALITY ignore  TYPE RL-InformationResponseItem-RL-ReconfRspFDD    PRESENCE
mandatory   }
}

RL-InformationResponseItem-RL-ReconfRspFDD ::= SEQUENCE {
    rL-ID                   RL-ID,
    max-UL-SIR              UL-SIR          OPTIONAL,
    min-UL-SIR              UL-SIR          OPTIONAL,
    maximumDLTxPower        DL-Power        OPTIONAL,
    minimumDLTxPower        DL-Power        OPTIONAL,
    secondary-CCPCH-Info        Secondary-CCPCH-Info        OPTIONAL,
    dCHsInformationResponseList     DCH-InformationResponseList-RL-ReconfRspFDD OPTIONAL,
    dL-CodeInformationList-RL-ReconfResp     DL-CodeInformationList-RL-ReconfRspFDD  OPTIONAL,
```

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```
    iE-Extensions                      ProtocolExtensionContainer { {RL-InformationResponseItem-RL-ReconfRspFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-ReconfRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DL-PowerBalancing-UpdatedIndicator  CRITICALITY ignore    EXTENSION    DL-PowerBalancing-UpdatedIndicator    PRESENCE optional},
    ...
}

DCH-InformationResponseList-RL-ReconfRspFDD             ::= ProtocolIE-Single-Container { {DCH-InformationResponseListIEs-RL-ReconfRspFDD} }

DCH-InformationResponseListIEs-RL-ReconfRspFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse    CRITICALITY ignore  TYPE DCH-InformationResponse       PRESENCE mandatory }
}

DL-CodeInformationList-RL-ReconfRspFDD ::= ProtocolIE-Single-Container {{ DL-CodeInformationListIEs-RL-ReconfRspFDD }}

DL-CodeInformationListIEs-RL-ReconfRspFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-FDD-DL-CodeInformation   CRITICALITY ignore TYPE FDD-DL-CodeInformation    PRESENCE optional }
}

RadioLinkReconfigurationResponseFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-HSDSCH-RNTI                         CRITICALITY ignore    EXTENSION HSDSCH-RNTI                          PRESENCE optional }|
    { ID id-HSDSCH-FDD-Information-Response      CRITICALITY ignore    EXTENSION HSDSCH-FDD-Information-Response      PRESENCE optional }|
    { ID id-MAChs-ResetIndicator                CRITICALITY ignore    EXTENSION MAChs-ResetIndicator                PRESENCE optional },
    ...
}

-- *************************************************************
--
-- RADIO LINK RECONFIGURATION RESPONSE TDD
--
-- *************************************************************

RadioLinkReconfigurationResponseTDD ::= SEQUENCE {
    protocolIEs                    ProtocolIE-Container     {{RadioLinkReconfigurationResponseTDD-IEs}},
    protocolExtensions             ProtocolExtensionContainer {{RadioLinkReconfigurationResponseTDD-Extensions}}           OPTIONAL,
    ...
}

RadioLinkReconfigurationResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponse-RL-ReconfRspTDD      CRITICALITY ignore  TYPE RL-InformationResponse-RL-ReconfRspTDD       PRESENCE optional }
|
    --This RL-InformationResponse-RL-ReconfRspTDD is for the first RL repetition in the list.
    --Repetitions 2 and on are defined in Multiple-RL-InformationResponse-RL-ReconfRspTDD.
    { ID id-CriticalityDiagnostics         CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

RL-InformationResponse-RL-ReconfRspTDD ::= SEQUENCE {
    rL-ID                     RL-ID,
    max-UL-SIR                UL-SIR          OPTIONAL,
    min-UL-SIR                UL-SIR          OPTIONAL,
    maximumDLTxPower          DL-Power        OPTIONAL,
```

```
    minimumDLTxPower                    DL-Power        OPTIONAL,
    dCHsInformationResponseList         DCH-InformationResponseList-RL-ReconfRspTDD OPTIONAL,
    iE-Extensions                       ProtocolExtensionContainer { {RL-InformationResponse-RL-ReconfRspTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponse-RL-ReconfRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DL-CCTrCH-InformationList-RL-ReconfRspTDD   CRITICALITY ignore  EXTENSION DL-CCTrCH-InformationList-RL-ReconfRspTDD   PRESENCE optional
}|
    { ID id-UL-TimingAdvanceCtrl-LCR                    CRITICALITY ignore  EXTENSION UL-TimingAdvanceCtrl-LCR      PRESENCE optional },
    --For 1.28Mcps TDD only
    ...
}

DL-CCTrCH-InformationList-RL-ReconfRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-CCTrCH-InformationItem-RL-ReconfRspTDD

DL-CCTrCH-InformationItem-RL-ReconfRspTDD ::= SEQUENCE {
    cCTrCH-ID                           CCTrCH-ID,
    dl-DPCH-ModifyInformation-LCR       DL-DPCH-InformationModifyList-LCR-RL-ReconfRspTDD      OPTIONAL,
    --For 1.28Mcps TDD only
    cCTrCH-Maximum-DL-Power             DL-Power                OPTIONAL,
    --For 3.84Mcps TDD only, this is a DCH type CCTrCH power
    cCTrCH-Minimum-DL-Power             DL-Power                OPTIONAL,
    --For 3.84Mcps TDD only, this is a DCH type CCTrCH power
    iE-Extensions                       ProtocolExtensionContainer { { DL-CCTrCH-InformationItem-RL-ReconfRspTDD-ExtIEs} }   OPTIONAL,
    ...
}

DL-CCTrCH-InformationItem-RL-ReconfRspTDD-ExtIEs   RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-InformationModifyList-LCR-RL-ReconfRspTDD  ::= ProtocolIE-Single-Container {{ DL-DPCH-InformationModifyListIEs-LCR-RL-ReconfRspTDD }}

DL-DPCH-InformationModifyListIEs-LCR-RL-ReconfRspTDD RNSAP-PROTOCOL-IES ::= {
    {ID id-DL-DPCH-InformationModifyItem-LCR-RL-ReconfRspTDD   CRITICALITY ignore   TYPE  DL-DPCH-InformationModifyItem-LCR-RL-ReconfRspTDD
    PRESENCE optional },
    ...
}

DL-DPCH-InformationModifyItem-LCR-RL-ReconfRspTDD  ::= SEQUENCE {
    dL-Timeslot-LCR-InformationModifyList-RL-ReconfRqstTDD      DL-Timeslot-LCR-InformationModifyList-RL-ReconfRspTDD       OPTIONAL,
    iE-ExtensionsProtocolExtensionContainer { { DL-DPCH-InformationModifyItem-LCR-RL-ReconfRspTDD-ExtIEs} }            OPTIONAL,
    ...
}

DL-DPCH-InformationModifyItem-LCR-RL-ReconfRspTDD-ExtIEs  RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-Timeslot-LCR-InformationModifyList-RL-ReconfRspTDD ::= SEQUENCE (SIZE (1..maxNrOfDLTsLCR)) OF DL-Timeslot-LCR-InformationModifyItem-RL-
ReconfRspTDD

DL-Timeslot-LCR-InformationModifyItem-RL-ReconfRspTDD     ::= SEQUENCE {
```

```
    timeSlotLCR                             TimeSlotLCR,
    maxPowerLCR                             DL-Power    OPTIONAL,
    minPowerLCR                             DL-Power    OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { DL-Timeslot-LCR-InformationModifyItem-RL-ReconfRspTDD-ExtIEs} }
    OPTIONAL,
    ...
}

DL-Timeslot-LCR-InformationModifyItem-RL-ReconfRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-InformationResponseList-RL-ReconfRspTDD             ::= ProtocolIE-Single-Container { {DCH-InformationResponseListIEs-RL-ReconfRspTDD} }

DCH-InformationResponseListIEs-RL-ReconfRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse CRITICALITY ignore  TYPE DCH-InformationResponse    PRESENCE optional }
}

RadioLinkReconfigurationResponseTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-HSDSCH-RNTI                         CRITICALITY ignore      EXTENSION HSDSCH-RNTI                          PRESENCE optional }|
    { ID id-HSDSCH-TDD-Information-Response     CRITICALITY ignore      EXTENSION HSDSCH-TDD-Information-Response      PRESENCE optional }|
    { ID id-MAChs-ResetIndicator               CRITICALITY ignore      EXTENSION MAChs-ResetIndicator                PRESENCE optional }|
    { ID id-RL-ReconfigurationResponseTDD-RL-Information    CRITICALITY ignore     EXTENSION   Multiple-RL-InformationResponse-RL-ReconfRspTDD
    PRESENCE     optional},
    ...
}

Multiple-RL-InformationResponse-RL-ReconfRspTDD ::= SEQUENCE (SIZE (1..maxNrOfRLs-1)) OF RL-InformationResponse-RL-ReconfRspTDD
--Includes the 2nd through the max number of radio link information repetitions.

-- *************************************************************
--
-- RADIO LINK FAILURE INDICATION
--
-- *************************************************************

RadioLinkFailureIndication ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkFailureIndication-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{RadioLinkFailureIndication-Extensions}}                    OPTIONAL,
    ...
}

RadioLinkFailureIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-Reporting-Object-RL-FailureInd  CRITICALITY ignore  TYPE Reporting-Object-RL-FailureInd    PRESENCE mandatory  },
    ...
}

Reporting-Object-RL-FailureInd ::= CHOICE {
    rL                  RL-RL-FailureInd,
    rL-Set              RL-Set-RL-FailureInd, --FDD only
    ...,
    cCTrCH              CCTrCH-RL-FailureInd  --TDD only
}
```

```
RL-RL-FailureInd               ::= SEQUENCE {
    rL-InformationList-RL-FailureInd       RL-InformationList-RL-FailureInd,
    iE-Extensions                          ProtocolExtensionContainer { { RLItem-RL-FailureInd-ExtIEs} } OPTIONAL,
    ...
}

RLItem-RL-FailureInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-RL-FailureInd            ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-Information-RL-FailureInd-IEs}
}

RL-Information-RL-FailureInd-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-FailureInd     CRITICALITY ignore  TYPE RL-Information-RL-FailureInd     PRESENCE mandatory   }
}

RL-Information-RL-FailureInd ::= SEQUENCE {
    rL-ID                     RL-ID,
    cause                     Cause,
    iE-Extensions             ProtocolExtensionContainer { {RL-Information-RL-FailureInd-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-FailureInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-RL-FailureInd           ::= SEQUENCE {
    rL-Set-InformationList-RL-FailureInd   RL-Set-InformationList-RL-FailureInd,
    iE-Extensions                          ProtocolExtensionContainer { { RL-SetItem-RL-FailureInd-ExtIEs} } OPTIONAL,
    ...
}

RL-SetItem-RL-FailureInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-InformationList-RL-FailureInd             ::= SEQUENCE (SIZE (1..maxNrOfRLSets)) OF ProtocolIE-Single-Container { {RL-Set-Information-RL-
FailureInd-IEs} }

RL-Set-Information-RL-FailureInd-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Set-Information-RL-FailureInd     CRITICALITY ignore  TYPE RL-Set-Information-RL-FailureInd   PRESENCE mandatory   }
}

RL-Set-Information-RL-FailureInd ::= SEQUENCE {
    rL-Set-ID                 RL-Set-ID,
    cause                     Cause,
    iE-Extensions             ProtocolExtensionContainer { {RL-Set-Information-RL-FailureInd-ExtIEs} } OPTIONAL,
    ...
}

RL-Set-Information-RL-FailureInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

RadioLinkFailureIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-RL-FailureInd ::= SEQUENCE {
    rL-ID                                    RL-ID,
    cCTrCH-InformationList-RL-FailureInd     CCTrCH-InformationList-RL-FailureInd,
    iE-Extensions                            ProtocolExtensionContainer { { CCTrCHItem-RL-FailureInd-ExtIEs } }     OPTIONAL,
    ...
 }

CCTrCHItem-RL-FailureInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-InformationList-RL-FailureInd ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container {{ CCTrCH-InformationItemIE-RL-
FailureInd}}

CCTrCH-InformationItemIE-RL-FailureInd RNSAP-PROTOCOL-IES ::= {
    { ID   id-CCTrCH-InformationItem-RL-FailureInd       CRITICALITY    ignore      TYPE CCTrCH-InformationItem-RL-FailureInd
    PRESENCE   mandatory}
 }

CCTrCH-InformationItem-RL-FailureInd ::= SEQUENCE {
    cCTrCH-ID                                CCTrCH-ID,
    cause                                    Cause,
    iE-Extensions                            ProtocolExtensionContainer { { CCTrCH-InformationItem-RL-FailureInd-ExtIEs } }     OPTIONAL,
    ...
 }

CCTrCH-InformationItem-RL-FailureInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ************************************************************
--
-- RADIO LINK PREEMPTION REQUIRED INDICATION
--
-- ************************************************************

RadioLinkPreemptionRequiredIndication ::= SEQUENCE {
    protocolIEs                  ProtocolIE-Container       {{RadioLinkPreemptionRequiredIndication-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkPreemptionRequiredIndication-Extensions}}              OPTIONAL,
    ...
}

RadioLinkPreemptionRequiredIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationList-RL-PreemptRequiredInd    CRITICALITY ignore  TYPE RL-InformationList-RL-PreemptRequiredInd    PRESENCE optional },
    ...
}
```

```
RL-InformationList-RL-PreemptRequiredInd                    ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-InformationItemIEs-RL-
PreemptRequiredInd} }

RL-InformationItemIEs-RL-PreemptRequiredInd RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-RL-PreemptRequiredInd       CRITICALITY ignore  TYPE RL-InformationItem-RL-PreemptRequiredInd      PRESENCE
mandatory   }
}

RL-InformationItem-RL-PreemptRequiredInd::= SEQUENCE {
    rL-ID                       RL-ID,
    iE-Extensions               ProtocolExtensionContainer { {RL-Information-RL-PreemptRequiredInd-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-PreemptRequiredInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {

    ...
}

RadioLinkPreemptionRequiredIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-HSDSCHMacdFlowSpecificInformationList-RL-PreemptRequiredInd  CRITICALITY ignore EXTENSION HSDSCHMacdFlowSpecificInformationList-RL-
PreemptRequiredInd PRESENCE optional },
    ...
}

HSDSCHMacdFlowSpecificInformationList-RL-PreemptRequiredInd ::= SEQUENCE (SIZE (1.. maxNrOfMACdFlows)) OF ProtocolIE-Single-Container {
{HSDSCHMacdFlowSpecificInformationItemIEs-RL-PreemptRequiredInd} }

HSDSCHMacdFlowSpecificInformationItemIEs-RL-PreemptRequiredInd RNSAP-PROTOCOL-IES ::= {
    { ID id-HSDSCHMacdFlowSpecificInformationItem-RL-PreemptRequiredInd     CRITICALITY ignore  TYPE HSDSCHMacdFlowSpecificInformationItem-RL-
PreemptRequiredInd  PRESENCE mandatory   }
}

HSDSCHMacdFlowSpecificInformationItem-RL-PreemptRequiredInd ::= SEQUENCE {
    hSDSCH-MACdFlow-ID                        HSDSCH-MACdFlow-ID,
    iE-Extensions               ProtocolExtensionContainer { { HSDSCHMacdFlowSpecificInformation-RL-PreemptRequiredInd-ExtIEs} } OPTIONAL,
    ...
}

HSDSCHMacdFlowSpecificInformation-RL-PreemptRequiredInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {

    ...
}

-- *************************************************************
--
-- RADIO LINK RESTORE INDICATION
--
-- *************************************************************

RadioLinkRestoreIndication ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkRestoreIndication-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{RadioLinkRestoreIndication-Extensions}}              OPTIONAL,
    ...
}
```

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```
RadioLinkRestoreIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-Reporing-Object-RL-RestoreInd   CRITICALITY ignore  TYPE Reporting-Object-RL-RestoreInd   PRESENCE mandatory   },
    ...
}

Reporting-Object-RL-RestoreInd ::= CHOICE {
    rL                      RL-RL-RestoreInd, --TDD only
    rL-Set                  RL-Set-RL-RestoreInd, --FDD only
    ...,
    cCTrCH                  CCTrCH-RL-RestoreInd  --TDD only
}

RL-RL-RestoreInd ::= SEQUENCE {
    rL-InformationList-RL-RestoreInd        RL-InformationList-RL-RestoreInd,
    iE-Extensions                           ProtocolExtensionContainer { { RLItem-RL-RestoreInd-ExtIEs} } OPTIONAL,
    ...
}

RLItem-RL-RestoreInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-RL-RestoreInd                ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-Information-RL-RestoreInd-IEs}
}

RL-Information-RL-RestoreInd-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-RestoreInd        CRITICALITY ignore  TYPE RL-Information-RL-RestoreInd     PRESENCE mandatory   }
}

RL-Information-RL-RestoreInd ::= SEQUENCE {
    rL-ID                   RL-ID,
    iE-Extensions           ProtocolExtensionContainer { {RL-Information-RL-RestoreInd-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-RestoreInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-RL-RestoreInd ::= SEQUENCE {
    rL-Set-InformationList-RL-RestoreInd    RL-Set-InformationList-RL-RestoreInd,
    iE-Extensions                           ProtocolExtensionContainer { { RL-SetItem-RL-RestoreInd-ExtIEs} } OPTIONAL,
    ...
}

RL-SetItem-RL-RestoreInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-InformationList-RL-RestoreInd                ::= SEQUENCE (SIZE (1..maxNrOfRLSets)) OF ProtocolIE-Single-Container { {RL-Set-Information-RL-
RestoreInd-IEs} }

RL-Set-Information-RL-RestoreInd-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Set-Information-RL-RestoreInd        CRITICALITY ignore  TYPE RL-Set-Information-RL-RestoreInd   PRESENCE mandatory   }
```

```
}

RL-Set-Information-RL-RestoreInd ::= SEQUENCE {
    rL-Set-ID                        RL-Set-ID,
    iE-Extensions                    ProtocolExtensionContainer { {RL-Set-Information-RL-RestoreInd-ExtIEs} } OPTIONAL,
    ...
}

RL-Set-Information-RL-RestoreInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkRestoreIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-RL-RestoreInd ::= SEQUENCE {
    rL-ID                                    RL-ID,
    cCTrCH-InformationList-RL-RestoreInd     CCTrCH-InformationList-RL-RestoreInd,
    iE-Extensions                            ProtocolExtensionContainer { { CCTrCHItem-RL-RestoreInd-ExtIEs } }   OPTIONAL,
    ...
 }

CCTrCHItem-RL-RestoreInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-InformationList-RL-RestoreInd ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container {{ CCTrCH-InformationItemIE-RL-
RestoreInd}}

CCTrCH-InformationItemIE-RL-RestoreInd RNSAP-PROTOCOL-IES ::= {
    { ID   id-CCTrCH-InformationItem-RL-RestoreInd     CRITICALITY    ignore      TYPE  CCTrCH-InformationItem-RL-RestoreInd
    PRESENCE    mandatory}
 }

CCTrCH-InformationItem-RL-RestoreInd ::= SEQUENCE {
    cCTrCH-ID                                 CCTrCH-ID,
    iE-Extensions                             ProtocolExtensionContainer { { CCTrCH-InformationItem-RL-RestoreInd-ExtIEs } }   OPTIONAL,
    ...
 }

CCTrCH-InformationItem-RL-RestoreInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- DOWNLINK POWER CONTROL REQUEST
--
-- *************************************************************

DL-PowerControlRequest ::= SEQUENCE {
    protocolIEs               ProtocolIE-Container     {{DL-PowerControlRequest-IEs}},
    protocolExtensions        ProtocolExtensionContainer {{DL-PowerControlRequest-Extensions}}              OPTIONAL,
```

```
    ...
}

DL-PowerControlRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-PowerAdjustmentType          CRITICALITY ignore  TYPE PowerAdjustmentType              PRESENCE mandatory} |
    { ID id-DLReferencePower             CRITICALITY ignore  TYPE DL-Power                         PRESENCE conditional} |
    -- This IE shall be present if Power Adjustment Type IE equals to 'Common'
    { ID id-InnerLoopDLPCStatus          CRITICALITY ignore  TYPE InnerLoopDLPCStatus              PRESENCE optional } |
    { ID id-DLReferencePowerList-DL-PC-Rqst   CRITICALITY ignore  TYPE DL-ReferencePowerInformationList-DL-PC-Rqst  PRESENCE conditional} |
    -- This IE shall be present if Power Adjustment Type IE equals to 'Individual'
    { ID id-MaxAdjustmentStep            CRITICALITY ignore  TYPE MaxAdjustmentStep                PRESENCE conditional } |
    -- This IE shall be present if Power Adjustment Type IE equals to 'Common' or 'Individual'
    { ID id-AdjustmentPeriod             CRITICALITY ignore  TYPE AdjustmentPeriod                 PRESENCE conditional }|
    -- This IE shall be present if Power Adjustment Type IE equals to 'Common' or 'Individual'
    { ID id-AdjustmentRatio          CRITICALITY ignore  TYPE ScaledAdjustmentRatio            PRESENCE conditional },
    -- This IE shall be present if Power Adjustment Type IE equals to 'Common' or 'Individual'
    ...
}

DL-ReferencePowerInformationList-DL-PC-Rqst            ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {DL-
ReferencePowerInformation-DL-PC-Rqst-IEs} }

DL-ReferencePowerInformation-DL-PC-Rqst-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-ReferencePowerInformation-DL-PC-Rqst CRITICALITY ignore  TYPE DL-ReferencePowerInformation-DL-PC-Rqst  PRESENCE mandatory   }
}

DL-ReferencePowerInformation-DL-PC-Rqst ::= SEQUENCE {
    rL-ID                     RL-ID,
    dl-Reference-Power                DL-Power,
    iE-Extensions                     ProtocolExtensionContainer { {DL-ReferencePowerInformation-DL-PC-Rqst-ExtIEs} } OPTIONAL,
    ...
}

DL-ReferencePowerInformation-DL-PC-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-PowerControlRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- DOWNLINK POWER TIMESLOT CONTROL REQUEST TDD
--
-- **************************************************************

DL-PowerTimeslotControlRequest ::= SEQUENCE {
    protocolIEs                   ProtocolIE-Container      {{DL-PowerTimeslotControlRequest-IEs}},
    protocolExtensions            ProtocolExtensionContainer {{DL-PowerTimeslotControlRequest-Extensions}}                OPTIONAL,
    ...
}

DL-PowerTimeslotControlRequest-IEs RNSAP-PROTOCOL-IES ::= {
```

```
    { ID id-timeSlot-ISCP   CRITICALITY ignore  TYPE DL-TimeSlot-ISCP-Info  PRESENCE optional},
    --Mandatory for 3.84Mcps TDD only
    ...
}

DL-PowerTimeslotControlRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-timeSlot-ISCP-LCR-List-DL-PC-Rqst-TDD   CRITICALITY    ignore EXTENSION    DL-TimeSlot-ISCP-LCR-Information   PRESENCE optional}|
    --Mandatory for 1.28Mcps TDD only
    { ID id-PrimCCPCH-RSCP-DL-PC-RqstTDD            CRITICALITY ignore    EXTENSION PrimaryCCPCH-RSCP         PRESENCE optional }|
    { ID id-PrimaryCCPCH-RSCP-Delta     CRITICALITY ignore     EXTENSION PrimaryCCPCH-RSCP-Delta    PRESENCE   optional },
    ...
}

-- *************************************************************
--
-- PHYSICAL CHANNEL RECONFIGURATION REQUEST FDD
--
-- *************************************************************

PhysicalChannelReconfigurationRequestFDD ::= SEQUENCE {
    protocolIEs                     ProtocolIE-Container      {{PhysicalChannelReconfigurationRequestFDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{PhysicalChannelReconfigurationRequestFDD-Extensions}}          OPTIONAL,
    ...
}

PhysicalChannelReconfigurationRequestFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-PhyChReconfRqstFDD   CRITICALITY reject  TYPE RL-Information-PhyChReconfRqstFDD   PRESENCE mandatory  },
    ...
}

RL-Information-PhyChReconfRqstFDD ::= SEQUENCE {
    rL-ID                   RL-ID,
    dl-CodeInformation          DL-CodeInformationList-PhyChReconfRqstFDD,
    iE-Extensions               ProtocolExtensionContainer { {RL-Information-PhyChReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-PhyChReconfRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CodeInformationList-PhyChReconfRqstFDD        ::= ProtocolIE-Single-Container { {DL-CodeInformationListIEs-PhyChReconfRqstFDD} }

DL-CodeInformationListIEs-PhyChReconfRqstFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-FDD-DL-CodeInformation  CRITICALITY notify  TYPE FDD-DL-CodeInformation PRESENCE mandatory }
}

PhysicalChannelReconfigurationRequestFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- PHYSICAL CHANNEL RECONFIGURATION REQUEST TDD
```

```
--
-- ********************************************************

PhysicalChannelReconfigurationRequestTDD ::= SEQUENCE {
    protocolIEs                     ProtocolIE-Container       {{PhysicalChannelReconfigurationRequestTDD-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{PhysicalChannelReconfigurationRequestTDD-Extensions}}        OPTIONAL,
    ...
}

PhysicalChannelReconfigurationRequestTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-PhyChReconfRqstTDD   CRITICALITY reject  TYPE RL-Information-PhyChReconfRqstTDD   PRESENCE mandatory  },
    ...
}

RL-Information-PhyChReconfRqstTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    ul-CCTrCH-Information               UL-CCTrCH-InformationList-PhyChReconfRqstTDD    OPTIONAL,
    dl-CCTrCH-Information               DL-CCTrCH-InformationList-PhyChReconfRqstTDD    OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {RL-Information-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-HSPDSCH-Timeslot-InformationList-PhyChReconfRqstTDD    CRITICALITY reject  EXTENSION HSPDSCH-Timeslot-InformationList-
PhyChReconfRqstTDD     PRESENCE optional } |
    --For 3.84Mcps TDD only
    { ID id-HSPDSCH-Timeslot-InformationListLCR-PhyChReconfRqstTDD  CRITICALITY reject  EXTENSION HSPDSCH-Timeslot-InformationListLCR-
PhyChReconfRqstTDD  PRESENCE optional },
    --For 1.28Mcps TDD only
    ...
}

UL-CCTrCH-InformationList-PhyChReconfRqstTDD         ::= ProtocolIE-Single-Container { {UL-CCTrCH-InformationListIEs-PhyChReconfRqstTDD} }

UL-CCTrCH-InformationListIEs-PhyChReconfRqstTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD     CRITICALITY reject  TYPE UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD    PRESENCE
mandatory    }
}

UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF UL-CCTrCH-InformationItem-PhyChReconfRqstTDD

UL-CCTrCH-InformationItem-PhyChReconfRqstTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    ul-DPCH-Information             UL-DPCH-InformationList-PhyChReconfRqstTDD,
    iE-Extensions               ProtocolExtensionContainer { {UL-CCTrCH-InformationItem-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-InformationItem-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-InformationList-PhyChReconfRqstTDD ::= ProtocolIE-Single-Container {{UL-DPCH-InformationListIEs-PhyChReconfRqstTDD}}
```

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```
UL-DPCH-InformationListIEs-PhyChReconfRqstTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-InformationItem-PhyChReconfRqstTDD   CRITICALITY notify TYPE UL-DPCH-InformationItem-PhyChReconfRqstTDD     PRESENCE mandatory }
}

UL-DPCH-InformationItem-PhyChReconfRqstTDD ::= SEQUENCE {
    repetitionPeriod               RepetitionPeriod        OPTIONAL,
    repetitionLength               RepetitionLength        OPTIONAL,
    tDD-DPCHOffset                 TDD-DPCHOffset          OPTIONAL,
    uL-Timeslot-InformationList-PhyChReconfRqstTDD          UL-Timeslot-InformationList-PhyChReconfRqstTDD    OPTIONAL,
    --For 3.84Mcps TDD only
    iE-Extensions                  ProtocolExtensionContainer { {UL-DPCH-InformationItem-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-InformationItem-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-UL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD   CRITICALITY reject     EXTENSION  UL-TimeslotLCR-InformationList-
PhyChReconfRqstTDD       PRESENCE optional },
    --For 1.28Mcps TDD only
    ...
}

UL-TimeslotLCR-InformationList-PhyChReconfRqstTDD::= SEQUENCE ( SIZE (1..maxNrOfTsLCR)) OF UL-TimeslotLCR-InformationItem-PhyChReconfRqstTDD

UL-TimeslotLCR-InformationItem-PhyChReconfRqstTDD ::= SEQUENCE {
    timeSlotLCR                 TimeSlotLCR,
    midambleShiftLCR            MidambleShiftLCR        OPTIONAL,
    tFCI-Presence               TFCI-Presence        OPTIONAL,
    uL-Code-LCR-Information      TDD-UL-Code-LCR-Information       OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {UL-TimeslotLCR-InformationItem-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-TimeslotLCR-InformationItem-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-Timeslot-InformationList-PhyChReconfRqstTDD::= SEQUENCE ( SIZE (1..maxNrOfTS)) OF UL-Timeslot-InformationItem-PhyChReconfRqstTDD

UL-Timeslot-InformationItem-PhyChReconfRqstTDD ::= SEQUENCE {
    timeSlot                    TimeSlot,
    midambleShiftAndBurstType            MidambleShiftAndBurstType        OPTIONAL,
    tFCI-Presence               TFCI-Presence        OPTIONAL,
    uL-Code-Information       TDD-UL-Code-Information       OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {UL-Timeslot-InformationItem-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-Timeslot-InformationItem-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationList-PhyChReconfRqstTDD        ::= ProtocolIE-Single-Container { {DL-CCTrCH-InformationListIEs-PhyChReconfRqstTDD} }

DL-CCTrCH-InformationListIEs-PhyChReconfRqstTDD RNSAP-PROTOCOL-IES ::= {
```

```
    { ID id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD      CRITICALITY reject  TYPE DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD      PRESENCE
mandatory   }
}

DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-CCTrCH-InformationItem-PhyChReconfRqstTDD

DL-CCTrCH-InformationItem-PhyChReconfRqstTDD ::= SEQUENCE {
    cCTrCH-ID                      CCTrCH-ID,
    dl-DPCH-Information             DL-DPCH-InformationList-PhyChReconfRqstTDD,
    iE-Extensions                  ProtocolExtensionContainer { {DL-CCTrCH-InformationItem-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationItem-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-InformationList-PhyChReconfRqstTDD ::= ProtocolIE-Single-Container {{DL-DPCH-InformationListIEs-PhyChReconfRqstTDD}}

DL-DPCH-InformationListIEs-PhyChReconfRqstTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationItem-PhyChReconfRqstTDD   CRITICALITY notify TYPE DL-DPCH-InformationItem-PhyChReconfRqstTDD      PRESENCE mandatory }
}

DL-DPCH-InformationItem-PhyChReconfRqstTDD ::= SEQUENCE {
    repetitionPeriod               RepetitionPeriod         OPTIONAL,
    repetitionLength               RepetitionLength         OPTIONAL,
    tDD-DPCHOffset                 TDD-DPCHOffset           OPTIONAL,
    dL-Timeslot-InformationList-PhyChReconfRqstTDD       DL-Timeslot-InformationList-PhyChReconfRqstTDD   OPTIONAL,
    iE-Extensions                  ProtocolExtensionContainer { {DL-DPCH-InformationItem-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-InformationItem-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD   CRITICALITY reject     EXTENSION  DL-TimeslotLCR-InformationList-
PhyChReconfRqstTDD       PRESENCE optional },
    --For 1.28Mcps TDD only
    ...
}

DL-TimeslotLCR-InformationList-PhyChReconfRqstTDD::= SEQUENCE ( SIZE (1..maxNrOfTsLCR)) OF DL-TimeslotLCR-InformationItem-PhyChReconfRqstTDD

DL-TimeslotLCR-InformationItem-PhyChReconfRqstTDD ::= SEQUENCE {
    timeSlotLCR                    TimeSlotLCR,
    midambleShiftLCR               MidambleShiftLCR       OPTIONAL,
    tFCI-Presence                  TFCI-Presence        OPTIONAL,
    dL-Code-LCR-Information         TDD-DL-Code-LCR-Information    OPTIONAL,
    iE-Extensions                  ProtocolExtensionContainer { {DL-TimeslotLCR-InformationItem-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-TimeslotLCR-InformationItem-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
DL-Timeslot-InformationList-PhyChReconfRqstTDD::= SEQUENCE ( SIZE (1..maxNrOfTS)) OF DL-Timeslot-InformationItem-PhyChReconfRqstTDD

DL-Timeslot-InformationItem-PhyChReconfRqstTDD ::= SEQUENCE {
    timeSlot                          TimeSlot,
    midambleShiftAndBurstType                 MidambleShiftAndBurstType        OPTIONAL,
    tFCI-Presence                     TFCI-Presence        OPTIONAL,
    dL-Code-Information           TDD-DL-Code-Information     OPTIONAL,
    iE-Extensions                     ProtocolExtensionContainer { {DL-Timeslot-InformationItem-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-Timeslot-InformationItem-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSPDSCH-Timeslot-InformationList-PhyChReconfRqstTDD ::= SEQUENCE (SIZE (1..maxNrOfDLTs)) OF HSPDSCH-Timeslot-InformationItem-PhyChReconfRqstTDD

HSPDSCH-Timeslot-InformationItem-PhyChReconfRqstTDD::= SEQUENCE {
    timeslot                                        TimeSlot,
    midambleShiftAndBurstType                       MidambleShiftAndBurstType,
    iE-Extensions                                   ProtocolExtensionContainer { { HSPDSCH-Timeslot-InformationItem-PhyChReconfRqstTDD-ExtIEs } }
            OPTIONAL,
    ...
}

HSPDSCH-Timeslot-InformationItem-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSPDSCH-Timeslot-InformationListLCR-PhyChReconfRqstTDD::= SEQUENCE (SIZE (1..maxNrOfDLTsLCR)) OF HSPDSCH-Timeslot-InformationItemLCR-
PhyChReconfRqstTDD

HSPDSCH-Timeslot-InformationItemLCR-PhyChReconfRqstTDD::= SEQUENCE {
    timeslotLCR                                     TimeSlotLCR,
    midambleShiftLCR                                MidambleShiftLCR,
    iE-Extensions                                   ProtocolExtensionContainer { { HSPDSCH-Timeslot-InformationItemLCR-PhyChReconfRqstTDD-ExtIEs } }
        OPTIONAL,
    ...
}

HSPDSCH-Timeslot-InformationItemLCR-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PhysicalChannelReconfigurationRequestTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- PHYSICAL CHANNEL RECONFIGURATION COMMAND
--
-- *************************************************************
```

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```
PhysicalChannelReconfigurationCommand ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container     {{PhysicalChannelReconfigurationCommand-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{PhysicalChannelReconfigurationCommand-Extensions}}                    OPTIONAL,
    ...
}

PhysicalChannelReconfigurationCommand-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CFN                 CRITICALITY ignore  TYPE CFN                        PRESENCE mandatory   } |
    { ID id-CriticalityDiagnostics      CRITICALITY ignore  TYPE CriticalityDiagnostics     PRESENCE optional },
    ...
}

PhysicalChannelReconfigurationCommand-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- PHYSICAL CHANNEL RECONFIGURATION FAILURE
--
-- *************************************************************

PhysicalChannelReconfigurationFailure ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container     {{PhysicalChannelReconfigurationFailure-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{PhysicalChannelReconfigurationFailure-Extensions}}                    OPTIONAL,
    ...
}

PhysicalChannelReconfigurationFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-Cause               CRITICALITY ignore  TYPE Cause                      PRESENCE mandatory } |
    { ID id-CriticalityDiagnostics      CRITICALITY ignore  TYPE CriticalityDiagnostics     PRESENCE optional },
    ...
}

PhysicalChannelReconfigurationFailure-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- RADIO LINK CONGESTION INDICATION
--
-- *************************************************************

RadioLinkCongestionIndication ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container     {{RadioLinkCongestionIndication-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{RadioLinkCongestionIndication-Extensions}}                    OPTIONAL,
    ...
}

RadioLinkCongestionIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CongestionCause                 CRITICALITY ignore  TYPE CongestionCause                        PRESENCE optional }|
    { ID id-RL-InformationList-RL-CongestInd    CRITICALITY ignore  TYPE RL-InformationList-RL-CongestInd      PRESENCE mandatory },
    ...
```

```
}

RL-InformationList-RL-CongestInd              ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-InformationItemIEs-RL-
CongestInd} }

RL-InformationItemIEs-RL-CongestInd RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-RL-CongestInd       CRITICALITY ignore  TYPE RL-InformationItem-RL-CongestInd   PRESENCE mandatory   }
}

RL-InformationItem-RL-CongestInd ::= SEQUENCE {
    rL-ID                          RL-ID,
    dCH-Rate-Information        DCH-Rate-Information-RL-CongestInd,
    iE-Extensions               ProtocolExtensionContainer { {RL-Information-RL-CongestInd-ExtIEs} } OPTIONAL,
    ...
}

DCH-Rate-Information-RL-CongestInd ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF ProtocolIE-Single-Container { {DCH-Rate-InformationItemIEs-RL-
CongestInd} }

DCH-Rate-InformationItemIEs-RL-CongestInd RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-Rate-InformationItem-RL-CongestInd       CRITICALITY ignore  TYPE DCH-Rate-InformationItem-RL-CongestInd     PRESENCE mandatory   }
}

DCH-Rate-InformationItem-RL-CongestInd ::= SEQUENCE {
    dCH-ID                         DCH-ID,
    allowed-Rate-Information    Allowed-Rate-Information OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {DCH-Rate-InformationItem-RL-CongestInd-ExtIEs} } OPTIONAL,
    ...
}

DCH-Rate-InformationItem-RL-CongestInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Information-RL-CongestInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkCongestionIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ************************************************************
--
-- UPLINK SIGNALLING TRANSFER INDICATION FDD
--
-- ************************************************************

UplinkSignallingTransferIndicationFDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container     {{UplinkSignallingTransferIndicationFDD-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{UplinkSignallingTransferIndicationFDD-Extensions}}          OPTIONAL,
    ...
}
```

```
UplinkSignallingTransferIndicationFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UC-ID                         CRITICALITY ignore  TYPE UC-ID                      PRESENCE mandatory } |
    { ID id-SAI                           CRITICALITY ignore  TYPE SAI                        PRESENCE mandatory } |
    { ID id-GA-Cell                       CRITICALITY ignore  TYPE GA-Cell                    PRESENCE optional } |
    { ID id-C-RNTI                        CRITICALITY ignore  TYPE C-RNTI                     PRESENCE mandatory } |
    { ID id-S-RNTI                        CRITICALITY ignore  TYPE S-RNTI                     PRESENCE mandatory } |
    { ID id-D-RNTI                        CRITICALITY ignore  TYPE D-RNTI                     PRESENCE optional } |
    { ID id-PropagationDelay              CRITICALITY ignore  TYPE PropagationDelay           PRESENCE mandatory } |
    { ID id-STTD-SupportIndicator              CRITICALITY ignore  TYPE STTD-SupportIndicator  PRESENCE mandatory } |
    { ID id-ClosedLoopMode1-SupportIndicator   CRITICALITY ignore  TYPE ClosedLoopMode1-SupportIndicator PRESENCE mandatory } |
    { ID id-ClosedLoopMode2-SupportIndicator   CRITICALITY ignore  TYPE ClosedLoopMode2-SupportIndicator PRESENCE mandatory } |
    { ID id-L3-Information                CRITICALITY ignore  TYPE L3-Information              PRESENCE mandatory } |
    { ID id-CN-PS-DomainIdentifier             CRITICALITY ignore  TYPE CN-PS-DomainIdentifier     PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier             CRITICALITY ignore  TYPE CN-CS-DomainIdentifier     PRESENCE optional } |
    { ID id-URA-Information               CRITICALITY ignore  TYPE URA-Information                 PRESENCE optional },
    ...
}

UplinkSignallingTransferIndicationFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes       CRITICALITY ignore  EXTENSION  GA-CellAdditionalShapes     PRESENCE optional }|
    { ID id-DPC-Mode-Change-SupportIndicator    CRITICALITY ignore  EXTENSION        DPC-Mode-Change-SupportIndicator      PRESENCE optional }|
    { ID id-CommonTransportChannelResourcesInitialisationNotRequired    CRITICALITY ignore  EXTENSION
CommonTransportChannelResourcesInitialisationNotRequired        PRESENCE optional    }|
    { ID id-CellCapabilityContainer-FDD   CRITICALITY ignore  EXTENSION  CellCapabilityContainer-FDD    PRESENCE optional }|
    { ID id-SNA-Information                CRITICALITY ignore        EXTENSION SNA-Information        PRESENCE optional },
    ...
}

-- ***************************************************************
--
-- UPLINK SIGNALLING TRANSFER INDICATION TDD
--
-- ***************************************************************

UplinkSignallingTransferIndicationTDD ::= SEQUENCE {
    protocolIEs                    ProtocolIE-Container     {{UplinkSignallingTransferIndicationTDD-IEs}},
    protocolExtensions             ProtocolExtensionContainer {{UplinkSignallingTransferIndicationTDD-Extensions}}          OPTIONAL,
    ...
}

UplinkSignallingTransferIndicationTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UC-ID                         CRITICALITY ignore  TYPE UC-ID                      PRESENCE mandatory } |
    { ID id-SAI                           CRITICALITY ignore  TYPE SAI                        PRESENCE mandatory } |
    { ID id-GA-Cell                       CRITICALITY ignore  TYPE GA-Cell                    PRESENCE optional } |
    { ID id-C-RNTI                        CRITICALITY ignore  TYPE C-RNTI                     PRESENCE mandatory } |
    { ID id-S-RNTI                        CRITICALITY ignore  TYPE S-RNTI                     PRESENCE mandatory } |
    { ID id-D-RNTI                        CRITICALITY ignore  TYPE D-RNTI                     PRESENCE optional } |
    { ID id-RxTimingDeviationForTA        CRITICALITY ignore  TYPE RxTimingDeviationForTA PRESENCE mandatory } |
    { ID id-L3-Information                CRITICALITY ignore  TYPE L3-Information              PRESENCE mandatory } |
    { ID id-CN-PS-DomainIdentifier             CRITICALITY ignore  TYPE CN-PS-DomainIdentifier     PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier             CRITICALITY ignore  TYPE CN-CS-DomainIdentifier     PRESENCE optional } |
    { ID id-URA-Information               CRITICALITY ignore  TYPE URA-Information                 PRESENCE optional },
    ...
}
```

```
UplinkSignallingTransferIndicationTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes          CRITICALITY ignore EXTENSION  GA-CellAdditionalShapes    PRESENCE optional }|
    { ID id-CommonTransportChannelResourcesInitialisationNotRequired    CRITICALITY ignore  EXTENSION
CommonTransportChannelResourcesInitialisationNotRequired         PRESENCE optional    }|
    { ID id-CellCapabilityContainer-TDD      CRITICALITY ignore  EXTENSION   CellCapabilityContainer-TDD    PRESENCE optional }|
        -- Applicable to 3.84Mcps TDD only
    { ID id-CellCapabilityContainer-TDD-LCR CRITICALITY ignore  EXTENSION   CellCapabilityContainer-TDD-LCR     PRESENCE optional }|
        -- Applicable to 1.28Mcps TDD only
    { ID id-SNA-Information                   CRITICALITY ignore  EXTENSION   SNA-Information              PRESENCE optional },
    ...
}


-- *************************************************************
--
-- DOWNLINK SIGNALLING TRANSFER REQUEST
--
-- *************************************************************

DownlinkSignallingTransferRequest ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container       {{DownlinkSignallingTransferRequest-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{DownlinkSignallingTransferRequest-Extensions}}             OPTIONAL,
    ...
}

DownlinkSignallingTransferRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-C-ID                    CRITICALITY ignore  TYPE C-ID                    PRESENCE mandatory  } |
    -- May be a GERAN cell identifier
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                  PRESENCE mandatory  } |
    { ID id-L3-Information          CRITICALITY ignore  TYPE L3-Information          PRESENCE mandatory  } |
    { ID id-D-RNTI-ReleaseIndication     CRITICALITY ignore  TYPE D-RNTI-ReleaseIndication     PRESENCE mandatory  },
    ...
}

DownlinkSignallingTransferRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- *************************************************************
--
-- RELOCATION COMMIT
--
-- *************************************************************

RelocationCommit ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container       {{RelocationCommit-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{RelocationCommit-Extensions}}                 OPTIONAL,
    ...
}

RelocationCommit-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                    PRESENCE optional   } |
    { ID id-RANAP-RelocationInformation     CRITICALITY ignore  TYPE RANAP-RelocationInformation    PRESENCE optional },
    ...
```

```
}

RelocationCommit-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- PAGING REQUEST
--
-- **************************************************************

PagingRequest ::= SEQUENCE {
    protocolIEs                   ProtocolIE-Container       {{PagingRequest-IEs}},
    protocolExtensions            ProtocolExtensionContainer {{PagingRequest-Extensions}}          OPTIONAL,
    ...
}

PagingRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-PagingArea-PagingRqst             CRITICALITY ignore  TYPE PagingArea-PagingRqst          PRESENCE mandatory  } |
    { ID id-SRNC-ID                           CRITICALITY ignore  TYPE RNC-ID                         PRESENCE mandatory  } | -- May be a BSC-Id.
    { ID id-S-RNTI                            CRITICALITY ignore  TYPE S-RNTI                         PRESENCE mandatory  } |
    { ID id-IMSI                              CRITICALITY ignore  TYPE IMSI                           PRESENCE mandatory  } |
    { ID id-DRXCycleLengthCoefficient         CRITICALITY ignore  TYPE DRXCycleLengthCoefficient      PRESENCE mandatory  }|
    { ID id-CNOriginatedPage-PagingRqst       CRITICALITY ignore  TYPE CNOriginatedPage-PagingRqst    PRESENCE optional   },
    ...
}

PagingArea-PagingRqst ::= CHOICE {
    uRA                 URA-PagingRqst, -- May be a GRA-ID.
    cell                Cell-PagingRqst, -- UTRAN only
    ...
}

URA-PagingRqst ::= SEQUENCE {
    uRA-ID              URA-ID,
    iE-Extensions       ProtocolExtensionContainer { { URAItem-PagingRqst-ExtIEs} } OPTIONAL,
    ...
}

URAItem-PagingRqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Cell-PagingRqst ::= SEQUENCE {
    c-ID                C-ID,
    iE-Extensions       ProtocolExtensionContainer { { CellItem-PagingRqst-ExtIEs} } OPTIONAL,
    ...
}

CellItem-PagingRqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
CNOriginatedPage-PagingRqst::= SEQUENCE {
    pagingCause                   PagingCause,
    cNDomainType                  CNDomainType,
    pagingRecordType              PagingRecordType,
    iE-Extensions                 ProtocolExtensionContainer { { CNOriginatedPage-PagingRqst-ExtIEs} } OPTIONAL,
    ...
}

CNOriginatedPage-PagingRqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PagingRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- DEDICATED MEASUREMENT INITIATION REQUEST
--
-- *************************************************************

DedicatedMeasurementInitiationRequest ::= SEQUENCE {
    protocolIEs                   ProtocolIE-Container       {{DedicatedMeasurementInitiationRequest-IEs}},
    protocolExtensions            ProtocolExtensionContainer {{DedicatedMeasurementInitiationRequest-Extensions}}        OPTIONAL,
    ...
}

DedicatedMeasurementInitiationRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID                    CRITICALITY reject  TYPE MeasurementID                  PRESENCE mandatory  } |
    { ID id-DedicatedMeasurementObjectType-DM-Rqst  CRITICALITY reject   TYPE DedicatedMeasurementObjectType-DM-Rqst PRESENCE mandatory  } |

    { ID id-DedicatedMeasurementType         CRITICALITY reject  TYPE DedicatedMeasurementType       PRESENCE mandatory  } |
    { ID id-MeasurementFilterCoefficient     CRITICALITY reject  TYPE MeasurementFilterCoefficient        PRESENCE optional } |
    { ID id-ReportCharacteristics            CRITICALITY reject  TYPE ReportCharacteristics          PRESENCE mandatory  }|
    { ID id-CFNReportingIndicator            CRITICALITY reject  TYPE FNReportingIndicator           PRESENCE mandatory  }|
    { ID id-CFN                              CRITICALITY reject  TYPE CFN                            PRESENCE optional   },
    ...
}

DedicatedMeasurementObjectType-DM-Rqst ::= CHOICE {
    rL                  RL-DM-Rqst,
    rLS                 RL-Set-DM-Rqst,
    allRL               All-RL-DM-Rqst,
    allRLS              All-RL-Set-DM-Rqst,
    ...
}

RL-DM-Rqst ::= SEQUENCE {
    rL-InformationList-DM-Rqst    RL-InformationList-DM-Rqst,
    iE-Extensions                 ProtocolExtensionContainer { { RLItem-DM-Rqst-ExtIEs} } OPTIONAL,
    ...
    }
```

```
RLItem-DM-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-DM-Rqst                      ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-Information-DM-Rqst-IEs} }

RL-Information-DM-Rqst-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-DM-Rqst      CRITICALITY reject  TYPE RL-InformationItem-DM-Rqst     PRESENCE mandatory   }
}

RL-InformationItem-DM-Rqst ::= SEQUENCE {
    rL-ID                       RL-ID,
    dPCH-ID                     DPCH-ID     OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {RL-InformationItem-DM-Rqst-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationItem-DM-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-HSSICH-Info-DM-Rqst     CRITICALITY reject            EXTENSION   HSSICH-Info-DM-Rqst                 PRESENCE optional},
    -- TDD only
    ...
}

HSSICH-Info-DM-Rqst ::= SEQUENCE (SIZE (1..maxNrOfHSSICHs)) OF HS-SICH-ID

RL-Set-DM-Rqst ::= SEQUENCE {
    rL-Set-InformationList-DM-Rqst  RL-Set-InformationList-DM-Rqst,
    iE-Extensions               ProtocolExtensionContainer { { RL-SetItem-DM-Rqst-ExtIEs} } OPTIONAL,
    ...
    }

RL-SetItem-DM-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-InformationList-DM-Rqst                  ::= SEQUENCE (SIZE (1..maxNrOfRLSets)) OF ProtocolIE-Single-Container { {RL-Set-Information-DM-
Rqst-IEs} }

RL-Set-Information-DM-Rqst-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Set-InformationItem-DM-Rqst      CRITICALITY reject  TYPE RL-Set-InformationItem-DM-Rqst      PRESENCE mandatory   }
}

RL-Set-InformationItem-DM-Rqst ::= SEQUENCE {
    rL-Set-ID                   RL-Set-ID,
    iE-Extensions               ProtocolExtensionContainer { {RL-Set-InformationItem-DM-Rqst-ExtIEs} } OPTIONAL,
    ...
}

RL-Set-InformationItem-DM-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

All-RL-DM-Rqst ::= NULL
```

ETSI

```
All-RL-Set-DM-Rqst ::= NULL

DedicatedMeasurementInitiationRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-PartialReportingIndicator      CRITICALITY ignore        EXTENSION   PartialReportingIndicator                 PRESENCE optional
    },
    ...
}

-- ****************************************************************
--
-- DEDICATED MEASUREMENT INITIATION RESPONSE
--
-- ****************************************************************

DedicatedMeasurementInitiationResponse ::= SEQUENCE {
    protocolIEs                  ProtocolIE-Container      {{DedicatedMeasurementInitiationResponse-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{DedicatedMeasurementInitiationResponse-Extensions}}               OPTIONAL,
    ...
}

DedicatedMeasurementInitiationResponse-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID                CRITICALITY ignore  TYPE MeasurementID               PRESENCE mandatory  } |
    { ID id-DedicatedMeasurementObjectType-DM-Rsp   CRITICALITY ignore  TYPE DedicatedMeasurementObjectType-DM-Rsp PRESENCE optional } |
    { ID id-CriticalityDiagnostics         CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

DedicatedMeasurementObjectType-DM-Rsp ::= CHOICE {
    rLs                 RL-DM-Rsp,
    rLS                 RL-Set-DM-Rsp,
    allRL               RL-DM-Rsp,
    allRLS              RL-Set-DM-Rsp,
    ...
}

RL-DM-Rsp ::= SEQUENCE {
    rL-InformationList-DM-Rsp      RL-InformationList-DM-Rsp,
    iE-Extensions                  ProtocolExtensionContainer { { RLItem-DM-Rsp-ExtIEs} } OPTIONAL,
    ...
}

RLItem-DM-Rsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-DM-Rsp ::= SEQUENCE {
    rL-Set-InformationList-DM-Rsp  RL-Set-InformationList-DM-Rsp,
    iE-Extensions                  ProtocolExtensionContainer { { RL-SetItem-DM-Rsp-ExtIEs} } OPTIONAL,
    ...
}

RL-SetItem-DM-Rsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

ETSI

```
RL-InformationList-DM-Rsp                        ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-Information-DM-Rsp-IEs} }

RL-Information-DM-Rsp-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-DM-Rsp      CRITICALITY ignore  TYPE RL-InformationItem-DM-Rsp    PRESENCE mandatory   }
}

RL-InformationItem-DM-Rsp ::= SEQUENCE {
    rL-ID                        RL-ID,
    dPCH-ID                      DPCH-ID            OPTIONAL,
    dedicatedMeasurementValue         DedicatedMeasurementValue,
    cFN                          CFN                  OPTIONAL,
    iE-Extensions                     ProtocolExtensionContainer { {RL-InformationItem-DM-Rsp-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationItem-DM-Rsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    {ID id-HSSICH-Info-DM      CRITICALITY reject            EXTENSION   HS-SICH-ID     PRESENCE optional},
    -- TDD only
    ...
}

RL-Set-InformationList-DM-Rsp   ::= SEQUENCE (SIZE (1..maxNrOfRLSets)) OF ProtocolIE-Single-Container { {RL-Set-Information-DM-Rsp-IEs} }

RL-Set-Information-DM-Rsp-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Set-InformationItem-DM-Rsp      CRITICALITY ignore  TYPE RL-Set-InformationItem-DM-Rsp    PRESENCE mandatory   }
}

RL-Set-InformationItem-DM-Rsp ::= SEQUENCE {
    rL-Set-ID                    RL-Set-ID,
    dedicatedMeasurementValue    DedicatedMeasurementValue,
    cFN                          CFN                          OPTIONAL,
    iE-Extensions                     ProtocolExtensionContainer { {RL-Set-InformationItem-DM-Rspns-ExtIEs} } OPTIONAL,
    ...
}

RL-Set-InformationItem-DM-Rspns-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DedicatedMeasurementInitiationResponse-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- DEDICATED MEASUREMENT INITIATION FAILURE
--
-- **************************************************************

DedicatedMeasurementInitiationFailure ::= SEQUENCE {
    protocolIEs                  ProtocolIE-Container     {{DedicatedMeasurementInitiationFailure-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{DedicatedMeasurementInitiationFailure-Extensions}}          OPTIONAL,
    ...
```

```
}

DedicatedMeasurementInitiationFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID              CRITICALITY ignore  TYPE MeasurementID           PRESENCE mandatory  } |
    { ID id-Cause                      CRITICALITY ignore  TYPE Cause                   PRESENCE mandatory } |
    { ID id-CriticalityDiagnostics     CRITICALITY ignore  TYPE CriticalityDiagnostics  PRESENCE optional },
    ...
}

DedicatedMeasurementInitiationFailure-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DedicatedMeasurementObjectType-DM-Fail  CRITICALITY ignore  EXTENSION DedicatedMeasurementObjectType-DM-Fail PRESENCE optional },
    ...
}

DedicatedMeasurementObjectType-DM-Fail ::= CHOICE {
    rL                     RL-DM-Fail,
    rLS                    RL-Set-DM-Fail,
    allRL                  RL-DM-Fail,
    allRLS                 RL-Set-DM-Fail,
    ...
}

RL-DM-Fail ::= SEQUENCE {
    rL-unsuccessful-InformationRespList-DM-Fail     RL-Unsuccessful-InformationRespList-DM-Fail,
    rL-successful-InformationRespList-DM-Fail       RL-Successful-InformationRespList-DM-Fail      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { { RLItem-DM-Fail-ExtIEs} } OPTIONAL,
    ...
}

RLItem-DM-Fail-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-DM-Fail ::= SEQUENCE {
    rL-Set-unsuccessful-InformationRespList-DM-Fail RL-Set-Unsuccessful-InformationRespList-DM-Fail,
    rL-Set-successful-InformationRespList-DM-Fail   RL-Set-Successful-InformationRespList-DM-Fail     OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { { RL-SetItem-DM-Fail-ExtIEs} } OPTIONAL,
    ...
}

RL-SetItem-DM-Fail-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Unsuccessful-InformationRespList-DM-Fail         ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-Unsuccessful-
InformationResp-DM-Fail-IEs} }

RL-Unsuccessful-InformationResp-DM-Fail-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Unsuccessful-InformationItem-DM-Fail    CRITICALITY ignore  TYPE RL-Unsuccessful-InformationItem-DM-Fail    PRESENCE mandatory  }
}

RL-Unsuccessful-InformationItem-DM-Fail ::= SEQUENCE {
    rL-ID                     RL-ID,
    individualcause           Cause   OPTIONAL,
```

```
    iE-Extensions             ProtocolExtensionContainer { {RL-Unsuccessful-InformationItem-DM-Fail-ExtIEs} } OPTIONAL,
    ...
}

RL-Unsuccessful-InformationItem-DM-Fail-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Successful-InformationRespList-DM-Fail            ::= SEQUENCE (SIZE (1..maxNrOfRLs-1)) OF ProtocolIE-Single-Container { {RL-Successful-
InformationResp-DM-Fail-IEs} }

RL-Successful-InformationResp-DM-Fail-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Successful-InformationItem-DM-Fail     CRITICALITY ignore  TYPE RL-Successful-InformationItem-DM-Fail    PRESENCE mandatory   }
}

RL-Successful-InformationItem-DM-Fail ::= SEQUENCE {
    rL-ID                     RL-ID,
    dPCH-ID                   DPCH-ID          OPTIONAL,
    dedicatedMeasurementValue DedicatedMeasurementValue,
    cFN                       CFN              OPTIONAL,
    iE-Extensions             ProtocolExtensionContainer { {RL-Successful-InformationItem-DM-Fail-ExtIEs} } OPTIONAL,
    ...
}

RL-Successful-InformationItem-DM-Fail-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    {ID id-HSSICH-Info-DM      CRITICALITY reject           EXTENSION   HS-SICH-ID     PRESENCE optional},
    -- TDD only
    ...
}

RL-Set-Unsuccessful-InformationRespList-DM-Fail          ::= SEQUENCE (SIZE (1..maxNrOfRLSets)) OF ProtocolIE-Single-Container { {RL-Set-
Unsuccessful-InformationResp-DM-Fail-IEs} }

RL-Set-Unsuccessful-InformationResp-DM-Fail-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Set-Unsuccessful-InformationItem-DM-Fail     CRITICALITY ignore  TYPE RL-Set-Unsuccessful-InformationItem-DM-Fail     PRESENCE
mandatory   }
}

RL-Set-Unsuccessful-InformationItem-DM-Fail ::= SEQUENCE {
    rL-Set-ID                 RL-Set-ID,
    individualcause           Cause      OPTIONAL,
    iE-Extensions             ProtocolExtensionContainer { {RL-Set-Unsuccessful-InformationItem-DM-Failns-ExtIEs} } OPTIONAL,
    ...
}

RL-Set-Unsuccessful-InformationItem-DM-Failns-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-Successful-InformationRespList-DM-Fail                ::= SEQUENCE (SIZE (1..maxNrOfRLSets-1)) OF ProtocolIE-Single-Container { {RL-Set-
Successful-InformationResp-DM-Fail-IEs} }

RL-Set-Successful-InformationResp-DM-Fail-IEs RNSAP-PROTOCOL-IES ::= {
```

```
    { ID id-RL-Set-Successful-InformationItem-DM-Fail      CRITICALITY ignore  TYPE RL-Set-Successful-InformationItem-DM-Fail      PRESENCE
mandatory    }
}

RL-Set-Successful-InformationItem-DM-Fail ::= SEQUENCE {
    rL-Set-ID                         RL-Set-ID,
    dedicatedMeasurementValue         DedicatedMeasurementValue,
    cFN                               CFN                                 OPTIONAL,
    iE-Extensions                     ProtocolExtensionContainer { {RL-Set-Successful-InformationItem-DM-Failns-ExtIEs} } OPTIONAL,
    ...
}

RL-Set-Successful-InformationItem-DM-Failns-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- DEDICATED MEASUREMENT REPORT
--
-- *************************************************************

DedicatedMeasurementReport ::= SEQUENCE {
    protocolIEs                       ProtocolIE-Container       {{DedicatedMeasurementReport-IEs}},
    protocolExtensions                ProtocolExtensionContainer {{DedicatedMeasurementReport-Extensions}}                 OPTIONAL,
    ...
}

DedicatedMeasurementReport-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID                 CRITICALITY ignore  TYPE MeasurementID              PRESENCE mandatory   } |
    { ID id-DedicatedMeasurementObjectType-DM-Rprt  CRITICALITY ignore  TYPE DedicatedMeasurementObjectType-DM-Rprt PRESENCE mandatory   },
    ...
}

DedicatedMeasurementObjectType-DM-Rprt ::= CHOICE {
    rLs                RL-DM-Rprt,
    rLS                RL-Set-DM-Rprt,
    allRL              RL-DM-Rprt,
    allRLS             RL-Set-DM-Rprt,
    ...
}

RL-DM-Rprt ::= SEQUENCE {
    rL-InformationList-DM-Rprt        RL-InformationList-DM-Rprt,
    iE-Extensions                     ProtocolExtensionContainer { { RLItem-DM-Rprt-ExtIEs} } OPTIONAL,
    ...
}

RLItem-DM-Rprt-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-DM-Rprt ::= SEQUENCE {
    rL-Set-InformationList-DM-Rprt  RL-Set-InformationList-DM-Rprt,
```

```
    iE-Extensions                       ProtocolExtensionContainer { { RL-SetItem-DM-Rprt-ExtIEs} } OPTIONAL,
    ...
}

RL-SetItem-DM-Rprt-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-DM-Rprt                   ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-Information-DM-Rprt-IEs} }

RL-Information-DM-Rprt-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-DM-Rprt     CRITICALITY ignore  TYPE RL-InformationItem-DM-Rprt     PRESENCE mandatory   }
}

RL-InformationItem-DM-Rprt ::= SEQUENCE {
    rL-ID                       RL-ID,
    dPCH-ID                     DPCH-ID          OPTIONAL,
    dedicatedMeasurementValueInformation    DedicatedMeasurementValueInformation,
    iE-Extensions                       ProtocolExtensionContainer { {RL-InformationItem-DM-Rprt-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationItem-DM-Rprt-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    {ID id-HSSICH-Info-DM-Rprt     CRITICALITY ignore             EXTENSION   HS-SICH-ID     PRESENCE optional},
    -- TDD only
    ...
}

RL-Set-InformationList-DM-Rprt               ::= SEQUENCE (SIZE (1..maxNrOfRLSets)) OF ProtocolIE-Single-Container { {RL-Set-Information-DM-
Rprt-IEs} }

RL-Set-Information-DM-Rprt-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Set-InformationItem-DM-Rprt     CRITICALITY ignore  TYPE RL-Set-InformationItem-DM-Rprt     PRESENCE mandatory   }
}

RL-Set-InformationItem-DM-Rprt ::= SEQUENCE {
    rL-Set-ID                       RL-Set-ID,
    dedicatedMeasurementValueInformation    DedicatedMeasurementValueInformation,
    iE-Extensions                       ProtocolExtensionContainer { {RL-Set-InformationItem-DM-Rprt-ExtIEs} } OPTIONAL,
    ...
}

RL-Set-InformationItem-DM-Rprt-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DedicatedMeasurementReport-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- DEDICATED MEASUREMENT TERMINATION REQUEST
--
```

```
-- ************************************************************

DedicatedMeasurementTerminationRequest ::= SEQUENCE {
    protocolIEs                   ProtocolIE-Container     {{DedicatedMeasurementTerminationRequest-IEs}},
    protocolExtensions            ProtocolExtensionContainer {{DedicatedMeasurementTerminationRequest-Extensions}}                OPTIONAL,
    ...
}

DedicatedMeasurementTerminationRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID             CRITICALITY ignore  TYPE MeasurementID            PRESENCE mandatory  },
    ...
}

DedicatedMeasurementTerminationRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ************************************************************
--
-- DEDICATED MEASUREMENT FAILURE INDICATION
--
-- ************************************************************

DedicatedMeasurementFailureIndication ::= SEQUENCE {
    protocolIEs                   ProtocolIE-Container     {{DedicatedMeasurementFailureIndication-IEs}},
    protocolExtensions            ProtocolExtensionContainer {{DedicatedMeasurementFailureIndication-Extensions}}                OPTIONAL,
    ...
}

DedicatedMeasurementFailureIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID             CRITICALITY ignore  TYPE MeasurementID            PRESENCE mandatory  } |
    { ID id-Cause                     CRITICALITY ignore  TYPE Cause                    PRESENCE mandatory  },
    ...
}

DedicatedMeasurementFailureIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DedicatedMeasurementObjectType-DM-Fail-Ind  CRITICALITY ignore  EXTENSION DedicatedMeasurementObjectType-DM-Fail-Ind  PRESENCE optional
    },
    ...
}

DedicatedMeasurementObjectType-DM-Fail-Ind ::= CHOICE {
    rL                 RL-DM-Fail-Ind,
    rLS                RL-Set-DM-Fail-Ind,
    allRL              RL-DM-Fail-Ind,
    allRLS             RL-Set-DM-Fail-Ind,
    ...
}

RL-DM-Fail-Ind ::= SEQUENCE {
    rL-unsuccessful-InformationRespList-DM-Fail-Ind    RL-Unsuccessful-InformationRespList-DM-Fail-Ind,
    iE-Extensions                                      ProtocolExtensionContainer { { RLItem-DM-Fail-Ind-ExtIEs} } OPTIONAL,
    ...
}
```

```
RLItem-DM-Fail-Ind-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-DM-Fail-Ind ::= SEQUENCE {
    rL-Set-unsuccessful-InformationRespList-DM-Fail-Ind    RL-Set-Unsuccessful-InformationRespList-DM-Fail-Ind,
    iE-Extensions                                          ProtocolExtensionContainer { { RL-SetItem-DM-Fail-Ind-ExtIEs} } OPTIONAL,
    ...
}

RL-SetItem-DM-Fail-Ind-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Unsuccessful-InformationRespList-DM-Fail-Ind        ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-Unsuccessful-
InformationResp-DM-Fail-Ind-IEs} }

RL-Unsuccessful-InformationResp-DM-Fail-Ind-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Unsuccessful-InformationItem-DM-Fail-Ind    CRITICALITY ignore  TYPE RL-Unsuccessful-InformationItem-DM-Fail-Ind    PRESENCE
mandatory   }
}

RL-Unsuccessful-InformationItem-DM-Fail-Ind ::= SEQUENCE {
    rL-ID                    RL-ID,
    individualcause          Cause      OPTIONAL,
    iE-Extensions            ProtocolExtensionContainer { {RL-Unsuccessful-InformationItem-DM-Fail-Ind-ExtIEs} } OPTIONAL,
    ...
}

RL-Unsuccessful-InformationItem-DM-Fail-Ind-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-Unsuccessful-InformationRespList-DM-Fail-Ind        ::= SEQUENCE (SIZE (1..maxNrOfRLSets)) OF ProtocolIE-Single-Container { {RL-Set-
Unsuccessful-InformationResp-DM-Fail-Ind-IEs} }

RL-Set-Unsuccessful-InformationResp-DM-Fail-Ind-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Set-Unsuccessful-InformationItem-DM-Fail-Ind    CRITICALITY ignore  TYPE RL-Set-Unsuccessful-InformationItem-DM-Fail-Ind   PRESENCE
mandatory   }
}

RL-Set-Unsuccessful-InformationItem-DM-Fail-Ind ::= SEQUENCE {
    rL-Set-ID                    RL-Set-ID,
    individualcause              Cause      OPTIONAL,
    iE-Extensions                ProtocolExtensionContainer { {RL-Set-Unsuccessful-InformationItem-DM-Fail-Indns-ExtIEs} } OPTIONAL,
    ...
}

RL-Set-Unsuccessful-InformationItem-DM-Fail-Indns-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ****************************************************************
```

```
--
-- COMMON TRANSPORT CHANNEL RESOURCES RELEASE REQUEST
--
-- ************************************************************

CommonTransportChannelResourcesReleaseRequest ::= SEQUENCE {
    protocolIEs                     ProtocolIE-Container      {{CommonTransportChannelResourcesReleaseRequest-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{CommonTransportChannelResourcesReleaseRequest-Extensions}}
OPTIONAL,
    ...
}

CommonTransportChannelResourcesReleaseRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                   CRITICALITY ignore  TYPE D-RNTI                  PRESENCE mandatory  },
    ...
}

CommonTransportChannelResourcesReleaseRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {

    ...
}

-- ************************************************************
--
-- COMMON TRANSPORT CHANNEL RESOURCES REQUEST
--
-- ************************************************************

CommonTransportChannelResourcesRequest ::= SEQUENCE {
    protocolIEs                     ProtocolIE-Container      {{CommonTransportChannelResourcesRequest-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{CommonTransportChannelResourcesRequest-Extensions}}        OPTIONAL,
    ...
}

CommonTransportChannelResourcesRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                     CRITICALITY reject  TYPE D-RNTI                  PRESENCE mandatory } |
    { ID id-C-ID                       CRITICALITY reject  TYPE C-ID                    PRESENCE optional   } |
    { ID id-TransportBearerRequestIndicator    CRITICALITY reject  TYPE TransportBearerRequestIndicator    PRESENCE mandatory   } |
    { ID id-TransportBearerID          CRITICALITY reject  TYPE TransportBearerID                PRESENCE mandatory },
    ...
}

CommonTransportChannelResourcesRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-Permanent-NAS-UE-Identity           CRITICALITY ignore       EXTENSION Permanent-NAS-UE-Identity   PRESENCE optional }|
    { ID id-BindingID                   CRITICALITY ignore       EXTENSION  BindingID PRESENCE                optional }|
    -- Shall be ignored if bearer establishment with ALCAP.
    { ID id-TransportLayerAddress           CRITICALITY ignore       EXTENSION   TransportLayerAddress     PRESENCE   optional },
    -- Shall be ignored if bearer establishment with ALCAP.
    ...
}

-- ************************************************************
--
-- COMMON TRANSPORT CHANNEL RESOURCES RESPONSE FDD
--
```

```
-- *************************************************************

CommonTransportChannelResourcesResponseFDD ::= SEQUENCE {
    protocolIEs                      ProtocolIE-Container     {{CommonTransportChannelResourcesResponseFDD-IEs}},
    protocolExtensions               ProtocolExtensionContainer {{CommonTransportChannelResourcesResponseFDD-Extensions}}        OPTIONAL,
    ...
}

CommonTransportChannelResourcesResponseFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-S-RNTI                    CRITICALITY ignore  TYPE S-RNTI                     PRESENCE mandatory } |
    { ID id-C-RNTI                    CRITICALITY ignore  TYPE C-RNTI                     PRESENCE optional  } |
    { ID id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD   CRITICALITY ignore   TYPE FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD
PRESENCE mandatory  } |
    { ID id-TransportLayerAddress            CRITICALITY ignore  TYPE TransportLayerAddress       PRESENCE optional } |
    { ID id-BindingID                 CRITICALITY ignore  TYPE BindingID                  PRESENCE optional } |
    { ID id-CriticalityDiagnostics           CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD ::= SEQUENCE {
    fACH-FlowControlInformation      FACH-FlowControlInformation-CTCH-ResourceRspFDD,
    iE-Extensions                    ProtocolExtensionContainer { {FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD-ExtIEs} } OPTIONAL,
    ...
}

FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

FACH-FlowControlInformation-CTCH-ResourceRspFDD ::= ProtocolIE-Single-Container {{ FACH-FlowControlInformationIEs-CTCH-ResourceRspFDD }}

FACH-FlowControlInformationIEs-CTCH-ResourceRspFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-FACH-FlowControlInformation CRITICALITY ignore  TYPE    FACH-FlowControlInformation PRESENCE mandatory }
}

CommonTransportChannelResourcesResponseFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-C-ID                  CRITICALITY ignore     EXTENSION   C-ID       PRESENCE mandatory  },
    ...
}

-- *************************************************************
--
-- COMMON TRANSPORT CHANNEL RESOURCES RESPONSE TDD
--
-- *************************************************************

CommonTransportChannelResourcesResponseTDD ::= SEQUENCE {
    protocolIEs                      ProtocolIE-Container     {{CommonTransportChannelResourcesResponseTDD-IEs}},
    protocolExtensions               ProtocolExtensionContainer {{CommonTransportChannelResourcesResponseTDD-Extensions}}        OPTIONAL,
    ...
}

CommonTransportChannelResourcesResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-S-RNTI                    CRITICALITY ignore  TYPE S-RNTI                     PRESENCE mandatory } |
```

```
   { ID id-C-RNTI                        CRITICALITY ignore  TYPE C-RNTI                     PRESENCE optional   } |
   { ID id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD   CRITICALITY ignore   TYPE FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD
   PRESENCE mandatory  } |
   { ID id-TransportLayerAddress         CRITICALITY ignore  TYPE TransportLayerAddress       PRESENCE optional } |
   { ID id-BindingID                     CRITICALITY ignore  TYPE BindingID                   PRESENCE optional } |
   { ID id-CriticalityDiagnostics        CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
   ...
}

FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD ::= SEQUENCE {
   fACH-FlowControlInformation      FACH-FlowControlInformation-CTCH-ResourceRspTDD,
   iE-Extensions                    ProtocolExtensionContainer { {FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD-ExtIEs} } OPTIONAL,
   ...
}

FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
   ...
}

FACH-FlowControlInformation-CTCH-ResourceRspTDD ::= ProtocolIE-Single-Container {{ FACH-FlowControlInformationIEs-CTCH-ResourceRspTDD }}

FACH-FlowControlInformationIEs-CTCH-ResourceRspTDD RNSAP-PROTOCOL-IES ::= {
   { ID id-FACH-FlowControlInformation CRITICALITY ignore  TYPE    FACH-FlowControlInformation PRESENCE mandatory }
}

CommonTransportChannelResourcesResponseTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
   { ID id-C-ID                   CRITICALITY ignore     EXTENSION   C-ID       PRESENCE mandatory  },
   ...
}

-- ****************************************************************
--
-- COMMON TRANSPORT CHANNEL RESOURCES FAILURE
--
-- ****************************************************************

CommonTransportChannelResourcesFailure ::= SEQUENCE {
   protocolIEs                     ProtocolIE-Container      {{CommonTransportChannelResourcesFailure-IEs}},
   protocolExtensions              ProtocolExtensionContainer {{CommonTransportChannelResourcesFailure-Extensions}}      OPTIONAL,
   ...
}

CommonTransportChannelResourcesFailure-IEs RNSAP-PROTOCOL-IES ::= {
   { ID id-S-RNTI                  CRITICALITY ignore  TYPE S-RNTI                    PRESENCE mandatory } |
   { ID id-Cause                   CRITICALITY ignore  TYPE Cause                     PRESENCE mandatory } |
   { ID id-CriticalityDiagnostics       CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
   ...
}

CommonTransportChannelResourcesFailure-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
   ...
}

-- ****************************************************************
```

ETSI

```
--
-- COMPRESSED MODE COMMAND
--
-- *************************************************************

CompressedModeCommand ::= SEQUENCE {
    protocolIEs                     ProtocolIE-Container        {{CompressedModeCommand-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{CompressedModeCommand-Extensions}}              OPTIONAL,
    ...
}

CompressedModeCommand-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-Active-Pattern-Sequence-Information    CRITICALITY ignore  TYPE Active-Pattern-Sequence-Information    PRESENCE mandatory  },
    ...
}

CompressedModeCommand-Extensions RNSAP-PROTOCOL-EXTENSION ::= {

    ...
}

-- *************************************************************
--
-- ERROR INDICATION
--
-- *************************************************************

ErrorIndication ::= SEQUENCE {
    protocolIEs                     ProtocolIE-Container        {{ErrorIndication-IEs}},
    protocolExtensions              ProtocolExtensionContainer {{ErrorIndication-Extensions}}                     OPTIONAL,
    ...
}

ErrorIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-Cause                   CRITICALITY ignore  TYPE Cause                      PRESENCE optional} |
    { ID id-CriticalityDiagnostics           CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

ErrorIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-S-RNTI                  CRITICALITY ignore  EXTENSION S-RNTI                        PRESENCE optional } |
    { ID id-D-RNTI                  CRITICALITY ignore  EXTENSION D-RNTI                        PRESENCE optional },
    ...
}

-- *************************************************************
--
-- COMMON MEASUREMENT INITIATION REQUEST
--
-- *************************************************************

CommonMeasurementInitiationRequest ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container    {{CommonMeasurementInitiationRequest-IEs}},
    protocolExtensions      ProtocolExtensionContainer  {{CommonMeasurementInitiationRequest-Extensions}}    OPTIONAL,
    ...
```

```
}

CommonMeasurementInitiationRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-MeasurementID                              CRITICALITY reject      TYPE    MeasurementID                         PRESENCE
    mandatory    }|
    { ID    id-CommonMeasurementObjectType-CM-Rqst        CRITICALITY reject      TYPE    CommonMeasurementObjectType-CM-Rqst    PRESENCE
    mandatory    }|

    { ID    id-CommonMeasurementType                      CRITICALITY reject      TYPE    CommonMeasurementType                 PRESENCE
    mandatory    }|
    { ID    id-MeasurementFilterCoefficient               CRITICALITY reject      TYPE    MeasurementFilterCoefficient          PRESENCE optional
    }|
    -- UTRAN only
    { ID    id-ReportCharacteristics                      CRITICALITY reject      TYPE    ReportCharacteristics                 PRESENCE
    mandatory    }|
    { ID    id-SFNReportingIndicator                      CRITICALITY reject      TYPE    FNReportingIndicator                  PRESENCE
    mandatory
    } |
    { ID    id-SFN                                        CRITICALITY reject      TYPE    SFN                                   PRESENCE optional
    }|
    -- UTRAN only
    { ID    id-CommonMeasurementAccuracy                  CRITICALITY reject      TYPE    CommonMeasurementAccuracy             PRESENCE optional
    },
    -- UTRAN only
    ...
}

CommonMeasurementInitiationRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CommonMeasurementObjectType-CM-Rqst ::= CHOICE {
    cell                        Cell-CM-Rqst,
    ...
}

Cell-CM-Rqst ::= SEQUENCE {
    uC-ID                       UC-ID,
    -- May be a GERAN cell identifier
    timeSlot                    TimeSlot        OPTIONAL,   --3.84Mcps TDD only
    timeSlotLCR                 TimeSlotLCR     OPTIONAL,   --1.28Mcps TDD only
    neighbouringCellMeasurementInformation       NeighbouringCellMeasurementInfo     OPTIONAL,
    -- UTRAN only
    iE-Extensions               ProtocolExtensionContainer { { CellItem-CM-Rqst-ExtIEs} }    OPTIONAL,
    ...
}

NeighbouringCellMeasurementInfo ::= SEQUENCE (SIZE (1..maxNrOfMeasNCell)) OF
        CHOICE {
                neighbouringFDDCellMeasurementInformation        NeighbouringFDDCellMeasurementInformation,
                neighbouringTDDCellMeasurementInformation        NeighbouringTDDCellMeasurementInformation,
                ...,
                extension-neighbouringCellMeasurementInformation    Extension-neighbouringCellMeasurementInformation
            }
```

```
Extension-neighbouringCellMeasurementInformation    ::= ProtocolIE-Single-Container {{ Extension-neighbouringCellMeasurementInformationIE }}

Extension-neighbouringCellMeasurementInformationIE RNSAP-PROTOCOL-IES ::= {
    { ID id-neighbouringTDDCellMeasurementInformationLCR   CRITICALITY reject  TYPE NeighbouringTDDCellMeasurementInformationLCR PRESENCE
mandatory },
    ...
}

CellItem-CM-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- COMMON MEASUREMENT INITIATION RESPONSE
--
-- *************************************************************

CommonMeasurementInitiationResponse ::= SEQUENCE {
    protocolIEs            ProtocolIE-Container    {{CommonMeasurementInitiationResponse-IEs}},
    protocolExtensions     ProtocolExtensionContainer {{CommonMeasurementInitiationResponse-Extensions}}   OPTIONAL,
    ...
}

CommonMeasurementInitiationResponse-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-MeasurementID                         CRITICALITY ignore        TYPE    MeasurementID                          PRESENCE
    mandatory   }|
    { ID    id-CommonMeasurementObjectType-CM-Rsp    CRITICALITY ignore        TYPE    CommonMeasurementObjectType-CM-Rsp    PRESENCE optional
    }|
    { ID    id-SFN                                   CRITICALITY ignore        TYPE    SFN                                   PRESENCE optional
    }|
    -- UTRAN only
    { ID    id-CriticalityDiagnostics                CRITICALITY ignore        TYPE    CriticalityDiagnostics                PRESENCE optional
    }|
    { ID    id-CommonMeasurementAccuracy             CRITICALITY reject        TYPE    CommonMeasurementAccuracy             PRESENCE optional
    },
    -- UTRAN only
    ...
}

CommonMeasurementInitiationResponse-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CommonMeasurementObjectType-CM-Rsp ::= CHOICE {
    cell                    Cell-CM-Rsp,
    ...
 }

Cell-CM-Rsp ::= SEQUENCE {
    commonMeasurementValue                 CommonMeasurementValue,
    iE-Extensions                          ProtocolExtensionContainer { { CellItem-CM-Rsp-ExtIEs} }    OPTIONAL,
    ...
```

```
 }

CellItem-CM-Rsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- COMMON MEASUREMENT INITIATION FAILURE
--
-- **************************************************************

CommonMeasurementInitiationFailure ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container     {{CommonMeasurementInitiationFailure-IEs}},
    protocolExtensions       ProtocolExtensionContainer  {{CommonMeasurementInitiationFailure-Extensions}}   OPTIONAL,
    ...
}

CommonMeasurementInitiationFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID   id-MeasurementID             CRITICALITY   ignore     TYPE   MeasurementID           PRESENCE mandatory  }|
    { ID   id-Cause                 CRITICALITY   ignore     TYPE   Cause               PRESENCE mandatory  }|
    { ID   id-CriticalityDiagnostics        CRITICALITY   ignore     TYPE   CriticalityDiagnostics   PRESENCE optional },
    ...
}

CommonMeasurementInitiationFailure-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- COMMON MEASUREMENT REPORT
--
-- **************************************************************

CommonMeasurementReport ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container     {{CommonMeasurementReport-IEs}},
    protocolExtensions       ProtocolExtensionContainer  {{CommonMeasurementReport-Extensions}}   OPTIONAL,
    ...
}

CommonMeasurementReport-IEs RNSAP-PROTOCOL-IES ::= {
    { ID   id-MeasurementID                     CRITICALITY ignore       TYPE   MeasurementID               PRESENCE mandatory  }|
    { ID   id-CommonMeasurementObjectType-CM-Rprt      CRITICALITY ignore       TYPE   CommonMeasurementObjectType-CM-Rprt   PRESENCE
    mandatory   }|
    { ID   id-SFN                         CRITICALITY ignore       TYPE   SFN                     PRESENCE optional },
    -- UTRAN only
    ...
}

CommonMeasurementReport-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
CommonMeasurementObjectType-CM-Rprt ::= CHOICE {
    cell                                Cell-CM-Rprt,
    ...
 }

Cell-CM-Rprt ::= SEQUENCE {
    commonMeasurementValueInformation   CommonMeasurementValueInformation,
    iE-Extensions                       ProtocolExtensionContainer {{ CellItem-CM-Rprt-ExtIEs }}    OPTIONAL,
    ...

 }

CellItem-CM-Rprt-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- COMMON MEASUREMENT TERMINATION REQUEST
--
-- *************************************************************

CommonMeasurementTerminationRequest ::= SEQUENCE {
    protocolIEs           ProtocolIE-Container    {{CommonMeasurementTerminationRequest-IEs}},
    protocolExtensions    ProtocolExtensionContainer {{CommonMeasurementTerminationRequest-Extensions}}    OPTIONAL,
    ...
}

CommonMeasurementTerminationRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-MeasurementID           CRITICALITY    ignore         TYPE    MeasurementID    PRESENCE mandatory},
    ...
}

CommonMeasurementTerminationRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- COMMON MEASUREMENT FAILURE INDICATION
--
-- *************************************************************

CommonMeasurementFailureIndication ::= SEQUENCE {
    protocolIEs           ProtocolIE-Container    {{CommonMeasurementFailureIndication-IEs}},
    protocolExtensions    ProtocolExtensionContainer {{CommonMeasurementFailureIndication-Extensions}}        OPTIONAL,
    ...
}

CommonMeasurementFailureIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-MeasurementID           CRITICALITY ignore       TYPE    MeasurementID    PRESENCE mandatory   }|
    { ID    id-Cause                   CRITICALITY ignore       TYPE    Cause            PRESENCE mandatory   },
    ...
}
```

```
CommonMeasurementFailureIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ***************************************************************
--
-- INFORMATION EXCHANGE INITIATION REQUEST
--
-- ***************************************************************

InformationExchangeInitiationRequest ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container    {{InformationExchangeInitiationRequest-IEs}},
    protocolExtensions      ProtocolExtensionContainer {{InformationExchangeInitiationRequest-Extensions}}    OPTIONAL,
    ...
}

InformationExchangeInitiationRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-InformationExchangeID                        CRITICALITY reject    TYPE    InformationExchangeID                      PRESENCE mandatory
    }|
    { ID    id-InformationExchangeObjectType-InfEx-Rqst     CRITICALITY reject    TYPE    InformationExchangeObjectType-InfEx-Rqst    PRESENCE
    mandatory    }|

    { ID    id-InformationType                              CRITICALITY reject    TYPE    InformationType                            PRESENCE mandatory
    }|
    { ID    id-InformationReportCharacteristics             CRITICALITY reject    TYPE    InformationReportCharacteristics  PRESENCE mandatory
    },
    ...
}

InformationExchangeInitiationRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

InformationExchangeObjectType-InfEx-Rqst ::= CHOICE {
    cell                            Cell-InfEx-Rqst,
    ...
}

Cell-InfEx-Rqst ::= SEQUENCE {
    c-ID                            C-ID, --May be a GERAN cell identifier
    iE-Extensions                   ProtocolExtensionContainer { { CellItem-InfEx-Rqst-ExtIEs} }    OPTIONAL,
    ...
}

CellItem-InfEx-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- ***************************************************************
--
-- INFORMATION EXCHANGE INITIATION RESPONSE
```

```
--
-- ************************************************************

InformationExchangeInitiationResponse ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container    {{InformationExchangeInitiationResponse-IEs}},
    protocolExtensions      ProtocolExtensionContainer {{InformationExchangeInitiationResponse-Extensions}}    OPTIONAL,
    ...
}

InformationExchangeInitiationResponse-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-InformationExchangeID                         CRITICALITY ignore    TYPE    InformationExchangeID                PRESENCE
    mandatory   }|
    { ID    id-InformationExchangeObjectType-InfEx-Rsp       CRITICALITY ignore    TYPE    InformationExchangeObjectType-InfEx-Rsp    PRESENCE
    optional    }|
    { ID    id-CriticalityDiagnostics                        CRITICALITY ignore    TYPE    CriticalityDiagnostics               PRESENCE optional
    },
    ...
}

InformationExchangeInitiationResponse-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

InformationExchangeObjectType-InfEx-Rsp ::= CHOICE {
    cell                    Cell-InfEx-Rsp,
    ...
}

Cell-InfEx-Rsp ::= SEQUENCE {
    requestedDataValue              RequestedDataValue,
    iE-Extensions                   ProtocolExtensionContainer { { CellItem-InfEx-Rsp-ExtIEs} }    OPTIONAL,
    ...
}

CellItem-InfEx-Rsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- ************************************************************
--
-- INFORMATION EXCHANGE INITIATION FAILURE
--
-- ************************************************************

InformationExchangeInitiationFailure ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container    {{InformationExchangeInitiationFailure-IEs}},
    protocolExtensions      ProtocolExtensionContainer {{InformationExchangeInitiationFailure-Extensions}}    OPTIONAL,
    ...
}

InformationExchangeInitiationFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-InformationExchangeID                         CRITICALITY    ignore    TYPE    InformationExchangeID                PRESENCE mandatory    }|
    { ID    id-Cause                                         CRITICALITY    ignore    TYPE    Cause                                PRESENCE mandatory    }|
```

```
    { ID    id-CriticalityDiagnostics              CRITICALITY    ignore    TYPE    CriticalityDiagnostics        PRESENCE optional },
    ...
}

InformationExchangeInitiationFailure-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- *************************************************************
--
-- INFORMATION REPORT
--
-- *************************************************************

InformationReport ::= SEQUENCE {
    protocolIEs            ProtocolIE-Container    {{InformationReport-IEs}},
    protocolExtensions     ProtocolExtensionContainer {{InformationReport-Extensions}}       OPTIONAL,
    ...
}

InformationReport-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-InformationExchangeID                      CRITICALITY ignore        TYPE    InformationExchangeID                      PRESENCE
    mandatory    }|
    { ID    id-InformationExchangeObjectType-InfEx-Rprt    CRITICALITY ignore        TYPE    InformationExchangeObjectType-InfEx-Rprt    PRESENCE
    mandatory    },
    ...
}

InformationReport-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

InformationExchangeObjectType-InfEx-Rprt ::= CHOICE {
    cell                      Cell-InfEx-Rprt,
    ...
 }

Cell-InfEx-Rprt ::= SEQUENCE {
    requestedDataValueInformation    RequestedDataValueInformation,
    iE-Extensions                    ProtocolExtensionContainer {{ CellItem-InfEx-Rprt-ExtIEs }}    OPTIONAL,
    ...

 }

CellItem-InfEx-Rprt-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- *************************************************************
--
-- INFORMATION EXCHANGE TERMINATION REQUEST
--
-- *************************************************************
```

```
InformationExchangeTerminationRequest ::= SEQUENCE {
    protocolIEs              ProtocolIE-Container    {{InformationExchangeTerminationRequest-IEs}},
    protocolExtensions       ProtocolExtensionContainer {{InformationExchangeTerminationRequest-Extensions}}    OPTIONAL,
    ...
}

InformationExchangeTerminationRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-InformationExchangeID            CRITICALITY     ignore              TYPE    InformationExchangeID        PRESENCE mandatory},
    ...
}

InformationExchangeTerminationRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- *************************************************************
--
-- INFORMATION EXCHANGE FAILURE INDICATION
--
-- *************************************************************

InformationExchangeFailureIndication ::= SEQUENCE {
    protocolIEs              ProtocolIE-Container    {{InformationExchangeFailureIndication-IEs}},
    protocolExtensions       ProtocolExtensionContainer {{InformationExchangeFailureIndication-Extensions}}        OPTIONAL,
    ...
}

InformationExchangeFailureIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-InformationExchangeID            CRITICALITY ignore          TYPE    InformationExchangeID        PRESENCE mandatory    }|
    { ID    id-Cause                            CRITICALITY ignore          TYPE    Cause                        PRESENCE mandatory    },
    ...
}

InformationExchangeFailureIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- RESET REQUEST
--
-- *************************************************************

ResetRequest ::= SEQUENCE {
    protocolIEs              ProtocolIE-Container    {{ResetRequest-IEs}},
    protocolExtensions       ProtocolExtensionContainer {{ResetRequest-Extensions}}      OPTIONAL,
    ...
}

ResetRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RNC-ID              CRITICALITY reject  TYPE RNC-ID      PRESENCE mandatory} |
    { ID id-ResetIndicator      CRITICALITY reject      TYPE    ResetIndicator      PRESENCE    mandatory},
```

```
    ...
}

ResetRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

ResetIndicator ::= CHOICE {
    context          ContextList-Reset,
    all-contexts     NULL,
    ...,
    contextGroup     ContextGroupList-Reset
}

ContextList-Reset ::= SEQUENCE {
    contextInfoList-Reset       ContextInfoList-Reset,
    iE-Extensions                               ProtocolExtensionContainer { {ContextItem-Reset-ExtIEs} }    OPTIONAL,
    ...
}

ContextItem-Reset-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

ContextInfoList-Reset ::= SEQUENCE (SIZE (1.. maxResetContext)) OF ProtocolIE-Single-Container {{ ContextInfoItemIE-Reset }}

ContextInfoItemIE-Reset RNSAP-PROTOCOL-IES ::= {
    {ID id-ContextInfoItem-Reset        CRITICALITY reject      TYPE ContextInfoItem-Reset      PRESENCE mandatory}
}

ContextInfoItem-Reset ::= SEQUENCE {
    contextType-Reset           ContextType-Reset,
    iE-Extensions               ProtocolExtensionContainer { { ContextInfoItem-Reset-ExtIEs} }   OPTIONAL,
    ...
}

ContextInfoItem-Reset-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

ContextType-Reset ::= CHOICE {
    sRNTI           S-RNTI,
    dRNTI           D-RNTI,
    ...
}

ContextGroupList-Reset ::= SEQUENCE {
    contextGroupInfoList-Reset      ContextGroupInfoList-Reset,
    iE-Extensions                   ProtocolExtensionContainer { {ContextGroupItem-Reset-ExtIEs} }     OPTIONAL,
    ...
}

ContextGroupItem-Reset-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

ContextGroupInfoList-Reset ::= SEQUENCE (SIZE (1.. maxResetContextGroup))  OF ProtocolIE-Single-Container {{ ContextGroupInfoItemIE-Reset }}

ContextGroupInfoItemIE-Reset RNSAP-PROTOCOL-IES ::= {
    {ID id-ContextGroupInfoItem-Reset      CRITICALITY reject      TYPE ContextGroupInfoItem-Reset      PRESENCE mandatory}
}

ContextGroupInfoItem-Reset ::= SEQUENCE {
    s-RNTI-Group                  S-RNTI-Group,
    iE-Extensions                 ProtocolExtensionContainer  { { ContextGroupInfoItem-Reset-ExtIEs} }   OPTIONAL,
    ...
}

ContextGroupInfoItem-Reset-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- RESET RESPONSE
--
-- *************************************************************

ResetResponse ::= SEQUENCE {
    protocolIEs           ProtocolIE-Container    {{ResetResponse-IEs}},
    protocolExtensions    ProtocolExtensionContainer {{ResetResponse-Extensions}}          OPTIONAL,
    ...
}

ResetResponse-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RNC-ID              CRITICALITY ignore  TYPE RNC-ID     PRESENCE mandatory} |
    { ID id-CriticalityDiagnostics     CRITICALITY     ignore     TYPE    CriticalityDiagnostics     PRESENCE optional},
    ...
}

ResetResponse-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- RADIO LINK ACTIVATION COMMAND FDD
--
-- *************************************************************

RadioLinkActivationCommandFDD ::= SEQUENCE {
    protocolIEs           ProtocolIE-Container    {{RadioLinkActivationCommandFDD-IEs}},
    protocolExtensions    ProtocolExtensionContainer {{RadioLinkActivationCommandFDD-Extensions}}      OPTIONAL,
    ...
}

RadioLinkActivationCommandFDD-IEs RNSAP-PROTOCOL-IES ::= {
```

```
    { ID id-DelayedActivationList-RL-ActivationCmdFDD      CRITICALITY ignore  TYPE    DelayedActivationInformationList-RL-ActivationCmdFDD
    PRESENCE    mandatory   },
    ...
}

RadioLinkActivationCommandFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DelayedActivationInformationList-RL-ActivationCmdFDD ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container {
    { DelayedActivationInformation-RL-ActivationCmdFDD-IEs} }

DelayedActivationInformation-RL-ActivationCmdFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DelayedActivationInformation-RL-ActivationCmdFDD    CRITICALITY ignore  TYPE DelayedActivationInformation-RL-ActivationCmdFDD  PRESENCE
optional    }
}

DelayedActivationInformation-RL-ActivationCmdFDD ::= SEQUENCE {
    rL-ID                      RL-ID,
    delayed-activation-update   DelayedActivationUpdate,
    iE-Extensions              ProtocolExtensionContainer { { DelayedActivationInformation-RL-ActivationCmdFDD-ExtIEs} } OPTIONAL,
    ...
}

DelayedActivationInformation-RL-ActivationCmdFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- RADIO LINK ACTIVATION COMMAND TDD
--
-- *************************************************************

RadioLinkActivationCommandTDD ::= SEQUENCE {
    protocolIEs              ProtocolIE-Container    {{RadioLinkActivationCommandTDD-IEs}},
    protocolExtensions       ProtocolExtensionContainer  {{RadioLinkActivationCommandTDD-Extensions}}     OPTIONAL,
    ...
}

RadioLinkActivationCommandTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DelayedActivationList-RL-ActivationCmdTDD      CRITICALITY ignore  TYPE    DelayedActivationInformationList-RL-ActivationCmdTDD
    PRESENCE    mandatory   },
    ...
}

RadioLinkActivationCommandTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DelayedActivationInformationList-RL-ActivationCmdTDD ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container {
    { DelayedActivationInformation-RL-ActivationCmdTDD-IEs} }

DelayedActivationInformation-RL-ActivationCmdTDD-IEs RNSAP-PROTOCOL-IES ::= {
```

```
   { ID id-DelayedActivationInformation-RL-ActivationCmdTDD    CRITICALITY ignore  TYPE DelayedActivationInformation-RL-ActivationCmdTDD   PRESENCE
optional    }
}

DelayedActivationInformation-RL-ActivationCmdTDD ::= SEQUENCE {
    rL-ID                    RL-ID,
    delayed-activation-update   DelayedActivationUpdate,
    iE-Extensions               ProtocolExtensionContainer { { DelayedActivationInformation-RL-ActivationCmdTDD-ExtIEs} } OPTIONAL,
    ...
}

DelayedActivationInformation-RL-ActivationCmdTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- GERAN UPLINK SIGNALLING TRANSFER INDICATION
--
-- *************************************************************

GERANUplinkSignallingTransferIndication ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{GERANUplinkSignallingTransferIndication-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{GERANUplinkSignallingTransferIndication-Extensions}} OPTIONAL,
    ...
}

GERANUplinkSignallingTransferIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UC-ID                      CRITICALITY ignore  TYPE UC-ID                        PRESENCE mandatory } |
    -- UC-Id may be GERAN cell identifier.
    { ID id-SAI                        CRITICALITY ignore  TYPE SAI                          PRESENCE mandatory } |
    { ID id-S-RNTI                     CRITICALITY ignore  TYPE S-RNTI                       PRESENCE mandatory } |
    { ID id-D-RNTI                     CRITICALITY ignore  TYPE D-RNTI                       PRESENCE optional  } |
    { ID id-L3-Information             CRITICALITY ignore  TYPE L3-Information               PRESENCE mandatory } |
    { ID id-CN-PS-DomainIdentifier     CRITICALITY ignore  TYPE CN-PS-DomainIdentifier       PRESENCE optional  } |
    { ID id-CN-CS-DomainIdentifier     CRITICALITY ignore  TYPE CN-CS-DomainIdentifier       PRESENCE optional  } |
    { ID id-URA-Information            CRITICALITY ignore  TYPE URA-Information              PRESENCE optional  },
    -- URA information may be GRA information
    ...
}

GERANUplinkSignallingTransferIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *************************************************************
--
-- RADIO LINK PARAMETER UPDATE INDICATION FDD
--
-- *************************************************************

RadioLinkParameterUpdateIndicationFDD ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{RadioLinkParameterUpdateIndicationFDD-IEs}},
    protocolExtensions   ProtocolExtensionContainer  {{RadioLinkParameterUpdateIndicationFDD-Extensions}}        OPTIONAL,
```

```
    ...
}

RadioLinkParameterUpdateIndicationFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-HSDSCH-FDD-Update-Information                        CRITICALITY ignore  TYPE    HSDSCH-FDD-Update-Information            PRESENCE
    optional}|
    { ID    id-RL-ParameterUpdateIndicationFDD-RL-InformationList   CRITICALITY ignore  TYPE    RL-ParameterUpdateIndicationFDD-RL-InformationList
        PRESENCE optional   },
    ...
}

RL-ParameterUpdateIndicationFDD-RL-InformationList ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { { RL-
ParameterUpdateIndicationFDD-RL-InformationList-IEs} }

RL-ParameterUpdateIndicationFDD-RL-InformationList-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-ParameterUpdateIndicationFDD-RL-Information-Item    CRITICALITY ignore  TYPE RL-ParameterUpdateIndicationFDD-RL-Information-Item
    PRESENCE mandatory  }
}

RL-ParameterUpdateIndicationFDD-RL-Information-Item::= SEQUENCE {
    rL-ID                           RL-ID,
    phase-Reference-Update-Indicator    Phase-Reference-Update-Indicator    OPTIONAL,
    iE-Extensions                       ProtocolExtensionContainer { { RL-ParameterUpdateIndicationFDD-RL-Information-ExtIEs} } OPTIONAL,
    ...
}

RL-ParameterUpdateIndicationFDD-RL-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkParameterUpdateIndicationFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- ***************************************************************
--
-- RADIO LINK PARAMETER UPDATE INDICATION TDD
--
-- ***************************************************************

RadioLinkParameterUpdateIndicationTDD ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container    {{RadioLinkParameterUpdateIndicationTDD-IEs}},
    protocolExtensions      ProtocolExtensionContainer {{RadioLinkParameterUpdateIndicationTDD-Extensions}}        OPTIONAL,
    ...
}

RadioLinkParameterUpdateIndicationTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-HSDSCH-TDD-Update-Information         CRITICALITY    ignore    TYPE    HSDSCH-TDD-Update-Information      PRESENCE optional},
    ...
}

RadioLinkParameterUpdateIndicationTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
-- *************************************************************
--
-- PRIVATE MESSAGE
--
-- *************************************************************

PrivateMessage ::= SEQUENCE {
    privateIEs      PrivateIE-Container  {{PrivateMessage-IEs}},
    ...
}

PrivateMessage-IEs RNSAP-PRIVATE-IES ::= {
    ...
}

END
```

9.3.4   Information Element Definitions

```
-- *************************************************************
--
-- Information Element Definitions
--
-- *************************************************************

RNSAP-IEs {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    maxCodeNumComp-1,
    maxNrOfFACHs,
    maxFACHCountPlus1,
    maxIBSEG,
    maxNoOfDSCHs,
    maxNoOfDSCHs-1,
    maxNoOfUSCHs,
    maxNoTFCIGroups,
    maxNoCodeGroups,
    maxNrOfDCHs,
    maxNrOfDL-Codes,
    maxNrOfDLTs,
    maxNrOfDLTsLCR,
    maxNrOfDPCHs,
    maxNrOfDPCHsLCR,
    maxNrOfErrors,
    maxNrOfFDDNeighboursPerRNC,
    maxNrOfMACcshSDU-Length,
```

```
    maxNrOfNeighbouringRNCs,
    maxNrOfTDDNeighboursPerRNC,
    maxNrOfLCRTDDNeighboursPerRNC,
    maxNrOfTS,
    maxNrOfULTs,
    maxNrOfULTsLCR,
    maxNrOfGSMNeighboursPerRNC,
    maxRateMatching,
    maxNrOfPoints,
    maxNoOfRB,
    maxNrOfRLs,
    maxNrOfTFCs,
    maxNrOfTFs,
    maxCTFC,
    maxRNCinURA-1,
    maxNrOfSCCPCHs,
    maxTFCI1Combs,
    maxTFCI2Combs,
    maxTFCI2Combs-1,
    maxTGPS,
    maxTTI-Count,
    maxNoGPSTypes,
    maxNoSat,
    maxNrOfSNAs,
    maxNrOfHARQProc,
    maxNrOfHSSCCHCodes,
    maxNrOfMACdFlows,
    maxNrOfMACdFlows-1,
    maxNrOfPDUIndexes,
    maxNrOfPDUIndexes-1,
    maxNrOfPrioQueues,
    maxNrOfPrioQueues-1,
    maxNrOfSatAlmanac-maxNoSat,

    id-Allowed-Rate-Information,
    id-AntennaColocationIndicator,
    id-BindingID,
    id-Cell-Capacity-Class-Value,
    id-CellCapabilityContainer-FDD,
    id-CellCapabilityContainer-TDD,
    id-CellCapabilityContainer-TDD-LCR,
    id-CoverageIndicator,
    id-DPC-Mode-Change-SupportIndicator,
    id-DSCH-Specific-FDD-Additional-List,
    id-GERAN-Cell-Capability,
    id-GERAN-Classmark,
    id-Guaranteed-Rate-Information,
    id-HCS-Prio,
    id-Load-Value,
    id-Load-Value-IncrDecrThres,
    id-Neighbouring-GSM-CellInformation,
    id-Neighbouring-UMTS-CellInformationItem,
    id-neighbouring-LCR-TDD-CellInformation,
    id-NRT-Load-Information-Value,
```

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```
    id-NRT-Load-Information-Value-IncrDecrThres,
    id-OnModification,
    id-Received-Total-Wideband-Power-Value,
    id-Received-Total-Wideband-Power-Value-IncrDecrThres,
    id-RT-Load-Value,
    id-RT-Load-Value-IncrDecrThres,
    id-SFNSFNMeasurementThresholdInformation,
    id-SNA-Information,
    id-TrafficClass,
    id-Transmitted-Carrier-Power-Value,
    id-Transmitted-Carrier-Power-Value-IncrDecrThres,
    id-TUTRANGPSMeasurementThresholdInformation,
    id-UL-Timeslot-ISCP-Value,
    id-UL-Timeslot-ISCP-Value-IncrDecrThres,
    maxNrOfLevels,
    maxNrOfMeasNCell,
    maxNrOfMeasNCell-1,
    id-MessageStructure,
    id-EnhancedDSCHPC,
    id-RestrictionStateIndicator,
    id-Rx-Timing-Deviation-Value-LCR,
    id-TransportLayerAddress,
    id-TypeOfError,
    id-Angle-Of-Arrival-Value-LCR,
    id-IPDL-TDD-ParametersLCR,
    id-DSCH-InitialWindowSize,
    id-Maximum-DL-Power-TimeslotLCR-InformationItem,
    id-Minimum-DL-Power-TimeslotLCR-InformationItem,
    id-HS-SICH-Reception-Quality,
    id-HS-SICH-Reception-Quality-Measurement-Value,
    id-ExtendedGSMCellIndividualOffset,
    id-Unidirectional-DCH-Indicator,
    id-RTLoadValue,
    id-NRTLoadInformationValue,
    id-Satellite-Almanac-Information-ExtItem,
    id-TnlQos

FROM RNSAP-Constants

    Criticality,
    ProcedureID,
    ProtocolIE-ID,
    TransactionID,
    TriggeringMessage
FROM RNSAP-CommonDataTypes

    ProtocolIE-Single-Container{},
    ProtocolExtensionContainer{},
    RNSAP-PROTOCOL-IES,
    RNSAP-PROTOCOL-EXTENSION
FROM RNSAP-Containers;

-- A
```

```
AckNack-RepetitionFactor ::= INTEGER (1..4,...)
-- Step: 1

Ack-Power-Offset ::= INTEGER (0..8,...)
-- According to mapping in ref. [21] subclause 4.2.1

Active-Pattern-Sequence-Information ::= SEQUENCE {
    cMConfigurationChangeCFN        CFN,
    transmission-Gap-Pattern-Sequence-Status   Transmission-Gap-Pattern-Sequence-Status-List    OPTIONAL,
    iE-Extensions        ProtocolExtensionContainer { {Active-Pattern-Sequence-Information-ExtIEs} } OPTIONAL,
    ...
}

Active-Pattern-Sequence-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

AdjustmentPeriod            ::= INTEGER(1..256)
-- Unit Frame

AllocationRetentionPriority ::= SEQUENCE {
    priorityLevel               PriorityLevel,
    pre-emptionCapability       Pre-emptionCapability,
    pre-emptionVulnerability    Pre-emptionVulnerability,
    iE-Extensions           ProtocolExtensionContainer { {AllocationRetentionPriority-ExtIEs} } OPTIONAL,
    ...
}

AllocationRetentionPriority-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Allowed-Rate-Information     ::= SEQUENCE {
    allowed-UL-Rate         Allowed-Rate OPTIONAL,
    allowed-DL-Rate         Allowed-Rate OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {Allowed-Rate-Information-ExtIEs} } OPTIONAL,
    ...
}

Allowed-Rate-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Allowed-Rate              ::= INTEGER (1..maxNrOfTFs)
-- "1": TFI 0, "2": TFI 1, "3": TFI 2, ...

AllowedQueuingTime          ::= INTEGER (1..60)
-- seconds

AlphaValue                  ::= INTEGER (0..8)
-- Actual value = Alpha / 8

Angle-Of-Arrival-Value-LCR ::= SEQUENCE {
    aOA-LCR                 AOA-LCR,
```

```
      aOA-LCR-Accuracy-Class  AOA-LCR-Accuracy-Class,
      iE-Extensions           ProtocolExtensionContainer { {Angle-Of-Arrival-Value-LCR-ExtIEs} } OPTIONAL,
...
}

Angle-Of-Arrival-Value-LCR-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

AOA-LCR ::= INTEGER (0..719)
-- Angle Of Arrival for 1.28Mcps TDD

AOA-LCR-Accuracy-Class  ::= ENUMERATED {a,b,c,d,e,f,g,h,...}

AntennaColocationIndicator ::= ENUMERATED {
    co-located,
    ...
}

-- B

BadSatellites ::= SEQUENCE {
    badSatelliteInformation     SEQUENCE (SIZE (1..maxNoSat)) OF
        SEQUENCE {
            badSAT-ID               SAT-ID,
            iE-Extensions           ProtocolExtensionContainer { { BadSatelliteInformation-ExtIEs} }    OPTIONAL,
            ...
        },
    iE-Extensions               ProtocolExtensionContainer { { BadSatellites-ExtIEs} }     OPTIONAL,
    ...
}

BadSatelliteInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

BadSatellites-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Band-Indicator ::= ENUMERATED {
    dcs1800Band,
    pcs1900Band,
    ...
}

BCC ::= BIT STRING (SIZE (3))

BCCH-ARFCN ::= INTEGER (0..1023)

BetaCD ::= INTEGER (0..15)

BindingID            ::= OCTET STRING (SIZE (1..4,...))
-- If the Binding ID includes an UDP port, the UDP port is included in octet 1 and 2.
```

```
BLER                      ::= INTEGER (-63..0)
-- Step 0.1 (Range -6.3..0). It is the Log10 of the BLER

SCTD-Indicator  ::= ENUMERATED {
    active,
    inactive
}

BSIC ::= SEQUENCE {
    nCC         NCC,
    bCC         BCC
}

BurstModeParameters ::= SEQUENCE {
    burstStart      INTEGER (0..15),
    burstLength     INTEGER (10..25),
    burstFreq       INTEGER (1..16),
    iE-Extensions               ProtocolExtensionContainer { { BurstModeParameters-ExtIEs} }    OPTIONAL,
    ...
}

BurstModeParameters-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- C

Cause ::= CHOICE {
    radioNetwork        CauseRadioNetwork,
    transport           CauseTransport,
    protocol            CauseProtocol,
    misc                CauseMisc,
    ...
}

CauseMisc ::= ENUMERATED {
    control-processing-overload,
    hardware-failure,
    om-intervention,
    not-enough-user-plane-processing-resources,
    unspecified,
    ...
}

CauseProtocol ::= ENUMERATED {
    transfer-syntax-error,
    abstract-syntax-error-reject,
    abstract-syntax-error-ignore-and-notify,
    message-not-compatible-with-receiver-state,
    semantic-error,
    unspecified,
    abstract-syntax-error-falsely-constructed-message,
    ...
```

```
}

CauseRadioNetwork ::= ENUMERATED {
    unknown-C-ID,
    cell-not-available,
    power-level-not-supported,
    ul-scrambling-code-already-in-use,
    dl-radio-resources-not-available,
    ul-radio-resources-not-available,
    measurement-not-supported-for-the-object,
    combining-resources-not-available,
    combining-not-supported,
    reconfiguration-not-allowed,
    requested-configuration-not-supported,
    synchronisation-failure,
    requested-tx-diversity-mode-not-supported,
    measurement-temporaily-not-available,
    unspecified,
    invalid-CM-settings,
    reconfiguration-CFN-not-elapsed,
    number-of-DL-codes-not-supported,
    dedicated-transport-channel-type-not-supported,
    dl-shared-channel-type-not-supported,
    ul-shared-channel-type-not-supported,
    common-transport-channel-type-not-supported,
    ul-spreading-factor-not-supported,
    dl-spreading-factor-not-supported,
    cm-not-supported,
    transaction-not-supported-by-destination-node-b,
    rl-already-activated-or-alocated,
    ...,
    number-of-UL-codes-not-supported,
    cell-reserved-for-operator-use,
    dpc-mode-change-not-supported,
    information-temporarily-not-available,
    information-provision-not-supported-for-the-object,
    power-balancing-status-not-compatible,
    delayed-activation-not-supported,
    rl-timing-adjustment-not-supported,
    unknown-RNTI
}

CauseTransport ::= ENUMERATED {
    transport-resource-unavailable,
    unspecified,
    ...
}

CellCapabilityContainer-FDD ::= BIT STRING (SIZE (32))
-- First bit: Flexible Hard Split Support Indicator
-- Second bit: Delayed Activation Support Indicator
-- Third bit: HS-DSCH Support Indicator
-- Fourth bit: DSCH Support Indicator
-- Note that undefined bits are considered as a spare bit and spare bits shall be set to 0 by the transmitter and shall be ignored by the receiver.
```

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```
CellCapabilityContainer-TDD ::= BIT STRING (SIZE (32))
-- First bit: Delayed Activation Support Indicator
-- Second bit: HS-DSCH Support Indicator
-- Third bit: DSCH Support Indicator
-- Note that undefined bits are considered as a spare bit and spare bits shall be set to 0 by the transmitter and shall be ignored by the receiver.

CellCapabilityContainer-TDD-LCR ::= BIT STRING (SIZE (32))
-- First bit: Delayed Activation Support Indicator
-- Second bit: HS-DSCH Support Indicator
-- Third bit: DSCH Support Indicator
-- Note that undefined bits are considered as a spare bit and spare bits shall be set to 0 by the transmitter and shall be ignored by the receiver.

C-ID                    ::= INTEGER (0..65535)

CCTrCH-ID               ::= INTEGER (0..15)

Cell-Capacity-Class-Value ::= SEQUENCE {
        uplinkCellCapacityClassValue        INTEGER(1..100,...),
        downlinkCellCapacityClassValue      INTEGER(1..100,...)
}


CellIndividualOffset    ::= INTEGER (-20..20)

CellParameterID               ::= INTEGER (0..127,...)

CFN                 ::= INTEGER (0..255)

CGI ::= SEQUENCE {
    lAI         SEQUENCE {
        pLMN-Identity   PLMN-Identity,
        lAC             LAC,
        iE-Extensions           ProtocolExtensionContainer { {LAI-ExtIEs} } OPTIONAL,
        ...
    },
    cI              CI,
    iE-Extensions           ProtocolExtensionContainer { {CGI-ExtIEs} } OPTIONAL
}

LAI-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CGI-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

ChannelCodingType ::= ENUMERATED {
    no-codingTDD,
    convolutional-coding,
    turbo-coding,
    ...
}
```

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```
ChipOffset               ::= INTEGER (0..38399)

CI                 ::= OCTET STRING (SIZE (2))

ClosedLoopMode1-SupportIndicator    ::= ENUMERATED {
    closedLoop-Mode1-Supported,
    closedLoop-Mode1-not-Supported
}

ClosedLoopMode2-SupportIndicator    ::= ENUMERATED {
    closedLoop-Mode2-Supported,
    closedLoop-Mode2-not-Supported
}

Closedlooptimingadjustmentmode  ::= ENUMERATED {
    adj-1-slot,
    adj-2-slot,
    ...
}

CodeNumber ::= INTEGER (0..maxCodeNumComp-1)

CodingRate ::= ENUMERATED {
    half,
    third,
    ...
}

CommonMeasurementAccuracy ::= CHOICE {
    tUTRANGPSMeasurementAccuracyClass       TUTRANGPSAccuracyClass,
    ...
}

CommonMeasurementType ::= ENUMERATED {
    uTRAN-GPS-timing-of-cell-frames-for-UE-Positioning,
    sFN-SFN-observerd-time-difference,
    load,
    transmitted-carrier-power,
    received-total-wide-band-power,
    uplink-timeslot-iscp,
    ...,
    rT-load,
    nRT-load-Information
}
-- For measurements on the Iur-g interface, only load, RT Load and NRT Load information are requested.

CommonMeasurementValue ::= CHOICE {
    tUTRANGPSMeasurementValueInformation    TUTRANGPSMeasurementValueInformation,
    sFNSFNMeasurementValueInformation       SFNSFNMeasurementValueInformation,
    loadValue                        LoadValue,
    transmittedCarrierPowerValue      INTEGER(0..100),
    receivedTotalWideBandPowerValue   INTEGER(0..621),
    uplinkTimeslotISCPValue           UL-TimeslotISCP,
```

```
    ...,
    extension-CommonMeasurementValue    Extension-CommonMeasurementValue
}

Extension-CommonMeasurementValue    ::= ProtocolIE-Single-Container {{ Extension-CommonMeasurementValueIE }}

Extension-CommonMeasurementValueIE RNSAP-PROTOCOL-IES ::= {
    { ID id-RTLoadValue CRITICALITY ignore  TYPE RTLoadValue    PRESENCE mandatory }|
    { ID id-NRTLoadInformationValue CRITICALITY ignore  TYPE NRTLoadInformationValue    PRESENCE mandatory }
}

-- For measurements on the Iur-g interface, only load, RT Load and NRT Load values are reported.

CommonMeasurementValueInformation ::= CHOICE {
    measurementAvailable        CommonMeasurementAvailable,
    measurementnotAvailable     NULL
}

CommonMeasurementAvailable::= SEQUENCE {
    commonMeasurementValue      CommonMeasurementValue,
    iE-Extensions                   ProtocolExtensionContainer { { CommonMeasurementAvailableItem-ExtIEs} }    OPTIONAL,
    ...
}

CommonMeasurementAvailableItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CongestionCause ::= ENUMERATED {
    uTRAN-dynamic-resources,
    uTRAN-semistatic-resources,
    ...
}

CommonTransportChannelResourcesInitialisationNotRequired ::= ENUMERATED {
    not-Required
}

CoverageIndicator ::= ENUMERATED {
    overlap,
    covers,
    containedIn,
    ...
}

CRC-Size                ::= ENUMERATED {
    v0,
    v8,
    v12,
    v16,
    v24,
    ...
}
```

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```
CriticalityDiagnostics ::= SEQUENCE {
    procedureID                 ProcedureID         OPTIONAL,
    triggeringMessage           TriggeringMessage       OPTIONAL,
    procedureCriticality        Criticality             OPTIONAL,
    transactionID               TransactionID           OPTIONAL,
    iEsCriticalityDiagnostics       CriticalityDiagnostics-IE-List  OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {CriticalityDiagnostics-ExtIEs} } OPTIONAL,
    ...
}

CriticalityDiagnostics-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CriticalityDiagnostics-IE-List ::= SEQUENCE (SIZE (1..maxNrOfErrors)) OF
    SEQUENCE {
        iECriticality           Criticality,
        iE-ID                   ProtocolIE-ID,
        repetitionNumber        RepetitionNumber0       OPTIONAL,
        iE-Extensions           ProtocolExtensionContainer { {CriticalityDiagnostics-IE-List-ExtIEs} } OPTIONAL,
        ...
    }

CriticalityDiagnostics-IE-List-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
{   ID id-MessageStructure      CRITICALITY ignore      EXTENSION MessageStructure      PRESENCE optional }|
{   ID id-TypeOfError           CRITICALITY ignore      EXTENSION TypeOfError           PRESENCE mandatory },
    ...
}

MessageStructure ::= SEQUENCE (SIZE (1..maxNrOfLevels)) OF
    SEQUENCE {
        iE-ID                   ProtocolIE-ID,
        repetitionNumber        RepetitionNumber1       OPTIONAL,
        iE-Extensions           ProtocolExtensionContainer { {MessageStructure-ExtIEs} } OPTIONAL,
        ...
    }


MessageStructure-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CN-CS-DomainIdentifier ::= SEQUENCE {
    pLMN-Identity       PLMN-Identity,
    lAC                 LAC,
    iE-Extensions       ProtocolExtensionContainer { {CN-CS-DomainIdentifier-ExtIEs} } OPTIONAL
}

CN-CS-DomainIdentifier-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CN-PS-DomainIdentifier ::= SEQUENCE {
    pLMN-Identity       PLMN-Identity,
```

```
    lAC                     LAC,
    rAC                     RAC,
    iE-Extensions           ProtocolExtensionContainer { {CN-PS-DomainIdentifier-ExtIEs} } OPTIONAL
}

CN-PS-DomainIdentifier-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CNDomainType     ::= ENUMERATED {
    cs-domain,
    ps-domain,
    dont-care,
    ...
}
-- See in [16]

CQI-Feedback-Cycle ::= ENUMERATED {v0, v2, v4, v8, v10, v20, v40, v80, v160,...}

CQI-Power-Offset ::= INTEGER (0..8,...)
-- According to mapping in ref. [21] subclause 4.2.1

CQI-RepetitionFactor ::= INTEGER (1..4,...)
-- Step: 1

C-RNTI                    ::= INTEGER (0..65535)

-- D
DATA-ID ::= INTEGER (0..3)

DCH-FDD-Information     ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-FDD-InformationItem

DCH-FDD-InformationItem ::= SEQUENCE {
    payloadCRC-PresenceIndicator      PayloadCRC-PresenceIndicator,
    ul-FP-Mode                        UL-FP-Mode,
    toAWS                             ToAWS,
    toAWE                             ToAWE,
    dCH-SpecificInformationList       DCH-Specific-FDD-InformationList,
    iE-Extensions                     ProtocolExtensionContainer { {DCH-FDD-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

DCH-FDD-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-TnlQos          CRITICALITY    ignore    EXTENSION    TnlQos      PRESENCE    optional },
    ...
}

DCH-Specific-FDD-InformationList ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-Specific-FDD-Item

DCH-Specific-FDD-Item ::=    SEQUENCE {
    dCH-ID                    DCH-ID,
    trCH-SrcStatisticsDescr    TrCH-SrcStatisticsDescr,
    ul-transportFormatSet      TransportFormatSet,
    dl-transportFormatSet      TransportFormatSet,
```

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```
    ul-BLER                         BLER,
    dl-BLER                         BLER,
    allocationRetentionPriority     AllocationRetentionPriority,
    frameHandlingPriority           FrameHandlingPriority,
    qE-Selector                     QE-Selector,
    dRACControl                     DRACControl,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-FDD-SpecificItem-ExtIEs} } OPTIONAL,
    ...
}

DCH-FDD-SpecificItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-Guaranteed-Rate-Information    CRITICALITY ignore  EXTENSION Guaranteed-Rate-Information    PRESENCE optional }|
    { ID id-TrafficClass                   CRITICALITY ignore  EXTENSION TrafficClass   PRESENCE mandatory}|
    { ID id-Unidirectional-DCH-Indicator   CRITICALITY reject  EXTENSION Unidirectional-DCH-Indicator   PRESENCE optional },
    ...
}

DCH-ID                  ::= INTEGER (0..255)

DCH-InformationResponse ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem

DCH-InformationResponseItem ::= SEQUENCE {
    dCH-ID                  DCH-ID,
    bindingID               BindingID           OPTIONAL,
    transportLayerAddress   TransportLayerAddress   OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {DCH-InformationResponseItem-ExtIEs} } OPTIONAL,
    ...
}

DCH-InformationResponseItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-Allowed-Rate-Information       CRITICALITY ignore  EXTENSION Allowed-Rate-Information     PRESENCE optional },
    ...
}

DCH-TDD-Information     ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-TDD-InformationItem

DCH-TDD-InformationItem ::= SEQUENCE {
    payloadCRC-PresenceIndicator        PayloadCRC-PresenceIndicator,
    ul-FP-Mode                          UL-FP-Mode,
    toAWS                               ToAWS,
    toAWE                               ToAWE,
    dCH-SpecificInformationList         DCH-Specific-TDD-InformationList,
    iE-Extensions                       ProtocolExtensionContainer { {DCH-TDD-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

DCH-TDD-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-TnlQos                      CRITICALITY    ignore    EXTENSION    TnlQos      PRESENCE   optional },
    ...
}

DCH-Specific-TDD-InformationList ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-Specific-TDD-Item

DCH-Specific-TDD-Item ::=    SEQUENCE {
```

```
    dCH-ID                            DCH-ID,
    ul-cCTrCH-ID                      CCTrCH-ID, -- UL CCTrCH in which the DCH is mapped
    dl-cCTrCH-ID                      CCTrCH-ID, -- DL CCTrCH in which the DCH is mapped
    trCH-SrcStatisticsDescr           TrCH-SrcStatisticsDescr,
    ul-transportFormatSet             TransportFormatSet,
    dl-transportFormatSet             TransportFormatSet,
    ul-BLER                           BLER,
    dl-BLER                           BLER,
    allocationRetentionPriority       AllocationRetentionPriority,
    frameHandlingPriority             FrameHandlingPriority,
    qE-Selector                       QE-Selector        OPTIONAL,
    -- This IE shall be present if DCH is part of set of Co-ordinated DCHs
    iE-Extensions                     ProtocolExtensionContainer { {DCH-Specific-TDD-Item-ExtIEs} } OPTIONAL,
    ...
}

DCH-Specific-TDD-Item-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-Guaranteed-Rate-Information     CRITICALITY ignore  EXTENSION Guaranteed-Rate-Information     PRESENCE optional }|
    { ID id-TrafficClass                    CRITICALITY ignore  EXTENSION TrafficClass  PRESENCE mandatory}|
    { ID id-Unidirectional-DCH-Indicator    CRITICALITY reject  EXTENSION Unidirectional-DCH-Indicator    PRESENCE optional },
    ...
}

DedicatedMeasurementType ::= ENUMERATED {
    sir,
    sir-error,
    transmitted-code-power,
    rSCP,
    rx-timing-deviation,
    round-trip-time,
    ...,
    rx-timing-deviation-LCR,
    angle-Of-Arrival-LCR,
    hs-sich-quality
}

DedicatedMeasurementValue ::= CHOICE {
    sIR-Value          SIR-Value,
    sIR-ErrorValue         SIR-Error-Value,
    transmittedCodePowerValue  Transmitted-Code-Power-Value,
    rSCP             RSCP-Value, -- TDD only
    rxTimingDeviationValue  Rx-Timing-Deviation-Value,  -- 3.84Mcps TDD only
    roundTripTime        Round-Trip-Time-Value,  -- FDD only
    ...,
    extension-DedicatedMeasurementValue     Extension-DedicatedMeasurementValue
}

Extension-DedicatedMeasurementValue ::= ProtocolIE-Single-Container {{ Extension-DedicatedMeasurementValueIE }}

Extension-DedicatedMeasurementValueIE RNSAP-PROTOCOL-IES ::= {
    { ID id-Rx-Timing-Deviation-Value-LCR   CRITICALITY reject  TYPE Rx-Timing-Deviation-Value-LCR   PRESENCE mandatory }|
    { ID id-Angle-Of-Arrival-Value-LCR      CRITICALITY reject  TYPE Angle-Of-Arrival-Value-LCR PRESENCE mandatory }|
    { ID id-HS-SICH-Reception-Quality       CRITICALITY reject  TYPE HS-SICH-Reception-Quality-Value PRESENCE mandatory },
    ...
```

```
}

DedicatedMeasurementValueInformation ::= CHOICE {
    measurementAvailable        DedicatedMeasurementAvailable,
    measurementnotAvailable     DedicatedMeasurementnotAvailable
}

DedicatedMeasurementAvailable::= SEQUENCE {
    dedicatedmeasurementValue       DedicatedMeasurementValue,
    cFN                             CFN                           OPTIONAL,
    ie-Extensions                   ProtocolExtensionContainer { { DedicatedMeasurementAvailableItem-ExtIEs} }     OPTIONAL,
    ...
}

DedicatedMeasurementAvailableItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DedicatedMeasurementnotAvailable ::= NULL

DelayedActivation ::= CHOICE {
    cfn                 CFN,
    separate-indication     NULL
}

DelayedActivationUpdate ::= CHOICE {
    activate        Activate-Info,
    deactivate      Deactivate-Info
}

Activate-Info ::= SEQUENCE {
    activation-type     Execution-Type,
    initial-dl-tx-power     DL-Power,
    firstRLS-Indicator      FirstRLS-Indicator                          OPTIONAL, --FDD Only
    propagation-delay       PropagationDelay                            OPTIONAL, --FDD Only
    iE-Extensions           ProtocolExtensionContainer { { Activate-Info-ExtIEs} }       OPTIONAL,
    ...
}

Activate-Info-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Deactivate-Info ::= SEQUENCE {
    deactivation-type       Execution-Type,
    iE-Extensions           ProtocolExtensionContainer { { Deactivate-Info-ExtIEs} }         OPTIONAL,
    ...
}

Deactivate-Info-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

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```
Execution-Type ::= CHOICE {
    synchronised    CFN,
    unsynchronised  NULL
}

DeltaSIR                ::= INTEGER (0..30)
-- Step 0.1 dB, Range 0..3 dB.

DGPSCorrections ::= SEQUENCE {
    gPSTOW                                  GPSTOW,
    gPS-Status-Health                       GPS-Status-Health,
    satellite-DGPSCorrections-Information   SEQUENCE (SIZE (1..maxNoSat)) OF
        SEQUENCE {
            sAT-ID                          SAT-ID,
            iode-dgps                       BIT STRING (SIZE (8)),
            uDRE                            UDRE,
            pRC                             PRC,
            range-Correction-Rate           Range-Correction-Rate,
            iE-Extensions                   ProtocolExtensionContainer { { Satellite-DGPSCorrections-Information-ExtIEs} }   OPTIONAL,
            ...
        },
    iE-Extensions               ProtocolExtensionContainer { { DGPSCorrections-ExtIEs} }     OPTIONAL,
    ...
}


Satellite-DGPSCorrections-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


DGPSCorrections-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DGPSThreshold ::= SEQUENCE {
    pRCDeviation        PRCDeviation,
    iE-Extensions       ProtocolExtensionContainer { { DGPSThreshold-ExtIEs} }     OPTIONAL,
    ...
}

DGPSThreshold-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DiscardTimer ::= ENUMERATED
{v20,v40,v60,v80,v100,v120,v140,v160,v180,v200,v250,v300,v400,v500,v750,v1000,v1250,v1500,v1750,v2000,v2500,v3000,v3500,v4000,v4500,v5000,v7500,
 ...
}

DiversityControlField       ::= ENUMERATED {
    may,
```

```
    must,
    must-not
}

DiversityMode                ::= ENUMERATED {
    none,
    sTTD,
    closedLoopMode1,
    closedLoopMode2,
    ...
}

DL-DPCH-SlotFormat           ::= INTEGER (0..16,...)

DL-DPCH-TimingAdjustment ::= ENUMERATED {
    timing-advance,
    timing-delay
}

DL-Power                 ::= INTEGER (-350..150)
-- Value = DL-Power / 10
-- Unit dB, Range -35dB .. +15dB, Step 0.1dB

DL-PowerBalancing-Information ::= SEQUENCE {
    powerAdjustmentType                 PowerAdjustmentType,
    dLReferencePower                    DL-Power        OPTIONAL,
    -- This IE shall be present if Power Adjustment Type IE equals to 'Common'
    dLReferencePowerList        DL-ReferencePowerInformationList     OPTIONAL,
    -- This IE shall be present if Power Adjustment Type IE equals to 'Individual'
    maxAdjustmentStep                   MaxAdjustmentStep       OPTIONAL,
    -- This IE shall be present if Power Adjustment Type IE equals to 'Common' or 'Individual'
    adjustmentPeriod                    AdjustmentPeriod        OPTIONAL,
    -- This IE shall be present if Power Adjustment Type IE equals to 'Common' or 'Individual'
    adjustmentRatio                     ScaledAdjustmentRatio   OPTIONAL,
    -- This IE shall be present if Power Adjustment Type IE equals to 'Common' or 'Individual'
    iE-Extensions                       ProtocolExtensionContainer { { DL-PowerBalancing-Information-ExtIEs } } OPTIONAL,
    ...
}

DL-PowerBalancing-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-ReferencePowerInformationList        ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF DL-ReferencePowerInformationItem

DL-ReferencePowerInformationItem ::= SEQUENCE {
    rL-ID                   RL-ID,
    dl-Reference-Power      DL-Power,
    iE-Extensions           ProtocolExtensionContainer { {DL-ReferencePowerInformationItem-ExtIEs} } OPTIONAL,
    ...
}

DL-ReferencePowerInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

DL-PowerBalancing-ActivationIndicator   ::= ENUMERATED {
    dL-PowerBalancing-Activated
}

DL-PowerBalancing-UpdatedIndicator  ::= ENUMERATED {
    dL-PowerBalancing-Updated
}

DL-ReferencePowerInformation    ::= SEQUENCE {
    common-DL-ReferencePowerInformation         DL-Power        OPTIONAL,
    individual-DL-ReferencePowerInformation     DL-ReferencePowerInformationList     OPTIONAL,
    iE-Extensions                               ProtocolExtensionContainer { { DL-ReferencePowerInformation-ExtIEs } } OPTIONAL,
    ...
}

DL-ReferencePowerInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

D-RNTI                  ::= INTEGER (0..1048575)

D-RNTI-ReleaseIndication ::= ENUMERATED {
    release-D-RNTI,
    not-release-D-RNTI
}

DL-ScramblingCode           ::= INTEGER (0..15)

DL-FrameType ::= ENUMERATED {
    typeA,
    typeB,
    ...
}

DL-Timeslot-Information ::= SEQUENCE ( SIZE (1..maxNrOfTS)) OF DL-Timeslot-InformationItem

DL-Timeslot-InformationItem ::= SEQUENCE {
    timeSlot                    TimeSlot,
    midambleShiftAndBurstType   MidambleShiftAndBurstType,
    tFCI-Presence               TFCI-Presence,
    dL-Code-Information          TDD-DL-Code-Information,
    iE-Extensions                ProtocolExtensionContainer { {DL-Timeslot-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

DL-Timeslot-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-TimeslotLCR-Information ::= SEQUENCE (SIZE (1.. maxNrOfDLTsLCR)) OF DL-TimeslotLCR-InformationItem

DL-TimeslotLCR-InformationItem    ::= SEQUENCE {
```

```
    timeSlotLCR                        TimeSlotLCR,
    midambleShiftLCR                   MidambleShiftLCR,
    tFCI-Presence                      TFCI-Presence,
    dL-Code-LCR-Information         TDD-DL-Code-LCR-Information,
    iE-Extensions                      ProtocolExtensionContainer { { DL-TimeslotLCR-InformationItem-ExtIEs} }   OPTIONAL,
    ...
}

DL-TimeslotLCR-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-Maximum-DL-Power-TimeslotLCR-InformationItem   CRITICALITY ignore   EXTENSION DL-Power                     PRESENCE optional }|
    -- Applicable to 1.28Mcps TDD only
    { ID id-Minimum-DL-Power-TimeslotLCR-InformationItem   CRITICALITY ignore   EXTENSION DL-Power                     PRESENCE optional },
    -- Applicable to 1.28Mcps TDD only
    ...
}

DL-TimeSlot-ISCP-Info ::= SEQUENCE (SIZE (1..maxNrOfDLTs)) OF DL-TimeSlot-ISCP-InfoItem

DL-TimeSlot-ISCP-InfoItem ::= SEQUENCE {
    timeSlot              TimeSlot,
    dL-TimeslotISCP       DL-TimeslotISCP,
    iE-Extensions         ProtocolExtensionContainer { { DL-TimeSlot-ISCP-InfoItem-ExtIEs} } OPTIONAL,
    ...
}

DL-TimeSlot-ISCP-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-TimeSlot-ISCP-LCR-Information ::= SEQUENCE (SIZE (1..maxNrOfDLTsLCR)) OF DL-TimeSlot-ISCP-LCR-InfoItem

DL-TimeSlot-ISCP-LCR-InfoItem ::= SEQUENCE {
    timeSlotLCR                TimeSlotLCR,
    dL-TimeslotISCP            DL-TimeslotISCP,
    iE-Extensions             ProtocolExtensionContainer { { DL-TimeSlot-ISCP-LCR-InfoItem-ExtIEs} }   OPTIONAL,
    ...
 }

DL-TimeSlot-ISCP-LCR-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-TimeslotISCP          ::= INTEGER (0..91)
-- According to mapping in [24]

Downlink-Compressed-Mode-Method     ::= ENUMERATED {
    puncturing,
    sFdiv2,
    higher-layer-scheduling,
    ...
}

DPC-Mode ::= ENUMERATED {
    mode0,
```

```
   mode1,
   ...
}

DPC-Mode-Change-SupportIndicator ::= ENUMERATED {
   dPC-ModeChangeSupported
}

DPCH-ID                    ::= INTEGER (0..239)

DPCHConstantValue ::= INTEGER (-10..10)
-- Unit dB, Step 1dB

DRACControl     ::= ENUMERATED {
   requested,
   not-requested
}

DRXCycleLengthCoefficient              ::= INTEGER (3..9)
-- See in [16]

DSCH-FDD-Information::= SEQUENCE {
   dSCH-Specific-Information         DSCH-Specific-FDD-Item,
-- This DSCH-Specific-FDD-Item is the first DSCH-Specific-FDD-Item in DSCH-FDD-Information. If more than one DSCH-Specific-FDD-Item;s should be
defined in a DSCH-FDD-Information, from 2nd DSCH-Specific-FDD Item, they will be included in the DSCH-Specific-FDD-Additional-List in the DSCH-FDD-
Information-ExtIEs.
   pdSCH-RL-ID                       RL-ID,
   tFCS                              TFCS,
   iE-Extensions                     ProtocolExtensionContainer { {DSCH-FDD-Information-ExtIEs} } OPTIONAL,
   ...
}

DSCH-FDD-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
   { ID id-DSCH-Specific-FDD-Additional-List      CRITICALITY reject  EXTENSION DSCH-Specific-FDD-Additional-List     PRESENCE optional }|
   { ID id-EnhancedDSCHPC                    CRITICALITY ignore  EXTENSION EnhancedDSCHPC                     PRESENCE optional },
   ...
}

DSCH-RNTI ::= INTEGER (0..65535)

DSCH-Specific-FDD-Item ::= SEQUENCE {
   dSCH-ID                    DSCH-ID,
   trChSourceStatisticsDescriptor    TrCH-SrcStatisticsDescr,
   transportFormatSet                TransportFormatSet,
   allocationRetentionPriority       AllocationRetentionPriority,
   schedulingPriorityIndicator       SchedulingPriorityIndicator,
   bLER                              BLER,
   iE-Extensions                     ProtocolExtensionContainer { {DSCH-Specific-FDD-Item-ExtIEs} } OPTIONAL,
   ...
}

DSCH-Specific-FDD-Item-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
   { ID id-TrafficClass       CRITICALITY ignore  EXTENSION TrafficClass      PRESENCE mandatory}|
   { ID id-BindingID                   CRITICALITY ignore      EXTENSION  BindingID    PRESENCE           optional }|
```

```
    -- Shall be ignored if bearer establishment with ALCAP.
    { ID id-TransportLayerAddress           CRITICALITY ignore     EXTENSION    TransportLayerAddress     PRESENCE    optional },
    -- Shall be ignored if bearer establishment with ALCAP.
    ...
}

DSCH-Specific-FDD-Additional-List ::= SEQUENCE (SIZE(1..maxNoOfDSCHs-1)) OF DSCH-Specific-FDD-Item

DSCH-FDD-InformationResponse ::= SEQUENCE {
    dsch-Specific-InformationResponse   DSCH-Specific-FDD-InformationResponse,
    pdSCHCodeMapping                    PDSCHCodeMapping,
    iE-Extensions                       ProtocolExtensionContainer { { DSCH-FDD-InformationResponse-ExtIEs} } OPTIONAL,
    ...
}

DSCH-FDD-InformationResponse-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-Specific-FDD-InformationResponse ::= SEQUENCE (SIZE(1..maxNoOfDSCHs)) OF DSCH-Specific-FDD-Response-Item

DSCH-Specific-FDD-Response-Item ::= SEQUENCE {
    dsch-ID                     DSCH-ID,
    dSCH-FlowControlInformation   DSCH-FlowControlInformation,
    bindingID                   BindingID              OPTIONAL,
    transportLayerAddress       TransportLayerAddress  OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {DSCH-Specific-FDD-Response-Item-ExtIEs} } OPTIONAL,
    ...
}

DSCH-Specific-FDD-Response-Item-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-FlowControlInformation ::=  SEQUENCE (SIZE(1..16)) OF DSCH-FlowControlItem

DSCH-FlowControlItem ::= SEQUENCE {
    dSCH-SchedulingPriority         SchedulingPriorityIndicator,
    mAC-c-sh-SDU-Lengths            MAC-c-sh-SDU-LengthList,
    iE-Extensions                   ProtocolExtensionContainer { {DSCH-FlowControlItem-ExtIEs} } OPTIONAL,
    ...
}

DSCH-FlowControlItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DSCH-InitialWindowSize  CRITICALITY ignore  EXTENSION   DSCH-InitialWindowSize  PRESENCE optional },
    ...
}

DSCH-ID                 ::= INTEGER (0..255)

DSCH-InitialWindowSize          ::= INTEGER (1..255)
-- Number of MAC-c/sh SDUs.
-- 255 = Unlimited number of MAC-c/sh SDUs
```

```
DSCH-TDD-Information ::= SEQUENCE (SIZE (1..maxNoOfDSCHs)) OF DSCH-TDD-InformationItem

DSCH-TDD-InformationItem ::= SEQUENCE {
    dSCH-ID                         DSCH-ID,
    dl-ccTrCHID                     CCTrCH-ID, -- DL CCTrCH in which the DSCH is mapped
    trChSourceStatisticsDescriptor  TrCH-SrcStatisticsDescr,
    transportFormatSet              TransportFormatSet,
    allocationRetentionPriority     AllocationRetentionPriority,
    schedulingPriorityIndicator     SchedulingPriorityIndicator,
    bLER                            BLER,
    iE-Extensions                   ProtocolExtensionContainer { {DSCH-TDD-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

DSCH-TDD-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-TrafficClass                 CRITICALITY ignore  EXTENSION TrafficClass       PRESENCE mandatory}|
    { ID id-BindingID                    CRITICALITY ignore  EXTENSION   BindingID   PRESENCE                optional }|
    -- Shall be ignored if bearer establishment with ALCAP.
    { ID id-TransportLayerAddress        CRITICALITY ignore  EXTENSION   TransportLayerAddress   PRESENCE    optional },
    -- Shall be ignored if bearer establishment with ALCAP.
    ...
}

DsField ::= BIT STRING (SIZE (8))

-- E

EnhancedDSCHPC ::= SEQUENCE {
    enhancedDSCHPCWnd    EnhancedDSCHPCWnd,
    enhancedDSCHPCCounter    EnhancedDSCHPCCounter,
    enhancedDSCHPowerOffset EnhancedDSCHPowerOffset,
    ...
}

EnhancedDSCHPCCounter ::= INTEGER (1..50)

EnhancedDSCHPCIndicator ::= ENUMERATED {
    enhancedDSCHPCActiveInTheUE,
    enhancedDSCHPCNotActiveInTheUE
}

EnhancedDSCHPCWnd ::= INTEGER (1..10)

EnhancedDSCHPowerOffset ::= INTEGER (-15..0)

Enhanced-PrimaryCPICH-EcNo        ::= INTEGER (0..49)

EventA ::= SEQUENCE {
    measurementTreshold     MeasurementThreshold,
    measurementHysteresisTime   MeasurementHysteresisTime     OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventA-ExtIEs} } OPTIONAL,
    ...
}
```

```
EventA-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventB ::= SEQUENCE {
    measurementTreshold     MeasurementThreshold,
    measurementHysteresisTime   MeasurementHysteresisTime       OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventB-ExtIEs} } OPTIONAL,
    ...
}

EventB-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


EventC ::= SEQUENCE {
    measurementIncreaseDecreaseThreshold    MeasurementIncreaseDecreaseThreshold,
    measurementChangeTime       MeasurementChangeTime,
    iE-Extensions           ProtocolExtensionContainer { {EventC-ExtIEs} } OPTIONAL,
    ...
}

EventC-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventD ::= SEQUENCE {
    measurementIncreaseDecreaseThreshold    MeasurementIncreaseDecreaseThreshold,
    measurementChangeTime       MeasurementChangeTime,
    iE-Extensions           ProtocolExtensionContainer { {EventD-ExtIEs} } OPTIONAL,
    ...
}

EventD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventE ::= SEQUENCE {
    measurementThreshold1       MeasurementThreshold,
    measurementThreshold2       MeasurementThreshold         OPTIONAL,
    measurementHysteresisTime   MeasurementHysteresisTime       OPTIONAL,
    reportPeriodicity       ReportPeriodicity        OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventE-ExtIEs} } OPTIONAL,
    ...
}

EventE-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventF ::= SEQUENCE {
    measurementThreshold1       MeasurementThreshold,
    measurementThreshold2       MeasurementThreshold         OPTIONAL,
```

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```
    measurementHysteresisTime   MeasurementHysteresisTime       OPTIONAL,
    reportPeriodicity           ReportPeriodicity               OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {EventF-ExtIEs} } OPTIONAL,
    ...
}

EventF-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

ExtendedGSMCellIndividualOffset ::= INTEGER (-50..-11|11..50)

-- F

FACH-FlowControlInformation ::= SEQUENCE (SIZE (1..16)) OF FACH-FlowControlInformationItem

FACH-FlowControlInformationItem ::= SEQUENCE {
    fACH-SchedulingPriority     SchedulingPriorityIndicator,
    mAC-c-sh-SDU-Lengths        MAC-c-sh-SDU-LengthList,
    fACH-InitialWindowSize      FACH-InitialWindowSize,
    iE-Extensions               ProtocolExtensionContainer { {FACH-FlowControlInformationItem-ExtIEs} } OPTIONAL,
    ...
}

FACH-FlowControlInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

FACH-InitialWindowSize          ::= INTEGER { unlimited(255) } (0..255)
-- Number of frames MAC-c-sh SDUs.
-- 255 = Unlimited number of FACH data frames

FACH-InformationList ::= SEQUENCE (SIZE(0.. maxNrOfFACHs)) OF FACH-InformationItem

FACH-InformationItem ::= SEQUENCE {
    transportFormatSet          TransportFormatSet,
    iE-Extensions               ProtocolExtensionContainer { { FACH-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

FACH-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

FACH-PCH-InformationList ::= SEQUENCE (SIZE(1..maxFACHCountPlus1)) OF FACH-PCH-InformationItem

FACH-PCH-InformationItem ::= SEQUENCE {
    transportFormatSet          TransportFormatSet,
    iE-Extensions               ProtocolExtensionContainer { { FACH-PCH-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

FACH-PCH-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

FDD-DCHs-to-Modify                    ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF FDD-DCHs-to-ModifyItem

FDD-DCHs-to-ModifyItem ::= SEQUENCE {
    ul-FP-Mode                          UL-FP-Mode       OPTIONAL,
    toAWS                               ToAWS            OPTIONAL,
    toAWE                               ToAWE            OPTIONAL,
    transportBearerRequestIndicator     TransportBearerRequestIndicator,
    dCH-SpecificInformationList         FDD-DCHs-to-ModifySpecificInformationList,
    iE-Extensions                       ProtocolExtensionContainer { {FDD-DCHs-to-ModifyItem-ExtIEs} } OPTIONAL,
    ...
}

FDD-DCHs-to-ModifyItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-TnlQos                      CRITICALITY    ignore     EXTENSION   TnlQos  PRESENCE optional },
    ...
}

FDD-DCHs-to-ModifySpecificInformationList ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF FDD-DCHs-to-ModifySpecificItem

FDD-DCHs-to-ModifySpecificItem ::=  SEQUENCE {
    dCH-ID                        DCH-ID,
    ul-TransportformatSet         TransportFormatSet     OPTIONAL,
    dl-TransportformatSet         TransportFormatSet     OPTIONAL,
    allocationRetentionPriority   AllocationRetentionPriority     OPTIONAL,
    frameHandlingPriority         FrameHandlingPriority      OPTIONAL,
    dRACControl                   DRACControl     OPTIONAL,
    iE-Extensions                 ProtocolExtensionContainer { {FDD-DCHs-to-ModifySpecificItem-ExtIEs} } OPTIONAL,
    ...
}

FDD-DCHs-to-ModifySpecificItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-Guaranteed-Rate-Information     CRITICALITY ignore  EXTENSION Guaranteed-Rate-Information     PRESENCE optional }|
    { ID id-TrafficClass        CRITICALITY ignore  EXTENSION TrafficClass      PRESENCE optional },
    ...
}

FDD-DL-ChannelisationCodeNumber     ::= INTEGER (0..511)
-- According to the mapping in [27]. The maximum value is equal to the DL spreading factor -1--

FDD-DL-CodeInformation ::= SEQUENCE (SIZE (1..maxNrOfDL-Codes)) OF FDD-DL-CodeInformationItem

FDD-DL-CodeInformationItem ::= SEQUENCE {
    dl-ScramblingCode                                       DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber                         FDD-DL-ChannelisationCodeNumber,
    transmission-Gap-Pattern-Sequence-ScramblingCode-Information     Transmission-Gap-Pattern-Sequence-ScramblingCode-Information OPTIONAL,
    iE-Extensions                        ProtocolExtensionContainer { {FDD-DL-CodeInformationItem-ExtIEs} } OPTIONAL,
    ...
}

FDD-DL-CodeInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

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```
FDD-S-CCPCH-Offset            ::= INTEGER (0..149)

FDD-TPC-DownlinkStepSize ::= ENUMERATED {
    step-size0-5,
    step-size1,
    step-size1-5,
    step-size2,
    ...
}

SchedulingPriorityIndicator            ::= INTEGER { lowest(0), highest(15) } (0..15)

FirstRLS-Indicator ::= ENUMERATED {
    first-RLS,
    not-first-RLS
}

FNReportingIndicator ::= ENUMERATED {
    fN-reporting-required,
    fN-reporting-not-required
}

FPACH-Information ::= SEQUENCE {
    timeSlotLCR                TimeSlotLCR,
    tDD-ChannelisationCodeLCR  TDD-ChannelisationCodeLCR,
    midambleShiftLCR           MidambleShiftLCR,
    wT                         INTEGER (1..4),
    ...
    }

FrameHandlingPriority            ::= INTEGER { lowest(0), highest(15) } (0..15)

FrameOffset            ::= INTEGER (0..255)
-- Frames

-- G

GapLength            ::= INTEGER (1..14)
-- Unit Slot

GapDuration            ::= INTEGER (1..144,...)
-- Unit Frame

GA-Cell ::= SEQUENCE (SIZE (1..maxNrOfPoints)) OF
    SEQUENCE {
        cell-GAIgeographicalCoordinate     GeographicalCoordinate,
        iE-Extensions            ProtocolExtensionContainer { {GA-Cell-ExtIEs} } OPTIONAL,
        ...
    }

GA-Cell-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
GA-CellAdditionalShapes ::= CHOICE {
    pointWithUncertainty                        GA-PointWithUnCertainty,
    pointWithUncertaintyEllipse                 GA-PointWithUnCertaintyEllipse,
    pointWithAltitude                           GA-PointWithAltitude,
    pointWithAltitudeAndUncertaintyEllipsoid    GA-PointWithAltitudeAndUncertaintyEllipsoid,
    ellipsoidArc                                GA-EllipsoidArc,
    ...
    }

GA-AltitudeAndDirection ::= SEQUENCE {
    directionOfAltitude     ENUMERATED {height, depth},
    altitude                INTEGER (0..32767),
    ...
}

GA-EllipsoidArc ::= SEQUENCE {
    geographicalCoordinates     GeographicalCoordinate,
    innerRadius                 INTEGER (0..65535),
    uncertaintyRadius           INTEGER (0..127),
    offsetAngle                 INTEGER (0..179),
    includedAngle               INTEGER (0..179),
    confidence                  INTEGER (0..127),
    iE-Extensions               ProtocolExtensionContainer { { GA-EllipsoidArc-ExtIEs} } OPTIONAL,
    ...
}

GA-EllipsoidArc-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GA-PointWithAltitude ::= SEQUENCE {
    geographicalCoordinates     GeographicalCoordinate,
    altitudeAndDirection        GA-AltitudeAndDirection,
    iE-Extensions               ProtocolExtensionContainer { { GA-PointWithAltitude-ExtIEs} } OPTIONAL,
    ...
}

GA-PointWithAltitude-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GA-PointWithAltitudeAndUncertaintyEllipsoid ::= SEQUENCE {
    geographicalCoordinates     GeographicalCoordinate,
    altitudeAndDirection        GA-AltitudeAndDirection,
    uncertaintyEllipse          GA-UncertaintyEllipse,
    uncertaintyAltitude         INTEGER (0..127),
    confidence                  INTEGER (0..127),
    iE-Extensions               ProtocolExtensionContainer { { GA-PointWithAltitudeAndUncertaintyEllipsoid-ExtIEs} } OPTIONAL,
    ...
}

GA-PointWithAltitudeAndUncertaintyEllipsoid-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

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```
}

GA-PointWithUnCertaintyEllipse ::= SEQUENCE {
    geographicalCoordinates     GeographicalCoordinate,
    uncertaintyEllipse          GA-UncertaintyEllipse,
    confidence                  INTEGER (0..127),
    iE-Extensions               ProtocolExtensionContainer { { GA-PointWithUnCertaintyEllipse-ExtIEs} } OPTIONAL,
    ...
}

GA-PointWithUnCertaintyEllipse-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GA-UncertaintyEllipse ::= SEQUENCE {
    uncertaintySemi-major       INTEGER (0..127),
    uncertaintySemi-minor       INTEGER (0..127),
    orientationOfMajorAxis      INTEGER (0..179),   -- The values 90..179 shall not be used.
    ...
}

GA-PointWithUnCertainty ::=SEQUENCE {
    geographicalCoordinates     GeographicalCoordinate,
    uncertaintyCode         INTEGER (0..127),
    iE-Extensions           ProtocolExtensionContainer { {GA-PointWithUnCertainty-ExtIEs} } OPTIONAL,
    ...
}

GA-PointWithUnCertainty-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GA-AccessPointPosition ::= SEQUENCE {
    geographicalCoordinate      GeographicalCoordinate,
    iE-Extensions           ProtocolExtensionContainer { {GA-AccessPoint-ExtIEs} } OPTIONAL,
    ...
}

GA-AccessPoint-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GeographicalCoordinate ::= SEQUENCE {
    latitudeSign            ENUMERATED { north, south },
    latitude            INTEGER (0..8388607),
    longitude           INTEGER (-8388608..8388607),
    iE-Extensions           ProtocolExtensionContainer { {GeographicalCoordinate-ExtIEs} } OPTIONAL,
    ...
}

GeographicalCoordinate-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

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```
GERAN-Cell-Capability ::=   BIT STRING (SIZE (16))
-- First bit:  A/Gb mode --
-- Second bit: Iu mode    --
-- Note: undefined bits are considered as a spare bit and spare bits shall be set to 0 by the transmitter and shall be ignored by the receiver. --

GERAN-Classmark ::=         OCTET STRING
    -- GERAN Classmark as defined in (38) --

GenericTrafficCategory  ::= BIT STRING (SIZE (8))

GPS-Almanac ::= SEQUENCE {
    wnₐ-alm                 BIT STRING (SIZE (8)),
    satellite-Almanac-Information      SEQUENCE (SIZE (1..maxNoSat)) OF
        SEQUENCE {
            dATA-ID           DATA-ID,
            sAT-ID            SAT-ID,
            gps-e-alm         BIT STRING (SIZE (16)),
            gps-toa-alm       BIT STRING (SIZE (8)),
            gps-delta-I-alm   BIT STRING (SIZE (16)),
            omegadot-alm      BIT STRING (SIZE (16)),
            svhealth-alm      BIT STRING (SIZE (8)),
            gps-a-sqrt-alm    BIT STRING (SIZE (24)),
            omegazero-alm     BIT STRING (SIZE (24)),
            m-zero-alm        BIT STRING (SIZE (24)),
            gps-omega-alm     BIT STRING (SIZE (24)),
            gps-af-zero-alm   BIT STRING (SIZE (11)),
            gps-af-one-alm    BIT STRING (SIZE (11)),
            iE-Extensions     ProtocolExtensionContainer { { Satellite-Almanac-Information-ExtIEs} }    OPTIONAL,
            ...
        },
    -- This GPS-Almanac-Information is for the 1ˢᵗ 16 satellites
    sVGlobalHealth-alm    BIT STRING (SIZE (364))    OPTIONAL,
    iE-Extensions         ProtocolExtensionContainer { { GPS-Almanac-ExtIEs} }        OPTIONAL,
    ...
}

Satellite-Almanac-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GPS-Almanac-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    {  ID id-Satellite-Almanac-Information-ExtItem CRITICALITY ignore      EXTENSION   Satellite-Almanac-Information-ExtItem      PRESENCE
    optional},
    ...
}

Satellite-Almanac-Information-ExtItem ::= SEQUENCE (SIZE (1..maxNrOfSatAlmanac-maxNoSat)) OF
        SEQUENCE {
            dATA-ID           DATA-ID,
            sAT-ID            SAT-ID,
            gps-e-alm         BIT STRING (SIZE (16)),
            gps-toa-alm       BIT STRING (SIZE (8)),
            gps-delta-I-alm   BIT STRING (SIZE (16)),
            omegadot-alm      BIT STRING (SIZE (16)),
```

```
          svhealth-alm        BIT STRING (SIZE (8)),
          gps-a-sqrt-alm      BIT STRING (SIZE (24)),
          omegazero-alm       BIT STRING (SIZE (24)),
          m-zero-alm          BIT STRING (SIZE (24)),
          gps-omega-alm       BIT STRING (SIZE (24)),
          gps-af-zero-alm     BIT STRING (SIZE (11)),
          gps-af-one-alm      BIT STRING (SIZE (11)),
          iE-Extensions       ProtocolExtensionContainer { { Satellite-Almanac-Information-ExtItemIEs} }   OPTIONAL,
          ...
      }
--  Includes the GPS-Almanac-Information for the 17ᵗʰ through 32ⁿᵈ satellites.

Satellite-Almanac-Information-ExtItemIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GPSInformation ::= SEQUENCE (SIZE (1..maxNoGPSTypes)) OF
    SEQUENCE {
        gPSInformationItem     ENUMERATED {
            gPS-NavigationModel-and-TimeRecovery,
            gPS-Ionospheric-Model,
            gPS-UTC-Model,
            gPS-Almanac,
            gPS-RealTime-Integrity,
            ...
        },
        iE-Extensions          ProtocolExtensionContainer { { GPSInformation-ExtIEs} }     OPTIONAL,
        ...
    }
-- This IE shall be present if the Information Type IE indicates "GPS Information"

GPSInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GPS-Ionospheric-Model ::= SEQUENCE {
    alpha-zero-ionos        BIT STRING (SIZE (8)),
    alpha-one-ionos         BIT STRING (SIZE (8)),
    alpha-two-ionos         BIT STRING (SIZE (8)),
    alpha-three-ionos       BIT STRING (SIZE (8)),
    beta-zero-ionos         BIT STRING (SIZE (8)),
    beta-one-ionos          BIT STRING (SIZE (8)),
    beta-two-ionos          BIT STRING (SIZE (8)),
    beta-three-ionos        BIT STRING (SIZE (8)),
    iE-Extensions           ProtocolExtensionContainer { { GPS-Ionospheric-Model-ExtIEs} }     OPTIONAL,
    ...
}

GPS-Ionospheric-Model-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GPS-NavigationModel-and-TimeRecovery ::= SEQUENCE (SIZE (1..maxNoSat)) OF
    SEQUENCE {
```

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```
    tx-tow-nav                     INTEGER (0..1048575),
    sAT-ID                         SAT-ID,
    tlm-message-nav                BIT STRING (SIZE (14)),
    tlm-revd-c-nav                 BIT STRING (SIZE (2)),
    ho-word-nav                    BIT STRING (SIZE (22)),
    w-n-nav                        BIT STRING (SIZE (10)),
    ca-or-p-on-l2-nav              BIT STRING (SIZE (2)),
    user-range-accuracy-index-nav  BIT STRING (SIZE (4)),
    sv-health-nav                  BIT STRING (SIZE (6)),
    iodc-nav                       BIT STRING (SIZE (10)),
    l2-p-dataflag-nav              BIT STRING (SIZE (1)),
    sf1-reserved-nav               BIT STRING (SIZE (87)),
    t-gd-nav                       BIT STRING (SIZE (8)),
    t-oc-nav                       BIT STRING (SIZE (16)),
    a-f-2-nav                      BIT STRING (SIZE (8)),
    a-f-1-nav                      BIT STRING (SIZE (16)),
    a-f-zero-nav                   BIT STRING (SIZE (22)),
    c-rs-nav                       BIT STRING (SIZE (16)),
    delta-n-nav                    BIT STRING (SIZE (16)),
    m-zero-nav                     BIT STRING (SIZE (32)),
    c-uc-nav                       BIT STRING (SIZE (16)),
    gps-e-nav                      BIT STRING (SIZE (32)),
    c-us-nav                       BIT STRING (SIZE (16)),
    a-sqrt-nav                     BIT STRING (SIZE (32)),
    t-oe-nav                       BIT STRING (SIZE (16)),
    fit-interval-flag-nav          BIT STRING (SIZE (1)),
    aodo-nav                       BIT STRING (SIZE (5)),
    c-ic-nav                       BIT STRING (SIZE (16)),
    omega-zero-nav                 BIT STRING (SIZE (32)),
    c-is-nav                       BIT STRING (SIZE (16)),
    i-zero-nav                     BIT STRING (SIZE (32)),
    c-rc-nav                       BIT STRING (SIZE (16)),
    gps-omega-nav                  BIT STRING (SIZE (32)),
    omegadot-nav                   BIT STRING (SIZE (24)),
    idot-nav                       BIT STRING (SIZE (14)),
    spare-zero-fill                BIT STRING (SIZE (20)),
    iE-Extensions                  ProtocolExtensionContainer { { GPS-NavigationModel-and-TimeRecoveryItem-ExtIEs} }   OPTIONAL,
    ...
    }

GPS-NavigationModel-and-TimeRecoveryItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GPS-RealTime-Integrity ::= CHOICE {
    badSatellites          BadSatellites,
    noBadSatellite         NULL
}

GPS-RX-POS ::= SEQUENCE {
    geographicalCoordinate    GeographicalCoordinate,
    altitudeAndDirection      GA-AltitudeAndDirection,
    iE-Extensions             ProtocolExtensionContainer { { GPS-RX-POS-ExtIEs} } OPTIONAL,
    ...
```

```
}

GPS-RX-POS-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GPS-Status-Health ::= ENUMERATED {
    udre-1-0,
    udre-0-75,
    udre-0-5,
    udre-0-3,
    udre-0-1,
    no-data,
    invalid-data
}

GPSTOW ::= INTEGER (0..604799)

GPS-UTC-Model ::= SEQUENCE {
    a-one-utc               BIT STRING (SIZE (24)),
    a-zero-utc              BIT STRING (SIZE (32)),
    t-ot-utc                BIT STRING (SIZE (8)),
    delta-t-ls-utc          BIT STRING (SIZE (8)),
    w-n-t-utc               BIT STRING (SIZE (8)),
    w-n-lsf-utc             BIT STRING (SIZE (8)),
    dn-utc                  BIT STRING (SIZE (8)),
    delta-t-lsf-utc         BIT STRING (SIZE (8)),
    iE-Extensions           ProtocolExtensionContainer { { GPS-UTC-Model-ExtIEs} }      OPTIONAL,
    ...
}

GPS-UTC-Model-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Guaranteed-Rate-Information ::= SEQUENCE {
    guaranteed-UL-Rate          Guaranteed-Rate OPTIONAL,
    guaranteed-DL-Rate          Guaranteed-Rate OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {Guaranteed-Rate-Information-ExtIEs} } OPTIONAL,
    ...
}

Guaranteed-Rate-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Guaranteed-Rate          ::= INTEGER (1..maxNrOfTFs)
-- "1": TFI 0, "2": TFI 1, "3": TFI 2, ...

-- H

HARQ-MemoryPartitioning ::= CHOICE {
    implicit        HARQ-MemoryPartitioning-Implicit,
    explicit        HARQ-MemoryPartitioning-Explicit,
```

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```
    ...
    }

HARQ-MemoryPartitioning-Implicit    ::= SEQUENCE {
    number-of-Processes         INTEGER (1..8,...),
    iE-Extensions               ProtocolExtensionContainer { { HARQ-MemoryPartitioning-Implicit-ExtIEs } }      OPTIONAL,
    ...
}

HARQ-MemoryPartitioning-Implicit-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HARQ-MemoryPartitioning-Explicit    ::= SEQUENCE {
    hARQ-MemoryPartitioningList       HARQ-MemoryPartitioningList,
    iE-Extensions                     ProtocolExtensionContainer { { HARQ-MemoryPartitioning-Explicit-ExtIEs } }      OPTIONAL,
    ...
}

HARQ-MemoryPartitioning-Explicit-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HARQ-MemoryPartitioningList ::= SEQUENCE (SIZE (1..maxNrOfHARQProc)) OF HARQ-MemoryPartitioningItem

HARQ-MemoryPartitioningItem ::= SEQUENCE {
    process-Memory-Size                 ENUMERATED {
                                        hms800, hms1600, hms2400, hms3200, hms4000,
                                        hms4800, hms5600, hms6400, hms7200, hms8000,
                                        hms8800, hms9600, hms10400, hms11200, hms12000,
                                        hms12800, hms13600, hms14400, hms15200, hms16000,
                                        hms17600, hms19200, hms20800, hms22400, hms24000,
                                        hms25600, hms27200, hms28800, hms30400, hms32000,
                                        hms36000, hms40000, hms44000, hms48000, hms52000,
                                        hms56000, hms60000, hms64000, hms68000, hms72000,
                                        hms76000, hms80000, hms88000, hms96000, hms104000,
                                        hms112000, hms120000, hms128000, hms136000, hms144000,
                                        hms152000, hms160000, hms176000, hms192000, hms208000,
                                        hms224000, hms240000, hms256000, hms272000, hms288000,
                                        hms304000,...},
    iE-Extensions                       ProtocolExtensionContainer { { HARQ-MemoryPartitioningItem-ExtIEs } }      OPTIONAL,
    ...
}

HARQ-MemoryPartitioningItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
HCS-Prio    ::= INTEGER (0..7)
-- 0 = lowest priority, ...7 = highest priority

HSDSCH-FDD-Information ::= SEQUENCE {
    hSDSCH-MACdFlows-Information                 HSDSCH-MACdFlows-Information,
    uE-Capabilities-Info                        UE-Capabilities-Info,
    mAChs-Reordering-Buffer-Size-for-RLC-UM     MAChsReorderingBufferSize-for-RLC-UM,
```

```
    cqiFeedback-CycleK                              CQI-Feedback-Cycle,
    cqiRepetitionFactor                             CQI-RepetitionFactor                            OPTIONAL,
    -- This IE shall be present if the CQI Feedback Cycle k IE is set to a value greater than 0.
    ackNackRepetitionFactor                         AckNack-RepetitionFactor,
    cqiPowerOffset                                  CQI-Power-Offset,
    ackPowerOffset                                  Ack-Power-Offset,
    nackPowerOffset                                 Nack-Power-Offset,
    hsscch-PowerOffset                              HSSCCH-PowerOffset                              OPTIONAL,
    iE-Extensions                                   ProtocolExtensionContainer { { HSDSCH-FDD-Information-ExtIEs } }     OPTIONAL,
    ...
}


HSDSCH-FDD-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


HSDSCH-FDD-Information-Response ::= SEQUENCE {
    hSDSCH-MACdFlow-Specific-InfoList-Response      HSDSCH-MACdFlow-Specific-InfoList-Response                          OPTIONAL,
    hSSCCH-Specific-InfoList-Response               HSSCCH-FDD-Specific-InfoList-Response                               OPTIONAL,
    hSPDSCH-and-HSSCCH-ScramblingCode               DL-ScramblingCode                                                   OPTIONAL,
    measurement-Power-Offset                        Measurement-Power-Offset                                            OPTIONAL,
    hARQ-MemoryPartitioning                         HARQ-MemoryPartitioning                                             OPTIONAL,
    iE-Extensions                                   ProtocolExtensionContainer { { HSDSCH-FDD-Information-Response-ExtIEs } }   OPTIONAL,
    ...
}


HSDSCH-FDD-Information-Response-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


HSDSCH-Information-to-Modify ::= SEQUENCE {
    hSDSCH-MACdFlow-Specific-InfoList-to-Modify     HSDSCH-MACdFlow-Specific-InfoList-to-Modify     OPTIONAL,
    priorityQueue-Info-to-Modify                    PriorityQueue-InfoList-to-Modify                OPTIONAL,
    mAChs-Reordering-Buffer-Size-for-RLC-UM         MAChsReorderingBufferSize-for-RLC-UM            OPTIONAL,
    cqiFeedback-CycleK                              CQI-Feedback-Cycle                              OPTIONAL,   -- For FDD only
    cqiRepetitionFactor                             CQI-RepetitionFactor                            OPTIONAL,   -- For FDD only
    ackNackRepetitionFactor                         AckNack-RepetitionFactor                        OPTIONAL,   -- For FDD only
    cqiPowerOffset                                  CQI-Power-Offset                                OPTIONAL,   -- For FDD only
    ackPowerOffset                                  Ack-Power-Offset                                OPTIONAL,   -- For FDD only
    nackPowerOffset                                 Nack-Power-Offset                               OPTIONAL,   -- For FDD only
    hsscch-PowerOffset                              HSSCCH-PowerOffset                              OPTIONAL,   -- For FDD only
    hSSCCH-CodeChangeGrant                          HSSCCH-Code-Change-Grant                        OPTIONAL,
    tDDAckNackPowerOffset                           TDD-AckNack-Power-Offset                        OPTIONAL,   -- For TDD only
    iE-Extensions                                   ProtocolExtensionContainer { { HSDSCH-Information-to-Modify-ExtIEs } }     OPTIONAL,
    ...
}


HSDSCH-Information-to-Modify-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


HSDSCH-Information-to-Modify-Unsynchronised ::= SEQUENCE {
    hSDSCH-MACdFlow-Specific-InfoList-to-Modify     HSDSCH-MACdFlow-Specific-InfoList-to-Modify             OPTIONAL,
    priorityQueueInfotoModifyUnsynchronised         PriorityQueue-InfoList-to-Modify-Unsynchronised         OPTIONAL,
```

```
     cqiPowerOffset                                    CQI-Power-Offset               OPTIONAL,   -- For FDD only
     ackPowerOffset                                    Ack-Power-Offset               OPTIONAL,   -- For FDD only
     nackPowerOffset                                   Nack-Power-Offset              OPTIONAL,   -- For FDD only
     hsscch-PowerOffset                                HSSCCH-PowerOffset             OPTIONAL,   -- Only for FDD
     tDDAckNackPowerOffset                             TDD-AckNack-Power-Offset       OPTIONAL,   -- For TDD only
     iE-Extensions                                     ProtocolExtensionContainer { { HSDSCH-Information-to-Modify-Unsynchronised-ExtIEs } }
     OPTIONAL,
     ...
}


HSDSCH-Information-to-Modify-Unsynchronised-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
     ...
}


HSDSCH-MACdFlow-ID ::= INTEGER (0..maxNrOfMACdFlows-1)


HSDSCH-MACdFlow-Specific-InfoList ::= SEQUENCE (SIZE (1..maxNrOfMACdFlows)) OF HSDSCH-MACdFlow-Specific-InfoItem


HSDSCH-MACdFlow-Specific-InfoItem ::= SEQUENCE {
     hSDSCH-MACdFlow-ID               HSDSCH-MACdFlow-ID,
     allocationRetentionPriority      AllocationRetentionPriority,
     trafficClass                     TrafficClass,
     bindingID                        BindingID                             OPTIONAL,
     transportLayerAddress            TransportLayerAddress                 OPTIONAL,
     iE-Extensions                    ProtocolExtensionContainer { { HSDSCH-MACdFlow-Specific-InfoItem-ExtIEs } }     OPTIONAL,
     ...
}


HSDSCH-MACdFlow-Specific-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
     ...
}


HSDSCH-MACdFlow-Specific-InfoList-Response ::= SEQUENCE (SIZE (0..maxNrOfMACdFlows)) OF HSDSCH-MACdFlow-Specific-InfoItem-Response


HSDSCH-MACdFlow-Specific-InfoItem-Response ::= SEQUENCE {
     hSDSCH-MACdFlow-ID               HSDSCH-MACdFlow-ID,
     bindingID                        BindingID                             OPTIONAL,
     transportLayerAddress            TransportLayerAddress                 OPTIONAL,
     hSDSCH-Initial-Capacity-Allocation  HSDSCH-Initial-Capacity-Allocation    OPTIONAL,
     iE-Extensions                    ProtocolExtensionContainer { { HSDSCH-MACdFlow-Specific-InfoItem-Response-ExtIEs } }     OPTIONAL,
     ...
}


HSDSCH-MACdFlow-Specific-InfoItem-Response-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
     ...
}


HSDSCH-MACdFlow-Specific-InfoList-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfMACdFlows)) OF HSDSCH-MACdFlow-Specific-InfoItem-to-Modify


HSDSCH-MACdFlow-Specific-InfoItem-to-Modify ::= SEQUENCE {
     hSDSCH-MACdFlow-ID               HSDSCH-MACdFlow-ID,
     allocationRetentionPriority      AllocationRetentionPriority           OPTIONAL,
     transportBearerRequestIndicator  TransportBearerRequestIndicator,
     trafficClass                     TrafficClass                          OPTIONAL,
```

```
    bindingID                          BindingID                                  OPTIONAL,
    transportLayerAddress              TransportLayerAddress                      OPTIONAL,
    iE-Extensions                      ProtocolExtensionContainer { { HSDSCH-MACdFlow-Specific-InfoItem-to-Modify-ExtIEs } }        OPTIONAL,
    ...
}

HSDSCH-MACdFlow-Specific-InfoItem-to-Modify-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSDSCH-MACdFlows-Information ::= SEQUENCE {
    hSDSCH-MACdFlow-Specific-Info              HSDSCH-MACdFlow-Specific-InfoList,
    priorityQueue-Info                         PriorityQueue-InfoList,
    iE-Extensions                              ProtocolExtensionContainer { { HSDSCH-MACdFlows-Information-ExtIEs } }        OPTIONAL,
    ...
}


HSDSCH-MACdFlows-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSDSCH-MACdFlows-to-Delete ::= SEQUENCE (SIZE (1..maxNrOfMACdFlows)) OF HSDSCH-MACdFlows-to-Delete-Item

HSDSCH-MACdFlows-to-Delete-Item ::= SEQUENCE {
    hsDSCH-MACdFlow-ID               HSDSCH-MACdFlow-ID,
    iE-Extensions                    ProtocolExtensionContainer { { HSDSCH-MACdFlows-to-Delete-Item-ExtIEs} }      OPTIONAL,
    ...
}

HSDSCH-MACdFlows-to-Delete-Item-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSDSCH-Initial-Capacity-Allocation::= SEQUENCE (SIZE (1..maxNrOfPrioQueues)) OF HSDSCH-Initial-Capacity-AllocationItem

HSDSCH-Initial-Capacity-AllocationItem ::= SEQUENCE {
    schedulingPriorityIndicator    SchedulingPriorityIndicator,
    maximum-MACdPDU-Size           MACdPDU-Size,
    hSDSCH-InitialWindowSize        HSDSCH-InitialWindowSize,
    iE-Extensions                   ProtocolExtensionContainer { {HSDSCH-Initial-Capacity-AllocationItem-ExtIEs} } OPTIONAL,
    ...
}

HSDSCH-Initial-Capacity-AllocationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSDSCH-InitialWindowSize           ::= INTEGER (1..255)
-- Number of MAC-d PDUs.

HSDSCH-RNTI ::= INTEGER (0..65535)

HSDSCH-TDD-Information ::= SEQUENCE {
```

```
    hSDSCH-MACdFlows-Information            HSDSCH-MACdFlows-Information,
    uE-Capabilities-Info                   UE-Capabilities-Info,
    mAChs-Reordering-Buffer-Size-for-RLC-UM    MAChsReorderingBufferSize-for-RLC-UM,
    tDD-AckNack-Power-Offset                TDD-AckNack-Power-Offset,
    iE-Extensions                          ProtocolExtensionContainer { { HSDSCH-TDD-Information-ExtIEs } }     OPTIONAL,
    ...
}

HSDSCH-TDD-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSDSCH-TDD-Information-Response ::= SEQUENCE {
    hSDSCH-MACdFlow-Specific-InfoList-Response      HSDSCH-MACdFlow-Specific-InfoList-Response      OPTIONAL,
    hSSCCH-TDD-Specific-InfoList-Response           HSSCCH-TDD-Specific-InfoList-Response           OPTIONAL,
-- Not Applicable to 1.28Mcps TDD
    hSSCCH-TDD-Specific-InfoList-Response-LCR        HSSCCH-TDD-Specific-InfoList-Response-LCR       OPTIONAL,
-- Not Applicable to 3.84Mcps TDD
    hSPDSCH-TDD-Specific-InfoList-Response           HSPDSCH-TDD-Specific-InfoList-Response          OPTIONAL,
    hSPDSCH-TDD-Specific-InfoList-Response-LCR       HSPDSCH-TDD-Specific-InfoList-Response-LCR      OPTIONAL,
    hARQ-MemoryPartitioning                          HARQ-MemoryPartitioning                         OPTIONAL,
    iE-Extensions                          ProtocolExtensionContainer { { HSDSCH-TDD-Information-Response-ExtIEs } }       OPTIONAL,
    ...
}

HSDSCH-TDD-Information-Response-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSPDSCH-TDD-Specific-InfoList-Response ::= SEQUENCE (SIZE (0..maxNrOfDLTs)) OF HSPDSCH-TDD-Specific-InfoItem-Response

HSPDSCH-TDD-Specific-InfoItem-Response ::= SEQUENCE {
    timeslot                               TimeSlot,
    midambleShiftAndBurstType              MidambleShiftAndBurstType,
    iE-Extensions                          ProtocolExtensionContainer { { HSPDSCH-TDD-Specific-InfoItem-Response-ExtIEs } }
    OPTIONAL,
    ...
}

HSPDSCH-TDD-Specific-InfoItem-Response-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSPDSCH-TDD-Specific-InfoList-Response-LCR ::= SEQUENCE (SIZE (1.. maxNrOfDLTsLCR)) OF HSPDSCH-TDD-Specific-InfoItem-Response-LCR

HSPDSCH-TDD-Specific-InfoItem-Response-LCR ::= SEQUENCE {
    timeslotLCR                            TimeSlotLCR,
    midambleShiftLCR                       MidambleShiftLCR,
    iE-Extensions                          ProtocolExtensionContainer { { HSPDSCH-TDD-Specific-InfoItem-Response-LCR-ExtIEs } }
    OPTIONAL,
    ...
}

HSPDSCH-TDD-Specific-InfoItem-Response-LCR-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}

HSSCCH-FDD-Specific-InfoList-Response ::= SEQUENCE (SIZE (0..maxNrOfHSSCCHCodes)) OF HSSCCH-FDD-Specific-InfoItem-Response

HSSCCH-FDD-Specific-InfoItem-Response ::= SEQUENCE {
    code-Number                             INTEGER (0..127),
    iE-Extensions                           ProtocolExtensionContainer { { HSSCCH-FDD-Specific-InfoItem-Response-ExtIEs } }
    OPTIONAL,
    ...
}

HSSCCH-FDD-Specific-InfoItem-Response-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSSCCH-PowerOffset ::= INTEGER (0..255)
-- PowerOffset = -32 + offset * 0.25
-- Unit dB, Range -32dB .. +31.75dB, Step +0.25dB

HSSCCH-TDD-Specific-InfoList-Response ::= SEQUENCE (SIZE (0..maxNrOfHSSCCHCodes)) OF HSSCCH-TDD-Specific-InfoItem-Response

HSSCCH-TDD-Specific-InfoItem-Response ::= SEQUENCE {
    timeslot                                TimeSlot,
    midambleShiftAndBurstType               MidambleShiftAndBurstType,
    tDD-ChannelisationCode                  TDD-ChannelisationCode,
    hSSICH-Info                             HSSICH-Info,
    iE-Extensions                           ProtocolExtensionContainer { { HSSCCH-TDD-Specific-InfoItem-Response-ExtIEs } }
    OPTIONAL,
    ...
}

HSSCCH-TDD-Specific-InfoItem-Response-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSSCCH-TDD-Specific-InfoList-Response-LCR ::= SEQUENCE (SIZE (0..maxNrOfHSSCCHCodes)) OF HSSCCH-TDD-Specific-InfoItem-Response-LCR

HSSCCH-TDD-Specific-InfoItem-Response-LCR ::= SEQUENCE {
    timeslotLCR                             TimeSlotLCR,
    midambleShiftLCR                        MidambleShiftLCR,
    first-TDD-ChannelisationCode            TDD-ChannelisationCode,
    second-TDD-ChannelisationCode       TDD-ChannelisationCode,
    hSSICH-InfoLCR                          HSSICH-InfoLCR,
    iE-Extensions                           ProtocolExtensionContainer { { HSSCCH-TDD-Specific-InfoItem-Response-LCR-ExtIEs } }
    OPTIONAL,
    ...
}

HSSCCH-TDD-Specific-InfoItem-Response-LCR-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSSICH-Info ::= SEQUENCE {
```

```
    hsSICH-ID                               HS-SICH-ID,
    timeslot                                TimeSlot,
    midambleShiftAndBurstType               MidambleShiftAndBurstType,
    tDD-ChannelisationCode                  TDD-ChannelisationCode,
    iE-Extensions                           ProtocolExtensionContainer { { HSSICH-Info-ExtIEs } }        OPTIONAL,
    ...
}

HSSICH-Info-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSSICH-InfoLCR ::= SEQUENCE {
    hsSICH-ID                               HS-SICH-ID,
    timeslotLCR                             TimeSlotLCR,
    midambleShiftLCR                        MidambleShiftLCR,
    tDD-ChannelisationCode               TDD-ChannelisationCode,
    iE-Extensions                           ProtocolExtensionContainer { { HSSICH-Info-LCR-ExtIEs } }      OPTIONAL,
    ...
}

HSSICH-Info-LCR-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HS-SICH-Reception-Quality-Value ::= SEQUENCE {
    failed-HS-SICH            HS-SICH-failed,
    missed-HS-SICH            HS-SICH-missed,
    total-HS-SICH             HS-SICH-total,
    iE-Extensions            ProtocolExtensionContainer { { HS-SICH-Reception-Quality-Value-ExtIEs} } OPTIONAL,
...
}

HS-SICH-Reception-Quality-Value-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HS-SICH-failed ::= INTEGER (0..20)

HS-SICH-missed ::= INTEGER (0..20)

HS-SICH-total ::= INTEGER (0..20)

HS-SICH-Reception-Quality-Measurement-Value ::= INTEGER (0..20)
-- According to mapping in [23]

HS-SICH-ID ::= INTEGER (0..31)

HSSCCH-CodeChangeIndicator  ::= ENUMERATED {
    hsSCCHCodeChangeNeeded
}

HSSCCH-Code-Change-Grant    ::= ENUMERATED {
    changeGranted
```

```
}

HSDSCH-FDD-Update-Information ::= SEQUENCE {
    hsSCCHCodeChangeIndicator                   HSSCCH-CodeChangeIndicator              OPTIONAL,
    cqiFeedback-CycleK                          CQI-Feedback-Cycle                      OPTIONAL,
    cqiRepetitionFactor                         CQI-RepetitionFactor                    OPTIONAL,
    ackNackRepetitionFactor                     AckNack-RepetitionFactor                OPTIONAL,
    cqiPowerOffset                              CQI-Power-Offset                        OPTIONAL,
    ackPowerOffset                              Ack-Power-Offset                        OPTIONAL,
    nackPowerOffset                             Nack-Power-Offset                       OPTIONAL,
    iE-Extensions                               ProtocolExtensionContainer { { HSDSCH-FDD-Update-Information-ExtIEs } }   OPTIONAL,
    ...
}

HSDSCH-FDD-Update-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSDSCH-TDD-Update-Information ::= SEQUENCE {
    hsSCCHCodeChangeIndicator                   HSSCCH-CodeChangeIndicator              OPTIONAL,
    tDDAckNackPowerOffset                       TDD-AckNack-Power-Offset                OPTIONAL,
    iE-Extensions                               ProtocolExtensionContainer { { HSDSCH-TDD-Update-Information-ExtIEs } }   OPTIONAL,
    ...
}

HSDSCH-TDD-Update-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- I

IB-SchedulingInformation::= SEQUENCE {
    iB-SG-Rep                   IB-SG-REP,
    iB-segmentInformationList   IB-SegmentInformationList,
    iE-Extensions               ProtocolExtensionContainer { { IB-SchedulingInformation-ExtIEs } } OPTIONAL,
        ...
}

IB-SchedulingInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

IB-SegmentInformationList ::= SEQUENCE (SIZE(1..maxIBSEG)) OF IB-SegmentInformationItem

IB-SegmentInformationItem ::= SEQUENCE {
    iB-SG-POS                   IB-SG-POS,
    iE-Extensions               ProtocolExtensionContainer { {  IB-SegmentInformationItem-ExtIEs } } OPTIONAL,
    ...
}

IB-SegmentInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

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```
IB-SG-POS   ::= INTEGER (0..4094)
-- Only even positions allowed

IB-SG-REP   ::= ENUMERATED {rep4, rep8, rep16, rep32, rep64, rep128, rep256, rep512, rep1024, rep2048, rep4096}

IMSI        ::= OCTET STRING (SIZE(3..8))

InformationAvailable::= SEQUENCE {
    requestedDataValue     RequestedDataValue,
    iE-Extensions          ProtocolExtensionContainer { { InformationAvailable-ExtIEs} }      OPTIONAL,
    ...
}

InformationAvailable-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

InformationExchangeID ::= INTEGER (0..1048575)

InformationNotAvailable ::= NULL

InformationReportCharacteristics ::= CHOICE {
    onDemand              NULL,
    periodic              PeriodicInformation,
    onModification        OnModificationInformation,
    ...
}

InformationReportPeriodicity ::= CHOICE {
    min             INTEGER (1..60,...),
-- Unit min, Step 1min
    hour            INTEGER (1..24,...),
-- Unit hour, Step 1hour
    ...
}

InformationThreshold ::= CHOICE {
    dGPSThreshold      DGPSThreshold,
    ...
}


InformationType ::= SEQUENCE {
    informationTypeItem    ENUMERATED {
        gA-AccessPointPositionwithAltitude,
        gA-AccessPointPosition,
        iPDLParameters,
        gPSInformation,
        dGPSCorrections,
        gPS-RX-POS,
        sFNSFN-GA-AccessPointPosition,
        ...,
        cell-Capacity-Class
    },
```

```
    gPSInformation                GPSInformation          OPTIONAL,
    iE-Extensions                 ProtocolExtensionContainer { { InformationType-ExtIEs} }       OPTIONAL,
    ...
}

-- The GPS Information IE shall be present if the Information Exchange Type IE indicates "GPS Information"
-- For information exchange on the Iur-g interface, only the Cell Capacity Class is used.

InformationType-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

InnerLoopDLPCStatus      ::= ENUMERATED {active, inactive}

IPDLParameters ::= CHOICE {
    iPDL-FDD-Parameters        IPDL-FDD-Parameters,
    iPDL-TDD-Parameters        IPDL-TDD-Parameters,    --3.84Mcps TDD only
    ...,
    extension-IPDLParameters   Extension-IPDLParameters
}

Extension-IPDLParameters    ::= ProtocolIE-Single-Container {{ Extension-IPDLParametersIE }}

Extension-IPDLParametersIE RNSAP-PROTOCOL-IES ::= {
    { ID id-IPDL-TDD-ParametersLCR  CRITICALITY reject  TYPE IPDL-TDD-ParametersLCR PRESENCE mandatory },
    ...
}

IPDL-FDD-Parameters ::= SEQUENCE {
    iPSpacingFDD              IPSpacingFDD,
    iPLength                  IPLength,
    iPOffset                  IPOffset,
    seed                      Seed,
    burstModeParameters       BurstModeParameters    OPTIONAL,
    iE-Extensions             ProtocolExtensionContainer { { IPDL-FDD-Parameters-ExtIEs} }     OPTIONAL,
    ...
}

IPDL-FDD-Parameters-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

IPDL-TDD-Parameters ::= SEQUENCE {
    iPSpacingTDD              IPSpacingTDD,
    iPStart                   IPStart,
    iPSlot                    IPSlot,
    iP-P-CCPCH                IP-P-CCPCH,
    burstModeParameters       BurstModeParameters    OPTIONAL,
    iE-Extensions             ProtocolExtensionContainer { { IPDL-TDD-Parameters-ExtIEs} }     OPTIONAL,
    ...
}

-- The BurstModeParameters IE shall be included if the Idle Periods are arranged in Burst Mode.
```

```
IPDL-TDD-Parameters-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

IPDL-TDD-ParametersLCR ::= SEQUENCE {
    iPSpacingTDD            IPSpacingTDD,
    iPStart                 IPStart,
    iPSub                   IPSub,
    burstModeParameters     BurstModeParameters    OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { { IPDL-TDD-ParametersLCR-ExtIEs} }   OPTIONAL,
    ...
}

-- The BurstModeParameters IE shall be included if the Idle Periods are arranged in Burst Mode.

IPDL-TDD-ParametersLCR-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

IPLength ::= ENUMERATED {
    ipl5,
    ipl10,
    ...
}

IPOffset ::= INTEGER (0..9)

IP-P-CCPCH ::= ENUMERATED {
    switchOff-1-Frame,
    switchOff-2-Frames
}

IPSlot ::= INTEGER (0..14)

IPSpacingFDD ::= ENUMERATED {
    ipsF5,
    ipsF7,
    ipsF10,
    ipsF15,
    ipsF20,
    ipsF30,
    ipsF40,
    ipsF50,
    ...
}

IPSpacingTDD ::= ENUMERATED {
    ipsT30,
    ipsT40,
    ipsT50,
    ipsT70,
    ipsT100,
    ...
}
```

```
IPStart ::= INTEGER (0..4095)

IPSub ::= ENUMERATED {
    first,
    second,
    both
}

-- J
-- K
-- L

LAC                 ::= OCTET STRING (SIZE (2)) --(EXCEPT ('0000'H|'FFFE'H))

LengthOfTFCI2 ::= INTEGER(1..10)

LimitedPowerIncrease ::= ENUMERATED {
    used,
    not-used
}

L3-Information            ::= BIT STRING

Load-Value-IncrDecrThres ::= INTEGER(0..100)

Load-Value ::= INTEGER(0..100)

LoadValue ::= SEQUENCE {
        uplinkLoadValue     INTEGER(0..100),
        downlinkLoadValue   INTEGER(0..100)
}

-- M

MaxNrOfUL-DPCHs           ::= INTEGER (1..6)

MAC-c-sh-SDU-Length       ::= INTEGER (1..5000)

MAC-c-sh-SDU-LengthList ::= SEQUENCE(SIZE(1..maxNrOfMACcshSDU-Length)) OF MAC-c-sh-SDU-Length

MACdPDU-Size ::= INTEGER (1..5000,...)

MACdPDU-Size-IndexList ::= SEQUENCE (SIZE (1..maxNrOfPDUIndexes)) OF MACdPDU-Size-IndexItem

MACdPDU-Size-IndexItem ::= SEQUENCE {
    sID                             SID,
    mACdPDU-Size                    MACdPDU-Size,
    iE-Extensions                   ProtocolExtensionContainer { { MACdPDU-Size-IndexItem-ExtIEs } }        OPTIONAL,
    ...
}

MACdPDU-Size-IndexItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

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```
}

MACdPDU-Size-IndexList-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfPDUIndexes)) OF MACdPDU-Size-IndexItem-to-Modify

MACdPDU-Size-IndexItem-to-Modify ::= SEQUENCE {
    sID                             SID,
    mACdPDU-Size                    MACdPDU-Size,
    iE-Extensions                   ProtocolExtensionContainer { { MACdPDU-Size-IndexItem-to-Modify-ExtIEs } }      OPTIONAL,
    ...
}

MACdPDU-Size-IndexItem-to-Modify-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

MAChsGuaranteedBitRate ::= INTEGER (0..16777215,...)

MAChsReorderingBufferSize-for-RLC-UM ::= INTEGER (0..300,...)
-- Unit kBytes

MAC-hsWindowSize        ::= ENUMERATED {v4, v6, v8, v12, v16, v24, v32,...}

MaximumAllowedULTxPower     ::= INTEGER (-50..33)

MaxNrDLPhysicalchannels     ::= INTEGER (1..224)
-- 1.28Mcps TDD 97 – 224 are unused

MaxNrDLPhysicalchannelsTS   ::= INTEGER (1..16)

MaxNrTimeslots              ::= INTEGER (1..14)
-- 1.28Mcps values 7-14 are unused

MaxNrULPhysicalchannels     ::= INTEGER (1..2)

MaxTFCIvalue                ::= INTEGER (1..1023)

MeasurementFilterCoefficient ::=  ENUMERATED{k0, k1, k2, k3, k4, k5, k6, k7, k8, k9, k11, k13, k15, k17, k19,...}
-- Measurement Filter Coefficient to be used for measurement

MeasurementID               ::= INTEGER (0..1048575)

Measurement-Power-Offset ::= INTEGER(-12 .. 26)
-- Actual value = IE value * 0.5

MinimumSpreadingFactor      ::= INTEGER (1..16)

Multi-code-info             ::= INTEGER (1..16)

MultipleURAsIndicator ::= ENUMERATED {
    multiple-URAs-exist,
    single-URA-exists
}

MaxAdjustmentStep           ::= INTEGER(1..10)
```

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```
-- Unit Slot

MeasurementChangeTime        ::= INTEGER (1..6000,...)
-- The MeasurementChangeTime  gives the MeasurementChangeTime
-- in number of 10 ms periods.
-- E.g. Value 6000 means 60000ms(1min)
-- Unit is ms, Step is 10 ms


MeasurementHysteresisTime        ::= INTEGER (1..6000,...)
-- The MeasurementHysteresisTime  gives the
-- MeasurementHysteresisTime in number of 10 ms periods.
-- E.g. Value 6000 means 60000ms(1min)
-- Unit is ms, Step is 10ms

MeasurementIncreaseDecreaseThreshold        ::= CHOICE {
    sir                         SIR-Value-IncrDecrThres,
    sir-error                   SIR-Error-Value-IncrDecrThres,
    transmitted-code-power      Transmitted-Code-Power-Value-IncrDecrThres,
    rscp                        RSCP-Value-IncrDecrThres,
    round-trip-time             Round-Trip-Time-IncrDecrThres,
    ...,
    extension-MeasurementIncreaseDecreaseThreshold      Extension-MeasurementIncreaseDecreaseThreshold
}

Extension-MeasurementIncreaseDecreaseThreshold  ::= ProtocolIE-Single-Container {{ Extension-MeasurementIncreaseDecreaseThresholdIE }}

Extension-MeasurementIncreaseDecreaseThresholdIE RNSAP-PROTOCOL-IES ::= {
    { ID id-Load-Value-IncrDecrThres    CRITICALITY reject  TYPE Load-Value-IncrDecrThres    PRESENCE mandatory }|
    { ID id-Transmitted-Carrier-Power-Value-IncrDecrThres    CRITICALITY reject  TYPE Transmitted-Carrier-Power-Value-IncrDecrThres    PRESENCE
mandatory }|
    { ID id-Received-Total-Wideband-Power-Value-IncrDecrThres    CRITICALITY reject  TYPE Received-Total-Wideband-Power-Value-IncrDecrThres
    PRESENCE mandatory }|
    { ID id-UL-Timeslot-ISCP-Value-IncrDecrThres    CRITICALITY reject  TYPE UL-Timeslot-ISCP-Value-IncrDecrThres  PRESENCE mandatory }|
    { ID id-RT-Load-Value-IncrDecrThres CRITICALITY reject  TYPE RT-Load-Value-IncrDecrThres    PRESENCE mandatory }|
    { ID id-NRT-Load-Information-Value-IncrDecrThres    CRITICALITY reject  TYPE NRT-Load-Information-Value-IncrDecrThres PRESENCE mandatory }
}

MeasurementThreshold            ::= CHOICE {
    sir                         SIR-Value,
    sir-error                   SIR-Error-Value,
    transmitted-code-power      Transmitted-Code-Power-Value,
    rscp                        RSCP-Value,
    rx-timing-deviation         Rx-Timing-Deviation-Value,
    round-trip-time             Round-Trip-Time-Value,
    ...,
    extension-MeasurementThreshold  Extension-MeasurementThreshold
}

Extension-MeasurementThreshold  ::= ProtocolIE-Single-Container {{ Extension-MeasurementThresholdIE }}

Extension-MeasurementThresholdIE RNSAP-PROTOCOL-IES ::= {
    { ID id-TUTRANGPSMeasurementThresholdInformation    CRITICALITY reject  TYPE TUTRANGPSMeasurementThresholdInformation    PRESENCE mandatory }|
    { ID id-SFNSFNMeasurementThresholdInformation       CRITICALITY reject  TYPE SFNSFNMeasurementThresholdInformation       PRESENCE mandatory }|
```

```
    { ID id-Load-Value                                   CRITICALITY reject  TYPE Load-Value                                   PRESENCE mandatory }|
    { ID id-Transmitted-Carrier-Power-Value              CRITICALITY reject  TYPE Transmitted-Carrier-Power-Value              PRESENCE mandatory }|
    { ID id-Received-Total-Wideband-Power-Value          CRITICALITY reject  TYPE Received-Total-Wideband-Power-Value          PRESENCE mandatory }|
    { ID id-UL-Timeslot-ISCP-Value                       CRITICALITY reject  TYPE UL-Timeslot-ISCP-Value                       PRESENCE mandatory }|
    { ID id-RT-Load-Value                                CRITICALITY reject  TYPE RT-Load-Value                                PRESENCE mandatory }|
    { ID id-NRT-Load-Information-Value                   CRITICALITY reject  TYPE NRT-Load-Information-Value                   PRESENCE mandatory }|
    { ID id-Rx-Timing-Deviation-Value-LCR               CRITICALITY reject  TYPE Rx-Timing-Deviation-Value-LCR               PRESENCE mandatory}|
    { ID id-HS-SICH-Reception-Quality-Measurement-Value CRITICALITY reject  TYPE HS-SICH-Reception-Quality-Measurement-ValuePRESENCE mandatory}
}

MidambleConfigurationBurstType1And3 ::=    ENUMERATED {v4, v8, v16}


MidambleConfigurationBurstType2 ::=    ENUMERATED {v3, v6}


MidambleConfigurationLCR ::=    ENUMERATED {v2, v4, v6, v8, v10, v12, v14, v16, ...}


MidambleShiftAndBurstType ::=      CHOICE {
    type1                                SEQUENCE {
        midambleConfigurationBurstType1And3    MidambleConfigurationBurstType1And3,
        midambleAllocationMode                 CHOICE {
            defaultMidamble                    NULL,
            commonMidamble                     NULL,
            ueSpecificMidamble                 MidambleShiftLong,
            ...
        },
        ...
    },
    type2                                SEQUENCE {
        midambleConfigurationBurstType2    MidambleConfigurationBurstType2,
        midambleAllocationMode                 CHOICE {
            defaultMidamble                    NULL,
            commonMidamble                     NULL,
            ueSpecificMidamble                 MidambleShiftShort,
            ...
        },
        ...
    },
    type3                                SEQUENCE {
        midambleConfigurationBurstType1And3 MidambleConfigurationBurstType1And3,
        midambleAllocationMode             CHOICE {
            defaultMidamble                    NULL,
            ueSpecificMidamble                 MidambleShiftLong,
            ...
        },
        ...
    },
    ...
}

MidambleShiftLong ::=                INTEGER (0..15)

MidambleShiftShort ::=               INTEGER (0..5)

MidambleShiftLCR ::= SEQUENCE {
```

```
    midambleAllocationMode        MidambleAllocationMode,
    midambleShift                 MidambleShiftLong       OPTIONAL,
        -- The IE shall be present if the Midamble Allocation Mode IE is set to "UE specific midamble".
    midambleConfigurationLCR      MidambleConfigurationLCR,
    iE-Extensions                 ProtocolExtensionContainer { {MidambleShiftLCR-ExtIEs} }        OPTIONAL,
    ...
    }

MidambleAllocationMode ::= ENUMERATED {
    defaultMidamble,
    commonMidamble,
    uESpecificMidamble,
    ...
    }

MidambleShiftLCR-ExtIEs  RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

MinUL-ChannelisationCodeLength      ::= ENUMERATED {
    v4,
    v8,
    v16,
    v32,
    v64,
    v128,
    v256
}

ModifyPriorityQueue ::= CHOICE {
    addPriorityQueue          PriorityQueue-InfoItem-to-Add,
    modifyPriorityQueue       PriorityQueue-InfoItem-to-Modify,
    deletePriorityQueue       PriorityQueue-Id,
    ...
}

Modulation ::= ENUMERATED {
    qPSK,
    eightPSK,
    ...
}

MultiplexingPosition ::= ENUMERATED {
    fixed,
    flexible
}

MAChs-ResetIndicator ::= ENUMERATED{
    mAChs-NotReset
}

-- N

Nack-Power-Offset ::= INTEGER (0..8,...)
```

```
-- According to mapping in ref. [21] subclause 4.2.1

NCC ::= BIT STRING (SIZE (3))

Neighbouring-UMTS-CellInformation ::= SEQUENCE (SIZE (1..maxNrOfNeighbouringRNCs)) OF ProtocolIE-Single-Container {{ Neighbouring-UMTS-
CellInformationItemIE }}

Neighbouring-UMTS-CellInformationItemIE RNSAP-PROTOCOL-IES ::= {
    { ID id-Neighbouring-UMTS-CellInformationItem   CRITICALITY ignore  TYPE    Neighbouring-UMTS-CellInformationItem PRESENCE mandatory }
}

Neighbouring-UMTS-CellInformationItem ::= SEQUENCE {
    rNC-ID                              RNC-ID,
    cN-PS-DomainIdentifier              CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier              CN-CS-DomainIdentifier      OPTIONAL,
    neighbouring-FDD-CellInformation    Neighbouring-FDD-CellInformation    OPTIONAL,
    neighbouring-TDD-CellInformation    Neighbouring-TDD-CellInformation    OPTIONAL,
    iE-Extensions                       ProtocolExtensionContainer { {Neighbouring-UMTS-CellInformationItem-ExtIEs} } OPTIONAL,
    ...
}

Neighbouring-UMTS-CellInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-neighbouring-LCR-TDD-CellInformation        CRITICALITY ignore    EXTENSION  Neighbouring-LCR-TDD-CellInformation      PRESENCE
optional },
    ...
}

Neighbouring-FDD-CellInformation ::= SEQUENCE ( SIZE (1..maxNrOfFDDNeighboursPerRNC,...)) OF Neighbouring-FDD-CellInformationItem

Neighbouring-FDD-CellInformationItem ::= SEQUENCE {
    c-ID                            C-ID,
    uARFCNforNu                     UARFCN,
    uARFCNforNd                     UARFCN,
    frameOffset                     FrameOffset         OPTIONAL,
    primaryScramblingCode           PrimaryScramblingCode,
    primaryCPICH-Power              PrimaryCPICH-Power      OPTIONAL,
    cellIndividualOffset            CellIndividualOffset    OPTIONAL,
    txDiversityIndicator            TxDiversityIndicator,
    sTTD-SupportIndicator           STTD-SupportIndicator   OPTIONAL,
    closedLoopMode1-SupportIndicator    ClosedLoopMode1-SupportIndicator    OPTIONAL,
    closedLoopMode2-SupportIndicator    ClosedLoopMode2-SupportIndicator    OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { { Neighbouring-FDD-CellInformationItem-ExtIEs} } OPTIONAL,
    ...
}

Neighbouring-FDD-CellInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-RestrictionStateIndicator           CRITICALITY ignore          EXTENSION RestrictionStateIndicator    PRESENCE optional }|
    { ID id-DPC-Mode-Change-SupportIndicator    CRITICALITY ignore      EXTENSION   DPC-Mode-Change-SupportIndicator        PRESENCE optional }|
    { ID id-CoverageIndicator                   CRITICALITY ignore      EXTENSION CoverageIndicator             PRESENCE optional }|
    { ID id-AntennaColocationIndicator          CRITICALITY ignore      EXTENSION AntennaColocationIndicator    PRESENCE optional }|
    { ID id-HCS-Prio                            CRITICALITY ignore      EXTENSION HCS-Prio                       PRESENCE optional }|
    { ID id-CellCapabilityContainer-FDD         CRITICALITY ignore      EXTENSION   CellCapabilityContainer-FDD          PRESENCE optional }|
    { ID id-SNA-Information                      CRITICALITY ignore      EXTENSION SNA-Information       PRESENCE optional },
    ...
```

```
}

NeighbouringFDDCellMeasurementInformation ::= SEQUENCE {
    uC-ID                             UC-ID,
    uARFCN                            UARFCN,
    primaryScramblingCode             PrimaryScramblingCode,
    iE-Extensions                     ProtocolExtensionContainer { { NeighbouringFDDCellMeasurementInformationItem-ExtIEs} } OPTIONAL,
    ...
}


NeighbouringFDDCellMeasurementInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {

    ...
}

Neighbouring-GSM-CellInformation ::= ProtocolIE-Single-Container {{ Neighbouring-GSM-CellInformationIE }}

Neighbouring-GSM-CellInformationIE RNSAP-PROTOCOL-IES ::= {
    { ID id-Neighbouring-GSM-CellInformation    CRITICALITY ignore  TYPE    Neighbouring-GSM-CellInformationIEs PRESENCE mandatory }
}

Neighbouring-GSM-CellInformationIEs ::= SEQUENCE ( SIZE (1..maxNrOfGSMNeighboursPerRNC,...)) OF Neighbouring-GSM-CellInformationItem

Neighbouring-GSM-CellInformationItem ::= SEQUENCE {
    cGI                               CGI,
    cellIndividualOffset              CellIndividualOffset    OPTIONAL,
    bSIC                              BSIC,
    band-Indicator                    Band-Indicator,
    bCCH-ARFCN                        BCCH-ARFCN,
    iE-Extensions                     ProtocolExtensionContainer { { Neighbouring-GSM-CellInformationItem-ExtIEs} } OPTIONAL,
    ...
}

Neighbouring-GSM-CellInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-CoverageIndicator              CRITICALITY ignore         EXTENSION CoverageIndicator              PRESENCE optional } |
    { ID id-AntennaColocationIndicator     CRITICALITY ignore         EXTENSION AntennaColocationIndicator     PRESENCE optional } |
    { ID id-HCS-Prio                       CRITICALITY ignore         EXTENSION HCS-Prio                       PRESENCE optional } |
    { ID id-SNA-Information                 CRITICALITY ignore         EXTENSION SNA-Information                 PRESENCE optional } |
    { ID id-GERAN-Cell-Capability          CRITICALITY ignore         EXTENSION GERAN-Cell-Capability          PRESENCE optional } |
    { ID id-GERAN-Classmark                CRITICALITY ignore         EXTENSION GERAN-Classmark                PRESENCE optional } |
    { ID id-ExtendedGSMCellIndividualOffset CRITICALITY ignore         EXTENSION ExtendedGSMCellIndividualOffset  PRESENCE optional },
    ...
}

Neighbouring-TDD-CellInformation ::= SEQUENCE ( SIZE (1..maxNrOfTDDNeighboursPerRNC,...)) OF Neighbouring-TDD-CellInformationItem

Neighbouring-TDD-CellInformationItem ::= SEQUENCE {
    c-ID                              C-ID,
    uARFCNforNt                       UARFCN,
    frameOffset                       FrameOffset        OPTIONAL,
    cellParameterID                   CellParameterID,
    syncCase                          SyncCase,
    timeSlot                          TimeSlot           OPTIONAL
    -- This IE shall be present if Sync Case = Case1 -- ,
    sCH-TimeSlot                      SCH-TimeSlot           OPTIONAL
```

```
    -- This IE shall be present if Sync Case = Case2 -- ,
    sCTD-Indicator              SCTD-Indicator,
    cellIndividualOffset        CellIndividualOffset    OPTIONAL,
    dPCHConstantValue           DPCHConstantValue   OPTIONAL,
    pCCPCH-Power                PCCPCH-Power            OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { { Neighbouring-TDD-CellInformationItem-ExtIEs} } OPTIONAL,
    ...
}

Neighbouring-TDD-CellInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-RestrictionStateIndicator           CRITICALITY ignore          EXTENSION RestrictionStateIndicator   PRESENCE optional }|
    { ID id-CoverageIndicator                   CRITICALITY ignore          EXTENSION CoverageIndicator           PRESENCE optional }|
    { ID id-AntennaColocationIndicator          CRITICALITY ignore          EXTENSION AntennaColocationIndicator  PRESENCE optional }|
    { ID id-HCS-Prio                            CRITICALITY ignore          EXTENSION HCS-Prio                    PRESENCE optional }|
    { ID id-CellCapabilityContainer-TDD         CRITICALITY ignore  EXTENSION   CellCapabilityContainer-TDD       PRESENCE optional }|
    { ID id-SNA-Information                      CRITICALITY ignore  EXTENSION SNA-Information                    PRESENCE optional },
    ...
}

NeighbouringTDDCellMeasurementInformation ::= SEQUENCE {
    uC-ID                       UC-ID,
    uARFCN                      UARFCN,
    cellParameterID             CellParameterID,
    timeSlot                    TimeSlot                    OPTIONAL,
    midambleShiftAndBurstType   MidambleShiftAndBurstType   OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { { NeighbouringTDDCellMeasurementInformationItem-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDDCellMeasurementInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringTDDCellMeasurementInformationLCR ::= SEQUENCE {
    uC-ID                       UC-ID,
    uARFCN                      UARFCN,
    cellParameterID             CellParameterID,
    timeSlotLCR                 TimeSlotLCR                 OPTIONAL,
    midambleShiftLCR            MidambleShiftLCR            OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { { NeighbouringTDDCellMeasurementInformationLCRItem-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDDCellMeasurementInformationLCRItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Neighbouring-LCR-TDD-CellInformation ::= SEQUENCE (SIZE (1.. maxNrOfLCRTDDNeighboursPerRNC,...)) OF Neighbouring-LCR-TDD-CellInformationItem

Neighbouring-LCR-TDD-CellInformationItem ::= SEQUENCE {
    c-ID                        C-ID,
    uARFCNforNt                 UARFCN,
    frameOffset                 FrameOffset         OPTIONAL,
```

```
    cellParameterID                 CellParameterID,
    sCTD-Indicator           SCTD-Indicator,
    cellIndividualOffset         CellIndividualOffset    OPTIONAL,
    dPCHConstantValue            DPCHConstantValue   OPTIONAL,
    pCCPCH-Power                 PCCPCH-Power               OPTIONAL,
    restrictionStateIndicator    RestrictionStateIndicator     OPTIONAL,
    iE-Extensions                ProtocolExtensionContainer { { Neighbouring-LCR-TDD-CellInformationItem-ExtIEs} } OPTIONAL,
    ...
}

Neighbouring-LCR-TDD-CellInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-CoverageIndicator              CRITICALITY ignore    EXTENSION  CoverageIndicator              PRESENCE optional }|
    { ID id-AntennaColocationIndicator     CRITICALITY ignore    EXTENSION  AntennaColocationIndicator     PRESENCE optional }|
    { ID id-HCS-Prio                       CRITICALITY ignore    EXTENSION  HCS-Prio                       PRESENCE optional }|
    { ID id-CellCapabilityContainer-TDD-LCR CRITICALITY ignore   EXTENSION  CellCapabilityContainer-TDD-LCR  PRESENCE optional }|
    { ID id-SNA-Information                 CRITICALITY ignore    EXTENSION  SNA-Information                PRESENCE optional },
    ...
}

NrOfDLchannelisationcodes   ::= INTEGER (1..8)

NrOfTransportBlocks         ::= INTEGER (0..512)

NRT-Load-Information-Value-IncrDecrThres ::= INTEGER(0..3)

NRT-Load-Information-Value ::= INTEGER(0..3)

NRTLoadInformationValue ::= SEQUENCE {
        uplinkNRTLoadInformationValue       INTEGER(0..3),
        downlinkNRTLoadInformationValue     INTEGER(0..3)
}

-- O

OnModification ::= SEQUENCE {
    measurementThreshold    MeasurementThreshold,
    iE-Extensions           ProtocolExtensionContainer { {OnModification-ExtIEs} } OPTIONAL,
    ...
}

OnModification-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

OnModificationInformation ::= SEQUENCE {
    informationThreshold    InformationThreshold    OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {OnModificationInformation-ExtIEs} } OPTIONAL,
    ...
}

OnModificationInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
-- P

PagingCause ::= ENUMERATED {
    terminating-conversational-call,
    terminating-streaming-call,
    terminating-interactive-call,
    terminating-background-call,
    terminating-low-priority-signalling,
    ...,
    terminating-high-priority-signalling,
    terminating-cause-unknown
}
-- See in [16]

PagingRecordType ::= ENUMERATED {
    imsi-gsm-map,
    tmsi-gsm-map,
    p-tmsi-gsm-map,
    imsi-ds-41,
    tmsi-ds-41,
    ...
}
-- See in [16]

PartialReportingIndicator ::= ENUMERATED {
    partial-reporting-allowed
}

PayloadCRC-PresenceIndicator ::= ENUMERATED {
    crc-included,
    crc-not-included
}

PCCPCH-Power ::= INTEGER (-150..400,...)
-- PCCPCH-power = power * 10
-- If power <= -15 PCCPCH shall be set to -150
-- If power >= 40 PCCPCH shall be set to 400
-- Unit dBm, Range -15dBm .. +40 dBm, Step 0.1dBm

PCH-InformationList ::= SEQUENCE (SIZE(0..1)) OF PCH-InformationItem

PCH-InformationItem ::= SEQUENCE {
    transportFormatSet              TransportFormatSet,
    iE-Extensions                   ProtocolExtensionContainer { { PCH-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

PCH-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PC-Preamble ::= INTEGER(0..7,...)
```

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```
PDSCHCodeMapping ::= SEQUENCE {
    dL-ScramblingCode        DL-ScramblingCode,
    signallingMethod         PDSCHCodeMapping-SignallingMethod,
    iE-Extensions            ProtocolExtensionContainer { { PDSCHCodeMapping-ExtIEs} } OPTIONAL,
    ...
}

PDSCHCodeMapping-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PDSCHCodeMapping-SignallingMethod ::= CHOICE {
    pDSCHCodeMapping-SignallingMethod-CodeRange     PDSCHCodeMapping-SignallingMethod-CodeRange,
    pDSCHCodeMapping-SignallingMethod-TFCIRange     PDSCHCodeMapping-SignallingMethod-TFCIRange,
    pDSCHCodeMapping-SignallingMethod-Explicit      PDSCHCodeMapping-SignallingMethod-Explicit,
    ...,
    pDSCHCodeMapping-SignallingMethod-Replace       PDSCHCodeMapping-SignallingMethod-Replace
 }

PDSCHCodeMapping-SignallingMethod-CodeRange ::= SEQUENCE (SIZE (1..maxNoCodeGroups)) OF
    SEQUENCE {
        spreadingFactor       SpreadingFactor,
        multi-code-info       Multi-code-info,
        start-CodeNumber      CodeNumber,
        stop-CodeNumber       CodeNumber,
        iE-Extensions         ProtocolExtensionContainer { { PDSCHCodeMapping-SignallingMethod-CodeRange-ExtIEs} } OPTIONAL,
        ...
    }

PDSCHCodeMapping-SignallingMethod-CodeRange-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PDSCHCodeMapping-SignallingMethod-TFCIRange ::= SEQUENCE (SIZE (1..maxNoTFCIGroups)) OF
    SEQUENCE {
        maxTFCIvalue          MaxTFCIvalue,
        spreadingFactor       SpreadingFactor,
        multi-code-info       Multi-code-info,
        codeNumber            CodeNumber,
        iE-Extensions         ProtocolExtensionContainer { { PDSCHCodeMapping-SignallingMethod-TFCIRange-ExtIEs} } OPTIONAL,
        ...
    }

PDSCHCodeMapping-SignallingMethod-TFCIRange-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PDSCHCodeMapping-SignallingMethod-Explicit ::= SEQUENCE (SIZE (1..maxTFCI2Combs)) OF
    SEQUENCE {
        spreadingFactor       SpreadingFactor,
        multi-code-info       Multi-code-info,
        codeNumber            CodeNumber,
        iE-Extensions         ProtocolExtensionContainer { { PDSCHCodeMapping-SignallingMethod-Explicit-ExtIEs} } OPTIONAL,
        ...
```

```
    }

PDSCHCodeMapping-SignallingMethod-Explicit-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PDSCHCodeMapping-SignallingMethod-Replace ::= SEQUENCE (SIZE (1..maxTFCI2Combs)) OF
    SEQUENCE {
        tfci-Field2                 TFCS-MaxTFCI-field2-Value,
        spreadingFactor             SpreadingFactor,
        multi-CodeInfo              Multi-code-info,
        codeNumber                  CodeNumber,
        iE-Extensions               ProtocolExtensionContainer { { PDSCHCodeMapping-SignallingMethod-Replace-ExtIEs} }   OPTIONAL,
    ...
}

PDSCHCodeMapping-SignallingMethod-Replace-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Periodic ::= SEQUENCE {
    reportPeriodicity       ReportPeriodicity,
    iE-Extensions           ProtocolExtensionContainer { {Periodic-ExtIEs} } OPTIONAL,
    ...
}

Periodic-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PeriodicInformation ::= SEQUENCE {
    informationReportPeriodicity        InformationReportPeriodicity,
    iE-Extensions                       ProtocolExtensionContainer { {PeriodicInformation-ExtIEs} } OPTIONAL,
    ...
}

PeriodicInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Permanent-NAS-UE-Identity ::= CHOICE {
    imsi        IMSI,
    ...
}

Phase-Reference-Update-Indicator ::= ENUMERATED {
    phase-reference-needs-to-be-changed
}

PLMN-Identity ::= OCTET STRING (SIZE(3))

PowerAdjustmentType ::= ENUMERATED {
    none,
    common,
```

```
    individual
}

PowerOffset              ::= INTEGER (0..24)

PRC ::= INTEGER (-2047..2047)
--pseudo range correction; scaling factor 0.32 meters

PRCDeviation ::= ENUMERATED {
    prcd1,
    prcd2,
    prcd5,
    prcd10,
    ...
}

Pre-emptionCapability ::= ENUMERATED {
    shall-not-trigger-pre-emption,
    may-trigger-pre-emption
}

Pre-emptionVulnerability ::= ENUMERATED {
    not-pre-emptable,
    pre-emptable
}

PredictedSFNSFNDeviationLimit ::= INTEGER (1..256)
-- Unit chip, Step 1/16 chip, Range 1/16..16 chip

PredictedTUTRANGPSDeviationLimit ::= INTEGER (1..256)
-- Unit chip, Step 1/16 chip, Range 1/16..16 chip

PrimaryCPICH-Power         ::= INTEGER (-100..500)
-- step 0.1 (Range -10.0..50.0) Unit is dBm

PrimaryCPICH-EcNo          ::= INTEGER (-30..30)

Primary-CPICH-Usage-For-Channel-Estimation ::= ENUMERATED {
   primary-CPICH-may-be-used,
   primary-CPICH-shall-not-be-used
}

PrimaryCCPCH-RSCP          ::= INTEGER (0..91)
-- Mapping of non-negative values according to [24]

PrimaryCCPCH-RSCP-Delta    ::= INTEGER (-5..-1,...)
-- Mapping of negative values according to [24]


PrimaryScramblingCode          ::= INTEGER (0..511)

PriorityLevel              ::= INTEGER (0..15)
-- 0 = spare, 1 = highest priority, ...14 = lowest priority and 15 = no priority
```

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```
PriorityQueue-Id ::= INTEGER (0..maxNrOfPrioQueues-1)

PriorityQueue-InfoList ::= SEQUENCE (SIZE (1..maxNrOfPrioQueues)) OF PriorityQueue-InfoItem

PriorityQueue-InfoItem ::= SEQUENCE {
    priorityQueue-Id                PriorityQueue-Id,
    associatedHSDSCH-MACdFlow       HSDSCH-MACdFlow-ID,
    schedulingPriorityIndicator     SchedulingPriorityIndicator,
    t1                              T1,
    discardTimer                    DiscardTimer              OPTIONAL,
    mAC-hsWindowSize                MAC-hsWindowSize,
    mAChsGuaranteedBitRate          MAChsGuaranteedBitRate    OPTIONAL,
    mACdPDU-Size-Index              MACdPDU-Size-IndexList,
    rLC-Mode                        RLC-Mode,
    iE-Extensions                   ProtocolExtensionContainer { { PriorityQueue-InfoItem-ExtIEs } }        OPTIONAL,
    ...
}

PriorityQueue-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PriorityQueue-InfoList-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfPrioQueues)) OF ModifyPriorityQueue

PriorityQueue-InfoItem-to-Add ::= SEQUENCE {
    priorityQueue-Id                PriorityQueue-Id,
    associatedHSDSCH-MACdFlow       HSDSCH-MACdFlow-ID,
    schedulingPriorityIndicator     SchedulingPriorityIndicator,
    t1                              T1,
    discardTimer                    DiscardTimer                        OPTIONAL,
    mAC-hsWindowSize                MAC-hsWindowSize,
    mAChsGuaranteedBitRate          MAChsGuaranteedBitRate              OPTIONAL,
    mACdPDU-Size-Index              MACdPDU-Size-IndexList,
    rLC-Mode                        RLC-Mode,
    iE-Extensions                   ProtocolExtensionContainer { { PriorityQueue-InfoItem-to-Add-ExtIEs } }      OPTIONAL,
    ...
}

PriorityQueue-InfoItem-to-Add-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PriorityQueue-InfoItem-to-Modify ::= SEQUENCE {
    priorityQueue-Id                PriorityQueue-Id,
    schedulingPriorityIndicator     SchedulingPriorityIndicator         OPTIONAL,
    t1                              T1                                  OPTIONAL,
    discardTimer                    DiscardTimer                        OPTIONAL,
    mAC-hsWindowSize                MAC-hsWindowSize                    OPTIONAL,
    mAChsGuaranteedBitRate          MAChsGuaranteedBitRate              OPTIONAL,
    mACdPDU-Size-Index-to-Modify    MACdPDU-Size-IndexList-to-Modify                OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { { PriorityQueue-InfoItem-to-Modify-ExtIEs } }      OPTIONAL,
    ...
}
```

```
PriorityQueue-InfoItem-to-Modify-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PriorityQueue-InfoList-to-Modify-Unsynchronised ::= SEQUENCE (SIZE (0..maxNrOfPrioQueues)) OF PriorityQueue-InfoItem-to-Modify-Unsynchronised

PriorityQueue-InfoItem-to-Modify-Unsynchronised ::= SEQUENCE {
    priorityQueueId                    PriorityQueue-Id,
    schedulingPriorityIndicator        SchedulingPriorityIndicator                                                OPTIONAL,
    discardTimer                       DiscardTimer                                                               OPTIONAL,
    mAChsGuaranteedBitRate             MAChsGuaranteedBitRate                                                     OPTIONAL,
    iE-Extensions                      ProtocolExtensionContainer { { PriorityQueue-InfoItem-to-Modify-Unsynchronised-ExtIEs} }    OPTIONAL,
    ...
}

PriorityQueue-InfoItem-to-Modify-Unsynchronised-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PropagationDelay            ::= INTEGER (0..255)

PunctureLimit               ::= INTEGER (0..15)
-- 0: 40%; 1: 44%; ... 14: 96%; 15: 100

-- Q

QE-Selector ::= ENUMERATED {
    selected,
    non-selected
}

Qth-Parameter ::= INTEGER (-20..0)
-- Unit dB, Step 1dB

-- R

RAC                 ::= OCTET STRING (SIZE(1))

RANAP-RelocationInformation     ::= BIT STRING

Range-Correction-Rate ::= INTEGER (-127..127)
-- scaling factor 0.032 m/s

RateMatchingAttribute           ::= INTEGER (1..maxRateMatching)

RB-Identity                     ::= INTEGER (0..31)

RB-Info ::= SEQUENCE (SIZE(1..maxNoOfRB)) OF RB-Identity

Received-Total-Wideband-Power-Value ::= Received-total-wide-band-power

Received-Total-Wideband-Power-Value-IncrDecrThres ::= INTEGER(0..620)
-- Unit dB Step 0.1dB
-- e.g. value 100 means 10dB
```

```
RefTFCNumber ::= INTEGER (0..15)

RepetitionLength            ::= INTEGER (1..63)

RepetitionPeriod ::= ENUMERATED {
    v1,
    v2,
    v4,
    v8,
    v16,
    v32,
    v64
}

RepetitionNumber0 ::= INTEGER (0..255)

RepetitionNumber1 ::= INTEGER (1..256)

ReportCharacteristics ::= CHOICE {
    onDemand          NULL,
    periodic          Periodic,
    eventA            EventA,
    eventB            EventB,
    eventC            EventC,
    eventD            EventD,
    eventE            EventE,
    eventF            EventF,
    ...,
    extension-ReportCharacteristics    Extension-ReportCharacteristics
}

Extension-ReportCharacteristics ::= ProtocolIE-Single-Container {{ Extension-ReportCharacteristicsIE }}

Extension-ReportCharacteristicsIE RNSAP-PROTOCOL-IES ::= {
    { ID id-OnModification  CRITICALITY reject  TYPE OnModification     PRESENCE mandatory }
}

ReportPeriodicity ::= CHOICE {
    ten-msec            INTEGER (1..6000,...),
-- The Report Periodicity gives the reporting periodicity in number of 10 ms periods.
-- E.g. value 6000 means 60000ms (i.e. 1min)
-- Unit ms, Step 10ms
    min              INTEGER (1..60,...),
-- Unit min, Step 1min
    ...
}

RequestedDataValue ::= SEQUENCE {
    gA-AccessPointPositionwithAltitude         GA-AccessPointPositionwithOptionalAltitude  OPTIONAL,
    iPDLParameters                             IPDLParameters                              OPTIONAL,
    dGPSCorrections                            DGPSCorrections                             OPTIONAL,
    gPS-NavigationModel-and-TimeRecovery       GPS-NavigationModel-and-TimeRecovery        OPTIONAL,
    gPS-Ionospheric-Model                      GPS-Ionospheric-Model                       OPTIONAL,
```

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```
    gPS-UTC-Model                       GPS-UTC-Model                             OPTIONAL,
    gPS-Almanac                         GPS-Almanac                               OPTIONAL,
    gPS-RealTime-Integrity              GPS-RealTime-Integrity                    OPTIONAL,
    gPS-RX-POS                          GPS-RX-POS                                OPTIONAL,
    sFNSFN-GA-AccessPointPosition       GA-AccessPointPositionwithOptionalAltitude  OPTIONAL,
    iE-Extensions                       ProtocolExtensionContainer { { RequestedDataValue-ExtIEs} }    OPTIONAL,
    ...
}

RequestedDataValue-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-Cell-Capacity-Class-Value   CRITICALITY ignore  EXTENSION Cell-Capacity-Class-Value PRESENCE mandatory },
    ...
}

RequestedDataValueInformation ::= CHOICE {
    informationAvailable        InformationAvailable,
    informationNotAvailable     InformationNotAvailable
}

RestrictionStateIndicator   ::= ENUMERATED {
    cellNotResevedForOperatorUse,
    cellResevedForOperatorUse,
    ...
}

RL-ID                   ::= INTEGER (0..31)

RL-Set-ID               ::= INTEGER (0..31)

RL-Specific-DCH-Info ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF RL-Specific-DCH-Info-Item

RL-Specific-DCH-Info-Item ::= SEQUENCE {
    dCH-id                  DCH-ID,
    bindingID               BindingID OPTIONAL,
    -- Shall be ignored if bearer establishment with ALCAP.
    transportLayerAddress   TransportLayerAddress       OPTIONAL,
    -- Shall be ignored if bearer establishment with ALCAP.
    iE-Extensions           ProtocolExtensionContainer { { RL-Specific-DCH-Info-Item-ExtIEs} }  OPTIONAL,
    ...
}

RL-Specific-DCH-Info-Item-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RLC-Mode    ::= ENUMERATED {
    rLC-AM,
    rLC-UM,
    ...
}

RNC-ID                  ::= INTEGER (0..4095)

Round-Trip-Time-IncrDecrThres ::= INTEGER(0..32766)
```

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```
Round-Trip-Time-Value ::= INTEGER(0..32767)
-- According to mapping in [23]

RSCP-Value ::= INTEGER (0..127)
-- According to mapping in [24]

RSCP-Value-IncrDecrThres ::= INTEGER (0..126)

Received-total-wide-band-power          ::= INTEGER (0..621)
-- According to mapping in [23]

RT-Load-Value-IncrDecrThres ::= INTEGER(0..100)

RT-Load-Value ::= INTEGER(0..100)

RTLoadValue ::= SEQUENCE {
        uplinkRTLoadValue       INTEGER(0..100),
        downlinkRTLoadValue     INTEGER(0..100)
}

RxTimingDeviationForTA           ::= INTEGER (0..127)
-- As specified in [5], ch. 6.2.7.6
-- For 1.28Mcps TDD this IE must be set to 0.

Rx-Timing-Deviation-Value ::= INTEGER (0..8191)
--According to mapping in [24][3.84Mcps TDD only]

Rx-Timing-Deviation-Value-LCR ::= INTEGER (0..511)
--According to mapping in [24][1.28Mcps TDD only]

-- S

SAC                   ::= OCTET STRING (SIZE (2))

SAI ::= SEQUENCE {
    pLMN-Identity       PLMN-Identity,
    lAC                 LAC,
    sAC                 SAC,
    iE-Extensions       ProtocolExtensionContainer { {SAI-ExtIEs} } OPTIONAL
}

SAI-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SAT-ID ::= INTEGER (0..63)

SCH-TimeSlot                ::= INTEGER (0..6)

ScaledAdjustmentRatio           ::= INTEGER(0..100)
-- AdjustmentRatio  = ScaledAdjustmentRatio / 100

Secondary-CCPCH-Info::= SEQUENCE {
```

```
    fDD-S-CCPCH-Offset                      FDD-S-CCPCH-Offset,
    dl-ScramblingCode                       DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
    dl-TFCS                                 TFCS,
    secondaryCCPCH-SlotFormat               SecondaryCCPCH-SlotFormat,
    tFCI-Presence                           TFCI-Presence   OPTIONAL,
    -- This IE shall be present only if the Secondary CCPCH Slot Format IE is equal to any of the values from 8 to 17
    multiplexingPosition                    MultiplexingPosition,
    sTTD-Indicator                          STTD-Indicator,
    fACH-PCH-InformationList                FACH-PCH-InformationList,
    iB-schedulingInformation                IB-SchedulingInformation,
    iE-Extensions                           ProtocolExtensionContainer { { Secondary-CCPCH-Info-ExtIEs} } OPTIONAL,
    ...
}

Secondary-CCPCH-Info-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Secondary-CCPCH-Info-TDD::= SEQUENCE {
    dl-TFCS                                 TFCS,
    tFCI-Coding                             TFCI-Coding,
    secondary-CCPCH-TDD-InformationList     Secondary-CCPCH-TDD-InformationList,
    fACH-InformationList                    FACH-InformationList,
    pCH-InformationList                     PCH-InformationList,
    iE-Extensions                           ProtocolExtensionContainer { { Secondary-CCPCH-Info-TDD-ExtIEs} } OPTIONAL,
    ...
}

Secondary-CCPCH-Info-TDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Secondary-CPICH-Information ::= SEQUENCE {
    dl-ScramblingCode                       DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
    iE-Extensions                           ProtocolExtensionContainer { { Secondary-CPICH-Information-ExtIEs} } OPTIONAL,
    ...
}

Secondary-CPICH-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Secondary-CPICH-Information-Change ::= CHOICE {
new-secondary-CPICH                     Secondary-CPICH-Information,
secondary-CPICH-shall-not-be-used   NULL,
...
}

Secondary-LCR-CCPCH-Info-TDD::= SEQUENCE {
    dl-TFCS                                 TFCS,
    tFCI-Coding                             TFCI-Coding,
    secondary-LCR-CCPCH-TDD-InformationList Secondary-LCR-CCPCH-TDD-InformationList,
```

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```
    fACH-InformationList                       FACH-InformationList,
    pCH-InformationList                        PCH-InformationList,
    iE-Extensions                              ProtocolExtensionContainer { { Secondary-LCR-CCPCH-Info-TDD-ExtIEs} } OPTIONAL,
    ...
}

Secondary-LCR-CCPCH-Info-TDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Secondary-CCPCH-TDD-InformationList ::= SEQUENCE (SIZE(0.. maxNrOfSCCPCHs)) OF Secondary-CCPCH-TDD-InformationItem

Secondary-CCPCH-TDD-InformationItem ::= SEQUENCE {
    timeSlot                    TimeSlot,
    midambleShiftAndBurstType   MidambleShiftAndBurstType,
    tFCI-Presence               TFCI-Presence,
    secondary-CCPCH-TDD-Code-Information              Secondary-CCPCH-TDD-Code-Information,
    tDD-PhysicalChannelOffset   TDD-PhysicalChannelOffset,
    repetitionLength            RepetitionLength,
    repetitionPeriod            RepetitionPeriod,
    iE-Extensions               ProtocolExtensionContainer { { Secondary-CCPCH-TDD-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

Secondary-CCPCH-TDD-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Secondary-LCR-CCPCH-TDD-InformationList ::= SEQUENCE (SIZE(0.. maxNrOfSCCPCHs)) OF Secondary-LCR-CCPCH-TDD-InformationItem

Secondary-LCR-CCPCH-TDD-InformationItem ::= SEQUENCE {
    timeSlotLCR                              TimeSlotLCR,
    midambleShiftLCR                         MidambleShiftLCR,
    tFCI-Presence                            TFCI-Presence,
    secondary-LCR-CCPCH-TDD-Code-Information    Secondary-LCR-CCPCH-TDD-Code-Information,
    tDD-PhysicalChannelOffset                TDD-PhysicalChannelOffset,
    repetitionLength                         RepetitionLength,
    repetitionPeriod                         RepetitionPeriod,
    iE-Extensions                            ProtocolExtensionContainer { { Secondary-LCR-CCPCH-TDD-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

Secondary-LCR-CCPCH-TDD-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Secondary-CCPCH-TDD-Code-Information ::= SEQUENCE ( SIZE (1..maxNrOfSCCPCHs)) OF Secondary-CCPCH-TDD-Code-InformationItem

Secondary-CCPCH-TDD-Code-InformationItem ::= SEQUENCE {
    tDD-ChannelisationCode      TDD-ChannelisationCode,
    iE-Extensions               ProtocolExtensionContainer { {Secondary-CCPCH-TDD-Code-InformationItem-ExtIEs} } OPTIONAL,
    ...
}
```

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```
Secondary-CCPCH-TDD-Code-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Secondary-LCR-CCPCH-TDD-Code-Information ::= SEQUENCE ( SIZE (1..maxNrOfSCCPCHs)) OF Secondary-LCR-CCPCH-TDD-Code-InformationItem

Secondary-LCR-CCPCH-TDD-Code-InformationItem ::= SEQUENCE {
    tDD-ChannelisationCodeLCR       TDD-ChannelisationCodeLCR,
    s-CCPCH-TimeSlotFormat-LCR      TDD-DL-DPCH-TimeSlotFormat-LCR,
    iE-Extensions                   ProtocolExtensionContainer { {Secondary-LCR-CCPCH-TDD-Code-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

Secondary-LCR-CCPCH-TDD-Code-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SecondInterleavingMode ::= ENUMERATED {
    frame-related,
    timeslot-related,
    ...
}

Seed ::= INTEGER (0..63)

SFN ::= INTEGER (0..4095)

SFNSFN-FDD ::= INTEGER(0..614399)

SFNSFN-TDD ::= INTEGER(0..40961)

GA-AccessPointPositionwithOptionalAltitude ::= SEQUENCE {
    geographicalCoordinate                      GeographicalCoordinate,
    altitudeAndDirection                        GA-AltitudeAndDirection  OPTIONAL,
    iE-Extensions                               ProtocolExtensionContainer { { GA-AccessPointPositionwithOptionalAltitude-ExtIEs} } OPTIONAL,
    ...
}

GA-AccessPointPositionwithOptionalAltitude-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SFNSFNChangeLimit ::= INTEGER (1..256)
-- Unit chip, Step 1/16 chip, Range 1/16..16 chip

SFNSFNDriftRate ::= INTEGER (-100..100)
-- Unit chip/s, Step 1/256 chip/s, Range -100/256..+100/256 chip/s

SFNSFNDriftRateQuality ::= INTEGER (0..100)
-- Unit chip/s, Step 1/256 chip/s, Range 0..100/256 chip/s

SFNSFNMeasurementThresholdInformation::= SEQUENCE {
    sFNSFNChangeLimit                  SFNSFNChangeLimit                    OPTIONAL,
    predictedSFNSFNDeviationLimit      PredictedSFNSFNDeviationLimit        OPTIONAL,
```

```
    iE-Extensions                      ProtocolExtensionContainer { { SFNSFNMeasurementThresholdInformation-ExtIEs} }     OPTIONAL,
    ...
}

SFNSFNMeasurementThresholdInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SFNSFNMeasurementValueInformation ::= SEQUENCE {
    successfullNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformation    SEQUENCE (SIZE(1..maxNrOfMeasNCell)) OF
        SEQUENCE {
            uC-ID       UC-ID,
            sFNSFNValue             SFNSFNValue,
            sFNSFNQuality           SFNSFNQuality                OPTIONAL,
            sFNSFNDriftRate         SFNSFNDriftRate,
            sFNSFNDriftRateQuality  SFNSFNDriftRateQuality   OPTIONAL,
            sFNSFNTimeStampInformation  SFNSFNTimeStampInformation,
            iE-Extensions               ProtocolExtensionContainer { {
SuccessfullNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-ExtIEs} }     OPTIONAL,
            ...
        },
    unsuccessfullNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformation    SEQUENCE (SIZE(0..maxNrOfMeasNCell-1)) OF
        SEQUENCE {
            uC-ID       UC-ID,
            iE-Extensions       ProtocolExtensionContainer { { UnsuccessfullNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-
ExtIEs} }        OPTIONAL,
            ...
        },
    iE-Extensions       ProtocolExtensionContainer { { SFNSFNMeasurementValueInformationItem-ExtIEs} }     OPTIONAL,
    ...
}

SFNSFNMeasurementValueInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SuccessfullNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UnsuccessfullNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SFNSFNQuality ::= INTEGER (0..255)
-- Unit chip, Step 1/16 chip, Range 0.. 255/16 chip

SFNSFNTimeStampInformation ::= CHOICE {
    sFNSFNTimeStamp-FDD     SFN,
```

```
    sFNSFNTimeStamp-TDD      SFNSFNTimeStamp-TDD,
    ...
}

SFNSFNTimeStamp-TDD::= SEQUENCE {
    sFN                 SFN,
    timeSlot            TimeSlot,
    iE-Extensions                       ProtocolExtensionContainer { { SFNSFNTimeStamp-ExtIEs}} OPTIONAL,
    ...
}

SFNSFNTimeStamp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {

    ...
}

SFNSFNValue ::= CHOICE {

    sFNSFN-FDD      SFNSFN-FDD,

    sFNSFN-TDD      SFNSFN-TDD,

    ...
}

SID ::= INTEGER (0..maxNrOfPDUIndexes-1)

SIR-Error-Value         ::= INTEGER (0..125)

SIR-Error-Value-IncrDecrThres          ::= INTEGER (0..124)

SIR-Value               ::= INTEGER (0..63)
-- According to mapping in [11]/[14]

SIR-Value-IncrDecrThres ::= INTEGER (0..62)

SecondaryCCPCH-SlotFormat        ::= INTEGER (0..17,...)
-- refer to [8]

S-FieldLength               ::= ENUMERATED {
    v1,
    v2,
    ...
}

SNA-Information ::= SEQUENCE {
    pLMN-Identity   PLMN-Identity,
    listOfSNAs            ListOfSNAs                             OPTIONAL,
    iE-Extensions        ProtocolExtensionContainer { { SNA-Information-ExtIEs} } OPTIONAL,
    ...
}

SNA-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
ListOfSNAs ::= SEQUENCE (SIZE (1.. maxNrOfSNAs)) OF SNACode


SNACode ::= INTEGER (0..65535)


SpecialBurstScheduling ::= INTEGER (1..256)


SplitType ::= ENUMERATED {
    hard,
    logical
}

SpreadingFactor        ::= INTEGER (4| 8| 16| 32| 64| 128| 256)


S-RNTI                 ::= INTEGER (0..1048575)
-- From 0 to 2^20-1

S-RNTI-Group           ::= SEQUENCE {
    sRNTI                  S-RNTI,
    sRNTI-BitMaskIndex     ENUMERATED {
        b1,
        b2,
        b3,
        b4,
        b5,
        b6,
        b7,
        b8,
        b9,
        b10,
        b11,
        b12,
        b13,
        b14,
        b15,
        b16,
        b17,
        b18,
        b19,...
}
}

SRB-Delay ::= INTEGER(0..7,...)

SSDT-CellID ::= ENUMERATED {
    a,
    b,
    c,
    d,
    e,
    f,
    g,
    h
}
```

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```
SSDT-CellID-Length ::= ENUMERATED {
    short,
    medium,
    long
}

SSDT-Indication ::= ENUMERATED {
    sSDT-active-in-the-UE,
    sSDT-not-active-in-the-UE
}

SSDT-SupportIndicator ::= ENUMERATED {
    sSDT-supported,
    sSDT-not-supported
}

STTD-Indicator  ::= ENUMERATED {
    active,
    inactive
}

STTD-SupportIndicator   ::= ENUMERATED {
    sTTD-Supported,
    sTTD-not-Supported
}

Support-8PSK ::= ENUMERATED {
    v8PSK-Supported
}

SyncCase ::= INTEGER (1..2,...)

SynchronisationConfiguration ::= SEQUENCE {
    n-INSYNC-IND            INTEGER (1..256),
    n-OUTSYNC-IND           INTEGER (1..256),
    t-RLFAILURE             INTEGER (0..255),
-- Unit seconds, Range 0s .. 25.5s, Step 0.1s
    iE-Extensions           ProtocolExtensionContainer { { SynchronisationConfiguration-ExtIEs} }   OPTIONAL,
    ...
}

SynchronisationConfiguration-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SYNC-UL-ProcParameters  ::= SEQUENCE {
    maxSYNC-UL-transmissions        ENUMERATED {v1, v2, v4, v8, ...},
    powerRampStep                   INTEGER (0..3, ...),
    ...
    }

-- T

T1 ::= ENUMERATED {v10,v20,v30,v40,v50,v60,v70,v80,v90,v100,v120,v140,v160,v200,v300,v400,...}
```

```
TDD-AckNack-Power-Offset ::= INTEGER (-7..8,...)
-- Unit dB, Range -7dB .. +8dB, Step 1dB

TDD-ChannelisationCode              ::= ENUMERATED {
    chCode1div1,
    chCode2div1,
    chCode2div2,
    chCode4div1,
    chCode4div2,
    chCode4div3,
    chCode4div4,
    chCode8div1,
    chCode8div2,
    chCode8div3,
    chCode8div4,
    chCode8div5,
    chCode8div6,
    chCode8div7,
    chCode8div8,
    chCode16div1,
    chCode16div2,
    chCode16div3,
    chCode16div4,
    chCode16div5,
    chCode16div6,
    chCode16div7,
    chCode16div8,
    chCode16div9,
    chCode16div10,
    chCode16div11,
    chCode16div12,
    chCode16div13,
    chCode16div14,
    chCode16div15,
    chCode16div16,
    ...
}

TDD-ChannelisationCodeLCR ::= SEQUENCE {
    tDD-ChannelisationCode          TDD-ChannelisationCode,
    modulation                      Modulation, -- Modulation options for 1.28Mcps TDD in contrast to 3.84Mcps TDD
    ...
}

TDD-DCHs-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF TDD-DCHs-to-ModifyItem

TDD-DCHs-to-ModifyItem ::= SEQUENCE {
    ul-FP-Mode                      UL-FP-Mode  OPTIONAL,
    toAWS                           ToAWS       OPTIONAL,
    toAWE                           ToAWE       OPTIONAL,
    transportBearerRequestIndicator TransportBearerRequestIndicator,
    dCH-SpecificInformationList     TDD-DCHs-to-ModifySpecificInformationList,
    iE-Extensions                   ProtocolExtensionContainer { {TDD-DCHs-to-ModifyItem-ExtIEs} } OPTIONAL,
```

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```
    ...
}

TDD-DCHs-to-ModifyItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-TnlQos                      CRITICALITY    ignore    EXTENSION   TnlQos  PRESENCE optional },
    ...
}

TDD-DCHs-to-ModifySpecificInformationList ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF TDD-DCHs-to-ModifySpecificItem

TDD-DCHs-to-ModifySpecificItem ::=  SEQUENCE {
    dCH-ID                      DCH-ID,
    ul-CCTrCH-ID                CCTrCH-ID       OPTIONAL,
    dl-CCTrCH-ID                CCTrCH-ID       OPTIONAL,
    ul-TransportformatSet       TransportFormatSet  OPTIONAL,
    dl-TransportformatSet       TransportFormatSet  OPTIONAL,
    allocationRetentionPriority    AllocationRetentionPriority OPTIONAL,
    frameHandlingPriority       FrameHandlingPriority   OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {TDD-DCHs-to-ModifySpecificItem-ExtIEs} } OPTIONAL,
    ...
}

TDD-DCHs-to-ModifySpecificItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-Guaranteed-Rate-Information    CRITICALITY ignore  EXTENSION Guaranteed-Rate-Information    PRESENCE optional }|
    { ID id-TrafficClass        CRITICALITY ignore  EXTENSION TrafficClass       PRESENCE optional},
    ...
}

TDD-DL-Code-Information ::= SEQUENCE ( SIZE (1..maxNrOfDPCHs)) OF TDD-DL-Code-InformationItem

TDD-DL-Code-InformationItem ::= SEQUENCE {
    dPCH-ID                     DPCH-ID,
    tDD-ChannelisationCode      TDD-ChannelisationCode,
    iE-Extensions               ProtocolExtensionContainer { {TDD-DL-Code-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

TDD-DL-Code-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TDD-DL-Code-LCR-Information ::= SEQUENCE (SIZE (1..maxNrOfDPCHsLCR)) OF TDD-DL-Code-LCR-InformationItem

TDD-DL-Code-LCR-InformationItem ::= SEQUENCE {
    dPCH-ID                         DPCH-ID,
    tdd-ChannelisationCodeLCR           TDD-ChannelisationCodeLCR,
    tdd-DL-DPCH-TimeSlotFormat-LCR          TDD-DL-DPCH-TimeSlotFormat-LCR,
    iE-Extensions                       ProtocolExtensionContainer { { TDD-DL-Code-LCR-InformationItem-ExtIEs} }       OPTIONAL,
    ...
}

TDD-DL-Code-LCR-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

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```
TDD-DL-DPCH-TimeSlotFormat-LCR ::= CHOICE {
    qPSK                        QPSK-DL-DPCH-TimeSlotFormatTDD-LCR,
    eightPSK                    EightPSK-DL-DPCH-TimeSlotFormatTDD-LCR,
    ...
}

QPSK-DL-DPCH-TimeSlotFormatTDD-LCR ::= INTEGER(0..24,...)

EightPSK-DL-DPCH-TimeSlotFormatTDD-LCR ::= INTEGER(0..24,...)

TDD-DPCHOffset ::= CHOICE {
    initialOffset      INTEGER (0..255),
    noinitialOffset    INTEGER (0..63)
}

TDD-PhysicalChannelOffset        ::= INTEGER (0..63)

TDD-TPC-DownlinkStepSize ::= ENUMERATED {
    step-size1,
    step-size2,
    step-size3,
    ...
}

TDD-TPC-UplinkStepSize-LCR ::= ENUMERATED {
    step-size1,
    step-size2,
    step-size3,
    ...
}

TDD-UL-Code-Information ::= SEQUENCE ( SIZE (1..maxNrOfDPCHs)) OF TDD-UL-Code-InformationItem

TDD-UL-Code-InformationItem ::= SEQUENCE {
    dPCH-ID                   DPCH-ID,
    tDD-ChannelisationCode        TDD-ChannelisationCode,
    iE-Extensions                 ProtocolExtensionContainer { {TDD-UL-Code-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

TDD-UL-Code-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TDD-UL-Code-LCR-Information ::= SEQUENCE (SIZE (1..maxNrOfDPCHsLCR)) OF TDD-UL-Code-LCR-InformationItem

TDD-UL-Code-LCR-InformationItem ::= SEQUENCE {
    dPCH-ID                          DPCH-ID,
    tdd-ChannelisationCodeLCR             TDD-ChannelisationCodeLCR,
    tdd-UL-DPCH-TimeSlotFormat-LCR        TDD-UL-DPCH-TimeSlotFormat-LCR,
    iE-Extensions                         ProtocolExtensionContainer { { TDD-UL-Code-LCR-InformationItem-ExtIEs} }     OPTIONAL,
    ...
}
```

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```
TDD-UL-Code-LCR-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TDD-UL-DPCH-TimeSlotFormat-LCR ::= CHOICE {
    qPSK                          QPSK-UL-DPCH-TimeSlotFormatTDD-LCR,
    eightPSK                      EightPSK-UL-DPCH-TimeSlotFormatTDD-LCR,
    ...
}

QPSK-UL-DPCH-TimeSlotFormatTDD-LCR ::= INTEGER(0..69,...)

EightPSK-UL-DPCH-TimeSlotFormatTDD-LCR ::= INTEGER(0..24,...)

TFCI-Coding ::= ENUMERATED {
    v4,
    v8,
    v16,
    v32,
    ...
}

TFCI-PC-SupportIndicator ::=  ENUMERATED {
    tFCI-PC-mode1-supported,
    tFCI-PC-mode2-supported
}

TFCI-Presence ::= ENUMERATED {
    present,
    not-present
}

TFCI-SignallingMode ::= ENUMERATED {
    normal,
    split
}

TGD                 ::= INTEGER (0|15..269)
-- 0 = Undefined, only one transmission gap in the transmission gap pattern sequence

TGPRC               ::= INTEGER (0..511)
-- 0 = infinity

TGPSID              ::= INTEGER (1.. maxTGPS)

TGSN                ::= INTEGER (0..14)

TimeSlot            ::= INTEGER (0..14)

TimeSlotLCR ::= INTEGER (0..6)

TimingAdvanceApplied ::= ENUMERATED {
    yes,
```

```
    no
}

TnlQos ::= CHOICE {
    dsField                 DsField,
    genericTrafficCategory      GenericTrafficCategory,
    ...
}

ToAWE                 ::= INTEGER (0..2559)

ToAWS                 ::= INTEGER (0..1279)

TrafficClass ::= ENUMERATED {
    conversational,
    streaming,
    interactive,
    background,
    ...
}

Transmission-Gap-Pattern-Sequence-Information ::= SEQUENCE (SIZE (1..maxTGPS)) OF
    SEQUENCE {
        tGPSID          TGPSID,
        tGSN            TGSN,
        tGL1            GapLength,
        tGL2            GapLength   OPTIONAL,
        tGD             TGD,
        tGPL1           GapDuration,
        tGPL2           GapDuration OPTIONAL,
        uL-DL-mode      UL-DL-mode,
        downlink-Compressed-Mode-Method     Downlink-Compressed-Mode-Method     OPTIONAL,
            -- This IE shall be present if the value of the UL/DL mode IE is "DL only" or "UL/DL"
        uplink-Compressed-Mode-Method       Uplink-Compressed-Mode-Method       OPTIONAL,
            -- This IE shall be present if the value of the UL/DL mode IE is "UL only" or "UL/DL"
        dL-FrameType        DL-FrameType,
        delta-SIR1      DeltaSIR,
        delta-SIR-after1    DeltaSIR,
        delta-SIR2      DeltaSIR    OPTIONAL,
        delta-SIR-after2    DeltaSIR    OPTIONAL,
        iE-Extensions           ProtocolExtensionContainer { {Transmission-Gap-Pattern-Sequence-Information-ExtIEs} } OPTIONAL,
        ...
    }

Transmission-Gap-Pattern-Sequence-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Transmission-Gap-Pattern-Sequence-ScramblingCode-Information     ::= ENUMERATED{
    code-change,
    nocode-change
}

Transmission-Gap-Pattern-Sequence-Status-List ::= SEQUENCE (SIZE (0..maxTGPS)) OF
```

```
    SEQUENCE {
        tGPSID          TGPSID,
        tGPRC           TGPRC,
        tGCFN           CFN,
        iE-Extensions        ProtocolExtensionContainer { { Transmission-Gap-Pattern-Sequence-Status-List-ExtIEs } } OPTIONAL,
        ...
}

Transmission-Gap-Pattern-Sequence-Status-List-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransmissionTimeIntervalDynamic ::= ENUMERATED {
    msec-10,
    msec-20,
    msec-40,
    msec-80,
    ...
}

TransmissionTimeIntervalSemiStatic ::= ENUMERATED {
    msec-10,
    msec-20,
    msec-40,
    msec-80,
    dynamic,
    ...
}

TransmitDiversityIndicator ::= ENUMERATED {
    active,
    inactive
}

Transmitted-Carrier-Power-Value ::= INTEGER(0..100)
-- according to mapping in [23] and [24]

Transmitted-Carrier-Power-Value-IncrDecrThres ::= INTEGER(0..100)
-- according to mapping in [23] and [24]

TUTRANGPS ::= SEQUENCE {
    ms-part     INTEGER (0..16383),
    ls-part     INTEGER (0..4294967295)
}

TUTRANGPSChangeLimit ::= INTEGER (1..256)
-- Unit chip, Step 1/16 chip, Range 1/16..16 chip

TUTRANGPSDriftRate ::= INTEGER (-50..50)
-- Unit chip/s, Step 1/256 chip/s, Range -50/256..+50/256 chip/s

TUTRANGPSDriftRateQuality ::= INTEGER (0..50)
-- Unit chip/s, Step 1/256 chip/s, Range 0..50/256 chip/s
```

```
TUTRANGPSAccuracyClass ::= ENUMERATED {
    accuracy-class-A,
    accuracy-class-B,
    accuracy-class-C,
    ...
}

TUTRANGPSMeasurementThresholdInformation ::= SEQUENCE {
    tUTRANGPSChangeLimit                    TUTRANGPSChangeLimit                    OPTIONAL,
    predictedTUTRANGPSDeviationLimit        PredictedTUTRANGPSDeviationLimit        OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { { TUTRANGPSMeasurementThresholdInformation-ExtIEs} }    OPTIONAL,
    ...
}

TUTRANGPSMeasurementThresholdInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {

    ...
}

TUTRANGPSMeasurementValueInformation ::= SEQUENCE {
        tUTRANGPS                       TUTRANGPS,
        tUTRANGPSQuality                TUTRANGPSQuality                    OPTIONAL,
        tUTRANGPSDriftRate              TUTRANGPSDriftRate,
        tUTRANGPSDriftRateQuality       TUTRANGPSDriftRateQuality      OPTIONAL,
        iEe-Extensions                  ProtocolExtensionContainer { { TUTRANGPSMeasurementValueInformationItem-ExtIEs} }   OPTIONAL,
        ...
}

TUTRANGPSMeasurementValueInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {

    ...
}

TUTRANGPSQuality ::= INTEGER (0..255)
-- Unit chip, Step 1/16 chip, Range 0.. 255/16 chip

TransportBearerID        ::= INTEGER (0..4095)

TransportBearerRequestIndicator      ::= ENUMERATED {
    bearer-requested,
    bearer-not-requested,
    ...
}

TransportBlockSize          ::= INTEGER (0..5000)
-- Unit is bits

TransportFormatCombination-Beta ::= CHOICE {
    signalledGainFactors    SEQUENCE {
        betaC               BetaCD,
        betaD               BetaCD,
        refTFCNumber        RefTFCNumber   OPTIONAL,
        iE-Extensions       ProtocolExtensionContainer { { SignalledGainFactors-ExtIEs} } OPTIONAL,
        ...
```

```
    },
    refTFCNumber             RefTFCNumber,
    ...
}

SignalledGainFactors-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS ::= SEQUENCE {
    tFCSvalues         CHOICE {
        no-Split-in-TFCI          TFCS-TFCSList,
        split-in-TFCI             SEQUENCE {
            transportFormatCombination-DCH     TFCS-DCHList,
            signallingMethod                   CHOICE {
                tFCI-Range                     TFCS-MapingOnDSCHList,
                explicit                       TFCS-DSCHList,
                ...
            },
            iE-Extensions                      ProtocolExtensionContainer { { Split-in-TFCI-ExtIEs} } OPTIONAL,
        ...
        },
    ...
    },
    iE-Extensions      ProtocolExtensionContainer  { { TFCS-ExtIEs} }     OPTIONAL,
    ...
}

Split-in-TFCI-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS-TFCSList ::= SEQUENCE (SIZE (1..maxNrOfTFCs)) OF
    SEQUENCE {
        cTFC             TFCS-CTFC,
        tFC-Beta         TransportFormatCombination-Beta    OPTIONAL,
        -- The IE shall be present if the TFCS concerns a UL DPCH [FDD - or PRACH channel in FDD]
        iE-Extensions    ProtocolExtensionContainer { { TFCS-TFCSList-ExtIEs} }    OPTIONAL,
    ...
}

TFCS-TFCSList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS-CTFC ::= CHOICE {
    ctfc2bit                         INTEGER (0..3),
    ctfc4bit                         INTEGER (0..15),
    ctfc6bit                         INTEGER (0..63),
    ctfc8bit                         INTEGER (0..255),
```

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```
    ctfc12bit                           INTEGER (0..4095),
    ctfc16bit                           INTEGER (0..65535),
    ctfcmaxbit                          INTEGER (0..maxCTFC)
}

TFCS-DCHList ::= SEQUENCE (SIZE (1..maxTFCI1Combs)) OF
    SEQUENCE {
        cTFC               TFCS-CTFC,
        iE-Extensions      ProtocolExtensionContainer { { TFCS-DCHList-ExtIEs} }     OPTIONAL,
        ...
}

TFCS-DCHList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS-MapingOnDSCHList ::= SEQUENCE (SIZE (1..maxNoTFCIGroups)) OF
    SEQUENCE {
        maxTFCI-field2-Value       TFCS-MaxTFCI-field2-Value,
        cTFC-DSCH              TFCS-CTFC,
        iE-Extensions              ProtocolExtensionContainer { { TFCS-MapingOnDSCHList-ExtIEs} }     OPTIONAL,
        ...
}

TFCS-MapingOnDSCHList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS-MaxTFCI-field2-Value ::= INTEGER (1..maxTFCI2Combs-1)

TFCS-DSCHList ::= SEQUENCE (SIZE (1..maxTFCI2Combs)) OF
    SEQUENCE {
        cTFC-DSCH              TFCS-CTFC,
        iE-Extensions              ProtocolExtensionContainer { { TFCS-DSCHList-ExtIEs} }     OPTIONAL,
        ...
}

TFCS-DSCHList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet ::= SEQUENCE {
    dynamicParts           TransportFormatSet-DynamicPartList,
    semi-staticPart        TransportFormatSet-Semi-staticPart,
    iE-Extensions          ProtocolExtensionContainer { {TransportFormatSet-ExtIEs} } OPTIONAL,
    ...
}

TransportFormatSet-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet-DynamicPartList ::= SEQUENCE (SIZE (1..maxNrOfTFs)) OF
    SEQUENCE {
```

```
            nrOfTransportBlocks      NrOfTransportBlocks,
            transportBlockSize       TransportBlockSize      OPTIONAL
            -- This IE shall be present if nrOfTransportBlocks is greater than 0 --,
            mode                     TransportFormatSet-ModeDP,
            iE-Extensions            ProtocolExtensionContainer { {TransportFormatSet-DynamicPartList-ExtIEs} } OPTIONAL,
            ...
        }

TransportFormatSet-DynamicPartList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet-ModeDP ::= CHOICE {
    tdd                   TDD-TransportFormatSet-ModeDP,
    notApplicable         NULL,
    ...
}

TDD-TransportFormatSet-ModeDP ::= SEQUENCE {
    transmissionTimeIntervalInformation      TransmissionTimeIntervalInformation      OPTIONAL,
    -- This IE shall be present if the 'Transmission Time Interval' of the 'Semi-static Transport Format Information' is 'dynamic'. Otherwise it is
absent.
    iE-Extensions                            ProtocolExtensionContainer { {TDD-TransportFormatSet-ModeDP-ExtIEs} } OPTIONAL,
    ...
    }

TDD-TransportFormatSet-ModeDP-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransmissionTimeIntervalInformation ::= SEQUENCE (SIZE (1..maxTTI-Count)) OF
    SEQUENCE {
        transmissionTimeInterval    TransmissionTimeIntervalDynamic,
        iE-Extensions               ProtocolExtensionContainer { {TransmissionTimeIntervalInformation-ExtIEs} } OPTIONAL,
        ...
    }

TransmissionTimeIntervalInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Transmitted-Code-Power-Value ::= INTEGER (0..127)
-- According to mapping in [11]/[14]

Transmitted-Code-Power-Value-IncrDecrThres ::= INTEGER (0..112,...)

TransportFormatManagement ::= ENUMERATED {
    cell-based,
    ue-based,
    ...
}

TransportFormatSet-Semi-staticPart ::= SEQUENCE {
    transmissionTime        TransmissionTimeIntervalSemiStatic,
```

```
    channelCoding           ChannelCodingType,
    codingRate              CodingRate              OPTIONAL
    -- This IE shall be present if channelCoding is 'convolutional' or 'turbo' --,
    rateMatcingAttribute        RateMatchingAttribute,
    cRC-Size            CRC-Size,
    mode                TransportFormatSet-ModeSSP,
    iE-Extensions           ProtocolExtensionContainer { {TransportFormatSet-Semi-staticPart-ExtIEs} } OPTIONAL,
    ...
}

TransportFormatSet-Semi-staticPart-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet-ModeSSP ::= CHOICE {
    tdd             SecondInterleavingMode,
    notApplicable           NULL,
    ...
}

TransportLayerAddress           ::= BIT STRING (SIZE(1..160, ...))

TrCH-SrcStatisticsDescr     ::= ENUMERATED {
    speech,
    rRC,
    unknown,
    ...
}

TSTD-Indicator ::= ENUMERATED {
    active,
    inactive
}

TSTD-Support-Indicator ::= ENUMERATED {
    tSTD-supported,
    tSTD-not-supported
}

TxDiversityIndicator    ::= ENUMERATED {
    true,
    false
}

TypeOfError ::= ENUMERATED {
    not-understood,
    missing,
    ...
}

-- U

UARFCN              ::= INTEGER (0..16383,...)
-- Corresponds to: 0.0Hz..3276.6Mhz. See [7], [43]
```

```
UDRE ::= ENUMERATED {
    lessThan1,
    between1-and-4,
    between4-and-8,
    over8,
    ...
}

UE-Capabilities-Info ::= SEQUENCE {
    hSDSCH-Physical-Layer-Category      INTEGER (1..64,...),
    iE-Extensions                       ProtocolExtensionContainer { { UE-Capabilities-Info-ExtIEs } }      OPTIONAL,
    ...
}

UE-Capabilities-Info-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation ::= ENUMERATED {
    dedicated-pilots-for-channel-estimation-supported
}

UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation-Of-HS-DSCH ::= ENUMERATED {
    dedicated-pilots-for-channel-estimation-supported
}

UL-DL-mode ::= ENUMERATED {
    ul-only,
    dl-only,
    both-ul-and-dl
}

UL-Timeslot-Information::= SEQUENCE ( SIZE (1..maxNrOfTS)) OF UL-Timeslot-InformationItem

UL-Timeslot-InformationItem ::= SEQUENCE {
    timeSlot                  TimeSlot,
    midambleShiftAndBurstType  MidambleShiftAndBurstType,
    tFCI-Presence             TFCI-Presence,
    uL-Code-Information        TDD-UL-Code-Information,
    iE-Extensions             ProtocolExtensionContainer { {UL-Timeslot-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

UL-Timeslot-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-TimeslotLCR-Information ::= SEQUENCE (SIZE (1..maxNrOfULTsLCR)) OF UL-TimeslotLCR-InformationItem

UL-TimeslotLCR-InformationItem ::= SEQUENCE {
    timeSlotLCR                         TimeSlotLCR,
    midambleShiftLCR                    MidambleShiftLCR,
    tFCI-Presence                       TFCI-Presence,
```

ETSI

```
    uL-Code-LCR-InformationList            TDD-UL-Code-LCR-Information,
    iE-Extensions                          ProtocolExtensionContainer { { UL-TimeslotLCR-InformationItem-ExtIEs} }   OPTIONAL,
    ...
}

UL-TimeslotLCR-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-TimeSlot-ISCP-Info ::= SEQUENCE (SIZE (1..maxNrOfULTs)) OF UL-TimeSlot-ISCP-InfoItem

UL-TimeSlot-ISCP-InfoItem ::= SEQUENCE {
    timeSlot                TimeSlot,
    uL-TimeslotISCP         UL-TimeslotISCP,
    iE-Extensions           ProtocolExtensionContainer { { UL-TimeSlot-ISCP-InfoItem-ExtIEs} } OPTIONAL,
    ...
}

UL-TimeSlot-ISCP-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-TimeSlot-ISCP-LCR-Info ::= SEQUENCE (SIZE (1..maxNrOfULTsLCR)) OF    UL-TimeSlot-ISCP-LCR-InfoItem

UL-TimeSlot-ISCP-LCR-InfoItem ::= SEQUENCE {
    timeSlotLCR               TimeSlotLCR,
    iSCP                      UL-Timeslot-ISCP-Value,
    iE-Extensions             ProtocolExtensionContainer { { UL-TimeSlot-ISCP-LCR-InfoItem-ExtIEs} }   OPTIONAL,
    ...
 }

UL-TimeSlot-ISCP-LCR-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-Timeslot-ISCP-Value ::= UL-TimeslotISCP

UL-Timeslot-ISCP-Value-IncrDecrThres ::= INTEGER(0..126)
-- Unit dB. Step 0.5dB
-- e.g. Value 100 means 50dB

UL-TimingAdvanceCtrl-LCR ::= SEQUENCE {
    sync-UL-codes-bitmap                   BIT STRING (SIZE(8)),
    fPACH-info                             FPACH-Information,
    prxUpPCHdes                            INTEGER (-120 .. -58, ...),
    syncUL-procParameter                   SYNC-UL-ProcParameters,
    mMax                                   INTEGER (1..32),
    ...
    }

Uplink-Compressed-Mode-Method   ::= ENUMERATED {
    sFdiv2,
    higher-layer-scheduling,
    ...
```

```
}

UL-SIR                   ::= INTEGER (-82..173)
-- The UL-SIR gives the UL-SIR in number of 0.1 dB steps.
-- E.g. Value 173 means 17.3 dB
-- Unit dB. Step 0.1 dB.

UC-ID ::= SEQUENCE {
    rNC-ID              RNC-ID,
    c-ID                C-ID,
    iE-Extensions           ProtocolExtensionContainer { {UC-ID-ExtIEs} } OPTIONAL,
    ...
}

UC-ID-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCCH-SlotFormat        ::= INTEGER (0..5,...)

UL-FP-Mode ::= ENUMERATED {
    normal,
    silent,
    ...
}

UL-PhysCH-SF-Variation ::= ENUMERATED {
    sf-variation-supported,
    sf-variation-not-supported
}

UL-ScramblingCode ::= SEQUENCE {
    ul-ScramblingCodeNumber     UL-ScramblingCodeNumber,
    ul-ScramblingCodeLength     UL-ScramblingCodeLength,
    iE-Extensions           ProtocolExtensionContainer { {UL-ScramblingCode-ExtIEs} } OPTIONAL
}

UL-ScramblingCode-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-ScramblingCodeLength ::= ENUMERATED {
    short,
    long
}

UL-ScramblingCodeNumber        ::= INTEGER (0..16777215)

UL-Synchronisation-Parameters-LCR ::= SEQUENCE {
    uL-Synchronisation-StepSize       UL-Synchronisation-StepSize,
    uL-Synchronisation-Frequency          UL-Synchronisation-Frequency,
    iE-Extensions                 ProtocolExtensionContainer { { UL-Synchronisation-Parameters-LCR-ExtIEs } }        OPTIONAL,
    ...
}
```

```
UL-Synchronisation-Parameters-LCR-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-Synchronisation-StepSize ::= INTEGER (1..8)

UL-Synchronisation-Frequency ::= INTEGER (1..8)

UL-TimeslotISCP         ::= INTEGER (0..127)
-- According to mapping in [14]

Unidirectional-DCH-Indicator    ::= ENUMERATED {
    downlink-DCH-only,
    uplink-DCH-only
}

URA-ID                  ::= INTEGER (0..65535)

URA-Information ::= SEQUENCE {
    uRA-ID                        URA-ID,
    multipleURAsIndicator         MultipleURAsIndicator,
    rNCsWithCellsInTheAccessedURA-List  RNCsWithCellsInTheAccessedURA-List  OPTIONAL,
    iE-Extensions                 ProtocolExtensionContainer { {URA-Information-ExtIEs} } OPTIONAL,
    ...
}

URA-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RNCsWithCellsInTheAccessedURA-List ::= SEQUENCE (SIZE (1..maxRNCinURA-1)) OF RNCsWithCellsInTheAccessedURA-Item

RNCsWithCellsInTheAccessedURA-Item ::= SEQUENCE {
    rNC-ID                 RNC-ID,
    iE-Extensions          ProtocolExtensionContainer { {RNCsWithCellsInTheAccessedURA-Item-ExtIEs} } OPTIONAL,
    ...
}

RNCsWithCellsInTheAccessedURA-Item-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCH-ID                 ::= INTEGER (0..255)

USCH-Information ::=  SEQUENCE (SIZE (1..maxNoOfUSCHs)) OF USCH-InformationItem

USCH-InformationItem ::= SEQUENCE {
    uSCH-ID                      USCH-ID,
    ul-CCTrCH-ID                 CCTrCH-ID,
    trChSourceStatisticsDescriptor   TrCH-SrcStatisticsDescr,
    transportFormatSet           TransportFormatSet,
    allocationRetentionPriority  AllocationRetentionPriority,
    schedulingPriorityIndicator  SchedulingPriorityIndicator,
```

```
    rb-Info                                 RB-Info,
    iE-Extensions                           ProtocolExtensionContainer { {USCH-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

USCH-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-TrafficClass        CRITICALITY ignore  EXTENSION TrafficClass      PRESENCE mandatory   }|
    { ID id-BindingID                       CRITICALITY ignore    EXTENSION    BindingID   PRESENCE                optional }|
    -- Shall be ignored if bearer establishment with ALCAP.
    { ID id-TransportLayerAddress           CRITICALITY ignore    EXTENSION    TransportLayerAddress    PRESENCE    optional },
    -- Shall be ignored if bearer establishment with ALCAP.
    ...
}

-- V
-- W
-- X
-- Y
-- Z

END
```

9.3.5   Common Definitions

```
-- *************************************************************
--
-- Common definitions
--
-- *************************************************************

RNSAP-CommonDataTypes {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-CommonDataTypes (3)  }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- *************************************************************
--
-- Extension constants
--
-- *************************************************************

maxPrivateIEs                           INTEGER ::= 65535
maxProtocolExtensions                   INTEGER ::= 65535
maxProtocolIEs                          INTEGER ::= 65535

-- *************************************************************
--
-- Common Data Types
--
-- *************************************************************
```

```
Criticality     ::= ENUMERATED { reject, ignore, notify }

Presence        ::= ENUMERATED { optional, conditional, mandatory }

PrivateIE-ID    ::= CHOICE {
    local               INTEGER (0.. maxPrivateIEs),
    global              OBJECT IDENTIFIER
}

ProcedureCode       ::= INTEGER (0..255)

ProcedureID ::= SEQUENCE {
    procedureCode       ProcedureCode,
    ddMode              ENUMERATED { tdd, fdd, common, ... }
}

ProtocolIE-ID       ::= INTEGER (0..maxProtocolIEs)

TransactionID       ::= CHOICE {
    shortTransActionId  INTEGER (0..127),
    longTransActionId   INTEGER (0..32767)
}

TriggeringMessage   ::= ENUMERATED { initiating-message, successful-outcome, unsuccessful-outcome, outcome }

END
```

9.3.6   Constant Definitions

```
-- *************************************************************
--
-- Constant definitions
--
-- *************************************************************

RNSAP-Constants {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-Constants (4) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    ProcedureCode,
    ProtocolIE-ID
FROM RNSAP-CommonDataTypes;

-- *************************************************************
--
-- Elementary Procedures
--
```

```
-- ***************************************************************

id-commonTransportChannelResourcesInitialisation          ProcedureCode ::= 0
id-commonTransportChannelResourcesRelease                 ProcedureCode ::= 1
id-compressedModeCommand                                  ProcedureCode ::= 2
id-downlinkPowerControl                                   ProcedureCode ::= 3
id-downlinkPowerTimeslotControl                           ProcedureCode ::= 4
id-downlinkSignallingTransfer                             ProcedureCode ::= 5
id-errorIndication                                        ProcedureCode ::= 6
id-dedicatedMeasurementFailure                            ProcedureCode ::= 7
id-dedicatedMeasurementInitiation                         ProcedureCode ::= 8
id-dedicatedMeasurementReporting                          ProcedureCode ::= 9
id-dedicatedMeasurementTermination                        ProcedureCode ::= 10
id-paging                                                 ProcedureCode ::= 11
id-physicalChannelReconfiguration                         ProcedureCode ::= 12
id-privateMessage                                         ProcedureCode ::= 13
id-radioLinkAddition                                      ProcedureCode ::= 14
id-radioLinkCongestion                                    ProcedureCode ::= 34
id-radioLinkDeletion                                      ProcedureCode ::= 15
id-radioLinkFailure                                       ProcedureCode ::= 16
id-radioLinkPreemption                                    ProcedureCode ::= 17
id-radioLinkRestoration                                   ProcedureCode ::= 18
id-radioLinkSetup                                         ProcedureCode ::= 19
id-relocationCommit                                       ProcedureCode ::= 20
id-synchronisedRadioLinkReconfigurationCancellation       ProcedureCode ::= 21
id-synchronisedRadioLinkReconfigurationCommit             ProcedureCode ::= 22
id-synchronisedRadioLinkReconfigurationPreparation        ProcedureCode ::= 23
id-unSynchronisedRadioLinkReconfiguration                 ProcedureCode ::= 24
id-uplinkSignallingTransfer                               ProcedureCode ::= 25
id-commonMeasurementFailure                               ProcedureCode ::= 26
id-commonMeasurementInitiation                            ProcedureCode ::= 27
id-commonMeasurementReporting                             ProcedureCode ::= 28
id-commonMeasurementTermination                           ProcedureCode ::= 29
id-informationExchangeFailure                             ProcedureCode ::= 30
id-informationExchangeInitiation                          ProcedureCode ::= 31
id-informationReporting                                   ProcedureCode ::= 32
id-informationExchangeTermination                         ProcedureCode ::= 33
id-reset                                                  ProcedureCode ::= 35
id-radioLinkActivation                                    ProcedureCode ::= 36
id-gERANuplinkSignallingTransfer                          ProcedureCode ::= 37
id-radioLinkParameterUpdate                               ProcedureCode ::= 38


-- ***************************************************************
--
-- Lists
--
-- ***************************************************************

maxCodeNumComp-1                      INTEGER ::= 255
maxRateMatching                       INTEGER ::= 256
maxNoCodeGroups                       INTEGER ::= 256
maxNoOfDSCHs                          INTEGER ::= 10
maxNoOfDSCHsLCR                       INTEGER ::= 10
maxNoOfRB                             INTEGER ::= 32
```

```
maxNoOfUSCHs                          INTEGER ::= 10
maxNoOfUSCHsLCR                       INTEGER ::= 10
maxNoTFCIGroups                       INTEGER ::= 256
maxNrOfTFCs                           INTEGER ::= 1024
maxNrOfTFs                            INTEGER ::= 32
maxNrOfCCTrCHs                        INTEGER ::= 16
maxNrOfCCTrCHsLCR                     INTEGER ::= 16
maxNrOfDCHs                           INTEGER ::= 128
maxNrOfDL-Codes                       INTEGER ::= 8
maxNrOfDPCHs                          INTEGER ::= 240
maxNrOfDPCHsLCR                       INTEGER ::= 240
maxNrOfErrors                         INTEGER ::= 256
maxNrOfMACcshSDU-Length               INTEGER ::= 16
maxNrOfPoints                         INTEGER ::= 15
maxNrOfRLs                            INTEGER ::= 16
maxNrOfRLSets                         INTEGER ::= maxNrOfRLs
maxNrOfRLSets-1                       INTEGER ::= 15   -- maxNrOfRLSets - 1
maxNrOfRLs-1                          INTEGER ::= 15   -- maxNrOfRLs - 1
maxNrOfRLs-2                          INTEGER ::= 14   -- maxNrOfRLs - 2
maxNrOfULTs                           INTEGER ::= 15
maxNrOfULTsLCR                        INTEGER ::= 6
maxNrOfDLTs                           INTEGER ::= 15
maxNrOfDLTsLCR                        INTEGER ::= 6
maxRNCinURA-1                         INTEGER ::= 15
maxTTI-Count                          INTEGER ::= 4
maxCTFC                               INTEGER ::= 16777215
maxNrOfNeighbouringRNCs               INTEGER ::= 10
maxNrOfFDDNeighboursPerRNC            INTEGER ::= 256
maxNrOfGSMNeighboursPerRNC            INTEGER ::= 256
maxNrOfTDDNeighboursPerRNC            INTEGER ::= 256
maxNrOfFACHs                          INTEGER ::= 8
maxNrOfLCRTDDNeighboursPerRNC         INTEGER ::= 256
maxFACHCountPlus1                     INTEGER ::= 10
maxIBSEG                              INTEGER ::= 16
maxNrOfSCCPCHs                        INTEGER ::= 8
maxTFCI1Combs                         INTEGER ::= 512
maxTFCI2Combs                         INTEGER ::= 1024
maxTFCI2Combs-1                       INTEGER ::= 1023
maxTGPS                               INTEGER ::= 6
maxNrOfTS                             INTEGER ::= 15
maxNrOfLevels                         INTEGER ::= 256
maxNoOfDSCHs-1                        INTEGER ::= 9
maxNrOfTsLCR                          INTEGER ::= 6
maxNoSat                              INTEGER ::= 16
maxNoGPSTypes                         INTEGER ::= 8
maxNrOfMeasNCell                      INTEGER ::= 96
maxNrOfMeasNCell-1                    INTEGER ::= 95   -- maxNrOfMeasNCell - 1
maxResetContext                       INTEGER ::= 250
maxResetContextGroup                  INTEGER ::= 32
maxNrOfHARQProc                       INTEGER ::= 8
maxNrOfHSSCCHCodes                    INTEGER ::= 4
maxNrOfHSSICHs                        INTEGER ::= 4
maxNrOfMACdFlows                      INTEGER ::= 8
maxNrOfMACdFlows-1                    INTEGER ::= 7   -- maxNrOfMACdFlows - 1
```

```
maxNrOfPDUIndexes                            INTEGER ::= 8
maxNrOfPDUIndexes-1                          INTEGER ::= 7   -- maxNrOfPDUIndexes - 1
maxNrOfPrioQueues                            INTEGER ::= 8
maxNrOfPrioQueues-1                          INTEGER ::= 7   -- maxNrOfPrioQueues - 1
maxNrOfSNAs                                  INTEGER ::= 65536
maxNrOfSatAlmanac-maxNoSat                   INTEGER ::= 16
-- *************************************************************
--
-- IEs
--
-- *************************************************************

id-AllowedQueuingTime                                          ProtocolIE-ID ::= 4
id-Allowed-Rate-Information                                    ProtocolIE-ID ::= 42
id-AntennaColocationIndicator                                  ProtocolIE-ID ::= 309
id-BindingID                                                   ProtocolIE-ID ::= 5
id-C-ID                                                        ProtocolIE-ID ::= 6
id-C-RNTI                                                      ProtocolIE-ID ::= 7
id-Cell-Capacity-Class-Value                                   ProtocolIE-ID ::= 303
id-CFN                                                         ProtocolIE-ID ::= 8
id-CN-CS-DomainIdentifier                                      ProtocolIE-ID ::= 9
id-CN-PS-DomainIdentifier                                      ProtocolIE-ID ::= 10
id-Cause                                                       ProtocolIE-ID ::= 11
id-CoverageIndicator                                           ProtocolIE-ID ::= 310
id-CriticalityDiagnostics                                      ProtocolIE-ID ::= 20
id-ContextInfoItem-Reset                                       ProtocolIE-ID ::= 211
id-ContextGroupInfoItem-Reset                                  ProtocolIE-ID ::= 515
id-D-RNTI                                                      ProtocolIE-ID ::= 21
id-D-RNTI-ReleaseIndication                                    ProtocolIE-ID ::= 22
id-DCHs-to-Add-FDD                                             ProtocolIE-ID ::= 26
id-DCHs-to-Add-TDD                                             ProtocolIE-ID ::= 27
id-DCH-DeleteList-RL-ReconfPrepFDD                             ProtocolIE-ID ::= 30
id-DCH-DeleteList-RL-ReconfPrepTDD                             ProtocolIE-ID ::= 31
id-DCH-DeleteList-RL-ReconfRqstFDD                             ProtocolIE-ID ::= 32
id-DCH-DeleteList-RL-ReconfRqstTDD                             ProtocolIE-ID ::= 33
id-DCH-FDD-Information                                         ProtocolIE-ID ::= 34
id-DCH-TDD-Information                                         ProtocolIE-ID ::= 35
id-FDD-DCHs-to-Modify                                          ProtocolIE-ID ::= 39
id-TDD-DCHs-to-Modify                                          ProtocolIE-ID ::= 40
id-DCH-InformationResponse                                     ProtocolIE-ID ::= 43
id-DCH-Rate-InformationItem-RL-CongestInd                      ProtocolIE-ID ::= 38
id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD               ProtocolIE-ID ::= 44
id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD               ProtocolIE-ID ::= 45
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD            ProtocolIE-ID ::= 46
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD                   ProtocolIE-ID ::= 47
id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD              ProtocolIE-ID ::= 48
id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD               ProtocolIE-ID ::= 49
id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD                  ProtocolIE-ID ::= 50
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD               ProtocolIE-ID ::= 51
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD            ProtocolIE-ID ::= 52
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD                   ProtocolIE-ID ::= 53
id-FDD-DL-CodeInformation                                      ProtocolIE-ID ::= 54
id-DL-DPCH-Information-RL-ReconfPrepFDD                         ProtocolIE-ID ::= 59
id-DL-DPCH-Information-RL-SetupRqstFDD                          ProtocolIE-ID ::= 60
```

```
id-DL-DPCH-Information-RL-ReconfRqstFDD                    ProtocolIE-ID ::= 61
id-DL-DPCH-InformationItem-PhyChReconfRqstTDD             ProtocolIE-ID ::= 62
id-DL-DPCH-InformationItem-RL-AdditionRspTDD             ProtocolIE-ID ::= 63
id-DL-DPCH-InformationItem-RL-SetupRspTDD                ProtocolIE-ID ::= 64
id-DL-DPCH-TimingAdjustment                              ProtocolIE-ID ::= 278
id-DLReferencePower                                      ProtocolIE-ID ::= 67
id-DLReferencePowerList-DL-PC-Rqst                       ProtocolIE-ID ::= 68
id-DL-ReferencePowerInformation-DL-PC-Rqst               ProtocolIE-ID ::= 69
id-DPC-Mode                                              ProtocolIE-ID ::= 12
id-DRXCycleLengthCoefficient                             ProtocolIE-ID ::= 70
id-DedicatedMeasurementObjectType-DM-Fail-Ind            ProtocolIE-ID ::= 470
id-DedicatedMeasurementObjectType-DM-Fail                ProtocolIE-ID ::= 471
id-DedicatedMeasurementObjectType-DM-Rprt                ProtocolIE-ID ::= 71
id-DedicatedMeasurementObjectType-DM-Rqst                ProtocolIE-ID ::= 72
id-DedicatedMeasurementObjectType-DM-Rsp                 ProtocolIE-ID ::= 73
id-DedicatedMeasurementType                              ProtocolIE-ID ::= 74
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD     ProtocolIE-ID ::= 82
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD     ProtocolIE-ID ::= 83
id-Guaranteed-Rate-Information                           ProtocolIE-ID ::= 41
id-IMSI                                                  ProtocolIE-ID ::= 84
id-HCS-Prio                                              ProtocolIE-ID ::= 311
id-L3-Information                                        ProtocolIE-ID ::= 85
id-AdjustmentPeriod                                      ProtocolIE-ID ::= 90
id-MaxAdjustmentStep                                     ProtocolIE-ID ::= 91
id-MeasurementFilterCoefficient                          ProtocolIE-ID ::= 92
id-MessageStructure                                      ProtocolIE-ID ::= 57
id-MeasurementID                                         ProtocolIE-ID ::= 93
id-Neighbouring-GSM-CellInformation                      ProtocolIE-ID ::= 13
id-Neighbouring-UMTS-CellInformationItem                 ProtocolIE-ID ::= 95
id-NRT-Load-Information-Value                            ProtocolIE-ID ::= 305
id-NRT-Load-Information-Value-IncrDecrThres              ProtocolIE-ID ::= 306
id-PagingArea-PagingRqst                                 ProtocolIE-ID ::= 102
id-FACH-FlowControlInformation                           ProtocolIE-ID ::= 103
id-PartialReportingIndicator                             ProtocolIE-ID ::= 472
id-Permanent-NAS-UE-Identity                             ProtocolIE-ID ::= 17
id-PowerAdjustmentType                                   ProtocolIE-ID ::= 107
id-RANAP-RelocationInformation                           ProtocolIE-ID ::= 109
id-RL-Information-PhyChReconfRqstFDD                      ProtocolIE-ID ::= 110
id-RL-Information-PhyChReconfRqstTDD                      ProtocolIE-ID ::= 111
id-RL-Information-RL-AdditionRqstFDD                      ProtocolIE-ID ::= 112
id-RL-Information-RL-AdditionRqstTDD                      ProtocolIE-ID ::= 113
id-RL-Information-RL-DeletionRqst                         ProtocolIE-ID ::= 114
id-RL-Information-RL-FailureInd                           ProtocolIE-ID ::= 115
id-RL-Information-RL-ReconfPrepFDD                        ProtocolIE-ID ::= 116
id-RL-Information-RL-RestoreInd                           ProtocolIE-ID ::= 117
id-RL-Information-RL-SetupRqstFDD                         ProtocolIE-ID ::= 118
id-RL-Information-RL-SetupRqstTDD                         ProtocolIE-ID ::= 119
id-RL-InformationItem-RL-CongestInd                       ProtocolIE-ID ::= 55
id-RL-InformationItem-DM-Rprt                             ProtocolIE-ID ::= 120
id-RL-InformationItem-DM-Rqst                             ProtocolIE-ID ::= 121
id-RL-InformationItem-DM-Rsp                              ProtocolIE-ID ::= 122
id-RL-InformationItem-RL-PreemptRequiredInd               ProtocolIE-ID ::= 2
id-RL-InformationItem-RL-SetupRqstFDD                     ProtocolIE-ID ::= 123
id-RL-InformationList-RL-CongestInd                       ProtocolIE-ID ::= 56
```

```
id-RL-InformationList-RL-AdditionRqstFDD                           ProtocolIE-ID ::= 124
id-RL-InformationList-RL-DeletionRqst                              ProtocolIE-ID ::= 125
id-RL-InformationList-RL-PreemptRequiredInd                        ProtocolIE-ID ::= 1
id-RL-InformationList-RL-ReconfPrepFDD                             ProtocolIE-ID ::= 126
id-RL-InformationResponse-RL-AdditionRspTDD                        ProtocolIE-ID ::= 127
id-RL-InformationResponse-RL-ReconfReadyTDD                        ProtocolIE-ID ::= 128
id-RL-InformationResponse-RL-SetupRspTDD                           ProtocolIE-ID ::= 129
id-RL-InformationResponseItem-RL-AdditionRspFDD                    ProtocolIE-ID ::= 130
id-RL-InformationResponseItem-RL-ReconfReadyFDD                    ProtocolIE-ID ::= 131
id-RL-InformationResponseItem-RL-ReconfRspFDD                      ProtocolIE-ID ::= 132
id-RL-InformationResponseItem-RL-SetupRspFDD                       ProtocolIE-ID ::= 133
id-RL-InformationResponseList-RL-AdditionRspFDD                    ProtocolIE-ID ::= 134
id-RL-InformationResponseList-RL-ReconfReadyFDD                    ProtocolIE-ID ::= 135
id-RL-InformationResponseList-RL-ReconfRspFDD                      ProtocolIE-ID ::= 136
id-RL-InformationResponse-RL-ReconfRspTDD                          ProtocolIE-ID ::= 28
id-RL-InformationResponseList-RL-SetupRspFDD                       ProtocolIE-ID ::= 137
id-RL-ReconfigurationFailure-RL-ReconfFail                         ProtocolIE-ID ::= 141
id-RL-Set-InformationItem-DM-Rprt                                  ProtocolIE-ID ::= 143
id-RL-Set-InformationItem-DM-Rqst                                  ProtocolIE-ID ::= 144
id-RL-Set-InformationItem-DM-Rsp                                   ProtocolIE-ID ::= 145
id-RL-Set-Information-RL-FailureInd                                ProtocolIE-ID ::= 146
id-RL-Set-Information-RL-RestoreInd                                ProtocolIE-ID ::= 147
id-RL-Set-Successful-InformationItem-DM-Fail                       ProtocolIE-ID ::= 473
id-RL-Set-Unsuccessful-InformationItem-DM-Fail                     ProtocolIE-ID ::= 474
id-RL-Set-Unsuccessful-InformationItem-DM-Fail-Ind                 ProtocolIE-ID ::= 475
id-RL-Successful-InformationItem-DM-Fail                           ProtocolIE-ID ::= 476
id-RL-Unsuccessful-InformationItem-DM-Fail                         ProtocolIE-ID ::= 477
id-RL-Unsuccessful-InformationItem-DM-Fail-Ind                     ProtocolIE-ID ::= 478
id-ReportCharacteristics                                           ProtocolIE-ID ::= 152
id-Reporting-Object-RL-FailureInd                                  ProtocolIE-ID ::= 153
id-Reporing-Object-RL-RestoreInd                                   ProtocolIE-ID ::= 154
id-RT-Load-Value                                                   ProtocolIE-ID ::= 307
id-RT-Load-Value-IncrDecrThres                                     ProtocolIE-ID ::= 308
id-S-RNTI                                                          ProtocolIE-ID ::= 155
id-ResetIndicator                                                  ProtocolIE-ID ::= 244
id-RNC-ID                                                          ProtocolIE-ID ::= 245
id-SAI                                                             ProtocolIE-ID ::= 156
id-SRNC-ID                                                         ProtocolIE-ID ::= 157
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD          ProtocolIE-ID ::= 159
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD             ProtocolIE-ID ::= 160
id-TransportBearerID                                               ProtocolIE-ID ::= 163
id-TransportBearerRequestIndicator                                 ProtocolIE-ID ::= 164
id-TransportLayerAddress                                           ProtocolIE-ID ::= 165
id-TypeOfError                                                     ProtocolIE-ID ::= 140
id-UC-ID                                                           ProtocolIE-ID ::= 166
id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD                       ProtocolIE-ID ::= 167
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD                   ProtocolIE-ID ::= 169
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD                       ProtocolIE-ID ::= 171
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD                       ProtocolIE-ID ::= 172
id-UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD                  ProtocolIE-ID ::= 173
id-UL-CCTrCH-InformationListIE-RL-AdditionRspTDD                   ProtocolIE-ID ::= 174
id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD                   ProtocolIE-ID ::= 175
id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD                      ProtocolIE-ID ::= 176
id-UL-DPCH-Information-RL-ReconfPrepFDD                            ProtocolIE-ID ::= 177
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ETSI

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id-UL-DPCH-Information-RL-ReconfRqstFDD                          ProtocolIE-ID ::= 178
id-UL-DPCH-Information-RL-SetupRqstFDD                           ProtocolIE-ID ::= 179
id-UL-DPCH-InformationItem-PhyChReconfRqstTDD                    ProtocolIE-ID ::= 180
id-UL-DPCH-InformationItem-RL-AdditionRspTDD                     ProtocolIE-ID ::= 181
id-UL-DPCH-InformationItem-RL-SetupRspTDD                        ProtocolIE-ID ::= 182
id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD                ProtocolIE-ID ::= 183
id-UL-SIRTarget                                                  ProtocolIE-ID ::= 184
id-URA-Information                                               ProtocolIE-ID ::= 185
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD      ProtocolIE-ID ::= 188
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD         ProtocolIE-ID ::= 189
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD         ProtocolIE-ID ::= 190
id-Active-Pattern-Sequence-Information                           ProtocolIE-ID ::= 193
id-AdjustmentRatio                                               ProtocolIE-ID ::= 194
id-CauseLevel-RL-AdditionFailureFDD                             ProtocolIE-ID ::= 197
id-CauseLevel-RL-AdditionFailureTDD                             ProtocolIE-ID ::= 198
id-CauseLevel-RL-ReconfFailure                                  ProtocolIE-ID ::= 199
id-CauseLevel-RL-SetupFailureFDD                                ProtocolIE-ID ::= 200
id-CauseLevel-RL-SetupFailureTDD                                ProtocolIE-ID ::= 201
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD             ProtocolIE-ID ::= 205
id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD            ProtocolIE-ID ::= 206
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD            ProtocolIE-ID ::= 207
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD            ProtocolIE-ID ::= 208
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD           ProtocolIE-ID ::= 209
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD           ProtocolIE-ID ::= 210
id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD              ProtocolIE-ID ::= 212
id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD          ProtocolIE-ID ::= 213
id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD          ProtocolIE-ID ::= 214
id-DSCHs-to-Add-TDD                                             ProtocolIE-ID ::= 215
id-DSCHs-to-Add-FDD                                             ProtocolIE-ID ::= 216
id-DSCH-DeleteList-RL-ReconfPrepTDD                             ProtocolIE-ID ::= 217
id-DSCH-Delete-RL-ReconfPrepFDD                                 ProtocolIE-ID ::= 218
id-DSCH-FDD-Information                                          ProtocolIE-ID ::= 219
id-DSCH-InformationListIE-RL-AdditionRspTDD                     ProtocolIE-ID ::= 220
id-DSCH-InformationListIEs-RL-SetupRspTDD                       ProtocolIE-ID ::= 221
id-DSCH-TDD-Information                                          ProtocolIE-ID ::= 222
id-DSCH-FDD-InformationResponse                                 ProtocolIE-ID ::= 223
id-DSCH-Information-RL-SetupRqstFDD                             ProtocolIE-ID ::= 226
id-DSCH-ModifyList-RL-ReconfPrepTDD                             ProtocolIE-ID ::= 227
id-DSCH-Modify-RL-ReconfPrepFDD                                 ProtocolIE-ID ::= 228
id-DSCH-Specific-FDD-Additional-List                           ProtocolIE-ID ::= 324
id-DSCHsToBeAddedOrModified-FDD                                 ProtocolIE-ID ::= 229
id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD               ProtocolIE-ID ::= 230
id-EnhancedDSCHPC                                                ProtocolIE-ID ::= 29
id-EnhancedDSCHPCIndicator                                       ProtocolIE-ID ::= 225
id-GA-Cell                                                      ProtocolIE-ID ::= 232
id-GA-CellAdditionalShapes                                      ProtocolIE-ID ::= 3
id-SSDT-CellIDforEDSCHPC                                         ProtocolIE-ID ::= 246
id-Transmission-Gap-Pattern-Sequence-Information                ProtocolIE-ID ::= 255
id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD                 ProtocolIE-ID ::= 256
id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD                 ProtocolIE-ID ::= 257
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD            ProtocolIE-ID ::= 258
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD           ProtocolIE-ID ::= 259
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD          ProtocolIE-ID ::= 260
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD          ProtocolIE-ID ::= 261
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id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD                  ProtocolIE-ID ::= 262
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD                  ProtocolIE-ID ::= 263
id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD                 ProtocolIE-ID ::= 264
id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD                 ProtocolIE-ID ::= 265
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD          ProtocolIE-ID ::= 266
id-USCHs-to-Add                                                      ProtocolIE-ID ::= 267
id-USCH-DeleteList-RL-ReconfPrepTDD                                  ProtocolIE-ID ::= 268
id-USCH-InformationListIE-RL-AdditionRspTDD                          ProtocolIE-ID ::= 269
id-USCH-InformationListIEs-RL-SetupRspTDD                            ProtocolIE-ID ::= 270
id-USCH-Information                                                  ProtocolIE-ID ::= 271
id-USCH-ModifyList-RL-ReconfPrepTDD                                  ProtocolIE-ID ::= 272
id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD                     ProtocolIE-ID ::= 273
id-DL-Physical-Channel-Information-RL-SetupRqstTDD                   ProtocolIE-ID ::= 274
id-UL-Physical-Channel-Information-RL-SetupRqstTDD                   ProtocolIE-ID ::= 275
id-ClosedLoopMode1-SupportIndicator                                 ProtocolIE-ID ::= 276
id-ClosedLoopMode2-SupportIndicator                                 ProtocolIE-ID ::= 277
id-STTD-SupportIndicator                                            ProtocolIE-ID ::= 279
id-CFNReportingIndicator                                            ProtocolIE-ID ::= 14
id-CNOriginatedPage-PagingRqst                                      ProtocolIE-ID ::= 23
id-InnerLoopDLPCStatus                                              ProtocolIE-ID ::= 24
id-PropagationDelay                                                 ProtocolIE-ID ::= 25
id-RxTimingDeviationForTA                                           ProtocolIE-ID ::= 36
id-timeSlot-ISCP                                                    ProtocolIE-ID ::= 37
id-CCTrCH-InformationItem-RL-FailureInd                             ProtocolIE-ID ::= 15
id-CCTrCH-InformationItem-RL-RestoreInd                             ProtocolIE-ID ::= 16
id-CommonMeasurementAccuracy                                        ProtocolIE-ID ::= 280
id-CommonMeasurementObjectType-CM-Rprt                              ProtocolIE-ID ::= 281
id-CommonMeasurementObjectType-CM-Rqst                              ProtocolIE-ID ::= 282
id-CommonMeasurementObjectType-CM-Rsp                               ProtocolIE-ID ::= 283
id-CommonMeasurementType                                            ProtocolIE-ID ::= 284
id-CongestionCause                                                  ProtocolIE-ID ::= 18
id-SFN                                                              ProtocolIE-ID ::= 285
id-SFNReportingIndicator                                            ProtocolIE-ID ::= 286
id-InformationExchangeID                                            ProtocolIE-ID ::= 287
id-InformationExchangeObjectType-InfEx-Rprt                         ProtocolIE-ID ::= 288
id-InformationExchangeObjectType-InfEx-Rqst                         ProtocolIE-ID ::= 289
id-InformationExchangeObjectType-InfEx-Rsp                          ProtocolIE-ID ::= 290
id-InformationReportCharacteristics                                 ProtocolIE-ID ::= 291
id-InformationType                                                  ProtocolIE-ID ::= 292
id-neighbouring-LCR-TDD-CellInformation                             ProtocolIE-ID ::= 58
id-DL-Timeslot-ISCP-LCR-Information-RL-SetupRqstTDD                 ProtocolIE-ID ::= 65
id-RL-LCR-InformationResponse-RL-SetupRspTDD                        ProtocolIE-ID ::= 66
id-UL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD                   ProtocolIE-ID ::= 75
id-UL-DPCH-LCR-InformationItem-RL-SetupRspTDD                       ProtocolIE-ID ::= 76
id-DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD                   ProtocolIE-ID ::= 77
id-DL-DPCH-LCR-InformationItem-RL-SetupRspTDD                       ProtocolIE-ID ::= 78
id-DSCH-LCR-InformationListIEs-RL-SetupRspTDD                       ProtocolIE-ID ::= 79
id-USCH-LCR-InformationListIEs-RL-SetupRspTDD                       ProtocolIE-ID ::= 80
id-DL-Timeslot-ISCP-LCR-Information-RL-AdditionRqstTDD              ProtocolIE-ID ::= 81
id-RL-LCR-InformationResponse-RL-AdditionRspTDD                     ProtocolIE-ID ::= 86
id-UL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD               ProtocolIE-ID ::= 87
id-UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD                    ProtocolIE-ID ::= 88
id-DL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD               ProtocolIE-ID ::= 89
id-DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD                    ProtocolIE-ID ::= 94
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id-DSCH-LCR-InformationListIEs-RL-AdditionRspTDD               ProtocolIE-ID ::= 96
id-USCH-LCR-InformationListIEs-RL-AdditionRspTDD               ProtocolIE-ID ::= 97
id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD          ProtocolIE-ID ::= 98
id-UL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD     ProtocolIE-ID ::= 100
id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD          ProtocolIE-ID ::= 101
id-DL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD     ProtocolIE-ID ::= 104
id-UL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD          ProtocolIE-ID ::= 105
id-DL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD          ProtocolIE-ID ::= 106
id-timeSlot-ISCP-LCR-List-DL-PC-Rqst-TDD                       ProtocolIE-ID ::= 138
id-TSTD-Support-Indicator-RL-SetupRqstTDD                      ProtocolIE-ID ::= 139
id-RestrictionStateIndicator                                  ProtocolIE-ID ::= 142
id-Load-Value                                                 ProtocolIE-ID ::= 233
id-Load-Value-IncrDecrThres                                   ProtocolIE-ID ::= 234
id-OnModification                                             ProtocolIE-ID ::= 235
id-Received-Total-Wideband-Power-Value                        ProtocolIE-ID ::= 236
id-Received-Total-Wideband-Power-Value-IncrDecrThres          ProtocolIE-ID ::= 237
id-SFNSFNMeasurementThresholdInformation                      ProtocolIE-ID ::= 238
id-Transmitted-Carrier-Power-Value                           ProtocolIE-ID ::= 239
id-Transmitted-Carrier-Power-Value-IncrDecrThres             ProtocolIE-ID ::= 240
id-TUTRANGPSMeasurementThresholdInformation                  ProtocolIE-ID ::= 241
id-UL-Timeslot-ISCP-Value                                     ProtocolIE-ID ::= 242
id-UL-Timeslot-ISCP-Value-IncrDecrThres                      ProtocolIE-ID ::= 243
id-Rx-Timing-Deviation-Value-LCR                             ProtocolIE-ID ::= 293
id-DPC-Mode-Change-SupportIndicator                          ProtocolIE-ID ::= 19
id-SplitType                                                 ProtocolIE-ID ::= 247
id-LengthOfTFCI2                                             ProtocolIE-ID ::= 295
id-PrimaryCCPCH-RSCP-RL-ReconfPrepTDD                        ProtocolIE-ID ::= 202
id-DL-TimeSlot-ISCP-Info-RL-ReconfPrepTDD                    ProtocolIE-ID ::= 203
id-DL-Timeslot-ISCP-LCR-Information-RL-ReconfPrepTDD         ProtocolIE-ID ::= 204
id-DSCH-RNTI                                                 ProtocolIE-ID ::= 249
id-DL-PowerBalancing-Information                             ProtocolIE-ID ::= 296
id-DL-PowerBalancing-ActivationIndicator                    ProtocolIE-ID ::= 297
id-DL-PowerBalancing-UpdatedIndicator                       ProtocolIE-ID ::= 298
id-DL-ReferencePowerInformation                             ProtocolIE-ID ::= 299
id-Enhanced-PrimaryCPICH-EcNo                               ProtocolIE-ID ::= 224
id-IPDL-TDD-ParametersLCR                                    ProtocolIE-ID ::= 252
id-CellCapabilityContainer-FDD                              ProtocolIE-ID ::= 300
id-CellCapabilityContainer-TDD                              ProtocolIE-ID ::= 301
id-CellCapabilityContainer-TDD-LCR                          ProtocolIE-ID ::= 302
id-RL-Specific-DCH-Info                                      ProtocolIE-ID ::= 317
id-RL-ReconfigurationRequestFDD-RL-InformationList          ProtocolIE-ID ::= 318
id-RL-ReconfigurationRequestFDD-RL-Information-IEs          ProtocolIE-ID ::= 319
id-RL-ReconfigurationRequestTDD-RL-Information              ProtocolIE-ID ::= 321
id-CommonTransportChannelResourcesInitialisationNotRequired ProtocolIE-ID ::= 250
id-DelayedActivation                                         ProtocolIE-ID ::= 312
id-DelayedActivationList-RL-ActivationCmdFDD                ProtocolIE-ID ::= 313
id-DelayedActivationInformation-RL-ActivationCmdFDD         ProtocolIE-ID ::= 314
id-DelayedActivationList-RL-ActivationCmdTDD                ProtocolIE-ID ::= 315
id-DelayedActivationInformation-RL-ActivationCmdTDD         ProtocolIE-ID ::= 316
id-neighbouringTDDCellMeasurementInformationLCR            ProtocolIE-ID ::= 251
id-UL-SIR-Target-CCTrCH-InformationItem-RL-SetupRspTDD     ProtocolIE-ID ::= 150
id-UL-SIR-Target-CCTrCH-LCR-InformationItem-RL-SetupRspTDD ProtocolIE-ID ::= 151
id-PrimCCPCH-RSCP-DL-PC-RqstTDD                            ProtocolIE-ID ::= 451
id-HSDSCH-FDD-Information                                   ProtocolIE-ID ::= 452
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id-HSDSCH-FDD-Information-Response                                         ProtocolIE-ID ::= 453
id-HSDSCH-FDD-Update-Information                                          ProtocolIE-ID ::= 466
id-HSDSCH-Information-to-Modify                                           ProtocolIE-ID ::= 456
id-HSDSCHMacdFlowSpecificInformationList-RL-PreemptRequiredInd            ProtocolIE-ID ::= 516
id-HSDSCHMacdFlowSpecificInformationItem-RL-PreemptRequiredInd            ProtocolIE-ID ::= 517
id-HSDSCH-RNTI                                                            ProtocolIE-ID ::= 457
id-HSDSCH-TDD-Information                                                 ProtocolIE-ID ::= 458
id-HSDSCH-TDD-Information-Response                                        ProtocolIE-ID ::= 459
id-HSDSCH-TDD-Update-Information                                          ProtocolIE-ID ::= 467
id-HSPDSCH-RL-ID                                                          ProtocolIE-ID ::= 463
id-HSDSCH-MACdFlows-to-Add                                                ProtocolIE-ID ::= 531
id-HSDSCH-MACdFlows-to-Delete                                            ProtocolIE-ID ::= 532
id-Angle-Of-Arrival-Value-LCR                                            ProtocolIE-ID ::= 148
id-TrafficClass                                                          ProtocolIE-ID ::= 158
id-TFCI-PC-SupportIndicator                                              ProtocolIE-ID ::= 248
id-Qth-Parameter                                                         ProtocolIE-ID ::= 253
id-PDSCH-RL-ID                                                           ProtocolIE-ID ::= 323
id-TimeSlot-RL-SetupRspTDD                                               ProtocolIE-ID ::= 325
id-GERAN-Cell-Capability                                                 ProtocolIE-ID ::= 468
id-GERAN-Classmark                                                       ProtocolIE-ID ::= 469
id-DSCH-InitialWindowSize                                                ProtocolIE-ID ::= 480
id-UL-Synchronisation-Parameters-LCR                                     ProtocolIE-ID ::= 464
id-SNA-Information                                                       ProtocolIE-ID ::= 479
id-MAChs-ResetIndicator                                                  ProtocolIE-ID ::= 465
id-TDD-DL-DPCH-TimeSlotFormatModifyItem-LCR-RL-ReconfReadyTDD            ProtocolIE-ID ::= 481
id-TDD-UL-DPCH-TimeSlotFormatModifyItem-LCR-RL-ReconfReadyTDD            ProtocolIE-ID ::= 482
id-TDD-TPC-UplinkStepSize-LCR-RL-SetupRqstTDD                            ProtocolIE-ID ::= 483
id-UL-CCTrCH-InformationList-RL-AdditionRqstTDD                          ProtocolIE-ID ::= 484
id-UL-CCTrCH-InformationItem-RL-AdditionRqstTDD                          ProtocolIE-ID ::= 485
id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD                          ProtocolIE-ID ::= 486
id-DL-CCTrCH-InformationItem-RL-AdditionRqstTDD                          ProtocolIE-ID ::= 487
id-TDD-TPC-UplinkStepSize-InformationAdd-LCR-RL-ReconfPrepTDD            ProtocolIE-ID ::= 488
id-TDD-TPC-UplinkStepSize-InformationModify-LCR-RL-ReconfPrepTDD         ProtocolIE-ID ::= 489
id-TDD-TPC-DownlinkStepSize-InformationAdd-RL-ReconfPrepTDD              ProtocolIE-ID ::= 490
id-TDD-TPC-DownlinkStepSize-InformationModify-RL-ReconfPrepTDD           ProtocolIE-ID ::= 491
id-UL-TimingAdvanceCtrl-LCR                                              ProtocolIE-ID ::= 492
id-HSPDSCH-Timeslot-InformationList-PhyChReconfRqstTDD                   ProtocolIE-ID ::= 493
id-HSPDSCH-Timeslot-InformationListLCR-PhyChReconfRqstTDD                ProtocolIE-ID ::= 494
id-HS-SICH-Reception-Quality                                             ProtocolIE-ID ::= 495
id-HS-SICH-Reception-Quality-Measurement-Value                          ProtocolIE-ID ::= 496
id-HSSICH-Info-DM-Rprt                                                   ProtocolIE-ID ::= 497
id-HSSICH-Info-DM-Rqst                                                   ProtocolIE-ID ::= 498
id-HSSICH-Info-DM                                                        ProtocolIE-ID ::= 499
id-CCTrCH-Maximum-DL-Power-RL-SetupRspTDD                               ProtocolIE-ID ::= 500
id-CCTrCH-Minimum-DL-Power-RL-SetupRspTDD                               ProtocolIE-ID ::= 501
id-CCTrCH-Maximum-DL-Power-RL-AdditionRspTDD                            ProtocolIE-ID ::= 502
id-CCTrCH-Minimum-DL-Power-RL-AdditionRspTDD                            ProtocolIE-ID ::= 503
id-CCTrCH-Maximum-DL-Power-RL-ReconfReadyTDD                            ProtocolIE-ID ::= 504
id-CCTrCH-Minimum-DL-Power-RL-ReconfReadyTDD                            ProtocolIE-ID ::= 505
id-Maximum-DL-Power-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD  ProtocolIE-ID ::= 506
id-Minimum-DL-Power-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD  ProtocolIE-ID ::= 507
id-DL-CCTrCH-InformationList-RL-ReconfRspTDD                            ProtocolIE-ID ::= 508
id-DL-DPCH-InformationModifyItem-LCR-RL-ReconfRspTDD                    ProtocolIE-ID ::= 509
id-Maximum-DL-Power-TimeslotLCR-InformationItem                        ProtocolIE-ID ::= 510
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id-Minimum-DL-Power-TimeslotLCR-InformationItem                    ProtocolIE-ID ::= 511
id-TDD-Support-8PSK                                                ProtocolIE-ID ::= 512
id-TDD-maxNrDLPhysicalchannels                                     ProtocolIE-ID ::= 513
id-ExtendedGSMCellIndividualOffset                                 ProtocolIE-ID ::= 514
id-RL-ParameterUpdateIndicationFDD-RL-InformationList              ProtocolIE-ID ::= 518
id-Primary-CPICH-Usage-For-Channel-Estimation                     ProtocolIE-ID ::= 519
id-Secondary-CPICH-Information-Change                              ProtocolIE-ID ::= 521
id-UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation          ProtocolIE-ID ::= 522
id-UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation-Of-HS-DSCH  ProtocolIE-ID ::= 523
id-RL-ParameterUpdateIndicationFDD-RL-Information-Item             ProtocolIE-ID ::= 524
id-Phase-Reference-Update-Indicator                               ProtocolIE-ID ::= 525
id-Unidirectional-DCH-Indicator                                    ProtocolIE-ID ::= 526
id-RL-Information-RL-ReconfPrepTDD                                  ProtocolIE-ID ::= 527
id-Multiple-RL-InformationResponse-RL-ReconfReadyTDD               ProtocolIE-ID ::= 528
id-RL-ReconfigurationResponseTDD-RL-Information                    ProtocolIE-ID ::= 529
id-Satellite-Almanac-Information-ExtItem                           ProtocolIE-ID ::= 530
id-HSDSCH-Information-to-Modify-Unsynchronised                     ProtocolIE-ID ::= 533
id-TnlQos                                                          ProtocolIE-ID ::= 534
id-RTLoadValue                                                     ProtocolIE-ID ::= 535
id-NRTLoadInformationValue                                         ProtocolIE-ID ::= 536
id-PrimaryCCPCH-RSCP-Delta                                         ProtocolIE-ID ::= 539


END
```

9.3.7   Container Definitions

```
-- ***************************************************************
--
-- Container definitions
--
-- ***************************************************************

RNSAP-Containers {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-Containers (5)  }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- ***************************************************************
--
-- IE parameter types from other modules.
--
-- ***************************************************************

IMPORTS
    maxPrivateIEs,
    maxProtocolExtensions,
    maxProtocolIEs,
    Criticality,
```

```
    Presence,
    PrivateIE-ID,
    ProtocolIE-ID
FROM RNSAP-CommonDataTypes;

-- *****************************************************************
--
-- Class Definition for Protocol IEs
--
-- *****************************************************************

RNSAP-PROTOCOL-IES ::= CLASS {
    &id                ProtocolIE-ID              UNIQUE,
    &criticality        Criticality,
    &Value,
    &presence          Presence
}
WITH SYNTAX {
    ID              &id
    CRITICALITY         &criticality
    TYPE            &Value
    PRESENCE        &presence
}

-- *****************************************************************
--
-- Class Definition for Protocol IEs
--
-- *****************************************************************

RNSAP-PROTOCOL-IES-PAIR ::= CLASS {
    &id                ProtocolIE-ID              UNIQUE,
    &firstCriticality     Criticality,
    &FirstValue,
    &secondCriticality    Criticality,
    &SecondValue,
    &presence          Presence
}
WITH SYNTAX {
    ID              &id
    FIRST CRITICALITY       &firstCriticality
    FIRST TYPE          &FirstValue
    SECOND CRITICALITY      &secondCriticality
    SECOND TYPE         &SecondValue
    PRESENCE            &presence
}

-- *****************************************************************
--
-- Class Definition for Protocol Extensions
--
-- *****************************************************************

RNSAP-PROTOCOL-EXTENSION ::= CLASS {
```

```
    &id              ProtocolIE-ID              UNIQUE,
    &criticality         Criticality,
    &Extension,
    &presence        Presence
}
WITH SYNTAX {
    ID              &id
    CRITICALITY      &criticality
    EXTENSION        &Extension
    PRESENCE         &presence
}


-- **************************************************************
--
-- Class Definition for Private IEs
--
-- **************************************************************

RNSAP-PRIVATE-IES ::= CLASS {
    &id              PrivateIE-ID,
    &criticality         Criticality,
    &Value,
    &presence        Presence
}
WITH SYNTAX {
    ID              &id
    CRITICALITY      &criticality
    TYPE            &Value
    PRESENCE         &presence
}

-- **************************************************************
--
-- Container for Protocol IEs
--
-- **************************************************************

ProtocolIE-Container {RNSAP-PROTOCOL-IES : IEsSetParam} ::=
    SEQUENCE (SIZE (0..maxProtocolIEs)) OF
    ProtocolIE-Field {{IEsSetParam}}

ProtocolIE-Single-Container {RNSAP-PROTOCOL-IES : IEsSetParam} ::=
    ProtocolIE-Field {{IEsSetParam}}

ProtocolIE-Field {RNSAP-PROTOCOL-IES : IEsSetParam} ::= SEQUENCE {
    id              RNSAP-PROTOCOL-IES.&id              ({IEsSetParam}),
    criticality       RNSAP-PROTOCOL-IES.&criticality       ({IEsSetParam}{@id}),
    value            RNSAP-PROTOCOL-IES.&Value             ({IEsSetParam}{@id})
}

-- **************************************************************
--
-- Container for Protocol IE Pairs
--
```

ETSI

```
-- ***************************************************************

ProtocolIE-ContainerPair {RNSAP-PROTOCOL-IES-PAIR : IEsSetParam} ::=
    SEQUENCE (SIZE (0..maxProtocolIEs)) OF
    ProtocolIE-FieldPair {{IEsSetParam}}

ProtocolIE-FieldPair {RNSAP-PROTOCOL-IES-PAIR : IEsSetParam} ::= SEQUENCE {
    id                  RNSAP-PROTOCOL-IES-PAIR.&id              ({IEsSetParam}),
    firstCriticality        RNSAP-PROTOCOL-IES-PAIR.&firstCriticality   ({IEsSetParam}{@id}),
    firstValue          RNSAP-PROTOCOL-IES-PAIR.&FirstValue         ({IEsSetParam}{@id}),
    secondCriticality       RNSAP-PROTOCOL-IES-PAIR.&secondCriticality  ({IEsSetParam}{@id}),
    secondValue         RNSAP-PROTOCOL-IES-PAIR.&SecondValue        ({IEsSetParam}{@id})
}

-- ***************************************************************
--
-- Container Lists for Protocol IE Containers
--
-- ***************************************************************

ProtocolIE-ContainerList {INTEGER : lowerBound, INTEGER : upperBound, RNSAP-PROTOCOL-IES : IEsSetParam} ::=
    SEQUENCE (SIZE (lowerBound..upperBound)) OF
    ProtocolIE-Container {{IEsSetParam}}

ProtocolIE-ContainerPairList {INTEGER : lowerBound, INTEGER : upperBound, RNSAP-PROTOCOL-IES-PAIR : IEsSetParam} ::=
    SEQUENCE (SIZE (lowerBound..upperBound)) OF
    ProtocolIE-ContainerPair {{IEsSetParam}}

-- ***************************************************************
--
-- Container for Protocol Extensions
--
-- ***************************************************************

ProtocolExtensionContainer {RNSAP-PROTOCOL-EXTENSION : ExtensionSetParam} ::=
    SEQUENCE (SIZE (1..maxProtocolExtensions)) OF
    ProtocolExtensionField {{ExtensionSetParam}}

ProtocolExtensionField {RNSAP-PROTOCOL-EXTENSION : ExtensionSetParam} ::= SEQUENCE {
    id                  RNSAP-PROTOCOL-EXTENSION.&id                ({ExtensionSetParam}),
    criticality         RNSAP-PROTOCOL-EXTENSION.&criticality       ({ExtensionSetParam}{@id}),
    extensionValue          RNSAP-PROTOCOL-EXTENSION.&Extension     ({ExtensionSetParam}{@id})
}

-- ***************************************************************
--
-- Container for Private IEs
--
-- ***************************************************************

PrivateIE-Container {RNSAP-PRIVATE-IES : IEsSetParam} ::=
    SEQUENCE (SIZE (1..maxPrivateIEs)) OF
    PrivateIE-Field {{IEsSetParam}}
```

```
PrivateIE-Field {RNSAP-PRIVATE-IES : IEsSetParam} ::= SEQUENCE {
    id              RNSAP-PRIVATE-IES.&id            ({IEsSetParam}),
    criticality       RNSAP-PRIVATE-IES.&criticality     ({IEsSetParam}{@id}),
    value           RNSAP-PRIVATE-IES.&Value         ({IEsSetParam}{@id})
}

END
```

9.4 Message Transfer Syntax

RNSAP shall use the ASN.1 Basic Packed Encoding Rules (BASIC-PER) Aligned Variant as transfer syntax as specified in ref. [20].

The following encoding rules apply in addition to what has been specified in X.691 [20]:

When a bitstring value is placed in a bit-field as specified in 15.6 to 15.11 in [20], the leading bit of the bitstring value shall be placed in the leading bit of the bit-field, and the trailing bit of the bitstring value shall be placed in the trailing bit of the bit-field.

NOTE - When using the "bstring" notation, the leading bit of the bitstring value is on the left, and the trailing bit of the bitstring value is on the right. The term "leading bit" is to be interpreted as equal to the term "first bit" defined in [18].

9.5 Timers

T $_{Preempt}$

- Specifies the maximum time that a DRNS may wait for pre-emption of resources for establishment or reconfiguration of Radio Links.

10 Handling of Unknown, Unforeseen and Erroneous Protocol Data

10.1 General

Protocol Error cases can be divided into three classes:

1. Transfer Syntax Error;

2. Abstract Syntax Error;

3. Logical Error.

Protocol errors can occur in the following functions within a receiving node.

Figure 34: Protocol Errors in RNSAP
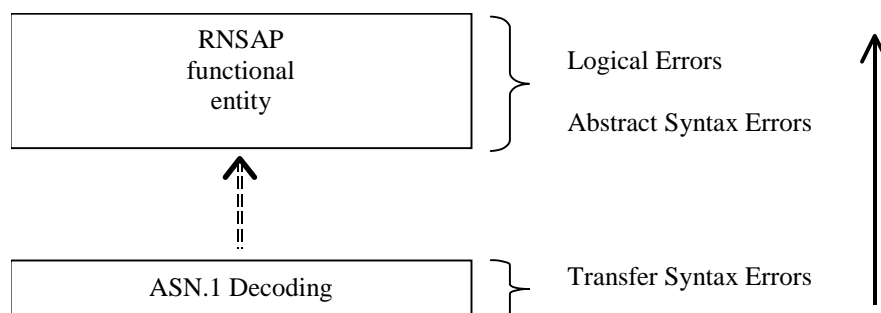
The information stated in subclauses 10.2, 10.3 and 10.4, to be included in the message used when reporting an error, is what at minimum shall be included. Other optional information elements within the message may also be included, if available. This is also valid for the case when the reporting is done with a response message. The latter is an exception to what is stated in subclause 4.1.

10.2   Transfer Syntax Error

A Transfer Syntax Error occurs when the receiver is not able to decode the received physical message. Transfer syntax errors are always detected in the process of ASN.1 decoding. If a Transfer Syntax Error occurs, the receiver should initiate Error Indication procedure with appropriate cause value for the Transfer Syntax protocol error.

Examples for Transfer Syntax Errors are:

-   Violation of value ranges in ASN.1 definition of messages. e.g.: If an IE has a defined value range of 0 to 10 (ASN.1: INTEGER (0..10)), and 12 will be received, then this will be treated as a transfer syntax error;

-   Violation in list element constraints. e.g.: If a list is defined as containing 1 to 10 elements, and 12 elements will be received, than this case will be handled as a transfer syntax error;

-   Missing mandatory elements in ASN.1 SEQUENCE definitions (as sent by the originator of the message);

-   Wrong order of elements in ASN.1 SEQUENCE definitions (as sent by the originator of the message).

10.3   Abstract Syntax Error

10.3.1   General

An Abstract Syntax Error occurs when the receiving functional RNSAP entity:

1. Receives IEs or IE groups that cannot be understood (unknown IE id);

2   Receives IEs for which the logical range is violated (e.g.: ASN.1 definition: 0 to 15, the logical range is 0 to 10 (values 11 to 15 are undefined), and 12 will be received; this case will be handled as an abstract syntax error using criticality information sent by the originator of the message);

3   Does not receive IEs or IE groups but according to the specified presence of the concerned object, the IEs or IE groups should have been present in the received message;

4   Receives IEs or IE groups that are defined to be part of that message in wrong order or with too many occurrences of the same IE or IE group;

5   receives IEs or IE groups but according to the conditional presence of the concerned object and the specified condition, the IEs or IE groups should not have been present in the received message.

Cases 1 and 2 (not comprehended IE/IE group) are handled based on received Criticality information. Case 3 (missing IE/IE group) is handled based on Criticality information and Presence information for the missing IE/IE group specified in the version of the specification used by the receiver. Case 4 (IEs or IE groups in wrong order or with too many occurrences) and Case 5 (erroneously present conditional IEs or IE groups) result in rejecting the procedure.

If an Abstract Syntax Error occurs, the receiver shall read the remaining message and shall then for each detected Abstract Syntax Error that belong to cases 1-3 act according to the Criticality Information and Presence Information for the IE/IE group due to which Abstract Syntax Error occurred in accordance with subclauses 10.3.4 and 10.3.5. The handling of cases 4 and 5 is specified in subclause 10.3.6.

10.3.2   Criticality Information

In the RNSAP messages there is criticality information set for individual IEs and/or IE groups. This criticality information instructs the receiver how to act when receiving an IE or an IE group that is not comprehended, i.e. the entire item (IE or IE group) which is not (fully or partially) comprehended shall be treated in accordance with its own criticality information as specified in subclause 10.3.4.

In addition, the criticality information is used in case of the missing IE/IE group abstract syntax error (see subclause 10.3.5).

The receiving node shall take different actions depending on the value of the Criticality Information. The three possible values of the Criticality Information for an IE/IE group are:

1. Reject IE;

2. Ignore IE and Notify Sender;

3. Ignore IE.

The following rules restrict when a receiving entity may consider an IE, an IE group or an EP not comprehended (not implemented), and when action based on criticality information is applicable:

1. IE or IE group: When one new or modified IE or IE group is implemented for one EP from a standard version, then other new or modified IEs or IE groups specified for that EP in that standard version shall be considered comprehended by a receiving entity (some may still remain unsupported).

2. EP: The comprehension of different EPs within a standard version or between different standard versions is not mandated. Any EP that is not supported may be considered not comprehended, even if another EP from that standard version is comprehended, and action based on criticality shall be applied.

10.3.3 Presence Information

For many IEs/IE groups which are optional according to the ASN.1 transfer syntax, RNSAP specifies separately if the presence of these IEs/IE groups is optional or mandatory with respect to RNS application by means of the presence field f the concerned object of class RNSAP-PROTOCOL-IES, RNSAP-PROTOCOL-IES-PAIR, RNSAP-PROTOCOL-EXTENSION or RNSAP-PRIVATE-IES.

The presence field of the indicated classes supports three values:

1. Optional;

2. Conditional;

3. Mandatory.

If an IE/IE group is not included in a received message and the presence of the IE/IE group is mandatory or the presence is conditional and the condition is true according to the version of the specification used by the receiver, an abstract syntax error occurs due to a missing IE/IE group.

If an IE/IE group is included in a received message and the presence of the IE/IE group is conditional and the condition is false according to the version of the specification used by the receiver, an abstract syntax error occurs due to this erroneously present conditional IE/IE group.

10.3.4 Not Comprehended IE/IE Group

10.3.4.1 Procedure ID

The receiving node shall treat the different types of received criticality information of the *Procedure ID* according to the following:

Reject IE:

- If a message is received with a *Procedure ID* marked with "*Reject IE*" which the receiving node does not comprehend, the receiving node shall reject the procedure using the Error Indication procedure.

Ignore IE and Notify Sender:

- If a message is received with a *Procedure ID* marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the procedure and initiate the Error Indication procedure.

Ignore IE:

- If a message is received with a *Procedure ID* marked with "*Ignore IE*" which the receiving node does not comprehend, the receiving node shall ignore the procedure.

When using the Error Indication procedure to reject a procedure or to report an ignored procedure it shall include the *Procedure ID* IE, the *Triggering Message* IE, and the *Procedure Criticality* IE in the *Criticality Diagnostics* IE.

10.3.4.1A   Type of Message

When the receiving node cannot decode the *Type of Message* IE, the Error Indication procedure shall be initiated with an appropriate cause value.

10.3.4.2   IEs Other Than the Procedure ID and Type of Message

The receiving node shall treat the different types of received criticality information of an IE/IE group other than the *Procedure ID* IE and *Type of Message* IE according to the following:

Reject IE:

- If a message *initiating* a procedure is received containing one or more IEs/IE groups marked with "*Reject IE*" which the receiving node does not comprehend; none of the functional requests of the message shall be executed. The receiving node shall reject the procedure and report the rejection of one or more IEs/IE groups using the message normally used to report unsuccessful outcome of the procedure. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the message used to report the unsuccessful outcome of the procedure, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a message *initiating* a procedure that does not have a message to report unsuccessful outcome is received containing one or more IEs/IE groups marked with "*Reject IE*" which the receiving node does not comprehend, the receiving node shall terminate the procedure and initiate the Error Indication procedure.

- If a *response* message is received containing one or more IEs/IE groups marked with "*Reject IE*, that the receiving node does not comprehend, the receiving node shall consider the procedure as unsuccessfully terminated and initiate local error handling.

Ignore IE and Notify Sender:

- If a message *initiating* a procedure is received containing one or more IEs/IE groups marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups, continue with the procedure as if the not comprehended IEs/IE groups were not received (except for the reporting) using the understood IEs/IE groups, and report in the response message of the procedure that one or more IEs/IE groups have been ignored. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the response message, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a message *initiating* a procedure that does not have a message to report the outcome of the procedure is received containing one or more IEs/IE groups marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups, continue with the procedure as if the not comprehended IEs/IE groups were not received (except for the reporting) using the understood IEs/IE groups, and initiate the Error Indication procedure to report that one or more IEs/IE groups have been ignored.

- If a *response* message is received containing one or more IEs/IE groups marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups, continue with the procedure as if the not comprehended IEs/IE groups were not received (except for the reporting) using the understood IEs/IE groups and initiate the Error Indication procedure.

Ignore IE:

- If a message *initiating* a procedure is received containing one or more IEs/IE groups marked with "*Ignore IE*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups and continue with the procedure as if the not comprehended IEs/IE groups were not received using the understood IEs/IE groups.

- If a *response* message is received containing one or more IEs/IE groups marked with "*Ignore IE*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE

groups and continue with the procedure as if the not comprehended IEs/IE groups were not received using the understood IEs/IE groups.

When reporting not comprehended IEs/IE groups marked with "*Reject IE*" or "*Ignore IE and Notify Sender*" using a response message defined for the procedure, the *Information Element Criticality Diagnostics* IE shall be included in the *Criticality Diagnostics* IE for each reported IE/IE group. In the *Information Element Criticality Diagnostics* IE the *Repetition Number* IE shall be included and in addition, if the not comprehended IE/IE group is not at message hierarchy level 1 (top level; see annex C) also the *Message Structure* IE shall be included.

When reporting not comprehended IEs/IE groups marked with "*Reject IE*" or "*Ignore IE and Notify Sender*" using the Error Indication procedure, the *Procedure ID* IE, the *Triggering Message* IE, *Procedure Criticality* IE, the *Transaction ID* IE, and the *Information Element Criticality Diagnostics* IE shall be included in the *Criticality Diagnostics* IE for each reported IE/IE group. In the *Information Element Criticality Diagnostics* IE the *Repetition Number* IE shall be included and in addition, if the not comprehended IE/IE group is not at message hierarchy level 1 (top level; see annex C) also the *Message Structure* IE shall be included.

10.3.5   Missing IE or IE Group

The receiving node shall treat the missing IE/IE group according to the criticality information for the missing IE/IE group in the received message specified in the version of this specification used by the receiver:

Reject IE:

-    If a received message *initiating* a procedure is missing one or more IEs/IE groups with specified criticality "*Reject IE*"; none of the functional requests of the message shall be executed. The receiving node shall reject the procedure and report the missing IEs/IE groups using the message normally used to report unsuccessful outcome of the procedure. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the message used to report the unsuccessful outcome of the procedure, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

-    If a received message *initiating* a procedure that does not have a message to report unsuccessful outcome is missing one or more IEs/IE groups with specified criticality "*Reject IE*", the receiving node shall terminate the procedure and initiate the Error Indication procedure.

-    If a received *response* message is missing one or more IEs/IE groups with specified criticality "*Reject IE*, the receiving node shall consider the procedure as unsuccessfully terminated and initiate local error handling.

Ignore IE and Notify Sender:

-    If a received message *initiating* a procedure is missing one or more IEs/IE groups with specified criticality "*Ignore IE and Notify Sender*", the receiving node shall ignore that those IEs are missing and continue with the procedure based on the other IEs/IE groups present in the message and report in the response message of the procedure that one or more IEs/IE groups were missing. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the response message, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

-    If a received message *initiating* a procedure that does not have a message to report the outcome of the procedure is missing one or more IEs/IE groups with specified criticality "*Ignore IE and Notify Sender*", the receiving node shall ignore that those IEs are missing and continue with the procedure based on the other IEs/IE groups present in the message and initiate the Error Indication procedure to report that one or more IEs/IE groups were missing.

-    If a received *response* message is missing one or more IEs/IE groups with specified criticality "*Ignore IE and Notify Sender*", the receiving node shall ignore that those IEs are missing and continue with the procedure based on the other IEs/IE groups present in the message and initiate the Error Indication procedure to report that one or more IEs/IE groups were missing.

Ignore IE:

-    If a received message *initiating* a procedure is missing one or more IEs/IE groups with specified criticality "*Ignore IE*", the receiving node shall ignore that those IEs are missing and continue with the procedure based on the other IEs/IE groups present in the message.

- If a received *response* message is missing one or more IEs/IE groups with specified criticality "*Ignore IE*", the receiving node shall ignore that those IEs/IE groups are missing and continue with the procedure based on the other IEs/IE groups present in the message.

When reporting missing IEs/IE groups with specified criticality "*Reject IE*" or "*Ignore IE and Notify Sender*" using a response message defined for the procedure, the *Information Element Criticality Diagnostics* IE shall be included in the *Criticality Diagnostics* IE for each reported IE/IE group. In the *Information Element Criticality Diagnostics* IE the *Repetition Number* IE shall be included and in addition, if the missing IE/IE group is not at message hierarchy level 1 (top level; see annex C) also the *Message Structure* IE shall be included.

When reporting missing IEs/IE groups with specified criticality "*Reject IE*" or "*Ignore IE and Notify Sender*" using the Error Indication procedure, the *Procedure ID* IE, the *Triggering Message* IE, *Procedure Criticality* IE, the *Transaction ID* IE, and the *Information Element Criticality Diagnostics* IE shall be included in the *Criticality Diagnostics* IE for each reported IE/IE group. In the *Information Element Criticality Diagnostics* IE the *Repetition Number* IE shall be included and in addition, if the missing IE/IE group is not at message hierarchy level 1 (top level; see annex C) also the *Message Structure* IE shall be included.

10.3.6 IEs or IE Groups Received in Wrong Order or With Too Many Occurrences or Erroneously Present

If a message with IEs or IE groups in wrong order or with too many occurrences is received or if IEs or IE groups with a conditional presence are present when the condition is not met (i.e. erroneously present), the receiving node shall behave according to the following:

- If a message *initiating* a procedure is received containing IEs or IE groups in wrong order or with too many occurrences or erroneously present, none of the functional requests of the message shall be executed. The receiving node shall reject the procedure and report the cause value "Abstract Syntax Error (Falsely Constructed Message)" using the message normally used to report unsuccessful outcome of the procedure. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the message used to report the unsuccessful outcome of the procedure, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a message *initiating* a procedure that does not have a message to report unsuccessful outcome is received containing IEs or IE groups in wrong order or with too many occurrences or erroneously present, the receiving node shall terminate the procedure and initiate the Error Indication procedure, and use cause value "Abstract Syntax Error (Falsely Constructed Message)".

- If a *response* message is received containing IEs or IE groups in wrong order or with too many occurrences or erroneously present, the receiving node consider the procedure as unsuccessfully terminated and initiate local error handling.

When determining the correct order only the IEs specified in the specification version used by the receiver shall be considered.

10.4 Logical Error

Logical error situations occur when a message is comprehended correctly, but the information contained within the message is not valid (i.e. semantic error), or describes a procedure which is not compatible with the state of the receiver. In these conditions, the following behaviour shall be performed (unless otherwise specified) as defined by the class of the elementary procedure, irrespective of the criticality information of the IEs/IE groups containing the erroneous values.

Class 1:

Where the logical error occurs in a request message of a class 1 procedure, and the procedure has a message to report this unsuccessful outcome, this message shall be sent with an appropriate cause value. Typical cause values are:

Protocol Causes:

1. Semantic Error;

2. Message not Compatible with Receiver State.

Where the logical error is contained in a request message of a class 1 procedure, and the procedure does not have a message to report this unsuccessful outcome, the procedure shall be terminated and the Error Indication procedure shall be initiated with an appropriate cause value. The *Procedure ID* IE, the *Triggering Message* IE and the *Transaction ID* IE within the *Criticality Diagnostics* IE shall then be included in order to identify the message containing the logical error.

Where the logical error exists in a response message of a class 1 procedure, the procedure shall be considered as unsuccessfully terminated and local error handling shall be initiated.

Class 2:

Where the logical error occurs in a message of a class 2 procedure, the procedure shall be terminated and the Error Indication procedure shall be initiated with an appropriate cause value. The *Procedure ID* IE, the *Triggering Message* IE and the *Transaction ID* IE within the *Criticality Diagnostics* IE shall then be included in order to identify the message containing the logical error.

10.5 Exceptions

The error handling for all the cases described hereafter shall take precedence over any other error handling described in the other subclauses of clause 10.

- If any type of error (Transfer Syntax Error, Abstract Syntax Error or Logical Error) is detected in the ERROR INDICATION message, it shall not trigger the Error Indication procedure in the receiving Node but local error handling.

- In case a response message or ERROR INDICATION message needs to be returned, but the information necessary to determine the receiver of that message is missing, the procedure shall be considered as unsuccessfully terminated and local error handling shall be initiated.

  If an error that terminates a procedure occurs, the returned cause value shall reflect the error that caused the termination of the procedure even if one or more abstract syntax errors with criticality 'ignore and notify' have earlier occurred within the same procedure.

Annex A (normative):
Allocation and Pre-emption of Radio Links in the DRNS

A.1 Deriving Allocation Information for a Radio Link

A.1.1 Establishment of a New Radio Link

The Allocation Information for a Radio Link in the case of establishment of a new Radio Link shall be derived as follows:

- The latest received *Allocation/Retention Priority* IE for each transport channel shall be used.

Note: The *Allocation/Retention Priority* IE for a transport channel may have been received in
a) the procedure that establishes the first Radio Link for the UE in the DRNS or
b) a procedure adding or modifying the transport channel.

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for all transport channels that are intended to use the Radio Link is set to "no priority", the pre-emption capability of the Radio Link shall be set to "shall not trigger pre-emption".

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for one or more of the transport channels that are intended to use the Radio Link is not set to "no priority", the allocation priority and the pre-emption capability of the Radio Link shall be set according to the following:

    - The transport channels that have the *Priority Level* IE in the *Allocation/Retention Priority* IE set to "no priority" shall be excluded when setting the allocation priority and pre-emption capability of a Radio Link.

    - The allocation priority for a Radio Link shall be set to highest priority level, given by the *Priority Level* IE in the *Allocation/Retention Priority* IE, for all non excluded transport channels that are intended to use the Radio Link.

    - If all non-excluded transport channels that are intended to use a Radio Link to be established have the pre-emption capability, given by the *Pre-emption Capability* IE in the *Allocation/Retention Priority* IE, set to "shall not trigger pre-emption", the pre-emption capability of the Radio Link shall be set to "shall not trigger pre-emption".
    If one or more non-excluded transport channels that are intended to use the Radio Link to be established have the value of the *Pre-emption Capability* IE in the *Allocation/Retention Priority* IE set to "may trigger pre-emption", the pre-emption capability of the Radio Link shall be set to "may trigger pre-emption".

The derived allocation priority and pre-emption capability are only valid during this allocation/retention process.

A.1.2 Modification of an Existing Radio Link

The Allocation Information for a Radio Link in the case of modification of a Radio Link (addition or modification of transport channels using the Radio Link) shall be derived as follows:

- The latest received *Allocation/Retention Priority* IE for each transport channel shall be used.

Note: The *Allocation/Retention Priority* IE for a transport channel may have been received in
a) the procedure that establishes the first Radio Link for the UE in the DRNS,
b) a previous procedure adding or modifying the transport channel, or
c) the current procedure adding or modifying the transport channel.

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for all transport channels to be added or modified in the Radio Link is set to "no priority", the pre-emption capability of the Radio Link to be modified shall be set to "shall not trigger pre-emption".

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for one or more of the transport channels to be added or modified in the Radio Link is not set to 'no priority', the allocation priority of and the pre-emption capability of the Radio Link to be modified shall be set according to the following:

    - The transport channels to be added or modified that have the *Priority Level* IE in the *Allocation/Retention Priority* IE set to "no priority" shall be excluded when setting the allocation priority and pre-emption capability of a Radio Link to be modified.

    - The allocation priority for a Radio Link to be modified shall be set to highest priority level, given by the *Priority Level* IE in the *Allocation/Retention Priority* IE, for all the non-excluded transport channels that are to be added or modified.

    - If all non-excluded transport channels that are to be added or modified in the Radio Link have the pre-emption capability, given by the *Pre-emption Capability* IE in the *Allocation/Retention Priority* IE, set to "shall not trigger pre-emption", the pre-emption capability of the Radio Link to be modified shall be set to "shall not trigger pre-emption".
    If one or more of the non-excluded transport channels to be added or modified in the Radio Link have the value of the *Pre-emption Capability* IE in the *Allocation/Retention Priority* IE set to "may trigger pre-emption", the pre-emption capability of the Radio Link to be modified shall be set to "may trigger pre-emption".

The derived allocation priority and pre-emption capability are only valid during this allocation/retention process.

A.2 Deriving Retention Information for a Radio Link

The Retention Information for an existing Radio Link shall be derived as follows:

- The latest received *Allocation/Retention Priority* IE for each transport channel shall be used.

    Note: The *Allocation/Retention Priority* IE for a transport channel may have been received in
    a) the procedure that establishes the first Radio Link for the UE in the DRNS or
    b) a procedure adding or modifying the transport channel.

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for one or more transport channels using the Radio Link is set to "no priority", the pre-emption vulnerability of the Radio Link shall be set to "not pre-emptable".

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for all the transport channels using the Radio Link is not set to "no priority", the retention priority of the Radio Link and the pre-emption vulnerability of the Radio Link shall be set according to the following:

    - The retention priority for a Radio Link shall be set to highest priority level, given by the *Priority Level* IE in the *Allocation/Retention Priority* IE, for all transport channels that uses the Radio Link.

    - If all transport channels that uses the Radio Link have the pre-emption vulnerability, given by the *Pre-emption Vulnerability* IE in the *Allocation/Retention Priority* IE, set to "pre-emptable", the pre-emption vulnerability of the Radio Link shall be set to "pre-emptable".
    If one or more transport channels that uses the Radio Link have the value of the *Pre-emption Vulnerability* IE in the *Allocation/Retention Priority* IE set to "not pre-emptable", the pre-emption vulnerability of the Radio Link shall be set to "not pre-emptable".

The derived retention priority and pre-emption vulnerability are valid until they are changed, or until the Radio Link is deleted. When new transport channels are added to or deleted from the Radio Link or when existing transport channels are modified with regards to the *Allocation/Retention Priority* IE, the retention information shall be derived again according to above.

A.3 The Allocation/Retention Process

The DRNS shall establish or modify the resources for a Radio Link according to:

- The value of the Allocation Information (allocation priority and pre-emption capability) of the Radio to be established or modified. The Allocation Information is derived according to clause A.1.

- The value of the Retention Information (retention priority and pre-emption vulnerability) of existing Radio Links. The Retention Information derived according to clause A.2.

- The resource situation in the DRNS.

Whilst the process and the extent of the pre-emption functionality is operator dependent, the pre-emption indicators (pre-emption capability and pre-emption vulnerability) shall be treated as follows:

- -. If the pre-emption capability for a Radio Link to be established or modified is set to "may trigger pre-emption" and the resource situation so requires, the DRNS may trigger the pre-emption process in clause A.4 to free resources for this allocation request.

- -. If the pre-emption capability for a Radio Link to be established or modified is set to "shall not trigger pre-emption", then this allocation request shall not trigger the pre-emption process in clause A.4.

- -. If the pre-emption vulnerability for an existing Radio Link is set to "pre-emptable", then this Radio Link shall be included in the pre-emption process in clause A.4.

- -. If the pre-emption vulnerability for an existing Radio Link is set to "not pre-emptable", then this Radio Link shall not be included in the pre-emption process in clause A.4.

A.4   The Pre-emption Process

The pre-emption process shall only pre-empt Radio Links with lower retention priority than the allocation priority of the Radio Link to be established or modified. The Radio Links to be pre-empted shall be selected in ascending order of the retention priority.

When the pre-emption process detects that one or more Radio Links have to be pre-empted to free resources for a Radio Link(s) to be established or modified, the DRNS shall initiate the Radio Link Pre-emption procedure for all the UE Contexts having Radio Links selected for pre-emption and start the $T_{Preempt}$ timer.

When enough resources are freed to establish or modify the Radio Link(s) according to the request, the DRNS shall stop the $T_{Preempt}$ timer and complete the procedure that triggered the pre-emption process in accordance with the "Successful Operation" subclause of the procedure.

If the $T_{Preempt}$ timer expires, the DRNS shall reject the procedure that triggered the pre-emption process and complete the procedure in accordance with the "Unsuccessful Operation" subclause of the procedure.

Annex B (informative): Measurement Reporting

When the *Report Characteristics* IE is set to "Event A" (figure B.1), the Measurement Reporting procedure is initiated when the measured entity rises above the requested threshold and stays there for the requested hysteresis time. If no hysteresis time is given, the value zero shall be used for the hysteresis time.
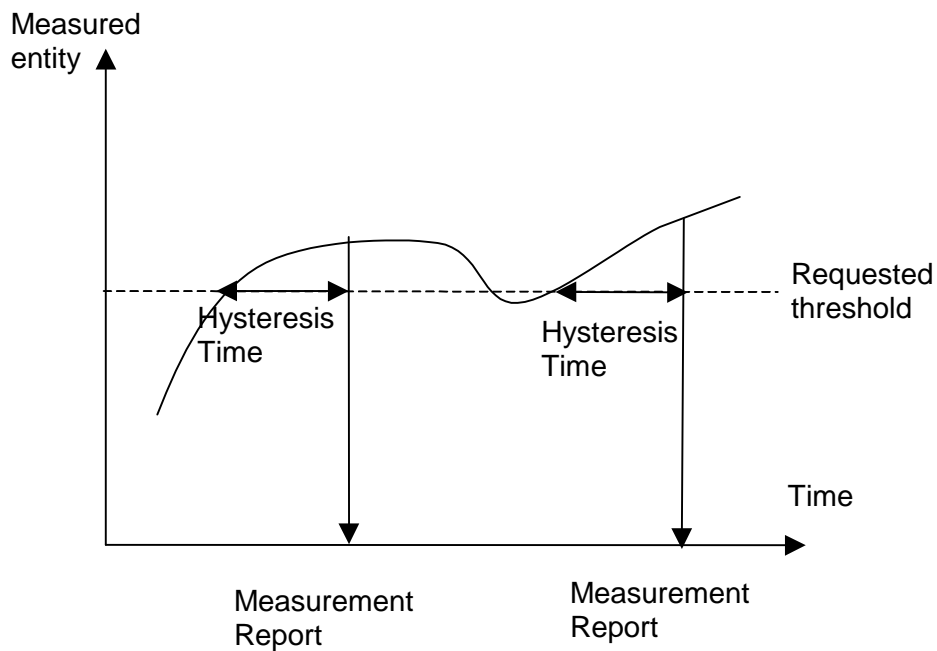
Figure B.1: Event A reporting with Hysteresis Time specified

When the *Report Characteristics* IE is set to "Event B" (figure B.2), the Measurement Reporting procedure is initiated when the measured entity falls below the requested threshold and stays there for the requested hysteresis time. If no hysteresis time is given, the value zero shall be used for the hysteresis time.
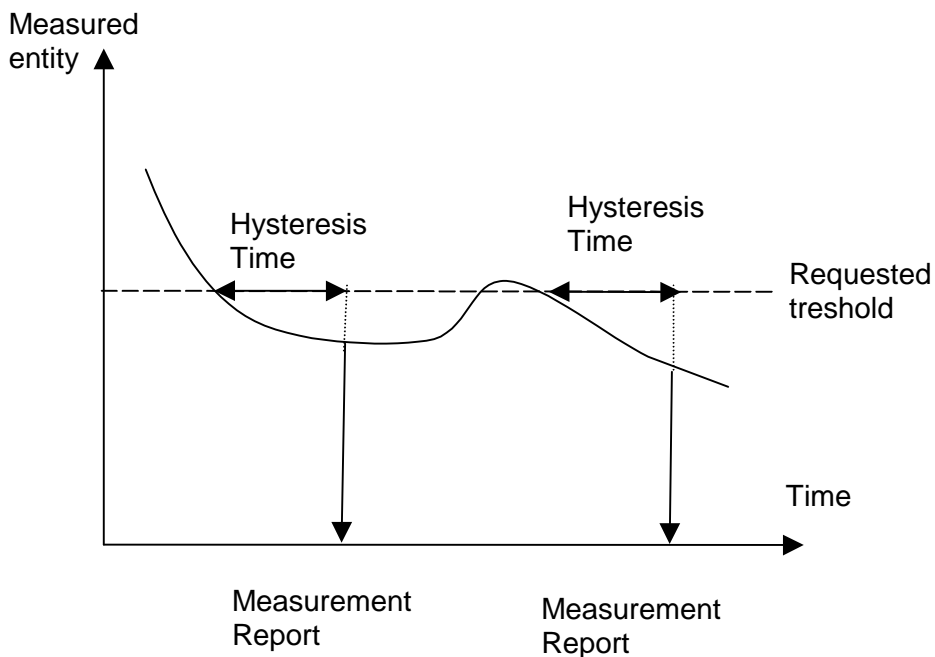
Figure B.2: Event B reporting with Hysteresis Time specified

When the *Report Characteristics* IE is set to "Event C" (figure B.3), the Measurement Reporting procedure is initiated always when the measured entity rises by an amount greater than the requested threshold within the requested time. The reporting in figure B.3 is initiated if the Rising Time T1 is less than the requested time.
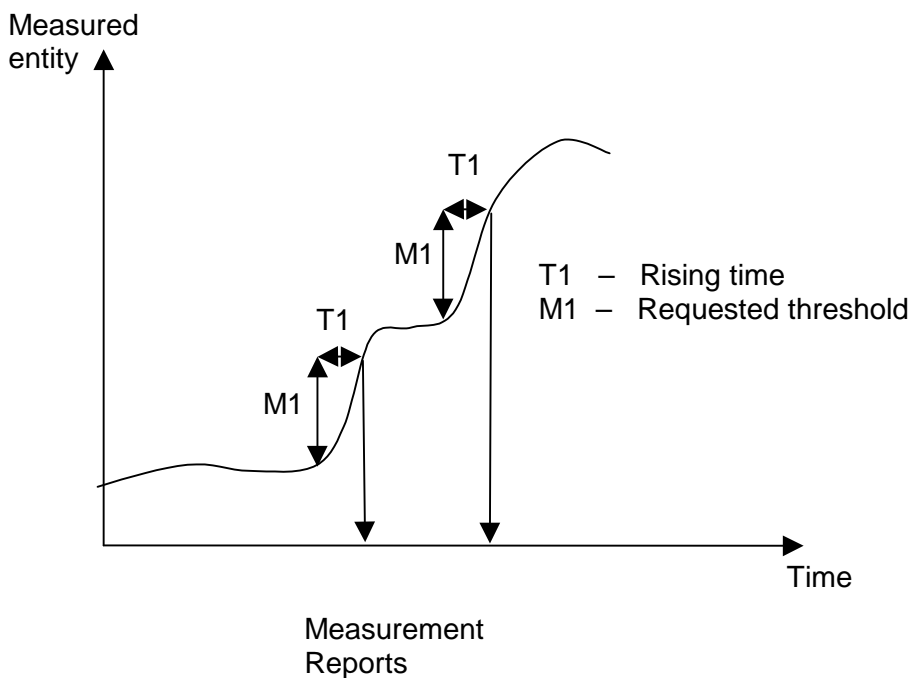
Figure B.3: Event C reporting

When the *Report Characteristics* IE is set to "Event D" (figure B.4), the Measurement Reporting procedure is initiated always when the measured entity falls by an amount greater than the requested threshold within the requested time. The reporting in figureB.4 is initiated if the Falling Time T1 is less than the requested time.
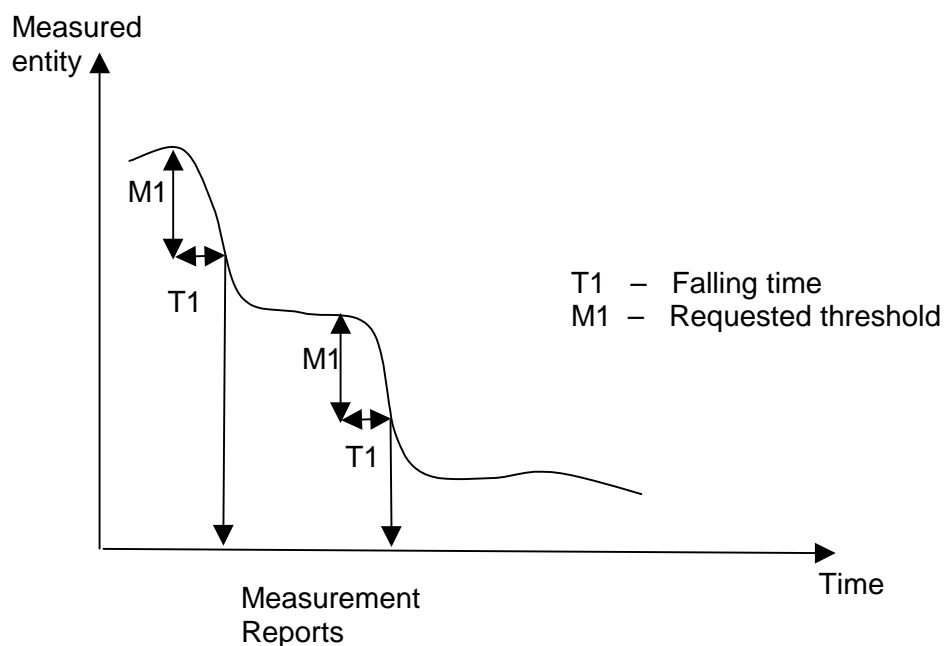
Figure B.4: Event D reporting

When the *Report Characteristics* IE is set to "Event E" (figure B.5), the Measurement Reporting procedure (Report A) is initiated always when the measured entity rises above the "Measurement Threshold 1" and stays there for the "Measurement Hysteresis Time" (T1 in figure B.5). If *Report Periodicity* IE is provided DRNS shall also initiate Measurement Reporting procedure periodically. The periodic reporting continues although the measured entity falls below the "Measurement Threshold 1" and is terminated by the Report B.

When the Report A conditions have been met and the measured entity falls below the "Measurement Threshold 2" and stays there for the "Measurement Hysteresis Time" (T1) the Measurement Reporting procedure (Report B) is initiated and the periodic reporting is terminated.
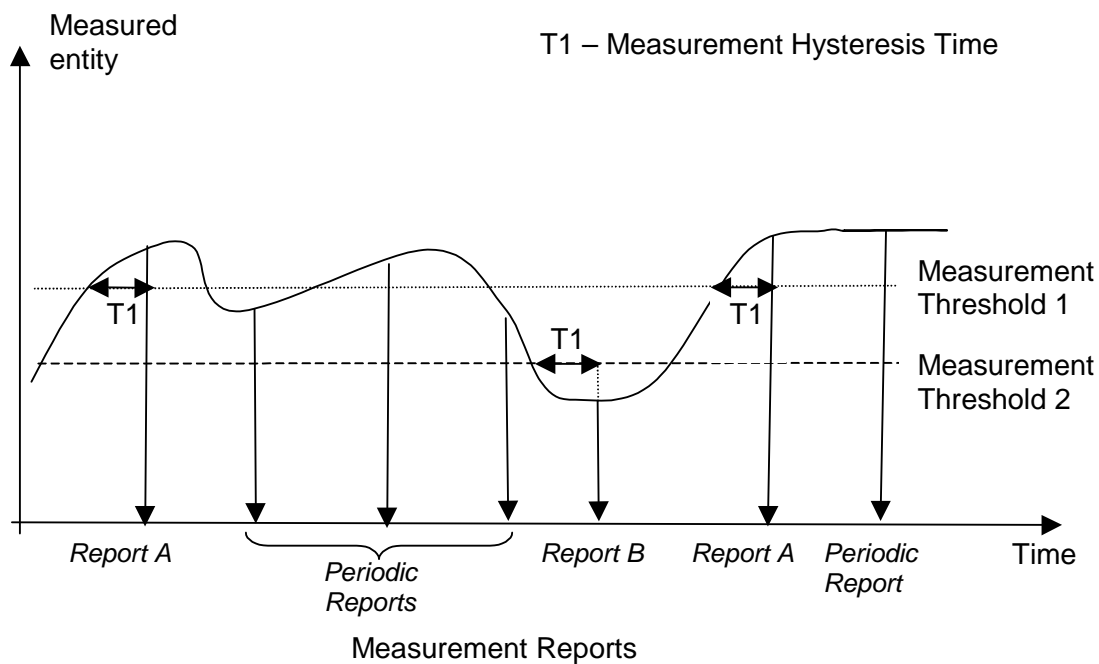
Figure B.5: Event E reporting with Hysteresis Time specified and Periodic Reporting requested

When the *Report Characteristics* IE is set to "Event F" (figure B.6), the Measurement Reporting procedure (Report A) is initiated always when the measured entity falls below the "Measurement Threshold 1" and stays there for the "Measurement Hysteresis Time" (T1 in figure B.6). If *Report Periodicity* IE is provided DRNS shall also initiate Measurement Reporting procedure periodically. The periodic reporting continues although the measured entity rises above the "Measurement Threshold 1" and is terminated by the Report B.

When the Report A conditions have been met and the measured entity rises above the "Measurement Threshold 2" and stays there for the "Measurement Hysteresis Time" (T1) Measurement Reporting procedure (Report B) is initiated and the periodic reporting is terminated.

Measured
entity

T1 – Measurement Hysteresis Time

Measurement
Threshold 2

T1

Measurement
Threshold 1

Time

Report A

*Periodic
Reports*

Report B   *Report A*   *Periodic
Report*

Measurement Reports
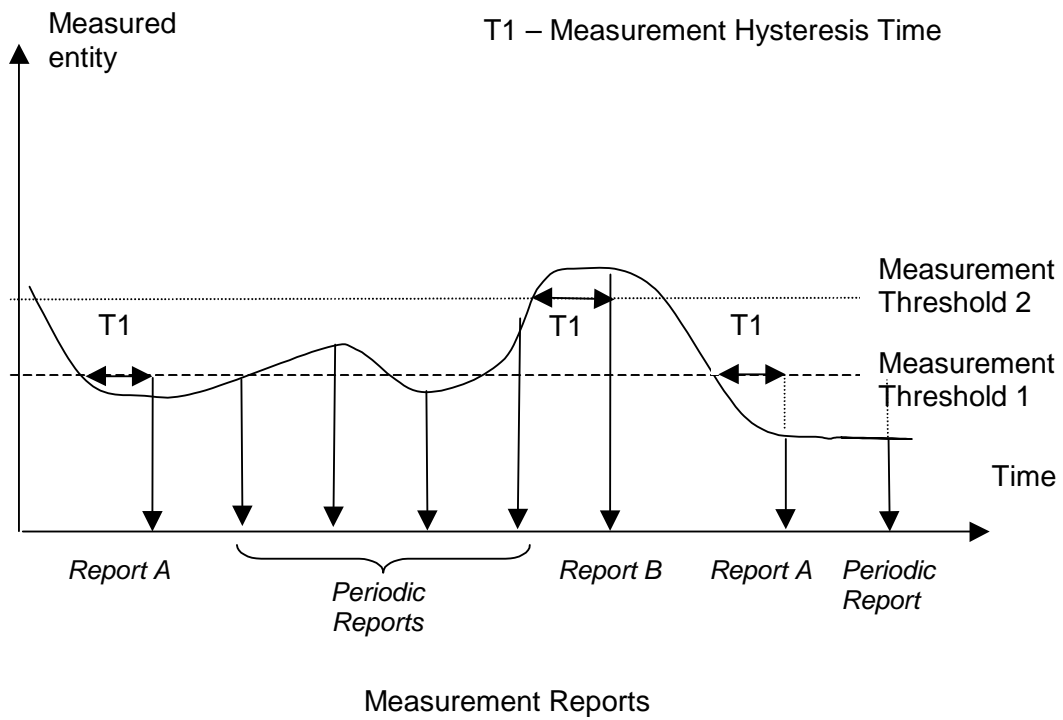
Figure B.6: Event F reporting with Hysteresis Time specified and Periodic Reporting requested

Annex C (informative): Guidelines for Usage of the Criticality Diagnostics IE

C.1 EXAMPLE MESSAGE Layout

Assume the following message format:

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M				YES	reject
Transaction ID	M				–	
A	M				YES	reject
B	M				YES	reject
>E		*1..<maxE>*			EACH	ignore
>>F		*1..<maxF>*			-	
>>>G		*0..3, …*			EACH	ignore
>>H		*1..<maxH>*			EACH	ignore
>>>G		*0..3, …*			EACH	ignore and notify
>>G	M				YES	reject
>>J		*1..<maxJ>*			-	
>>>G		*0..3, …*			EACH	reject
C	M				YES	reject
>K		*1..<maxK>*			EACH	ignore and notify
>>L		*1..<maxL>*			-	
>>>M	O				-	
D	M				YES	reject

Note 1. The IEs F, J, and L do not have assigned criticality. The IEs F, J, and L are consequently realised as the ASN.1 type SEQUENCE OF of "ordinary" ASN.1 type, e.g. INTEGER. On the other hand, the repeatable IEs with assigned criticality are realised as the ASN.1 type SEQUENCE OF of an IE object, e.g. ProtocolIE-Single-Container.

For the corresponding ASN.1 layout, see subclause C.4.

C.2 Example on a Received EXAMPLE MESSAGE

Assume further more that a received message based on the above tabular format is according to the figure below.
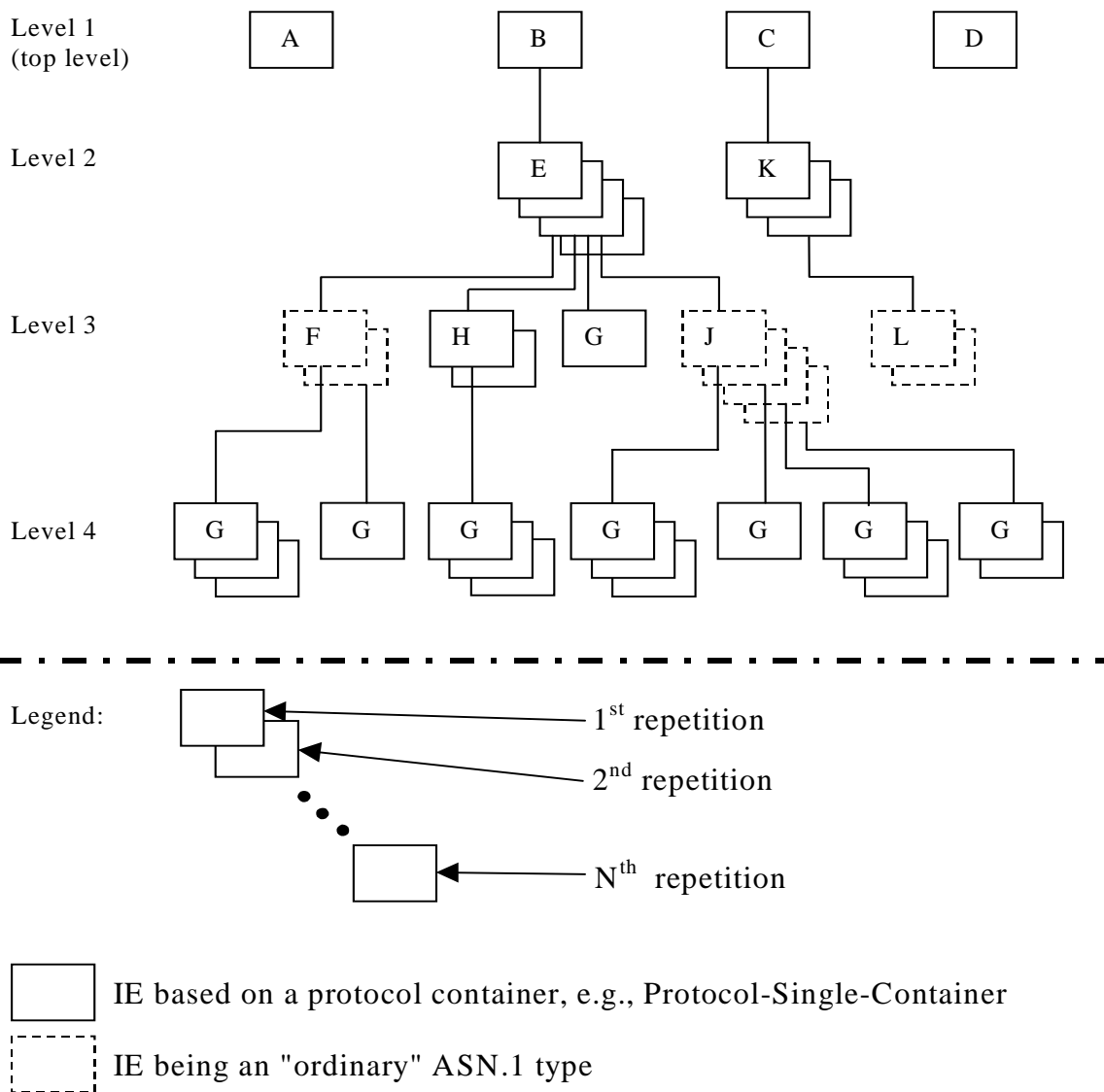
Figure C.1: Example of content of a received RNSAP message based on the EXAMPLE MESSAGE

C.3 Content of Criticality Diagnostics

C.3.1 Example 1
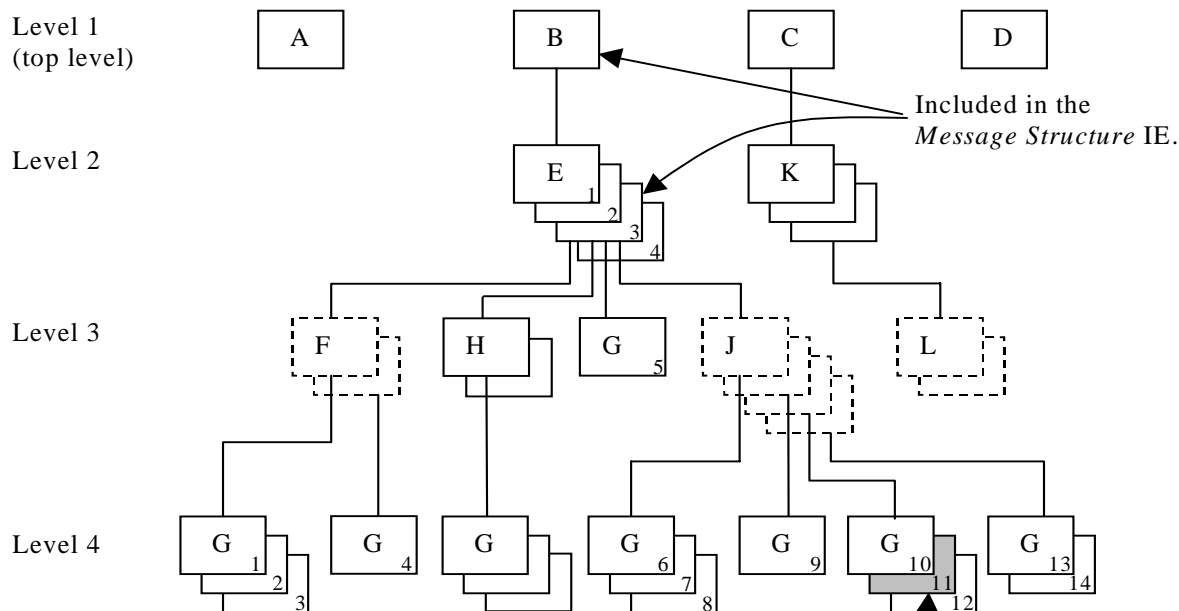
Included in the *Information Element Criticality Diagnostics* IE:
a) *IE ID* IE
b) *Repetition Number* IE

Figure C.2: Example of a received RNSAP message containing a not comprehended IE

If there is an error within the instance marked as grey in the IE G in the IE J shown in the figure C.2 above, this will be reported within the *Information Element Criticality Diagnostics* IE within the *Criticality Diagnostics* IE as follows:

IE name	Value	Comment
IE Criticality	reject	Criticality for IE on the reported level, i.e. level 4.
IE ID	id-G	IE ID from the reported level, i.e. level 4.
Repetition Number	11	Repetition number on the reported level, i.e. level 4. (Since the IE E (level 2) is the lowest level included in the *Message Structure* IE this is the eleventh occurrence of IE G within the IE E (level 2).
Type of Error	not understood	
Message Structure, *first repetition*		
>IE ID	id-B	IE ID from level 1.
Message Structure, *second repetition*		
>IE ID	id-E	IE ID from the lowest level above the reported level, i.e. level 2.
>Repetition Number	3	Repetition number from the lowest level above the reported level, i.e. level 2.

Note 2. The IE J on level 3 cannot be included in the *Message Structure* IE since they have no criticality of their own.

Note 3. The repetition number of the reported IE indicates the number of repetitions of IE G received up to the detected erroneous repetition, counting all occurrences of the IE G below the same instance of the previous level with assigned criticality (instance 3 of IE E on level 2).

C.3.2 Example 2

Included in the *Information Element Criticality Diagnostics* IE:
  a) *IE ID* IE
  b) *Repetition Number* IE
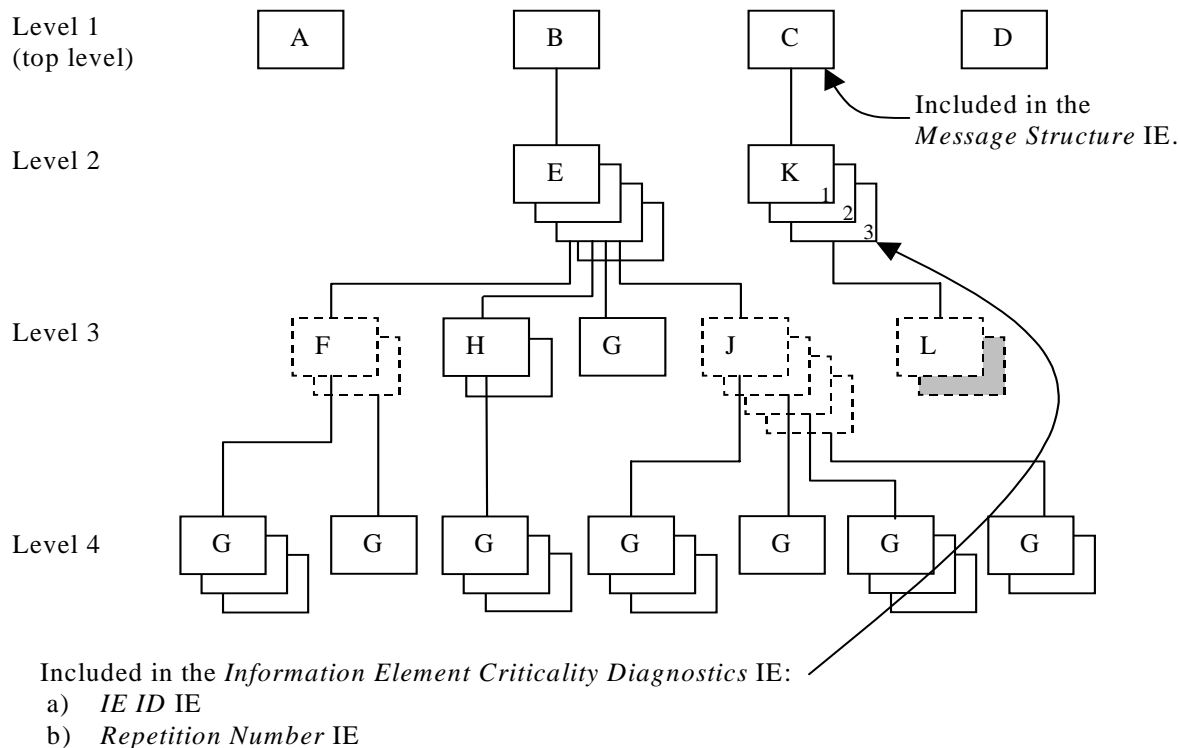
Figure C.3: Example of a received RNSAP message containing a not comprehended IE

If there is an error within the second instance (marked as grey) in the sequence (IE L in the tabular format) on level 3 below IE K in the structure shown in the figure C.3 above, this will be reported within the *Information Element Criticality Diagnostics* IE within the *Criticality Diagnostics* IE as follows:

IE name	Value	Comment
IE Criticality	ignore and notify	Criticality for IE on the reported level, i.e. level 2.
IE ID	id-K	IE ID from the reported level, i.e. level 2.
Repetition Number	3	Repetition number on the reported level, i.e. level 2.
Type of Error	not underst ood	
Message Structure, *first repetition*		
>IE ID	id-C	IE ID from the lowest level above the reported level, i.e. level 1.

  Note 4.   The IE L on level 3 cannot be reported individually included in the *Message Structure* IE since it has no criticality of its own.

C.3.3 Example 3

Included in the *Information Element Criticality Diagnostics* IE:
a) *IE ID* IE
b) *Repetition Number* IE
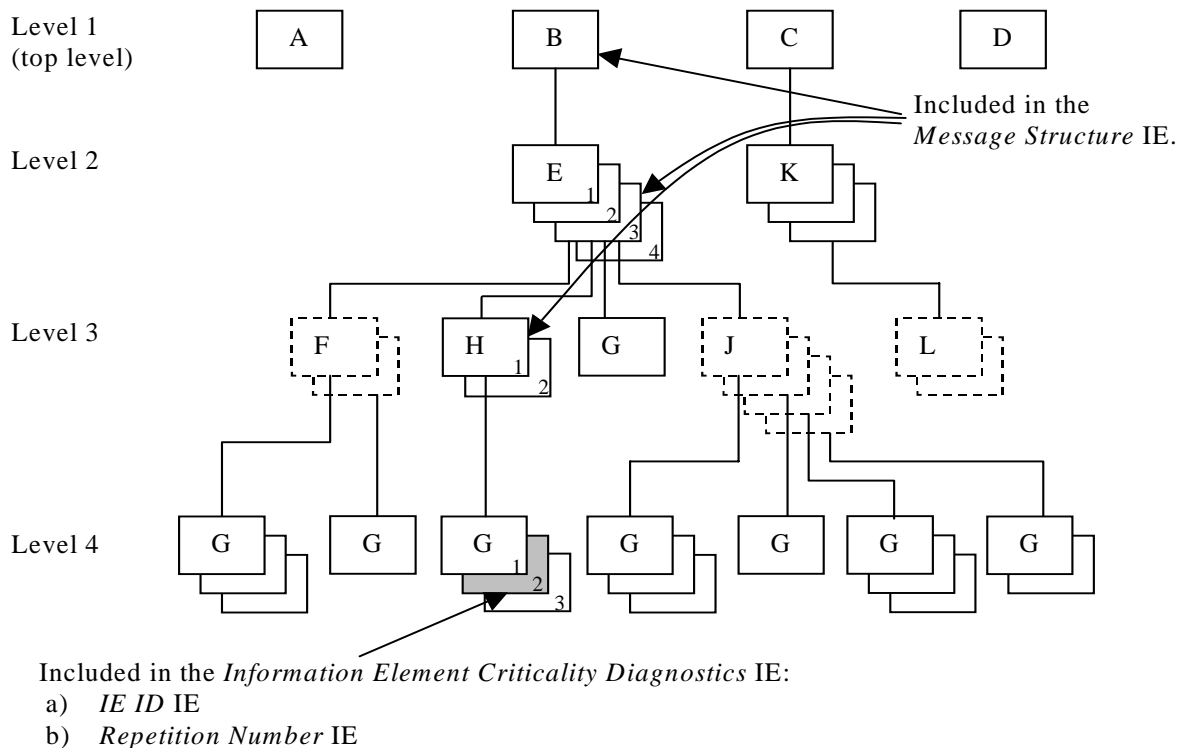
Figure C.4: Example of a received RNSAP message containing a not comprehended IE

If there is an error within the instance marked as grey in the IE G in the IE H shown in the figure C.4 above, this will be reported within the *Information Element Criticality Diagnostics* IE within the *Criticality Diagnostics* IE as follows:

IE name	Value	Comment
IE Criticality	ignore and notify	Criticality for IE on the reported level, i.e. level 4.
IE ID	id-G	IE ID from the reported level, i.e. level 4.
Repetition Number	2	Repetition number on the reported level, i.e. level 4.
Type of Error	not understood	
Message Structure, *first repetition*		
>IE ID	id-B	IE ID from level 1.
Message Structure, *second repetition*		
>IE ID	id-E	IE ID from level 2.
>Repetition Number	3	Repetition number from level 2.
Message Structure, *third repetition*		
>IE ID	id-H	IE ID from the lowest level above the reported level, i.e. level 3.
>Repetition Number	1	Repetition number from the lowest level above the reported level, i.e. level 3.

Note 5. The repetition number of level 4 indicates the number of repetitions of IE G received up to the detected erroneous repetition, counted below the same instance of the previous level with assigned criticality (instance 1 of IE H on level 3).

C.3.4   Example 4
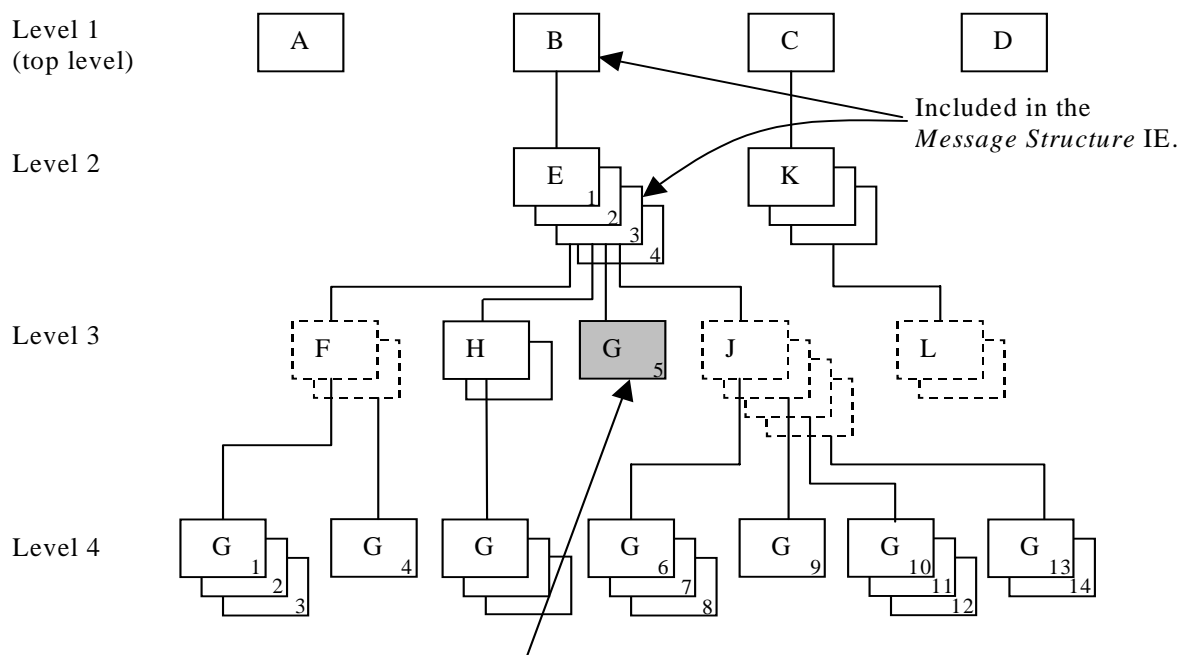
Included in the *Information Element Criticality Diagnostics* IE:
a)   *IE ID* IE
b)   *Repetition Number* IE

Figure C.5: Example of a received RNSAP message containing a not comprehended IE

If there is an error within the instance marked as grey in the IE G in the IE E shown in the figure C.5 above, this will be reported within the *Information Element Criticality Diagnostics* IE within the *Criticality Diagnostics* IE as follows:

IE name	Value	Comment
IE Criticality	reject	Criticality for IE on the reported level, i.e. level 3.
IE ID	id-G	IE ID from the reported level, i.e. level 3.
Repetition Number	5	Repetition number on the reported level, i.e. level 3. (Since the IE E (level 2) is the lowest level included in the *Message Structure* IE this is the fifth occurrence of IE G within the IE E (level 2).
Type of Error	not underst ood	
Message Structure, *first repetition*		
>IE ID	id-B	IE ID from level 1.
Message Structure, *second repetition*		
>IE ID	id-E	IE ID from the lowest level above the reported level, i.e. level 2.
>Repetition Number	3	Repetition number from the lowest level above the reported level, i.e. level 2.

Note 6.   The repetition number of the reported IE indicates the number of repetitions of IE G received up to the detected erroneous repetition, counting all occurrences of the IE G below the same instance of the previous level with assigned criticality (instance 3 of IE E on level 2).

C.3.5   Example 5

Included in the *Information Element Criticality Diagnostics* IE:
a)   *IE ID* IE
b)   *Repetition Number* IE
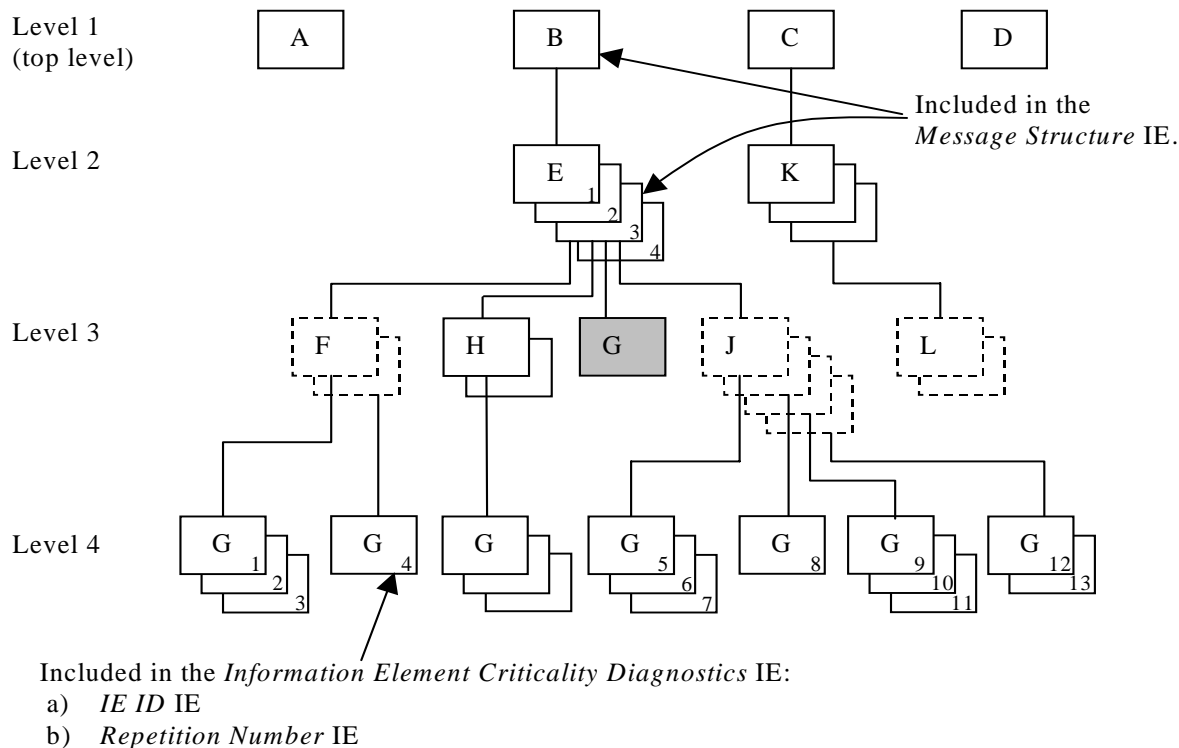
Figure C.6: Example of a received RNSAP message with a missing IE

If the instance marked as grey in the IE G in the IE E shown in the figure C.6 above, is missing this will be reported within the *Information Element Criticality Diagnostics* IE within the *Criticality Diagnostics* IE as follows:

IE name	Value	Comment
IE Criticality	reject	Criticality for IE on the reported level, i.e. level 3.
IE ID	id-G	IE ID from the reported level, i.e. level 3.
Repetition Number	4	Repetition number up to the missing IE on the reported level, i.e. level 3. (Since the IE E (level 2) is the lowest level included in the *Message Structure* IE there have been four occurrences of IE G within the IE E (level 2) up to the missing occurrence.
Type of Error	missing	
Message Structure, *first repetition*		
>IE ID	id-B	IE ID from level 1.
Message Structure, *second repetition*		
>IE ID	id-E	IE ID from the lowest level above the reported level, i.e. level 2.
>Repetition Number	3	Repetition number from the lowest level above the reported level, i.e. level 2.

Note 7.   The repetition number of the reported IE indicates the number of repetitions of IE G received up to but not including the missing occurrence, counting all occurrences of the IE G below the same instance of the previous level with assigned criticality (instance 3 of IE E on level 2).

C.4 ASN.1 of EXAMPLE MESSAGE

```
ExampleMessage ::= SEQUENCE {
    ProtocolIEs         ProtocolIE-Container        {{ExampleMessage-IEs}},
    ProtocolExtensions  ProtocolExtensionContainer  {{ExampleMessage-Extensions}}   OPTIONAL,
    ...
}

ExampleMessage-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-A   CRITICALITY reject  TYPE A  PRESENCE mandatory} |
    { ID id-B   CRITICALITY reject  TYPE B  PRESENCE mandatory} |
    { ID id-C   CRITICALITY reject  TYPE C  PRESENCE mandatory} |
    { ID id-D   CRITICALITY reject  TYPE D  PRESENCE mandatory} ,
    ...
}

B ::= SEQUENCE {
    e               E-List,
    iE-Extensions   ProtocolExtensionContainer { {B-ExtIEs} }   OPTIONAL,
    ...
}

B-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

E-List ::= SEQUENCE (SIZE (1..maxE)) OF ProtocolIE-Single-Container { {E-IEs} }

E-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-E   CRITICALITY ignore  TYPE E  PRESENCE mandatory  }
}

E ::= SEQUENCE {
    f               F-List,
    h               H-List,
    g               G-List1,
    j               J-List,
    iE-Extensions   ProtocolExtensionContainer { {E-ExtIEs} }   OPTIONAL,
    ...
}

E-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

F-List ::= SEQUENCE (SIZE (1..maxF)) OF F

F ::= SEQUENCE {
    g               G-List2 OPTIONAL,
    iE-Extensions   ProtocolExtensionContainer { {F-ExtIEs} }   OPTIONAL,
    ...
}

F-ExtIEs    RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

G-List2 ::= SEQUENCE (SIZE (1..3, ...)) OF ProtocolIE-Single-Container { {G2-IEs} }

G2-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-G   CRITICALITY ignore  TYPE G  PRESENCE mandatory  }
}

H-List ::= SEQUENCE (SIZE (1..maxH)) OF ProtocolIE-Single-Container { {H-IEs} }

H-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-H   CRITICALITY ignore  TYPE H  PRESENCE mandatory  }
}

H ::= SEQUENCE {
    g               G-List3 OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {H-ExtIEs} } OPTIONAL,
    ...
}

H-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}

G-List3 ::= SEQUENCE (SIZE (1..3, ...)) OF ProtocolIE-Single-Container { {G3-IEs} }

G3-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-G   CRITICALITY notify  TYPE G  PRESENCE mandatory  }
}

G-List1 ::= ProtocolIE-Single-Container { {G1-IEs} }

G1-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-G   CRITICALITY reject  TYPE G  PRESENCE mandatory  }
}

J-List ::= SEQUENCE (SIZE (1..maxJ)) OF J

J ::= SEQUENCE {
    g               G-List4 OPTIONAL,
    iE-Extensions   ProtocolExtensionContainer { {J-ExtIEs} }   OPTIONAL,
    ...
}

J-ExtIEs    RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

G-List4 ::= SEQUENCE (SIZE (1..3, ...)) OF ProtocolIE-Single-Container { {G4-IEs} }

G4-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-G   CRITICALITY reject  TYPE G  PRESENCE mandatory  }
}

C ::= SEQUENCE {
    k               K-List,
    iE-Extensions   ProtocolExtensionContainer { {C-ExtIEs} }   OPTIONAL,
    ...
}

C-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

K-List ::= SEQUENCE (SIZE (1..maxK)) OF ProtocolIE-Single-Container { {K-IEs} }

K-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-K   CRITICALITY notify  TYPE K  PRESENCE mandatory  }
}

K ::= SEQUENCE {
    l               L-List,
    iE-Extensions   ProtocolExtensionContainer { {K-ExtIEs} }   OPTIONAL,
    ...
}

K-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

L-List ::= SEQUENCE (SIZE (1..maxL)) OF L

L ::= SEQUENCE {
    m               M   OPTIONAL,
    iE-Extensions   ProtocolExtensionContainer { {L-ExtIEs} }   OPTIONAL,
    ...
}

L-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

ExampleMessage-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

Annex D (normative):
DRNS Behaviour at SRNC or RNSAP Signalling Bearer Failure

This annex describes the DRNC actions in the event of SRNC or RNSAP Signalling Bearer failure when all or some of the UE Contexts related to the SRNC need to be removed in DRNC.

D.1   Detection of SRNC or RNSAP Signalling Bearer/Connection Failure

Termination of all or some of the UE Contexts in DRNC which are related to an SRNC may be triggered due to failure of SRNC, RNSAP Signalling Bearer or the Iur signalling connection of an UE(s).

D.1.1   Termination of all UE Contexts Related to a Specific SRNC

Termination of all UE Contexts in DRNC which are related to a specific SRNC is triggered if the RNSAP Signalling Bearer failure is detected by the RNSAP according to the procedure described in the sub-clause 4.5.1.5.1 of TS 25.420. By "all" UE Contexts, it means all UEs having dedicated and/or common channel resources.

D.1.2   Termination of Specific UE Context

Termination of a specific UE Context in DRNC is triggered for an UE which has dedicated transport channel resources according to the procedure described in the sub-clause 4.5.1.5.2 of TS 25.420.

D.2   DRNC Actions at UE Context Termination

When termination of the UE Context is required, the DRNC shall remove any common and/or dedicated radio resources related to the UE Context. The DRNC shall also initiate release of the dedicated or common user plane resources that were involved in these UE contexts. In addition, if it is possible the DRNC shall release the RRC connection.

Annex E (informative): Change History

TSG RAN#	Version	CR	Tdoc RAN	New Version	Subject/Comment
				Change history	
RAN_06	-	-	RP-99755	3.0.0	Approved at TSG RAN #6 and placed under Change Control
RAN_07	3.0.0	-	RP-000100	3.1.0	Approved at TSG RAN #7
RAN_07	3.0.0	-	RP-000143	3.1.0	Approved at TSG RAN #7
RAN_07	3.0.0	-	RP-000146	3.1.0	Approved at TSG RAN #7
RAN_08	3.1.0	-	RP-000241	3.2.0	Approved at TSG RAN #8
RAN_08	3.1.0	-	RP-000242	3.2.0	Approved at TSG RAN #8
RAN_08	3.1.0	-	RP-000243	3.2.0	Approved at TSG RAN #8
RAN_08	3.1.0	-	RP-000244	3.2.0	Approved at TSG RAN #8
RAN_09	3.2.0	145-149, 151-154, 156-164, 166 167	RP-000379	3.3.0	Approved at TSG RAN #9
RAN_09	3.2.0	168 169 171 173 174 176 178-180 183-193	RP-000380	3.3.0	Approved at TSG RAN #9
RAN_09	3.2.0	194-200-	RP-000381	3.3.0	Approved at TSG RAN #9
RAN_10	3.3.0	202-219, 221-228, 230, 232-239, 241, 243-257, 259, 260, 263-265, 268-272, 274-278, 280, 281	RP-000618 RP-000619 RP-000621 RP-000696	3.4.0	Approved at TSG RAN #10
RAN_11	3.4.0	282-286, 288-293, 295-302, 304-308, 311, 313-319, 329, 332, 334-335	RP-010117 RP-010118	3.5.0	Approved at TSG RAN #11

<table>
<tr><th colspan="8">Change history</th></tr>
<tr><th>Date</th><th>TSG #</th><th>TSG Doc.</th><th>CR</th><th>Rev</th><th>Subject/Comment</th><th>Old</th><th>New</th></tr>
<tr><td>March 01</td><td>11</td><td>RP-010167</td><td>310</td><td></td><td>Approved at TSG RAN #11 and placed under Change Control</td><td>-</td><td>4.0.0</td></tr>
<tr><td>March 01</td><td>11</td><td>RP-010164</td><td>309</td><td></td><td></td><td></td><td></td></tr>
<tr><td>March 01</td><td>11</td><td>RP-010159</td><td>327,32 8,336, 337</td><td></td><td>Approved at TSG RAN #11 and placed under Change Control</td><td>-</td><td>4.0.0</td></tr>
<tr><td>March 01</td><td>11</td><td>RP-010160</td><td>320,32 3,339</td><td></td><td>Approved at TSG RAN #11 and placed under Change Control</td><td>-</td><td>4.0.0</td></tr>
<tr><td>06/2001</td><td>12</td><td>RP-010378</td><td>341,34 3,345, 347,34 9,351, 353,35 5,357, 359</td><td></td><td>Approved at TSG RAN#12</td><td>4.0.0</td><td>4.1.0</td></tr>
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<tr><td>06/2001</td><td>12</td><td>RP-010380</td><td>399,40 3,405, 407,40 9,411, 414</td><td></td><td>Approved at TSG RAN#12</td><td>4.0.0</td><td>4.1.0</td></tr>
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<tr><td>09/2001</td><td>13</td><td>RP-010583</td><td>425</td><td>1</td><td>Correction to the Error handling of the ERROR INDICATION message</td><td>4.1.0</td><td>4.2.0</td></tr>
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<tr><td>09/2001</td><td>13</td><td>RP-010583</td><td>440</td><td>1</td><td>TFCS Correction for TDD</td><td>4.1.0</td><td>4.2.0</td></tr>
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<tr><td>09/2001</td><td>13</td><td>RP-010583</td><td>444</td><td>1</td><td>Error handling of the Erroneously Present Conditional Ies</td><td>4.1.0</td><td>4.2.0</td></tr>
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<tr><td>09/2001</td><td>13</td><td>RP-010584</td><td>475</td><td>2</td><td>Clarification of coordinated DCHs</td><td>4.1.0</td><td>4.2.0</td></tr>
<tr><td>09/2001</td><td>13</td><td>RP-010584</td><td>466</td><td>1</td><td>Clarification on the Time Slot LCR</td><td>4.1.0</td><td>4.2.0</td></tr>
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<tr><td>09/2001</td><td>13</td><td>RP-010584</td><td>470</td><td>1</td><td>Clarification of chapter 10</td><td>4.1.0</td><td>4.2.0</td></tr>
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<tr><td>12/2001</td><td>14</td><td>RP-010855</td><td>480</td><td></td><td>Bitstrings ordering</td><td>4.2.0</td><td>4.3.0</td></tr>
<tr><td>12/2001</td><td>14</td><td>RP-010855</td><td>482</td><td></td><td>Added UTRAN modes in the Semantics Description in IEs in RNSAP messages</td><td>4.2.0</td><td>4.3.0</td></tr>
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03/2003	19	RP-030070	786		Correction for the Information Exchange Initiation procedure	5.4.0	5.5.0
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06/2003	20	RP-030332	815		Alignment of TDD HSDPA parameters to RAN2 and RAN 1.	5.5.0	5.6.0
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06/2003	20	RP-030319	827		Alignment of tables in Information Exchange Initiation procedure description	5.5.0	5.6.0
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06/2003	20	RP-030337	836		Correction for the value range of 'CQI Feedback cycle, k'	5.5.0	5.6.0
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12/2004	26	RP-040435	997	1	Correction to the Assigned Criticality of UL Synchronisation Parameters LCR IE for 1.28Mcps TDD	5.11.0	5.12.0
12/2004	26	RP-040333	1001	-	Correction of reference to "MAC-hs Guaranteed Bit Rate"	5.11.0	5.12.0
12/2004	26	RP-040333	1003	-	Correction of duplicated and misplaced procedure text for RL Addition	5.11.0	5.12.0
12/2004	26	RP-040333	1005	-	Correction to not mention Flexible Hard Split Support Indicator IE in procedure text	5.11.0	5.12.0

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