

ETSI TS 134 108 V3.0.1 (2000-06)

Technical Specification

Universal Mobile Telecommunications System (UMTS); Common Test Environments for User Equipment (UE) Conformance Testing (3G TS 34.108 version 3.0.1 Release 1999)



Reference

RTS/TSGT-0134108UR1

Keywords

UMTS

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

Individual copies of the present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF).

In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status.

Information on the current status of this and other ETSI documents is available at <http://www.etsi.org/tb/status/>

If you find errors in the present document, send your comment to:
editor@etsi.fr

Copyright Notification

No part may be reproduced except as authorized by written permission.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2000.

All rights reserved.

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<http://www.etsi.org/ipr>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

This Technical Specification (TS) has been produced by the ETSI 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under www.etsi.org/key .

Contents

Foreword	8
Introduction	8
1 Scope	9
2 References	9
3 Definitions, symbols and abbreviations	10
3.1 Definitions	10
3.2 Symbols	10
3.3 Abbreviations	10
4 Common requirements of test equipment	11
4.1 General Functional Requirements	11
4.2 Minimum performance levels	12
4.2.1 Supported Cell Configuration	12
4.2.2 RF Performance	12
4.2.2.1 Frequency of Operation	12
4.2.2.2 Power Level Setting Accuracy	13
4.2.2.3 Uplink Power Control	13
4.2.2.4 Uplink Signal Handling	13
4.2.2.5 Uplink Sensitivity	13
5 Reference Test Conditions	13
5.1 Test frequencies	13
5.1.1 FDD Mode Test frequencies	13
5.1.1.1 Standard FDD reference test frequencies	13
5.1.1.2 FDD reference test frequencies for ITU region 2	14
5.1.2 TDD Mode Test frequencies	14
5.1.2.1 Standard TDD reference test frequencies	14
5.1.2.2 TDD reference test frequencies for ITU Region 2	14
5.2 Radio conditions	14
5.2.1 Normal Propagation Condition	14
5.2.2 Static Propagation Condition	15
5.2.3 Multi-Path Fading Propagation Conditions	15
5.2.4 Moving Propagation Conditions	15
5.2.5 Birth-Death propagation conditions	15
5.3 Standard test signals	16
5.4 Signal levels	16
5.4.1 Downlink Signal Levels	16
5.4.2 Uplink Signal Levels	17
5.5 Timers Tolerances	17
6 Reference System Configurations	17
6.1 Simulated network environments	17
6.2 Number of neighbour cells	40
6.2.1 Basic Network	40
6.2.2 Soft Handover Network	40
6.2.3 Hard Handover Network	40
6.2.4 'Roaming' Network	40
6.3 Cell/BS codes etc	40
6.4 Routing/location area	40
6.5 Network options settings	40
6.6 Power control mode	41
6.6.1 Downlink Power Control	41
6.6.1.1 Outer Loop Power Control	41
6.6.1.2 Inner Loop Power Control	41
6.6.2 Uplink Power Control	41
6.6.2.1 Outer Loop Power Control	41

6.6.2.2	Inner Loop Power Control	41
6.7	Tx Diversity modes	41
6.7.1	Non-Diverse Operation	41
6.7.2	Diverse Operation	41
6.8	Compressed Mode Parameters	41
6.8.1	Normal Operation	42
6.8.2	Inter-Frequency Hard Handover	42
6.9	BCCH parameters	42
6.10	Reference Radio Bearer configurations	42
6.10.1	QoS Architecture and RAB attributes	42
6.10.2	RAB and signalling RB	44
6.10.2.1	RABs and signalling RBs	44
6.10.2.2	Combinations of RABs and Signalling RBs	45
6.10.2.3	Example of linkage between RABs and services	49
6.10.2.4	Typical parameter sets	50
6.10.2.4.1	Combinations on DPCH	50
6.10.2.4.2	Combinations on PDSCH and DPCH	111
6.10.2.4.3	Combinations on SCCPCH	114
6.10.2.4.4	Combinations on PRACH	117
7	Generic setup procedures	117
7.1	Basic Generic Procedures	117
7.1.1	UE Test States for Basic Generic Procedures	117
7.1.2	Mobile terminated establishment of Radio Resource Connection	118
7.1.2.1	Initial conditions	118
7.1.2.2	Definition of system information messages	119
7.1.2.3	Procedure	119
7.1.2.4	Specific message contents	119
7.1.2.4.1	PAGING TYPE 1	119
7.1.2.4.2	RRC CONNECTION REQUEST	119
7.1.2.4.3	RRC CONNECTION SETUP	120
7.1.2.4.4	RRC CONNECTION SETUP COMPLETE	120
7.1.3	Radio Bearer Setup Procedure	122
7.1.3.1	Initial conditions	122
7.1.3.2	Definition of system information messages	122
7.1.3.3	Procedure	122
7.1.3.4	Specific message contents	123
7.1.3.4.1	RADIO BEARER SETUP	123
7.1.3.4.2	RADIO BEARER SETUP COMPLETE	123
7.2	Generic setup procedures	123
7.2.1	UE Test States for Generic setup procedures	123
7.2.2	Registration of UE	124
7.2.2.1	Registration on CS	124
7.2.2.1.1	Initial condition	124
7.2.2.1.2	Definition of system information messages	124
7.2.2.1.3	Procedure	124
7.2.2.1.4	Specific message contents	124
7.2.2.2	Registration on PS	124
7.2.2.2.1	Initial condition	124
7.2.2.2.2	Definition of system information messages	125
7.2.2.2.3	Procedure	125
7.2.2.2.4	Specific message contents	125
7.2.3	Call setup	125
7.2.3.1	Generic call set up procedure for mobile terminating circuit switched calls	125
7.2.3.1.1	Initial conditions	125
7.2.3.1.2	Definition of system information messages	125
7.2.3.1.3	Procedure	125
7.2.3.1.4	Specific message contents	126
7.2.3.2	Generic call set-up procedure for mobile originating circuit switched calls	126
7.2.3.2.1	Initial conditions	126
7.2.3.2.2	Definition of system information messages	126
7.2.3.2.3	Procedure	127

7.2.3.2.4	Specific message contents.....	127
7.2.4	Session setup	127
7.2.4.1	Generic session set up procedure for mobile terminating packet switched sessions	127
7.2.4.1.1	Initial conditions	127
7.2.4.1.2	Definition of system information messages	127
7.2.4.1.3	Procedure	128
7.2.4.1.4	Specific message contents.....	128
7.2.4.2	Generic session set up procedure for mobile originating packet switched sessions	128
7.2.4.2.1	Initial conditions	128
7.2.4.2.2	Definition of system information messages	128
7.2.4.2.3	Procedure	129
7.2.4.2.4	Specific message contents.....	129
7.3	Test procedures for RF test.....	129
7.3.1	UE Test States for RF testing	129
7.3.2	Test procedure for TX, RX and Performance Requirement (without handover)	129
7.3.2.1	Initial conditions	129
7.3.2.2	Definition of system information messages.....	129
7.3.2.2	Procedure.....	130
7.3.2.4	Specific message contents	130
7.3.3	Test procedure for Handover.....	130
7.3.4	Test procedure for Measurement Performance Requirement	130
8.	Test USIM Parameters	130
8.1	Introduction.....	130
8.1.1	Definitions.....	130
8.1.2	Definition of the test algorithm for authentication	131
8.2	Default Parameters for the test USIM.....	131
8.3	Default settings for the Elementary Files (EFs).....	132
8.3.1	Contents of the EFs at the MF level	134
8.3.1.1	EF _{DIR}	134
8.3.1.2	EF _{ICCID} (ICC Identity).....	134
8.3.1.3	EF _{PL} (Preferred Languages).....	134
8.3.1.4	EF _{ARR} (Access rule reference)	134
8.3.2	Contents of files at the USIM ADF (Application DF) level.....	134
8.3.2.1	EF _{LI} (Language Indication)	134
8.3.2.2	EF _{IMSI} (IMSI).....	134
8.3.2.3	EF _{Keys} (Cipherring and Integrity Keys)	134
8.3.2.4	EF _{KeysPS} (Cipherring and Integrity Keys for Packet Switched domain).....	134
8.3.2.5	EF _{UPLMNsel} (User PLMN selector)	135
8.3.2.6	EF _{HPLMN} (HPLMN search period).....	135
8.3.2.7	EF _{ACMmax} (ACM maximum value).....	135
8.3.2.8	EF _{UST} (USIM Service Table)	135
8.3.2.9	EF _{ACM} (Accumulated Call Meter)	136
8.3.2.10	EF _{GID1} (Group Identifier Level 1).....	136
8.3.2.11	EF _{GID2} (Group Identifier Level 2).....	136
8.3.2.12	EF _{SPN} (Service Provider Name)	137
8.3.2.13	EF _{PUCT} (Price per Unit and Currency Table).....	137
8.3.2.14	EF _{CBMI} (Cell Broadcast Message identifier selection)	137
8.3.2.15	EF _{ACC} (Access Control Class).....	137
8.3.2.16	EF _{FPLMN} (Forbidden PLMNs).....	137
8.3.2.17	EF _{LOCI} (Location Information)	137
8.3.2.18	EF _{AD} (Administrative Data).....	138
8.3.2.19	Spare.....	138
8.3.2.20	EF _{CBMID} (Cell Broadcast Message Identifier for Data Download).....	138
8.3.2.21	EF _{ECC} (Emergency Call Codes)	138
8.3.2.22	EF _{CBMIR} (Cell Broadcast Message Identifier Range selection)	138
8.3.2.23	EF _{PSLOCI} (Packet Switched location information)	138

8.3.2.24	EF _{FDN} (Fixed Dialling Numbers)	138
8.3.2.25	EF _{SMS} (Short messages)	138
8.3.2.26	EF _{MSISDN} (MSISDN).....	138
8.3.2.27	EF _{SMSP} (Short message service parameters).....	138
8.3.2.28	EF _{SMSS} (SMS status).....	139
8.3.2.29	EF _{SDN} (Service Dialling Numbers)	139
8.3.2.30	EF _{EXT2} (Extension2)	139
8.3.2.31	EF _{EXT3} (Extension3)	139
8.3.2.32	EF _{SMSR} (Short message status reports)	139
8.3.2.33	EF _{ICI} (Incoming Call Information).....	139
8.3.2.34	EF _{OCI} (Outgoing Call Information)	139
8.3.2.35	EF _{ICT} (Incoming Call Timer).....	139
8.3.2.36	EF _{OCT} (Outgoing Call Timer)	139
8.3.2.37	EF _{EXT5} (Extension5)	139
8.3.2.38	EF _{CCP2} (Capability Configuration Parameters 2).....	139
8.3.2.39	EF _{eMLPP} (enhanced Multi Level Precedence and Pre-emption)	139
8.3.2.40	EF _{AAeM} (Automatic Answer for eMLPP Service).....	139
8.3.2.41	EF _{GMSI} (Group identity)	139
8.3.2.42	EF _{Hiddenkey} (Key for hidden phone book entries).....	140
8.3.2.43	Files required for GSM Access.....	140
8.3.2.43.1	EF _{Kc} (GSM Cipherring key Kc).....	140
8.3.2.43.2	EF _{KcGPRS} (GPRS Cipherring key KcGPRS)	140
8.3.2.43.3	EF _{LOCIGPRS} (GPRS location information)	140
8.3.2.43.4	EF _{LOCIGSM} (GSM Location Information).....	140
8.3.2.43.5	EF _{BCCH} (Broadcast Control Channels)	141
8.3.2.44	EF _{BDN} (Barred dialling numbers).....	141
8.3.2.45	EF _{EXT4} (Extension 4)	141
8.3.2.46	EF _{CFMI} (Comparison method information)	141
8.3.2.47	EF _{EST} (Enabled service table).....	141
8.3.2.48	EF _{ACL} (Access point name control list).....	141
8.3.2.49	EF _{DCK} (Depersonalisation control keys)	141
8.3.2.50	EF _{CNL} (Co-operative network list).....	141
8.3.2.51	EF _{COUNT} (Hyperframe number).....	141
8.3.2.52	EF _{COUNTMAX} (Maximum value for hyperframe number).....	141
8.3.2.53	EF _{OPLMNsel} (Operator PLMN selector).....	142
8.3.2.54	EF _{PHPLMNsel} (Preferred HPLMN Access Technology)	142
8.3.2.55	EF _{ARR} (Access rule reference)	142
8.3.3	Contents of DFs at the USIM ADF (Application DF) level.....	142
8.3.3.1	Contents of files at the USIM ADF (Application DF) level	142
8.3.3.1.1	EF _{SAI} (SoLSA Access Indicator)	142
8.3.3.1.2	EF _{SSL} (SoLSA LSA List).....	142
8.3.3.1.3	LSA Descriptor files	142
8.3.3.2	Contents of files at the DF PHONEBOOK level.....	142
8.3.3.2.1	EF _{PBR} (Phone Book Reference file).....	142
8.3.3.2.2	EF _{IAP} (Index Administration Phone book).....	142
8.3.3.2.3	EF _{ADN} (Abbreviated dialling numbers)	142
8.3.3.2.4	EF _{EXT1} (Extension1)	142
8.3.3.2.5	EF _{PBC} (Phone Book Control).....	142
8.3.3.2.6	EF _{GRP} (Grouping file).....	142
8.3.3.2.7	EF _{AAS} (Additional number Alpha String).....	142
8.3.3.2.8	EF _{GAS} (Grouping information Alpha String).....	143
8.3.3.2.9	EF _{ANR} (Additional Number).....	143
8.3.3.2.10	EF _{SNE} (Second Name Entry).....	143

8.3.3.2.11	EFCCP1 (Capability Configuration Parameters 1)	143
8.3.3.2.12	Phone Book Synchronisation	143
8.3.3.2.13	EFEMAIL (E-mail address).....	143
8.3.4	Contents of DFs at the TELECOM level	143
8.3.4.1	EFADN (Abbreviated dialling numbers).....	143
8.3.4.2	EFEXT1 (Extension1).....	143
8.3.4.3	EFCCP1 (Capability Configuration Parameters 1).....	143
8.3.4.4	EFSUME (SetUpMenu Elements).....	144
8.3.4.5	EFARR (Access rule reference)	144
8.3.5	Contents of DFs at the TELECOM level	144
8.3.5.1	Contents of files at the DFGRAPHICS level.....	144
8.3.5.1.1	EFIMG (Image)	144
8.3.5.1.2	Image Instance Data Files	144
8.3.5.2	Contents of files at the DFPHONEBOOK under the DFTELECOM.....	144
8.3.5.2.1	EFCCP (Capability Configuration Parameters)	144
9	Default Message Contents	144
Annex A (informative):	Change history	167

Foreword

This Technical Specification (TS) has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
 - 1 presented to TSG for information;
 - 2 presented to TSG for approval;
 - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

Introduction

The definition of the Conformance Tests for UE in 3G will be a complex task as the complete test suite covers RF, EMC and Protocol aspects of the UE.

Each test requires a Test Environment to be defined in which the UE has to operate to defined standards, constraints and performance. The overall task can be simplified if there are a number of well defined and agreed Common Test Environments where every one can be used for a number of tests. Hence this documents defines testing conditions that are common to several tests avoiding the need to duplicate the same information for every single test.

This document defines default values for a variety of common areas. Where values are not specified in test cases, the defaults in this document will apply. If specified, the test case values will take precedence.

This document addresses the FDD mode as well as the TDD mode. Due to the fact that TDD is not a requirement for release 99, much emphasis has gone in defining the FDD environments. Some TDD definitions have been also included where possible. The TDD mode, however, needs some further studies and refinement in the future.

1 Scope

The present document contains definitions of reference conditions and test signals, default parameters, reference Radio Bearer configurations, common requirements for test equipment and generic set-up procedures for use in UE conformance tests.

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.

- [1] 3G TS 34.123-1: "Mobile Station (MS) conformance specification; Part 1: Protocol conformance specification".
- [2] 3G TS 34.121: "Radio transmission and reception (FDD)".
- [3] 3G TS 34.123-2: "User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification".
- [4] 3G TS 34.124: "Electromagnetic compatibility (EMC) requirements for Mobile terminals and ancillary equipment".
- [5] 3G TS 34.122: "Terminal Conformance Specification; Radio transmission and reception (TDD)".
- [6] 3G TS 34.109: "Logical Test Interface (FDD) Special conformance testing functions".
- [8] 3G TS 25.214: "Physical layer procedures (FDD)".
- [7] 3G TS 25.301 Services Provided by the physical layer
- [9] 3G TR 21.905: "Vocabulary for 3GPP Specifications".
- [10] 3G TR 25.990: "Vocabulary".
- [11] 3G TS 25.101: "UE Transmission and Reception (FDD)".
- [12] 3G TS 25.102: "UE Transmission and Reception (TDD)".
- [13] 3G TS 25.211: "Physical Channels and mapping of Transport Channels onto Physical channels (FDD)".
- [14] 3G TS 25.212 Multiplexing and Channel Coding (FDD)
- [15] 3G TS 23.107 QoS concept and Architecture
- [16] 3G TS 26.110 Codec for Circuit Switched Multimedia Telephony Service; General Description
- [17] 3G TS 29.007 General requirements on interworking between the Public Land Mobile Network (PLMN) and the Integrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN)
- [18] 3G TR 23.910 Circuit Switched Data Bearer Service
- [19] GSMA-ISG: Typical Radio Parameter Sets, version 1.1, IS Doc 049/00, 20 March 2000
- [20] 3G TS 25.104 UTRA (BS)-FDD Radio Transmission and Reception

[21] 3G TS 25.105 UTRA (BS)-TDD Radio Transmission and Reception

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in [9], [10] and the following apply:

Maximum average power	The average transmitter output power obtained over any specified time interval, including periods with no transmission, when the transmit time slots are at the maximum power setting.
-----------------------	--

3.2 Symbols

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

Symbol	Definition
--------	------------

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in [9], [10] and the following apply:

AFC	Automatic Frequency Control
ATT	Attenuator
HYB	Hybrid
I_{oc}	The power spectral density of a band limited white noise source (simulating interference from other cells) as measured at the UE antenna connector.
OBW	Occupied Bandwidth
OCNS	Orthogonal Channel Noise Simulator, a mechanism used to simulate the users or control signals on the other orthogonal channels of a downlink.
RRC	Radio Resource Control (for sub-Layer of layer 3) but also Root-Raised Cosine (for Filter shape)
AM	Acknowledgement mode
BCCH	Broadcast Control Channel
CBS	Cell Broadcast Service
CC	Convolutional coding
CCCH	Common Control Channel
CCTrCH	Coded Composite Transport Channel
CS	Circuit switching
DCCH	Dedicated Control Channel
DL	Downlink
DPCH	Dedicated Physical Channel
DT	Direct transfer
DTCH	Dedicated Traffic Channel

FTM	File tunnelling mode
NAS	Non-access stratum
PRACH	Physical Random Access Channel
PS	Packet switching
RAB	Radio Access Bearer
RB	Radio Bearer
SCCPCH	Secondary Common Control Physical Channel
SMS	Short Message Service
SRB	Signalling RB
SSD	Source statistics descriptor
TC	Turbo coding
TM	Transparent mode
UL	Uplink
UM	Unacknowledgement mode

4 Common requirements of test equipment

Mobile conformance testing can be categorised into 3 distinct areas:

RF Conformance Testing.

EMC Conformance Testing.

Signalling Conformance Testing.

The test equipment required for each category of testing may or not be different, depending on the supplier of the test equipment. However, there will be some generic requirements of the test equipment that are essential for all three categories of test, and these are specified in this sub-clause.

In addition, there will be requirements to test operation in multi-system configurations (eg UTRA plus GSM/DCS1800). However, these would not form a common test equipment requirement for the three test areas and are not considered in this specification.

4.1 General Functional Requirements

Note: This clause has been written such that it does not constrain the implementation of different architectures and designs of test equipment.

All test equipment used to perform conformance testing on a UE shall provide a platform suitable for testing UE's that are either:

- a) FDD Mode, or
- b) TDD Mode, or
- c) both FDD/TDD Modes.

All test equipment shall provide (for the mode(s) supported) the following minimum functionality.

- The capability of emulating a single UTRA cell with the appropriate channels to allow the UE to register on the cell.

- The capability to allow the UE to set up an RRC connection with the System Simulator, and to maintain the connection for the duration of the test.
- The capability (for the specific test):
 - to select and support an appropriate Radio Bearer for the downlink;
 - to set the appropriate downlink power levels;
 - to set up and support the appropriate Radio Bearer for the uplink;
 - to set and control the uplink power levels.

4.2 Minimum performance levels

4.2.1 Supported Cell Configuration

The System Simulator shall provide the capability to simulate at least 1 UTRA cell of the appropriate UTRA Mode, and shall support at least the following channels on the simulated Cell.

Logical Channel	Transport Channel	Physical Channel	Comments
BCCH	BCH	P-CCPCH	This is the Cell Broadcast Channel, transmitted using the Primary Scrambling Code for the Cell
-	-	CPICH	This is the Primary CPICH using the Primary Scrambling Code for the Cell
-	-	P-SCH, S-SCH	Physical Synchronisation Channels
CCCH	FACH	S-CCPCH	Assumed separate physical channel compared to the Paging Channel
PCCH	PCH	S-CCPCH	Assumed separate physical channel compared to Forward Link Access Channel
-	-	PICH	To identify when the UE should access the PCCH for Paging Messages
DTCH	DCH	DPDCH*n	The number of physical channels (n) required as a common test requirement is expected to be 1, but this is <FFS> Note a) the channels are required on the UL and the DL b) there will be a single associated DPCCCH with the DPDCH(s) for Layer 1 signalling
CCCH	RACH	PRACH	The common requirement is for the UE to be able to use the RACH to set up a connection from Idle Mode
-	-	AICH	To signal to the UE that its RACH Preamble has been received and that the Message Part can be transmitted

In the event that the system simulator is capable of simulating more than 1 cell, the minimum requirement is to support Dedicated Channels on only one of the cells.

4.2.2 RF Performance

4.2.2.1 Frequency of Operation

The System Simulator shall be capable of adjusting the Carrier Frequency of the DL channels to any frequency allowed in the DL frequency band. The DL frequency shall be accurate to the level of accuracy set by the core specifications [20] for FDD and [21] for TDD.

4.2.2.2 Power Level Setting Accuracy

The system simulator shall be able to adjust the average power output of the DL Channels to meet the absolute accuracy of the system simulator DL power levels covered in 5.4.1 Downlink Signal Levels.

The system simulator shall be capable of altering the power of the DL Dedicated channels under control of the UE Layer 1 Signalling information.

4.2.2.3 Uplink Power Control

The system simulator shall be able to command the UE to transmit at the maximum level for its power class or a lower level required for specific tests. The system simulator shall also provide the capability of generating the Layer 1 Signalling information to set the power levels of the Uplink Dedicated Channels from the UE to lower levels if required.

4.2.2.4 Uplink Signal Handling

The System Simulator shall not be damaged by a Power Class 1 UE transmitting at the maximum power level permitted in [11].

4.2.2.5 Uplink Sensitivity

The simulator shall be able to receive uplink transmissions from the UE when it is transmitting at the minimum power level defined in [11].

Editor's note: this is obviously a useful feature for the system simulator; however it is <ffs> if it should be an essential common requirement for a protocol test system

5 Reference Test Conditions

5.1 Test frequencies

The test frequencies are based the UMTS frequency bands defined in the core specifications.

To avoid interference with adjacent frequency bands the lowest test frequency (downlink and uplink) needs to be offset upwardly by at least 2.6 MHz since the channel's width is 5 MHz and the raster spacing is 200KHz. Similarly the highest test frequency (downlink and uplink) needs to be offset downwardly by at least 2.6 MHz.

NB: Additional regulations concerning interferences to frequency bands used by different systems may also exist. Those regulations are specific to the country where the test equipment is used and need to be taken into account if they require a higher offset than 2.6 MHz from the edge frequencies.

5.1.1 FDD Mode Test frequencies

UTRA/FDD is designed to operate in either of two paired bands [11]. The second band is used in ITU Region 2. The reference test frequencies for the common test environment for each of the 2 regions are defined in the following tables:

5.1.1.1 Standard FDD reference test frequencies

Test Frequency ID	UARFCN	Frequency of Uplink	Frequency of Downlink
Low Range	9613	1922.6 MHz	2112.6 MHz
Mid Range	9750	1950.0 MHz	2140.0 MHz
High Range	9887	1977.4 MHz	2167.4 MHz

5.1.1.2 FDD reference test frequencies for ITU region 2

Test Frequency ID	UARFCN	Frequency of Uplink	Frequency of Downlink
Low Range	9263	1852.6 MHz	1932.6 MHz
Mid Range	9400	1880 MHz	1960 MHz
High Range	9537	1907.4 MHz	1987.4 MHz

5.1.2 TDD Mode Test frequencies

The reference test frequencies for the common test environment in the TDD [12] Bands are defined in the following tables:

Editor's note: the offset from the edge frequencies have not been defined yet. So the values given are the frequencies at the ends of the spectrum bands.

5.1.2.1 Standard TDD reference test frequencies

Test Frequency ID	Band 1		Band 2	
	UARFCN	Frequency (UL and DL)	UARFCN	Frequency (UL and DL)
Low Range		1900 MHz		2010 MHz
Mid Range		1910 MHz		2017.4 MHz
High Range		1920 MHz		2025 MHz

5.1.2.2 TDD reference test frequencies for ITU Region 2

a)

Test Frequency ID	Band 1		Band 2	
	UARFCN	Frequency (UL and DL)	UARFCN	Frequency (UL and DL)
Low Range		1850 MHz		1930 MHz
Mid Range		1880 MHz		1960 MHz
High Range		1910 MHz		1990 MHz

b)

Test Frequency ID	UARFCN	Frequency (UL and DL)
Low Range		1910 MHz
Mid Range		1920 MHz
High Range		1930 MHz

5.2 Radio conditions

There are a number of radio propagation conditions defined in [11] which may be required for a number of tests and hence can be considered as Common Conditions.

NB: The System Simulator is required to support at least the normal Propagation Condition; support of the other propagation conditions is optional, depending on the specific test supported by the simulator

5.2.1 Normal Propagation Condition

This condition provides a connection between the System Simulator that is effectively free from Additive White Gaussian Noise, and where there are no fading or multipath effects. This condition will be used for Signalling tests.

5.2.2 Static Propagation Condition

The propagation for the static performance measurement is an Additive White Gaussian Noise (AWGN) environment. No fading and multi-paths exist for this propagation model.

Note: It is assumed that the AWGN condition will be simulated by I_{oc} .

5.2.3 Multi-Path Fading Propagation Conditions

Table 1 shows propagation conditions that are used for simulating operation in multi-path fading environments. All taps have classical Doppler spectrum.

Table 1: Propagation Conditions for Multi path Fading Environments

Case 1, speed 3km/h		Case 2, speed 3 km/h		Case 3, 120 km/h	
Relative Delay [ns]	Average Power [dB]	Relative Delay [ns]	Average Power [dB]	Relative Delay [ns]	Average Power [dB]
0	0	0	0	0	0
976	-10	976	0	260	-3
		20000	0	521	-6
				781	-9

5.2.4 Moving Propagation Conditions

The conditions that are used for simulating operation in a moving propagation environment consist of a fading channel model. The moving propagation environment has two taps, one static, Path0, and one moving, Path1. The time difference between the two paths is according Equation (1).

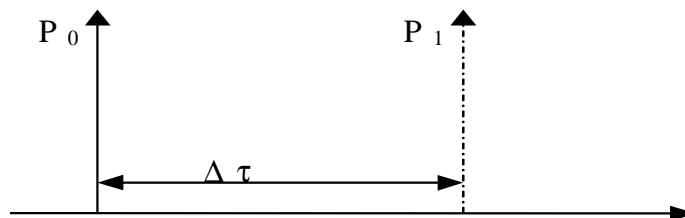


Figure 1: The moving propagation conditions

$$\Delta\tau = \left(1 + \frac{A}{2} (1 + \sin(\Delta\omega \cdot t)) \right) \mu\text{s} \tag{1}$$

The parameters in the equation are shown in.

A	5 μs
$\Delta\omega$	$40 \cdot 10^{-3} \text{ s}^{-1}$

5.2.5 Birth-Death propagation conditions

The conditions that are used for simulating operation in a birth-death environment consist of a fading channel with two taps. The simulated environment has two taps, Path1 and Path2 which alternate between ‘birth’ and ‘death’. The positions the paths appear are randomly selected with an equal probability rate and is shown in Figure 1.

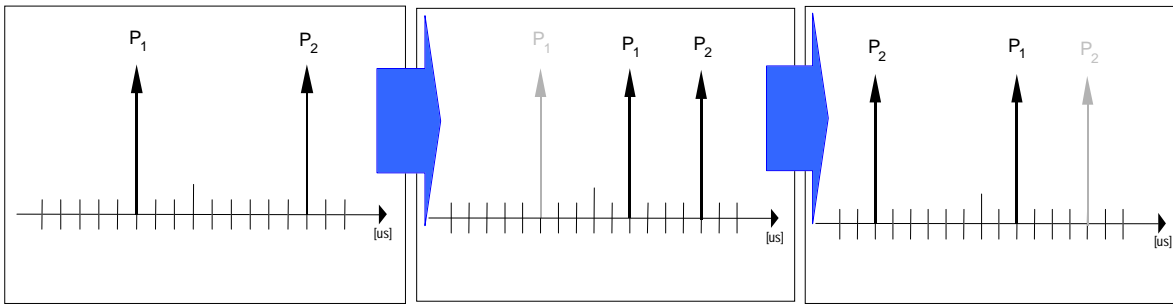


Figure 2: Birth death propagation sequence

Note:

1. Two paths, Path1 and Path2 are randomly selected between $-5\mu\text{s}$ and $+5\mu\text{s}$.
2. After 191 ms, Path1 vanishes and reappears immediately at a new location randomly selected between $-5\mu\text{s}$ and $+5\mu\text{s}$ but excludes the point Path2.
3. After an additional 191 ms, Path2 vanishes and reappears immediately at a new location randomly selected between $-5\mu\text{s}$ and $+5\mu\text{s}$ but excludes the point Path1.

The sequence in 2) and 3) is repeated.

5.3 Standard test signals

Reference [11] and [12] for definitions of standard test signals.

5.4 Signal levels

5.4.1 Downlink Signal Levels

The System Simulator shall be capable of controlling the absolute power level of the DL channels so that the UE is presented with the agreed Ideal Radio conditions unless the specific test requires different conditions.

Maximum Input Level: $\text{DPCH_Ec/I}_{\text{or}} = -19 \text{ dB}$

$$I_{\text{or}} = -25 \text{ dBm}/3.84 \text{ MHz}$$

Physical Channel	Power Level at UE Antenna Connector		
	Normal Radio Conditions	Sensitivity Conditions	Maximum Signal Conditions
P-CCPCH	FFS	-112 dBm \pm 1dB	-37 dBm \pm 1dB
S-CCPCH (FACH)	FFS	FFS	FFS
S-CCPCH (PCH)	FFS	FFS	FFS
Primary CPICH	FFS	-110 dBm \pm 1dB	-35 dBm \pm 1dB
Secondary CPICH	N/A	N/A	N/A
SCH	FFS	-112 dBm \pm 1 dB	-37 dBm \pm 1dB
PICH	FFS	-115 dBm \pm 1dB	-40 dBm \pm 1dB
DPCH	FFS	-117 dBm \pm 1dB	-44 dBm \pm 1dB
n*DPCH	FFS	FFS	FFS
OCNS	N/A	Necessary power so that total transmit power (I _{or}) adds to one, assuming that P-CCPCH_Ec/I _{or} = -12(TBC) dB	

Remark: The Secondary CPICH and AICH channels are not needed for RF testing hence power values are not needed.

5.4.2 Uplink Signal Levels

Physical Channel	Power Level at UE Tx Antenna Connector	
	Ideal Radio Conditions	Maximum Signal Conditions
PCPCH	FFS	FFS
PRACH	FFS	FFS
DPCCH + n DPDCH	FFS	FFS

5.5 Timers Tolerances

All the timers used during testing are within a tolerance margin of $\pm 10\%$. If for a specific test a different tolerance value is required then this should be specified in the relevant test document (document where test is described).

6 Reference System Configurations

This clause defines a number of Reference System Configurations which can be used for different tests.

6.1 Simulated network environments

The UE will eventually have to operate in either single mode networks (FDD or TDD) and dual mode networks (FDD+TDD).

This version of the specification covers the simulation of the Single Mode FDD Network only to align with the Release 99 requirements. It will need to be extended in a later version to cover the Single Mode TDD network case. It is <ffs> whether a reference environment needs to be defined for multi-mode networks (eg: the environment could be created by combining two appropriate reference environments from the single mode cases).

The following tables list the default parameters for 1 to 8 cell environments for testing.

Contents of Master Information Block PLMN type is the case of GSM-MAP

- MIB value tag	1 (1 to 8)
- Supported PLMN types	
- PLMN type	GSM-MAP
- PLMN identity(GSM-MAP)	
- MCC digit	Mobile Country Code(3 digit) According to the contents of USIM.
- MNC digit	Mobile Network Code(2-3 digit) According to the contents of USIM.
- ANSI-41 Core Network information	Not Present
- P_REV(Protocol revision level)	
- MIN_P_REV(Minimum protocol revision level)	
- SID(System identification)	
- NID(Network identification)	
- References to other system information blocks	
- Scheduling information	
- SIB type	Type2
- PLMN Value tag	1(1 to 256)
- Cell Value tag	Not Present
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type3
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type4
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type5
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type6
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type7
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type8
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type9
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)

- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type10
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type11
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type12
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type13
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type13.1
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type13.2
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type13.3
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type13.4
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type14
- PLMN Value tag	Not Present
- Cell Value tag	1 (1 to 4)
- SEG_COUNT	
- SIB_REP	
- SIB_POS	
- SIB_OFF	
- SIB type	Type15
- PLMN Value tag	Not Present

<ul style="list-style-type: none">- Cell Value tag- SEG_COUNT- SIB_REP- SIB_POS- SIB_OFF- SIB type- PLMN Value tag- Cell Value tag- SEG_COUNT- SIB_REP- SIB_POS- SIB_OFF	<p>1 (1 to 4)</p> <p>Type16 Not Present 1 (1 to 4)</p>
---	---

Contents of System Information Block type1 PLMN type is the case of GSM-MAP

- CN common GSM-MAP NAS system information	
- GSM-MAP NAS system information	Use Location Area Information IE for GSM
- MCC digit	Mobile Country Code(3 digit)
	According to the contents of USIM.
- MNC digit	Mobile Network Code(2-3 digit)
	According to the contents of USIM.
- Location area code	0001H
- CN domain system information	
- CN domain identity	PS
- GSM-MAP NAS system information	T.B.D
- Location area code	
- CN domain system information	
- CN domain identity	CS
- GSM-MAP NAS system information	T.B.D
- CN domain specific DRX cycle length coefficient	
-DRX cycle length coefficient	5
- UE Timers and constants in idle mode	
-T300	5
-N300	3
-T312	10
- N312	200

Contents of System Information Block type2

- URA identity	0000 0000 0000 0001B
- UE Timers and constants in connected mode	
- T301	5 (1 to 8 seconds: waiting for RRC CONNECTION RE-ESTABLISHMENT message)
- T302	5 (1 to 8 seconds: waiting for CELL UPDATE CONFIRM message)
- N302	3 (1 to 8: the re-transmission number of CELL UPDATE message)
- T303	5 (1 to 8 seconds: waiting for URA UPDATE CONFIRM message)
- N303	3 (1 to 8: the re-transmission number of URA UPDATE message)
- T304	1000 (100, 200, 400, 1000, 2000 millisecond: waiting for UE CAPABILITY INFORMATION CONFIRM message)
- N304	3 (1 to 8: the re-transmission number of UE CAPABILITY INFORMATION message)
- T305	60 (infinity,5,10,30,60,120,360,720minutes: waiting for cell update in CELL_PCH or CELL_FACH)
- T306	120 (infinity,5,10,30,60,120,360,720minutes waiting for cell update in URA_PCH)
- T307	50 (5, 10, 15, 20, 30, 40, 50 seconds: waiting for entering to idle state if the UE is out of service area)
- T308	320(40, 80, 160, 320 milliseconds: waiting for re-transmission of RRC CONNECTION RELEASE COMPLETE message)
- T309	8 (1 to 8 seconds: waiting for inter-system cell re-selection)
- T310	320 (40 to 320 milliseconds by step of 40)
- N310	5 (1 to 8)
- T311	320 (250 to 2000 milliseconds by step 250)
- T312	5 (0 to 15 seconds: waiting for the detection of physical channel failure)
- N312	200 (1, 50, 100, 200, 400, 600, 800, 1000)
- T313	10 (0 to 15 seconds: waiting for the detection of radio link failure)
- N313	400 (1, 50, 100, 200, 400, 600, 800, 1000)
- T314	20(0, 2,4,6,8,12,16,20 seconds)
- T315	30(0, 10, 30, 60, 180, 600, 1200, 1800 seconds)
- N315	200 (1, 50, 100, 200, 400, 600, 800, 1000)

Contents of System Information Block type3

- References to other system information blocks	Not Present
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- Mapping info	
- RAT	UTRA FDD
- Mapping Function Parameter List	Not Present
- Function type	
- Map_parameter_1	
- Map_parameter_2	
- Upper_limit	
- Cell selection_and_reselection_quality_measure	CPICH Ec/N0
- Sintrasearch	16[dB] (-32 to 20 by step of 2 TS25.304)
- Sintersearch	16[dB] (-32 to 20 by step of 2 TS25.304)
- SsearchHCS	10[dB] (-32 to 20 by step of 2 TS25.304)
- RAT List	Not Present
- RAT identifier	
- Ssearch,RAT	
- SHCS,RAT	
- Qhysts	0[dB] (0 to 40 by step of 2)
- Treselections	T.B.D ([s] 0 to 31)
- HCS Serving cell information	
- HCS_PRIO	0 (0 to 7)
- QHCS	0 (0 to 99)
- TCR _{MAX}	Not used (not used, 30, 60, 120, 180, 240)
- NCR	Not Present
- TCMA _{Hyst}	Not Present
- Maximum allowed UL TX power	33dBm
- Qmin	T.B.D
- Cell Access Restriction	
- Cell barred	Not barred
- Cell Reserved for operator use	Not reserved
- Cell Reserved for SoLSA exclusive use	Not reserved
- Access Class Barred0	Not barred
- Access Class Barred1	Not barred
- Access Class Barred2	Not barred
- Access Class Barred3	Not barred
- Access Class Barred4	Not barred
- Access Class Barred5	Not barred
- Access Class Barred6	Not barred
- Access Class Barred7	Not barred
- Access Class Barred8	Not barred
- Access Class Barred9	Not barred
- Access Class Barred10	Not barred
- Access Class Barred11	Not barred
- Access Class Barred12	Not barred
- Access Class Barred13	Not barred
- Access Class Barred14	Not barred
- Access Class Barred15	Not barred

Contents of System Information Block type4 In connected mode (similar to SIB type3)

- References to other system information blocks	Not Present
- Cell identity	0000 0000 0000 0000 0000 0000 0001B
- Cell selection and re-selection info	
- RAT	UTRA FDD
- Mapping Function Parameter List	Not Present
- Function type	
- Map_parameter_1	
- Map_parameter_2	
- Upper_limit	
-	
Cell_selection_and_reselection_quality_measur e	CPICH Ec/N0
- Sintrasearch	16[dB] (-32 to 20 by step of 2 TS25.304)
- Sintersearch	16[dB] (-32 to 20 by step of 2 TS25.304)
- SsearchHCS	10[dB] (-32 to 20 by step of 2 TS25.304)
- RAT List	
- RAT identifier	Not Present
- Ssearch,RAT	
- SHCS,RAT	
- Qhysts	T.B.D ([dB] 0 to 40 by step of 2)
- Treselections	T.B.D ([s] 0 to 31)
- HCS Serving cell information	
- HCS_PRIO	0 (0 to 7)
- QHCS	0 (0 to 99)
- TCR _{MAX}	Not used (not used, 30, 60, 120, 180, 240)
- NCR	Not Present
- TCMA _{Hyst}	Not Present
- Maximum allowed UL TX power	33dBm
- Qmin	T.B.D
- Cell Access Restriction	
- Cell barred	Not barred(not barred, barred)
- Access Class Barred	Not barred(not barred, barred)
- Cell Reserved for operator use	Not reserved(reserved, not reserved)
- Cell Reserved for SoLSA exclusive use	Not reserved(reserved, not reserved)
- Access Class Barred0	Not barred
- Access Class Barred1	Not barred
- Access Class Barred2	Not barred
- Access Class Barred3	Not barred
- Access Class Barred4	Not barred
- Access Class Barred5	Not barred
- Access Class Barred6	Not barred
- Access Class Barred7	Not barred
- Access Class Barred8	Not barred
- Access Class Barred9	Not barred
- Access Class Barred10	Not barred
- Access Class Barred11	Not barred
- Access Class Barred12	Not barred
- Access Class Barred13	Not barred
- Access Class Barred14	Not barred
- Access Class Barred15	Not barred

Contents of System Information Block type5

- References to other system information blocks	Not Present
- Frequency info	
- UARFCN uplink(Nu)	Reference to clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to clause 6.10 Parameter Set
- Maximum allowed UL TX power	33dBm
- Primary CCPCH info	
- TX Diversity indicator	FALSE
- PRACH system information	
- PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
- RACH TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- RACH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor β_c	0
- Gain factor β_d	0
- Power offset Pp-m	0dB
- PRACH partitioning	
- Available signature Start Index	0 (ASC#0)
- Available signature End Index	7 (ASC#0)
- Available sub-channel Start Index	0 (ASC#0)
- Available sub-channel End Index	11 (ASC#0)
- Available signature Start Index	0 (ASC#1)

- Available signature End Index	7 (ASC#1)
- Available sub-channel Start Index	0 (ASC#1)
- Available sub-channel End Index	10 (ASC#1)
- Available signature Start Index	0 (ASC#2)
- Available signature End Index	7 (ASC#2)
- Available sub-channel Start Index	0 (ASC#2)
- Available sub-channel End Index	9 (ASC#2)
- Available signature Start Index	0 (ASC#3)
- Available signature End Index	7 (ASC#3)
- Available sub-channel Start Index	0 (ASC#3)
- Available sub-channel End Index	8 (ASC#3)
- Available signature Start Index	0 (ASC#4)
- Available signature End Index	7 (ASC#4)
- Available sub-channel Start Index	0 (ASC#4)
- Available sub-channel End Index	7 (ASC#4)
- Available signature Start Index	0 (ASC#5)
- Available signature End Index	7 (ASC#5)
- Available sub-channel Start Index	0 (ASC#5)
- Available sub-channel End Index	6 (ASC#5)
- Available signature Start Index	0 (ASC#6)
- Available signature End Index	7 (ASC#6)
- Available sub-channel Start Index	0 (ASC#6)
- Available sub-channel End Index	5 (ASC#6)
- Available signature Start Index	0 (ASC#7)
- Available signature End Index	7 (ASC#7)
- Available sub-channel Start Index	0 (ASC#7)
- Available sub-channel End Index	4 (ASC#7)
- Persistence scaling factor	
- Persistence scaling factor	0.9 (for ASC#2)
- Persistence scaling factor	0.9 (for ASC#3)
- Persistence scaling factor	0.9 (for ASC#4)
- Persistence scaling factor	0.9 (for ASC#5)
- Persistence scaling factor	0.9 (for ASC#6)
- Persistence scaling factor	0.9 (for ASC#7)
- AC-to-ASC mapping table	
- AC-to-ASC mapping	6 (AC0-9)
- AC-to-ASC mapping	5 (AC10)
- AC-to-ASC mapping	4 (AC11)
- AC-to-ASC mapping	3 (AC12)
- AC-to-ASC mapping	2 (AC13)
- AC-to-ASC mapping	1 (AC14)
- AC-to-ASC mapping	0 (AC15)
- Primary CPICH DL TX power	Reference to clause 6.10 Parameter Set
- Constant value	Reference to clause 6.10 Parameter Set
- PRACH power offset	
- Power offset P0	3dB
- Preamble Retrans Max	2
- RACH transmission parameters	
- Mmax	2
- NB01min	3 slot
- NB01max	10 slot
- AICH info	
- Secondary scrambling code	1 (1 to 15)
- Channelisation code	SF-1(SF is reference to clause 6.10 Parameter Set)
- STTD indicator	FALSE
- AICH transmission timing	0
- Secondary CCPCH system info	
- Secondary CCPCH info	
- Selection indicator	On
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- Channelisation code	
- STTD indicator	
- Secondary scrambling code	1
- STTD indicator	FALSE
- Spreading factor	Reference to clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE

- TFCI existence	TRUE
- Fixed or Flexible position	Flexible
- Timing offset	0
- TFCS	(This IE is repeated for TFC number for PCH and FACH.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- CTFC	
- Gain factor information	0
- Gain factor β_c	0
- Gain factor β_d	0dB
- Power offset Pp-m	
- FACH/PCH information	
- TFS	(PCH)
- Dynamic Transport format information	(This IE is repeated for TFI number.)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Octet mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- TFS	(FACH)
- Dynamic Transport format information	(This IE is repeated for TFI number.)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Octet mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- CTCH indicator	FALSE
- PICH info	
- Secondary scrambling code	2
- Channelisation code	SF-1(SF is reference to clause 6.10 Parameter Set)
- Number of PI per frame	18
- STTD indicator	FALSE
- CBS DRX Level 1 information	Not Present

Contents of System Information Block type6 In connected mode (similar to SIB type5)

- References to other system information blocks	Not Present
- Frequency info	
- UARFCN uplink(Nu)	Reference to clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to clause 6.10 Parameter Set
- Maximum allowed UL TX power	33dBm
- Primary CCPCH info	
- TX Diversity indicator	FALSE
- PICH power offset	0 dB
- AICH power offset	0 dB
- PRACH system information	
- PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
- PRACH TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- PRACH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor β_c	0
- Gain factor β_d	0
- Power offset Pp-m	0dB
- PRACH partitioning	
- Available signature Start Index	0 (ASC#0)
- Available signature End Index	7 (ASC#0)
- Available sub-channel Start Index	0 (ASC#0)

- Available sub-channel End Index	11 (ASC#0)
- Available signature Start Index	0 (ASC#1)
- Available signature End Index	7 (ASC#1)
- Available sub-channel Start Index	0 (ASC#1)
- Available sub-channel End Index	10 (ASC#1)
- Available signature Start Index	0 (ASC#2)
- Available signature End Index	7 (ASC#2)
- Available sub-channel Start Index	0 (ASC#2)
- Available sub-channel End Index	9 (ASC#2)
- Available signature Start Index	0 (ASC#3)
- Available signature End Index	7 (ASC#3)
- Available sub-channel Start Index	0 (ASC#3)
- Available sub-channel End Index	8 (ASC#3)
- Available signature Start Index	0 (ASC#4)
- Available signature End Index	7 (ASC#4)
- Available sub-channel Start Index	0 (ASC#4)
- Available sub-channel End Index	7 (ASC#4)
- Available signature Start Index	0 (ASC#5)
- Available signature End Index	7 (ASC#5)
- Available sub-channel Start Index	0 (ASC#5)
- Available sub-channel End Index	6 (ASC#5)
- Available signature Start Index	0 (ASC#6)
- Available signature End Index	7 (ASC#6)
- Available sub-channel Start Index	0 (ASC#6)
- Available sub-channel End Index	5 (ASC#6)
- Available signature Start Index	0 (ASC#7)
- Available signature End Index	7 (ASC#7)
- Available sub-channel Start Index	0 (ASC#7)
- Available sub-channel End Index	4 (ASC#7)
- Persistence scaling factor	
- Persistence scaling factor	0.9 (for ASC#2)
- Persistence scaling factor	0.9 (for ASC#3)
- Persistence scaling factor	0.9 (for ASC#4)
- Persistence scaling factor	0.9 (for ASC#5)
- Persistence scaling factor	0.9 (for ASC#6)
- Persistence scaling factor	0.9 (for ASC#7)
- AC-to-ASC mapping table	Not Present
- AC-to-ASC mapping	
- AC-to-ASC mapping	
- AC-to-ASC mapping	
- AC-to-ASC mapping	
- AC-to-ASC mapping	
- AC-to-ASC mapping	
- AC-to-ASC mapping	
- Primary CPICH DL TX power	Reference to clause 6.10 Parameter Set
- Constant value	Reference to clause 6.10 Parameter Set
- PRACH power offset	
- Power offset P0	3dB
- Preamble Retrans Max	2
- RACH transmission parameters	
- Mmax	2
- NB01min	3 slot
- NB01max	10 slot
- AICH info	
- Secondary scrambling code	1 (1 to 15)
- Channelisation code	SF-1(SF is reference to clause 6.10 Parameter Set)
- STTD indicator	FALSE
- AICH transmission timing	0
- Secondary CCPCH system info	
- Secondary CCPCH info	
- Selection indicator	On
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- Channelisation code	
- STTD indicator	
- Secondary scrambling code	1
- STTD indicator	FALSE
- Spreading factor	Reference to clause 6.10 Parameter Set

- Code number	Reference to clause 6.10 Parameter Set
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible position	Flexible
- Timing offset	0
- TFCS	(This IE is repeated for TFC number for PCH and FACH.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor β_c	0
- Gain factor β_d	0
- Power offset Pp-m	0dB
- FACH/PCH information	
- TFS	(PCH)
- Dynamic Transport format information	(This IE is repeated for TFI number.)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Octet mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- TFS	(FACH)
- Dynamic Transport format information	(This IE is repeated for TFI number.)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Octet mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- CTCH indicator	FALSE
- PICH info	
- Secondary scrambling code	2
- Channelisation code	SF-1(SF is reference to clause 6.10 Parameter Set)
- Number of PI per frame	18
- STTD indicator	FALSE
- CBS DRX Level 1 information	Not Present

Contents of System Information Block type7

- UL interference	-100dBm(-110 to -70 dBm)
- PRACHs listed in system information block type5	
- Dynamic persistence level	2 (1 to 8)
- PRACHs listed in system information block type6	
- Dynamic persistence level	2 (1 to 8)

Contents of System Information Block type8,9

This information is used for static CPCH in the cell, so this is not present.

Contents of System Information Block type10

This information is used for DRAC, so this is not present.

Contents of System Information Block type11

- References to other system information blocks	Not Present
- FACH measurement occasion info	Not Present
- k_UTRA	
- Other RAT present in intersystem cell info	
- RAT type	
- k_Intrr_Rat	
- Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity number	0
- Intra-frequency cell info list	
- Removed intra-frequency cells	Not Present
- Intra-frequency cell id	
- New intra-frequency cells	
- Intra-frequency cell id	0
- Cell info	
- Cell individual offset	0dB(-10,-9.5...10 by step of 0.5)
- Reference time difference to cell	Not Present(-153088,152576...153088 by step of 512)
- Primary CPICH info	
- Primary scrambling code	The current value plus 50(When the current cell is cell No.8 then minus 50)
- Primary CPICH TX power	Not Present
- Read SFN indicator	TRUE
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info for SIB11/12	
- Qoffset _{s,n}	T.B.D
- Maximum allowed UL TX power	33dBm
- HCS neighbouring cell information	Not Present
- HCS_PRIO	
- QHCS	
- HCS Cell Re-selection information	
- Penalty time	
- Temporary_offset	
- Qmin	T.B.D
- Intra-frequency measurement quantity	
- Filter coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity for RACH Reporting	
-SFN-SFN observed time difference	No report
- Reporting quantity	No report
- Maximum number of reported cells on RACH	No report
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/N0	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	TRUE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/N0	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for unlisted set cells	Not Present
- SFN-SFN observed time difference	
- Cell identity	
- CPICH Ec/N0	
- CPICH RSCP	

- Pathloss	
- CFN-SFN observed time difference	
- Intra-frequency measurement reporting criteria	
- parameters required for each event	
- intra-frequency event identity	1a
- Triggering condition(mandatory in case of 1a,1b,1e,1f)	monitored set cells
- Reporting Range(optional in case of 1a,1b)	5dB
- cells forbidden to affect reporting range(optional in case of 1a,1b)	Not Present
- Primary CPICH info	
- Primary scrambling code	
- W(optional in case of 1a,1b)	1.0
- Hysteresis (mandatory in case of 1a,1b,1c,1d,1g,1h,1i,1j)	0.0
- Threshold used frequency (in case of 1e,1f,1h,1i,1j)	T.B.D(-125..165)
- Reporting deactivation threshold(mandatory in case of 1a)	1
- Replacement activation threshold(mandatory in case of 1c)	Not Present(not applicable,1,2,3,4,5,6,7)
- Reporting Threshold	T.B.D. (-115 ... 125)
- Time to trigger	640(0,10,20,40,60,80,100,120,160,200,240,320,640,1280,2560,5000)
- Amount of reporting	Infinity(1,2,4,816,32,64,Infinity)
- Reporting interval	0(0,250,500,1000,2000,4000,8000,16000 milliseconds)
- Reporting cell status	Not Present
- Inter-frequency measurement system information	Not Present
- Inter-frequency measurement identity number	
- Inter-frequency cell info list	
- Removed inter-frequency cells	
- Inter-frequency cell id	
- New inter-frequency cells	
- Inter-frequency cell id	
- Frequency info	
- UARFCN uplink(Nu)	
- UARFCN downlink(Nd)	
- Cell info	
- Cell individual offset	
- Reference time difference to cell	
- Primary CPICH info	
- Primary scrambling code	
- Primary CPICH TX power	
- Read SFN indicator	
- TX Diversity indicator	
- Cell Selection and Re-selection info	
- Qoffsets,n	
- Maximum allowed UL TX power	
- HCS neighbouring cell information	
- HCS_PRIO	
- QHCS	
- HCS Cell Re-selection information	
- Penalty time	
- Temporary_offset	
- Qmin	
- Inter-frequency measurement quantity	
- Intra-frequency reporting criteria	
- Intra-frequency measurement quantity	
- Filter coefficient	
- Measurement quantity	
- Inter-frequency reporting criteria	
- Inter-frequency measurement quantity	
- Filter coefficient	
- Measurement quantity for frequency quality estimate	

- Inter-frequency measurement reporting criteria	
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

Contents of System Information Block type12 in connected mode (similar to SIB type11)

- References to other system information blocks	Not Present
- FACH measurement occasion info	Not Present
- k_UTRA	
- Other RAT present in intersystem cell info	
- RAT type	
- k_Intrrer_Rat	
- Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity number	0
- Intra-frequency cell info list	
- Removed intra-frequency cells	Not Present
- Intra-frequency cell id	
- New intra-frequency cells	
- Intra-frequency cell id	0
- Cell info	
- Cell individual offset	0dB(-10,-9.5...10 by step of 0.5)
- Reference time difference to cell	Not Present(-153088,152576...153088 by step of 512)
- Primary CPICH info	
- Primary scrambling code	The current value plus 50(When the current cell is cell No.8 then minus 50)
- Primary CPICH TX power	Not Present
- Read SFN indicator	TRUE
- TX Diversity indicator	FALSE
- Cell Selection and Re-selection info for SIB11/12	
- Qoffset _{s,n}	T.B.D
- Maximum allowed UL TX power	33dBm
- HCS neighbouring cell information	Not Present
- HCS_PRIO	
- QHCS	
- HCS Cell Re-selection information	
- Penalty time	
- Temporary_offset	
- Qmin	T.B.D
- Intra-frequency measurement quantity	
- Filter coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity for RACH Reporting	
-SFN-SFN observed time difference	No report
- Reporting quantity	No report
- Maximum number of reported cells on RACH	No report
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/N0	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	TRUE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/N0	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for unlisted set cells	Not Present
- SFN-SFN observed time difference	
- Cell identity	
- CPICH Ec/N0	
- CPICH RSCP	

- Pathloss	
- CFN-SFN observed time difference	
- Intra-frequency measurement reporting criteria	
- parameters required for each event	
- intra-frequency event identity	1a
- Triggering condition(mandatory in case of 1a,1b,1e,1f)	monitored set cells
- Reporting Range(optional in case of 1a,1b)	5dB
- cells forbidden to affect reporting range(optional in case of 1a,1b)	Not Present
- Primary CPICH info	
- Primary scrambling code	
- W(optional in case of 1a,1b)	1.0
- Hysteresis (mandatory in case of 1a,1b,1c,1d,1g,1h,1i,1j)	0.0
- Threshold used frequency (in case of 1e,1f,1h,1i,1j)	T.B.D(-125..165)
- Reporting deactivation threshold(mandatory in case of 1a)	1
- Replacement activation threshold(mandatory in case of 1c)	Not Present(not applicable,1,2,3,4,5,6,7)
- Reporting Threshold	T.B.D(-115..125)
- Time to trigger	0(0,10,20,40,60,80,100,120,160,200,240,320,640,1280,2560,5000)
- Amount of reporting	Infinity(1,2,4,816,32,64,Infinity)
- Reporting interval	0 (0,250,500,1000,2000,4000,8000,16000 milliseconds)
- Reporting cell status	Not Present
- Inter-frequency measurement system information	Not Present
- Inter-frequency measurement identity number	
- Inter-frequency cell info list	
- Removed inter-frequency cells	
- Inter-frequency cell id	
- New inter-frequency cells	
- Inter-frequency cell id	
- Frequency info	
- UARFCN uplink(Nu)	
- UARFCN downlink(Nd)	
- Cell info	
- Cell individual offset	
- Reference time difference to cell	
- Primary CPICH info	
- Primary scrambling code	
- Primary CPICH TX power	
- Read SFN indicator	
- TX Diversity indicator	
- Cell Selection and Re-selection info	
- Qoffsets,n	
- Maximum allowed UL TX power	
- HCS neighbouring cell information	
- HCS_PRIO	
- QHCS	
- HCS Cell Re-selection information	
- Penalty time	
- Temporary_offset	
- Qmin	
- Inter-frequency measurement quantity	
- Intra-frequency reporting criteria	
- Intra-frequency measurement quantity	
- Filter coefficient	
- Measurement quantity	
- Inter-frequency reporting criteria	
- Inter-frequency measurement quantity	
- Filter coefficient	

- Measurement quantity for frequency quality estimate	
- Inter-frequency measurement reporting criteria	
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

Default settings for cell No.1:

Downlink input level	Reference to clause 6.10 Parameter Set
Uplink output power	Minimum supported by the UE's power class.
PCCPCH/PCPICH carrier number	Reference to clause 6.10 Parameter Set
Cell Channel Description	
- Primary CPICH info	
- Primary scrambling code	100

Cell No.2

The contents of SYSTEM INFORMATION BLOCK TYPE 1 to 16 messages for cell No.2 are identical to those of cell No.1 with the following exceptions:

Cell identity	0000 0000 0000 0000 0000 0000 0010B
URA identity	0000 0000 0000 0001B

Default settings for cell No.2:

Downlink input level	Reference to clause 6.10 Parameter Set
Uplink output power	Minimum supported by the UE's power class.
PCCPCH/PCPICH carrier number	Reference to clause 6.10 Parameter Set
Cell Channel Description	
- Primary CPICH info	
- Primary scrambling code	150

Cell No.3

The contents of SYSTEM INFORMATION BLOCK TYPE 1 to 16 messages for cell No.3 are identical to those of cell No.1 with the following exceptions:

Cell identity	0000 0000 0000 0000 0000 0000 0011B
URA identity	0000 0000 0000 0010B

Default settings for cell No.3:

Downlink input level	Reference to clause 6.10 Parameter Set
Uplink output power	Minimum supported by the UE's power class.
PCCPCH/PCPICH carrier number	Reference to clause 6.10 Parameter Set
Cell Channel Description	
- Primary CPICH info	
- Primary scrambling code	200

Cell No.4

The contents of SYSTEM INFORMATION BLOCK TYPE 1 to 16 messages for cell No.4 are identical to those of cell No.1 with the following exceptions:

Cell identity	0000 0000 0000 0000 0000 0000 0100B
URA identity	0000 0000 0000 0010B

Default settings for cell No.4:

Downlink input level	Reference to clause 6.10 Parameter Set
Uplink output power	Minimum supported by the UE's power class.
PCCPCH/PCPICH carrier number	Reference to clause 6.10 Parameter Set
Cell Channel Description	
- Primary CPICH info	
- Primary scrambling code	250

Cell No.5

The contents of SYSTEM INFORMATION BLOCK TYPE 1 to 16 messages for cell No.5 are identical to those of cell No.1 with the following exceptions:

Cell identity	0000 0000 0000 0000 0000 0000 0101B
URA identity	0000 0000 0000 0011B

Default settings for cell No.5:

Downlink input level	Reference to clause 6.10 Parameter Set
Uplink output power	Minimum supported by the UE's power class.
PCCPCH/PCPICH carrier number	Reference to clause 6.10 Parameter Set
Cell Channel Description	
- Primary CPICH info	
- Primary scrambling code	300

Cell No.6

The contents of SYSTEM INFORMATION BLOCK TYPE 1 to 16 messages for cell No.6 are identical to those of cell No.1 with the following exceptions:

Cell identity	0000 0000 0000 0000 0000 0000 0110B
URA identity	0000 0000 0000 0011B

Default settings for cell No.6:

Downlink input level	Reference to clause 6.10 Parameter Set
Uplink output power	Minimum supported by the UE's power class.
PCCPCH/PCPICH carrier number	Reference to clause 6.10 Parameter Set
Cell Channel Description	
- Primary CPICH info	
- Primary scrambling code	350

Cell No.7

The contents of SYSTEM INFORMATION BLOCK TYPE 1 to 16 messages for cell No.7 are identical to those of cell No.1 with the following exceptions:

Cell identity	0000 0000 0000 0000 0000 0000 0111B
URA identity	0000 0000 0000 0100B

Default settings for cell No.7:

Downlink input level	Reference to clause 6.10 Parameter Set
Uplink output power	Minimum supported by the UE's power class.
PCCPCH/PCPICH carrier number	Reference to clause 6.10 Parameter Set
Cell Channel Description	
- Primary CPICH info	
- Primary scrambling code	400

Cell No.8

The contents of SYSTEM INFORMATION BLOCK TYPE 1 to 16 messages for cell No.8 are identical to those of cell No.1 with the following exceptions:

Cell identity	0000 0000 0000 0000 0000 0000 1000B
URA identity	0000 0000 0000 0100B

Default settings for cell No.8:

Downlink input level	Reference to clause 6.10 Parameter Set
Uplink output power	Minimum supported by the UE's power class.
PCCPCH/PCPICH carrier number	Reference to clause 6.10 Parameter Set
Cell Channel Description	
- Primary CPICH info	
- Primary scrambling code	450

Default Radio Conditions for Multi-Cell Environment

In the event that a multi-cell environment is applied by the System Simulator, the following transmission parameters shall be used unless otherwise stated in the description of individual test case.

Parameter	Unit	Cell 1	Cell 2	Cell 3	Cell 4	Cell 5	Cell 6	Cell 7	Cell 8
<i>UTRA RF Channel Number</i>								Switched Off	Switched Off
<i>CPICH_Ec/No</i>	dB	-5	-15	-20	-24	-18	-10	-	-
<i>CPICH_RSCP</i>	dBm	-60	-70	-75	-95	-73	-65	-	-
<i>UTRA RSSI</i>	dBm	-55	-55	-55	-55	-55	-55	-	-
<i>Propagation Profile</i>		Static							
<i>Qrxlevmin</i>	dBm	-90dBm	-90dBm	-90dBm	-90dBm	-90dBm	-70dBm		
<i>Qrxqualmin</i>	dB	-20dB	-20dB	-20dB	-20dB	-20dB	-5dB		
<i>UE_TXPWR_MAX_RACH</i>	DBm	Max. RF Output of UE	Max. RF Output of UE	Max. RF Output of UE	Max. RF Output of UE	Max. RF Output of UE	Max. RF Output of UE		
<i>MNC</i>		001D	001D	001D	001D	001D	001D		
<i>MCC</i>		01D	01D	01D	01D	02D	01D		
<i>Cell barred</i>		No	No	No	No	No	No	No	No

6.2 Number of neighbour cells

The options for the number of neighbour cells (ie the total number of active cells in the simulated network) are given below. See clause 6.1 for cell configurations.

6.2.1 Basic Network

Number of Cells	Use of Network Configuration
1	Basic UE registration; RRC Connection Establishment and Release; operation of dedicated channels in non-handover modes; general RF and EMC testing

6.2.2 Soft Handover Network

Number of Cells	Use of Network Configuration/Constraints
2	Can be used in place of basic network, plus offering operation of dedicated channels in 2 way soft handover or in 2 way SSDT handover for RF or signalling tests; simple cell reselection tests

6.2.3 Hard Handover Network

Number of Cells	Use of Network Configuration
2	Can be used in place of basic network, plus offering operation in 2 cell hard handover (inter-frequency)

6.2.4 'Roaming' Network

Number of Cells	Use of Network Configuration
7	This configuration is intended to provide the capability for extensive cell selection and reselection testing, as defined under Idle Mode Testing. It is <ffs> if 7 is the correct number of cells and also <ffs> is the number of separate RF channels to be supported by the 'Roaming Network'

6.3 Cell/BS codes etc

See clause 6.1.

6.4 Routing/location area

See clause 6.1.

6.5 Network options settings

See clause 6.1.

6.6 Power control mode

6.6.1 Downlink Power Control

6.6.1.1 Outer Loop Power Control

This is used to set the SIR requirements from the given BER/BLER requirements for the dedicated channel – the reference configuration is for the BER/BLER and SIR requirements to be fixed, ie Outer Loop Power Control is disabled.

6.6.1.2 Inner Loop Power Control

The inner loop power control adjusts the power of the dedicated channel to meet the SIR requirements. The reference condition is for the Inner Loop Power Control to be disabled.

6.6.2 Uplink Power Control

6.6.2.1 Outer Loop Power Control

This is used to set the SIR requirements from the given BER/BLER requirements for the dedicated channel – the reference configuration is for the BER/BLER and SIR requirements to be fixed, ie Outer Loop Power Control is disabled.

6.6.2.2 Inner Loop Power Control

The inner loop power control adjusts the power of the dedicated channel to meet the SIR requirements.

6.7 Tx Diversity modes

The reference settings for Tx Diversity Mode shall be

6.7.1 Non-Diverse Operation

DL Transmit Diversity shall be disabled on all cells in the simulated network

6.7.2 Diverse Operation

The diversity options applied to the DL channels shall be as below for all cells in the simulated network.

Channel	Open loop mode		Closed loop Mode
	TSTD	STTD	
P-CCPCH	–	X	–
SCH	X	–	–
S-CCPCH	–	X	–
DPCH	–	X	–
PICH	–	X	–
AICH	–	X	–

6.8 Compressed Mode Parameters

The reference configuration is that Compressed Mode is disabled, except when the Hard Handover (inter-frequency network configuration is being used). It is necessary to define a set of compressed mode parameters to be used for inter-frequency hard handover.

6.8.1 Normal Operation

Downlink Compressed Mode – disabled

Uplink Compressed Mode – disabled

6.8.2 Inter-Frequency Hard Handover

Downlink compressed Mode – enabled

Parameters

Downlink Compression Method

SF Reduction

Left/Right Alternative DL Scrambling Codes

No

Compressed Mode Sequence and Parameters

Frame Structure Type A

SFN for first transmission gap

Fixed Gap Position

TGL = 7

Double Slot Gap

TGP

TGD

PD

Uplink Compressed Mode - disabled

6.9 BCCH parameters

See clause 6.1.

6.10 Reference Radio Bearer configurations

6.10.1 QoS Architecture and RAB attributes

From a user point-of-view services are considered end-to-end, this means from a Terminal Equipment (TE) to another TE. An End-to-End Service may have a certain Quality of Service (QoS) which is provided for the user through the different networks. In UMTS, it is the UMTS Bearer Service that provides the requested QoS through the use of different QoS classes as defined in TS 23.107.

The UMTS Bearer Service consists of two parts, the Radio Access Bearer Service, RAB, and the Core Network Bearer Service. The Radio Access Bearer Service is realised by a Radio Bearer Service and an Iu-Bearer Service. The relationship between the services is illustrated in figure 6.10.1.1.

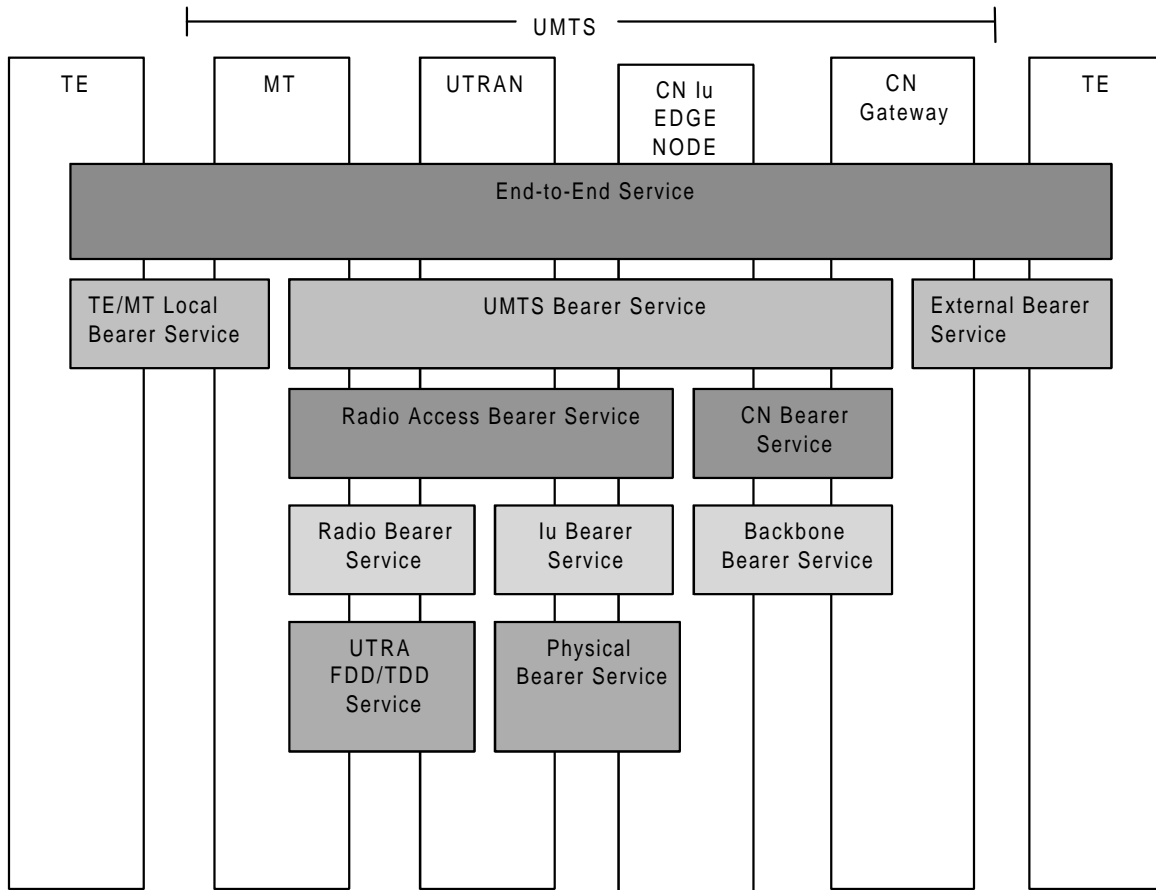


Figure 6.10.1.1: UMTS QoS Architecture

The Radio Access Bearer Service is characterised by a number of attributes such as Traffic class, Maximum bit rate, Guaranteed bit rate, SDU error ratio, Residual BER, Transfer Delay etc. As a first approach the four following attributes have been considered to come up with the parameter settings in clause 6.10.2.4:

- Traffic class
- SSD
- Maximum bit rate
- Residual BER

The Traffic classes are explained in table 6.10.1.1. The Maximum bit rate has been considered at RLC layer and Physical Layer for the acknowledged and unacknowledged modes respectively. The Residual BER is understood as BER at RLC layer and Transport BLER for the acknowledged and unacknowledged modes respectively.

Table 6.10.1.1: Traffic classes

Traffic class	Conversational class conversational RT	Streaming class streaming RT	Interactive class Interactive best effort	Background Background best effort
Fundamental characteristics	- Preserve time relation (variation) between information entities of the stream Conversational pattern (stringent and low delay)	- Preserve time relation (variation) between information entities of the stream (i.e. some but constant delay)	Request response pattern Preserve payload content	Destination is not expecting the data within a certain time Preserve payload content
Example of the application	- speech, video, ...	- facsimile (NT) - streaming audio and video	- Web browsing	- background download of emails

6.10.2 RAB and signalling RB

6.10.2.1 RABs and signalling RBs

In the following clauses, the typical parameter sets are presented for reference RABs, signalling RBs and important combinations of them. The data rate given for each RAB is the maximum data rate that can be supported by that RAB.

NOTE: The granularity for each RAB needs to be clarified.

Table 6.10.2.1.1: Prioritised RABs.

#	Traffic class [15]	SSD [15]	Max. rate, kbps	CS/PS
1	Conversational	Speech	UL:12.2 DL:12.2	CS
2	Conversational	Speech	UL:10.2 DL:10.2	CS
3	Conversational	Speech	UL:7.95 DL:7.95	CS
4	Conversational	Speech	UL:7.4 DL:7.4	CS
5	Conversational	Speech	UL:6.7 DL:6.7	CS
6	Conversational	Speech	UL:5.9 DL:5.9	CS
7	Conversational	Speech	UL:5.15 DL:5.15	CS
8	Conversational	Speech	UL:4.75 DL:4.75	CS
9	Conversational	Unknown	UL:64 DL:64	CS
10	Conversational	Unknown	UL:32 DL:32	CS
11	Streaming	Unknown	UL:28.8 DL:28.8	CS
12	Streaming	Unknown	UL:57.6 DL:57.6	CS
13	Streaming	Unknown	UL:0 DL:64	CS or PS
14	Streaming	Unknown	UL:64 DL:0	CS or PS
15	Streaming	Unknown	UL:0 DL:128	CS or PS
16	Streaming	Unknown	UL:128 DL:0	CS or PS
17	Streaming	Unknown	UL:0 DL:384	CS or PS
18	Interactive or Background	N/A	UL:32 DL:8	PS
19	Interactive or Background	N/A	UL:64 DL:8	PS
20	Interactive or Background	N/A	UL:32 DL:64	PS
21	Interactive or Background	N/A	UL:64 DL:64	PS
22	Interactive or Background	N/A	UL:64 DL:128	PS
23	Interactive or Background	N/A	UL:128 DL:128	PS
24	Interactive or Background	N/A	UL:64 DL:384	PS
25	Interactive or Background	N/A	UL:128 DL:384	PS
26	Interactive or Background	N/A	UL:384 DL:384	PS
27	Interactive or Background	N/A	UL:64 DL:2048	PS
28	Interactive or Background	N/A	UL:128 DL:2048	PS
29	Interactive or Background	N/A	UL:384 DL:2048	PS

Table 6.10.2.1.2: Signalling RBs

#	Maximum rate, kbps	Logical channel
1	UL:1.7 DL:1.7	DCCH
2	UL:3.4 DL:3.4	DCCH
3	UL:13.6 DL:13.6	DCCH
4	DL:40.8	DCCH
5	UL:16.6	CCCH
6	DL:45.6	CCCH
7	DL:49.8	BCCH:
8	DL:24 (alt. 6.4)	PCCH

6.10.2.2 Combinations of RABs and Signalling RBs

In this document, physical channel parameters for following combinations of RABs and signalling RBs on a CCTrCH are described.

Note: It is understood that for speech service the AMR mode may be operated asymmetrically for the uplink and downlink.

Combinations on DPCH

- 1) Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH
- 2) Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH
- 3) Stand-alone UL:13.6 DL:13.6 kbps SRBs for DCCH
- 4) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 5) Conversational / speech / UL:10.2 DL:10.2 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6) Conversational / speech / UL:7.95 DL:7.95 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 7) Conversational / speech / UL:7.4 DL:7.4 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 8) Conversational / speech / UL:6.7 DL:6.7 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 9) Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 10) Conversational / speech / UL:5.15 DL:5.15 kbps / CS RAB
+ UL:1.7 DL:1.7 kbps SRBs for DCCH
- 11) Conversational / speech / UL:4.75 DL:4.75 kbps / CS RAB
+ UL:1.7 DL:1.7 kbps SRBs for DCCH
- 12) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 13) Conversational / unknown / UL:32 DL:32 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 14) Streaming / unknown / UL:28.8/DL:28.8 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 15) Streaming / unknown / UL:57.6/DL:57.6 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 16) Streaming / unknown / UL:0 DL:64 kbps / CS or PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 17) Streaming / unknown / UL:64 DL:0 kbps / CS or PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 18) Streaming / unknown / UL:0 DL:128 kbps / CS or PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 19) Streaming / unknown / UL:128 DL:0 kbps / CS or PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 20) Streaming / unknown / UL:0 DL:384 kbps / CS or PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 21) Interactive or background / UL:32 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 22) Interactive or background / UL:64 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

- 23) Interactive or background / UL:32 DL: 64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 24) Interactive or background / UL:64 DL: 64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 25) Interactive or background / UL:64 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 26) Interactive or background / UL:128 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 27) Interactive or background / UL:64 DL:144 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 28) Interactive or background / UL:144 DL:144 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 29) Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH
- 30) Interactive or background / UL:128 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 31) Interactive or background / UL:384 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 32) Interactive or background / UL:64 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 33) Interactive or background / UL:128 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 34) Interactive or background / UL:384 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 35) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:32 DL:8 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 36) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:32 DL:64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 37) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:64 kbps / PS RAB
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH
- 38) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 39) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 40) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:128 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 41) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Streaming / unknown / UL:57.6 DL:57.6 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

- 42) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Streaming / unknown / UL:0 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 43) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Streaming / unknown / UL:0 DL:128 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 44) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Streaming / unknown / UL:0 DL:384 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 45) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 46) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 47) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Interactive or background / UL:64 DL:64 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 48) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Interactive or background / UL:64 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 49) Conversational / unknown / UL:64 DL:64 kbps / CS RAB
+ Interactive or background / UL:128 DL:128 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 50) Interactive or /background / UL:64 kbps DL:128 kbps / PS RAB
+ Streaming / unknown / UL:0 DL:64 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 51) Interactive or /background / UL:64 kbps DL:128 kbps / PS RAB
+ Streaming / unknown / UL:0 DL:128 kbps / CS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

Combinations on DSCH and DPCH

- 1) Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL:3.4 DL: 3.4 kbps SRBs for DCCH
- 2) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:384 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH
- 3) Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB
+ Interactive or background / UL:64 DL:2048 kbps / PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

Combinations on SCCPCH

- 1) Stand-alone 32 kbps SRB for PCCH
- 2) Interactive or background / DL:32 kbps / PS RAB
+ 50.4 kbps SRB for CCCH
+ 13.6 kbps SRBs for DCCH
+ 16.6 kbps SRB for BCCH
- 3) Interactive or background / DL:32 kbps / PS RAB
+ 32 kbps SRB for PCCH
+ 50.4 kbps SRB for CCCH

- + 13.6 kbps SRBs for DCCH
- + 16.6 kbps SRB for BCCH

Combinations on PRACH

- 1) Interactive or background / UL:32 kbps / PS RAB
 - + 16.6 kbps SRB for CCCH
 - + 13.6 kbps SRBs for DCCH

6.10.2.3 Example of linkage between RABs and services

RABs, which are included in this document, can provide the services as shown in Table 6.10.1.1. Furthermore, the required BER for each RAB, which is assumed in this document, is shown in Table 6.10.2.3.1.

Table 6.10.2.3.1: Example of linkage between RABs and services

RAB				Residual BER [16]	Services
Traffic class [16]	SSD [16]	Max. rate, kbps	CS/PS		
Conversational	Speech	UL:4.75-12.2 DL:4.75-12.2	CS	5×10^{-4} , 1×10^{-3} , 5×10^{-3}	AMR speech
Conversational	Unknown	UL:64 DL:64	CS	1×10^{-4} or 1×10^{-6}	UDI 1B, 64k 3G-324M [16]
Conversational	Unknown	UL:32 DL:32	CS	1×10^{-4} or 1×10^{-6}	32k 3G-324M [16]
Streaming	Unknown	UL:28.8 DL:28.8	CS	1×10^{-3}	FAX [18] PIAFS 32 kbps
Streaming	Unknown	UL:57.6 DL:57.6	CS	1×10^{-3}	Modem [18], FTM [17] PIAFS 64 kbps
Streaming	Unknown	UL:64-128 or DL:64-384	CS or PS	1×10^{-3} or 1×10^{-4}	Streaming video, uni-directional
Interactive or Background	N/A	UL:32-384 DL:8-2048	PS	1×10^{-3} or 1×10^{-4}	Packet

Note 1: SMS can be provided via the signalling RB (DCCH) on DPCH or SCCPCH.

Note 2: CBS can be provided via the signalling RB (CTCH) on SCCPCH

Note 3: UDI n B can be provided via n RABs of conversational 64 kbps.

6.10.2.4 Typical parameter sets

6.10.2.4.1 Combinations on DPCH

6.10.2.4.1.1 Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH

6.10.2.4.1.1.1 Uplink

6.10.2.4.1.1.1.1 Transport channel parameters for UL:1.7 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	1700	1600	1600	1600
	RLC header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	148			
	TFS	TF0, bts	0		
		TF1, bits	1x148		
	TTI, ms	80			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	516			
	Uplink; Max number of bits/radio frame before rate matching	65			

6.10.2.4.1.1.1.2 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	1.7 kbps SRB for DCCH, DCH
	TFCS size	2
	Min spreading factor	256
	Max number of DPDCH data bits/radio frame	150
	Puncturing Limit	1

6.10.2.4.1.1.2 Downlink

6.10.2.4.1.1.2.1 Transport channel parameters for DL:1.7 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4	
	User of Radio Bearer	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH	
	RLC mode	UM	AM	AM	AM	
	Payload sizes, bit	136	128	128	128	
	Max data rate, bps	1700	1600	1600	1600	
	RLC header, bit	8	16	16	16	
MAC	MAC header, bit	4	4	4	4	
	MAC multiplexing	4 logical channel multiplexing				
Layer 1	TrCH type	DCH				
	TB sizes, bit	148				
	TFS	TF0, bits	0			
		TF1, bits	1x148			
	TTI, ms	80				
	Coding type	CC 1/3				
	CRC, bit	16				
	Max number of bits/TTI before rate matching	516				

6.10.2.4.1.1.2.2 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	1.7 kbps SRB for DCCH, DCH
	DTX position	N/A (SingleTrCH)
	TFCS size	2
	Minimum spreading factor	512
DPCCH	Number of TFCI bits/slot	0
	Number of TPC bits/slot	2
	Number of Pilot bits/slot	4
DPDCH	Number of data bits/slot	4
	Number of data bits/frame	60

6.10.2.4.1.2 Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.2.1 Uplink

6.10.2.4.1.2.1.1 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4	
	User of Radio Bearer	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH	
	RLC mode	UM	AM	AM	AM	
	Payload sizes, bit	136	128	128	128	
	Max data rate, bps	3400	3200	3200	3200	
	RLC header, bit	8	16	16	16	
MAC	MAC header, bit	4	4	4	4	
	MAC multiplexing	4 logical channel multiplexing				
Layer 1	TrCH type	DCH				
	TB sizes, bit	148				
	TFS	TF0, bts	0			
		TF1, bits	1x148			
	TTI, ms	40				
	Coding type	CC 1/3				
	CRC, bit	16				
	Max number of bits/TTI before rate matching	516				
	Uplink; Max number of bits/radio frame before rate matching	129				

6.10.2.4.1.2.1.2 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	3.4 kbps SRB for DCCH, DCH
	TFCS size	2
	Min spreading factor	256
	Max number of DPDCH data bits/radio frame	150
	Puncturing Limit	1

6.10.2.4.1.2.2 Downlink

6.10.2.4.1.2.2.1 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4	
	User of Radio Bearer	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH	
	RLC mode	UM	AM	AM	AM	
	Payload sizes, bit	136	128	128	128	
	Max data rate, bps	3400	3200	3200	3200	
	RLC header, bit	8	16	16	16	
MAC	MAC header, bit	4	4	4	4	
	MAC multiplexing	4 logical channel multiplexing				
Layer 1	TrCH type	DCH				
	TB sizes, bit	148				
	TFS	TF0, bts	0			
		TF1, bits	1x148			
	TTI, ms	40				
	Coding type	CC 1/3				
	CRC, bit	16				
	Max number of bits/TTI before rate matching	516				

6.10.2.4.1.2.2 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh		3.4 kbps SRB for DCCH, DCH
	DTX position		N/A (SingleTrCH)
	TFCS size		2
	Minimum spreading factor		256
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	8
DPDCH	Number of data bits/slot	10	
	Number of data bits/frame	150	

6.10.2.4.1.3 Stand-alone UL:13.6 DL:13.6 kbps SRBs for DCCH

6.10.2.4.1.3.1 Uplink

6.10.2.4.1.3.1.1 Transport channel parameters for UL:13.6 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	13600	12800	12800	12800
	RLC header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	148			
	TFS	TF0, bts	0		
		TF1, bits	1x148		
	TTI, ms	10			
	Coding type	CC 1/3			
	CRC, bit	16			
	Max number of bits/TTI before rate matching	516			
	Uplink; Max number of bits/radio frame before rate matching	516			

6.10.2.4.1.3.1.2 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh		13.6 kbps SRB for DCCH, DCH
	TFCS size		2
	Min spreading factor		64
	Max number of DPDCH data bits/radio frame		600
	Puncturing Limit		1

6.10.2.4.1.3.2 Downlink

6.10.2.4.1.3.2.1 Transport channel parameters for DL:13.6 kbps SRBs for DCCH

Higher layer	RAB/signalling RB	SRB#1	SRB#2	SRB#3	SRB#4
	User of Radio Bearer	RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type	DCCH	DCCH	DCCH	DCCH
	RLC mode	UM	AM	AM	AM
	Payload sizes, bit	136	128	128	128
	Max data rate, bps	13600	12800	12800	12800
	RLC header, bit	8	16	16	16
MAC	MAC header, bit	4	4	4	4
	MAC multiplexing	4 logical channel multiplexing			
Layer 1	TrCH type	DCH			
	TB sizes, bit	148			
	TFS	TF0, bts	0		
		TF1, bits	1x148		
	TTI, ms	10			
	Coding type	CC 1/3			
	CRC, bit	16			
Max number of bits/TTI before rate matching	516				

6.10.2.4.1.3.2.2 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	13.6 kbps SRB for DCCH, DCH
	DTX position	N/A (SingleTrCH)
	TFCS size	2
	Minimum spreading factor	128
DPCCH	Number of TFCI bits/slot	0
	Number of TPC bits/slot	2
	Number of Pilot bits/slot	4
DPDCH	Number of data bits/slot	34
	Number of data bits/frame	510

6.10.2.4.1.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.4.1 Uplink

6.10.2.4.1.4.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	81	103	60	
		39			
	Max data rate, bps	12200			
RLC header, bit	0				
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	81	103	60	
		39			
	TFS	TF0, bits	0	0	0
		TF1, bits	1x81	1x103	1x60
		TF2, bits	1x39	-	-
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	-	-	
	Max number of bits/TTI after channel coding	303	333	136	
Uplink: Max number of bits/radio frame before rate matching	152	167	68		

6.10.2.4.1.4.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.4.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3	
	RM attribute	TBD	TBD	TBD	TBD
	TFCS size	6			
	Min spreading factor	64			
	Max number of DPDCH data bits/radio frame	600			
	Puncturing Limit	1			

6.10.2.4.1.4.2 Downlink

6.10.2.4.1.4.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	81	103	60	
		39			
	Max data rate, bps	12200			
RLC header, bit	0				
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	81	103	60	
		39			
	TFS	TF0, bits	0	0	0
		TF1, bits	1x81	1x103	1x60
		TF2, bits	1x39	-	-
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	-	-	
	Max number of bits/TTI after channel coding	303	333	136	

6.10.2.4.1.4.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.4.2.2 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			3.4 kbps SRBs for DCCH. DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3	
	RM attribute	TBD	TBD	TBD	TBD
	TFCS size	6			
	DTX position	Fixed			
	Spreading factor	128			
	DPCCH	Number of TFCI bits/slot	0		
		Number of TPC bits/slot	2		
		Number of Pilot bits/slot	4		
	DPDCH	Number of data bits/slot	34		
		Number of data bits/frame	510		

6.10.2.4.1.5 Conversational / speech / UL:10.2 DL:10.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.5.1 Uplink

6.10.2.4.1.5.1.1 Transport channel parameters for Conversational / speech / UL:10.2 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	65 39	99	40	
	Max data rate, bps	10200			
	RLC header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	65	99	40	
		39			
	TFS	TF0, bits	0	0	0
		TF1, bits	1x65	1x99	1x40
		TF2, bits	1x39	-	-
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	-	-	
	Max number of bits/TTI after channel coding	255	321	96	
Uplink: Max number of bits/radio frame before rate matching	128	161	48		

6.10.2.4.1.5.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.5.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / speech 10.2 kbps / CS RAB			3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3	
	RM attribute	TBD	TBD	TBD	TBD
	TFCS size	6			
	Min spreading factor	64			
	Max number of DPDCH data bits/radio frame	600			
	Puncturing Limit	1			

6.10.2.4.1.5.2 Downlink

6.10.2.4.1.5.2.1 Transport channel parameters for Conversational / speech / DL:10.2 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	RAB subflow #3	
RLC	Logical channel type	DTCH			
	RLC mode	TM	TM	TM	
	Payload sizes, bit	65 39	99	40	
	Max data rate, bps	10200			
	RLC header, bit	0			
MAC	MAC header, bit	0			
	MAC multiplexing	N/A			
Layer 1	TrCH type	DCH	DCH	DCH	
	TB sizes, bit	65	99	40	
		39			
	TFS	TF0, bits	0	0	0
		TF1, bits	1x65	1x99	1x40
		TF2, bits	1x39	-	-
	TTI, ms	20	20	20	
	Coding type	CC 1/3	CC 1/3	CC 1/2	
	CRC, bit	12	-	-	
	Max number of bits/TTI after channel coding	255	321	96	

6.10.2.4.1.5.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.5.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 10.2 kbps / CS RAB, DCH			3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3	
	RM attribute	TBD	TBD	TBD	TBD
	TFCS size	6			
	DTX position	Fixed			
	Spreading factor	128			
	DPCCH	Number of TFCI bits/slot	0		
		Number of TPC bits/slot	2		
		Number of Pilot bits/slot	4		
	DPDCH	Number of data bits/slot	34		
		Number of data bits/frame	510		

6.10.2.4.1.6 Conversational / speech / UL:7.95 DL:7.95 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.6.1 Uplink

6.10.2.4.1.6.1.1 Transport channel parameters for Conversational / speech / UL:7.95 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2
RLC	Logical channel type	DTCH	
	RLC mode	TM	TM
	Payload sizes, bit	75 39	84
	Max data rate, bps	7950	
	RLC header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	DCH
	TB sizes, bit	75 39	84
	TFS	0	0
	TF0, bits	1x75	1x84
	TF1, bits	1x39	-
	TF2, bits	-	-
	TTI, ms	20	20
	Coding type	CC 1/3	CC 1/3
	CRC, bit	12	-
	Max number of bits/TTI after channel coding	285	276
	Uplink: Max number of bits/radio frame before rate matching	143	138

6.10.2.4.1.6.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.6.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / speech / 7.95 kbps / CS RAB, DCH		3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	Min spreading factor	64		
	Max number of DPDCH data bits/radio frame	600		
	Puncturing Limit	1		

6.10.2.4.1.6.2 Downlink

6.10.2.4.1.6.2.1 Transport channel parameters for Conversational / speech / DL:7.95 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	75	84	
		39		
	Max data rate, bps	7950		
RLC header, bit	0			
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	75	84	
		39		
	TFS	TF0, bits	0	0
		TF1, bits	1x75	1x84
		TF2, bits	1x39	-
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	-	
	Max number of bits/TTI after channel coding	285	276	

6.10.2.4.1.6.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 5.4.1.2.2.1

6.10.2.4.1.6.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 7.95 kbps / CS RAB, DCH		3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	DTX position	Fixed		
	Spreading factor	128		
	DPCCH	Number of TFCI bits/slot	0	
		Number of TPC bits/slot	2	
		Number of Pilot bits/slot	4	
	DPDCH	Number of data bits/slot	34	
		Number of data bits/frame	510	

6.10.2.4.1.7 Conversational / speech / UL:7.4 DL:7.4 kbps / CS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.7.1 Uplink

6.10.2.4.1.7.1.1 Transport channel parameters for Conversational / speech / UL:7.4 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2
RLC	Logical channel type	DTCH	
	RLC mode	TM	TM
	Payload sizes, bit	61 39	87
	Max data rate, bps	7400	
	RLC header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	DCH
	TB sizes, bit	61 39	87
	TFS	0	0
	TF0, bits	1x61	1x87
	TF1, bits	1x39	-
	TF2, bits	-	-
	TTI, ms	20	20
	Coding type	CC 1/3	CC 1/3
	CRC, bit	12	-
	Max number of bits/TTI after channel coding	243	285
	Uplink: Max number of bits/radio frame before rate matching	122	143

6.10.2.4.1.7.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.7.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / speech / 7.4 kbps / CS RAB, DCH		3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	Min spreading factor	64		
	Max number of DPDCH data bits/radio frame	600		
	Puncturing Limit	1		

6.10.2.4.1.7.2 Downlink

6.10.2.4.1.7.2.1 Transport channel parameters for Conversational / speech / DL:7.4 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	61 39	87	
	Max data rate, bps	7400		
	RLC header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	61	87	
		39		
	TFS	TF0, bits	0	0
		TF1, bits	1x61	1x87
		TF2, bits	1x39	-
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	-	
	Max number of bits/TTI after channel coding	243	285	

6.10.2.4.1.7.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.7.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 7.4 kbps / CS RAB		3.4 kbps SRBs for DCCH
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	DTX position	Fixed		
	Spreading factor	128		
	DPCCH	Number of TFCI bits/slot	0	
		Number of TPC bits/slot	2	
		Number of Pilot bits/slot	4	
	DPDCH	Number of data bits/slot	34	
		Number of data bits/frame	510	

6.10.2.4.1.8 Conversational / speech / UL:6.7 DL:6.7 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.8.1 Uplink

6.10.2.4.1.8.1.1 Transport channel parameters for Conversational / speech / UL:6.7 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	58 39	76	
	Max data rate, bps	6700		
	RLC header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	58	76	
		39		
	TFS	TF0, bits	0	0
		TF1, bits	1x58	1x76
		TF2, bits	1x39	-
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	-	
	Max number of bits/TTI after channel coding	234	252	
Uplink: Max number of bits/radio frame before rate matching	117	126		

6.10.2.4.1.8.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.8.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / speech / 6.7 kbps / CS RAB, DCH		3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	Min spreading factor	64		
	Max number of DPDCH data bits/radio frame	600		
	Puncturing Limit	1		

6.10.2.4.1.8.2 Downlink

6.10.2.4.1.8.2.1 Transport channel parameters for Conversational / speech / DL:6.7 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	58	76	
		39		
	Max data rate, bps	6700		
RLC header, bit	0			
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	58	76	
		39		
	TFS	TF0, bits	0	0
		TF1, bits	1x58	1x76
		TF2, bits	1x39	-
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	-	
	Max number of bits/TTI after channel coding	234	252	

6.10.2.4.1.8.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 5.4.1.2.2.1

6.10.2.4.1.8.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 6.7 kbps / CS RAB, DCH		3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	DTX position	Fixed		
	Spreading factor	128		
	DPCCH	Number of TFCI bits/slot	0	
		Number of TPC bits/slot	2	
		Number of Pilot bits/slot	4	
	DPDCH	Number of data bits/slot	34	
		Number of data bits/frame	510	

6.10.2.4.1.9 Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.9.1 Uplink

6.10.2.4.1.9.1.1 Transport channel parameters for Conversational / speech / UL:5.9 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	55 39	63	
	Max data rate, bps	5900		
	RLC header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	55	63	
		39		
	TFS	TF0, bits	0	0
		TF1, bits	1x55	1x63
		TF2, bits	1x39	-
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	-	
	Max number of bits/TTI after channel coding	225	213	
Uplink: Max number of bits/radio frame before rate matching	113	107		

6.10.2.4.1.9.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 5.4.1.2.1.1.

6.10.2.4.1.9.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / speech / 5.9 kbps / CS RAB, DCH		3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	Min spreading factor	64		
	Max number of DPDCH data bits/radio frame	600		
	Puncturing Limit	1		

6.10.2.4.1.9.2 Downlink

6.10.2.4.1.9.2.1 Transport channel parameters for Conversational / speech / DL:5.9 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	55	63	
		39		
	Max data rate, bps	5900		
RLC header, bit	0			
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	55	63	
		39		
	TFS	TF0, bits	0	0
		TF1, bits	1x55	1x63
		TF2, bits	1x39	-
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	-	
	Max number of bits/TTI after channel coding	225	213	

6.10.2.4.1.9.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.9.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 5.9 kbps / CS RAB, DCH		3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	DTX position	Fixed		
	Spreading factor	128		
	DPCCH	Number of TFCI bits/slot	0	
		Number of TPC bits/slot	2	
		Number of Pilot bits/slot	4	
	DPDCH	Number of data bits/slot	34	
		Number of data bits/frame	510	

6.10.2.4.1.10 Conversational / speech / UL:5.15 DL:5.15 kbps / CS RAB + UL:1.7 DL:1.7 kbps SRBs for DCCH

6.10.2.4.1.10.1 Uplink

6.10.2.4.1.10.1.1 Transport channel parameters for Conversational / speech / UL:5.15 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	49 39	54	
	Max data rate, bps	5150		
	RLC header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	49	54	
		39		
	TFS	TF0, bits	0	0
		TF1, bits	1x49	1x54
		TF2, bits	1x39	-
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	-	
	Max number of bits/TTI after channel coding	207	186	
Uplink: Max number of bits/radio frame before rate matching	104	93		

6.10.2.4.1.10.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.10.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / speech / 5.15 kbps / CS RAB, DCH		1.7 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	Min spreading factor	128		
	Max number of DPDCH data bits/radio frame	300		
	Puncturing Limit	1		

6.10.2.4.1.10.2 Downlink

6.10.2.4.1.10.2.1 Transport channel parameters for Conversational / speech / DL:5.15 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	49	54	
		39		
	Max data rate, bps	5150		
RLC header, bit	0			
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	49	54	
		39		
	TFS	TF0, bits	0	0
		TF1, bits	1x49	1x54
		TF2, bits	1x39	-
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	-	
	Max number of bits/TTI after channel coding	207	186	

6.10.2.4.1.10.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.10.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 5.15 kbps / CS RAB, DCH		1.7 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	DTX position	Fixed		
	Spreading factor	256		
	DPCCH	Number of TFCI bits/slot	0	
		Number of TPC bits/slot	2	
		Number of Pilot bits/slot	4	
	DPDCH	Number of data bits/slot	14	
		Number of data bits/frame	210	

6.10.2.4.1.11 Conversational / speech / UL:4.75 DL:4.75 kbps / CS RAB + UL:1.7 DL:1.7 kbps SRBs for DCCH

6.10.2.4.1.11.1 Uplink

6.10.2.4.1.11.1.1 Transport channel parameters for Conversational / speech / UL:4.75 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2
RLC	Logical channel type	DTCH	
	RLC mode	TM	TM
	Payload sizes, bit	42 39	53
	Max data rate, bps	4750	
	RLC header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	DCH
	TB sizes, bit	42 39	53
	TFS	0	0
	TF0, bits	1x42	1x53
	TF1, bits	1x39	-
	TF2, bits	-	-
	TTI, ms	20	20
	Coding type	CC 1/3	CC 1/3
	CRC, bit	12	-
	Max number of bits/TTI after channel coding	186	183
	Uplink: Max number of bits/radio frame before rate matching	93	92

6.10.2.4.1.11.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.11.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / speech / 4.75 kbps / CS RAB, DCH		1.7 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	Min spreading factor	128		
	Max number of DPDCH data bits/radio frame	300		
	Puncturing Limit	1		

6.10.2.4.1.11.2 Downlink

6.10.2.4.1.11.2.1 Transport channel parameters for Conversational / speech / DL:4.75 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB subflow #1	RAB subflow #2	
RLC	Logical channel type	DTCH		
	RLC mode	TM	TM	
	Payload sizes, bit	42	53	
		39		
	Max data rate, bps	4750		
RLC header, bit	0			
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH	DCH	
	TB sizes, bit	42	53	
		39		
	TFS	TF0, bits	0	0
		TF1, bits	1x42	1x53
		TF2, bits	1x39	-
	TTI, ms	20	20	
	Coding type	CC 1/3	CC 1/3	
	CRC, bit	12	-	
	Max number of bits/TTI after channel coding	186	183	

6.10.2.4.1.11.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.11.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 4.75 kbps / CS RAB, DCH		1.7 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	
	RM attribute	TBD	TBD	TBD
	TFCS size	6		
	DTX position	Fixed		
	Spreading factor	256		
	DPCCH	Number of TFCI bits/slot	0	
		Number of TPC bits/slot	2	
		Number of Pilot bits/slot	4	
	DPDCH	Number of data bits/slot	14	
		Number of data bits/frame	210	

6.10.2.4.1.12 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.12.1 Uplink

6.10.2.4.1.12.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB		
RLC	Logical channel type	DTCH		
	RLC mode	TM		
	Payload sizes, bit	640		
	Max data rate, bps	64000		
	RLC header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH		
	TB sizes, bit	640		
	TFS	TF0, bits	0	
		TF1, bits	2x640(alt. 4x640)	
	TTI, ms	20(alt. 40)		
	Coding type	TC		
	CRC, bit	16		
Max number of bits/TTI after channel coding	3948(alt. 7884)			
Uplink: Max number of bits/radio frame before rate matching	1974(alt. 1971)			

6.10.2.4.1.12.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.12.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / unknown / 64 kbps / CS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	4	
	Min spreading factor	16	
	Max number of DPDCH data bits/radio frame	2400	
	Puncturing Limit	1	

6.10.2.4.1.12.2 Downlink

6.10.2.4.1.12.2.1 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB		
RLC	Logical channel type	DTCH		
	RLC mode	TM		
	Payload sizes, bit	640		
	Max data rate, bps	64000		
	RLC header, bit	0		
MAC	MAC header, bit	0		
	MAC multiplexing	N/A		
Layer 1	TrCH type	DCH		
	TB sizes, bit	640		
	TFS	TF0, bits	0	
		TF1, bits	2x640(alt. 4x640)	
	TTI, ms	20(alt. 40)		
	Coding type	TC		
	CRC, bit	16		
Max number of bits/TTI after channel coding	3948(alt. 7884)			

6.10.2.4.1.12.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 5.4.1.2.2.1.

6.10.2.4.1.12.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / unknown / 64 kbps / CS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	4	
	DTX position	Flexible	
	Spreading factor	32	
DPCCH	Number of TFCI bits/slot	8	
	Number of TPC bits/slot	4	
	Number of Pilot bits/slot	8	
DPDCH	Number of data bits/slot	140	
	Number of data bits/frame	2100	

6.10.2.4.1.13 Conversational / unknown / UL:32 DL:32 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.13.1 Uplink

6.10.2.4.1.13.1.1 Transport channel parameters for Conversational / unknown / UL:32 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	640	
	Max data rate, bps	32000	
	RLC header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	640	
	TFS	TF0, bits	0
		TF1, bits	1x640(alt. 2x640)
	TTI, ms	20(alt. 40)	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1980(alt. 3948)	
Uplink: Max number of bits/radio frame before rate matching	990(alt. 987)		

6.10.2.4.1.13.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.13.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / unknown / 32 kbps / CS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	4	
	Min spreading factor	32	
	Max number of DPDCH data bits/radio frame	1200	
	Puncturing Limit	1	

6.10.2.4.1.13.2 Downlink

6.10.2.4.1.13.2.1 Transport channel parameters for Conversational / unknown / DL:32 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	640	
	Max data rate, bps	32000	
	RLC header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	640	
	TFS	TF0, bits	0
		TF1, bits	1x640(alt. 2x640)
	TTI, ms	20(alt. 40)	
	Coding type	TC	
	CRC, bit	16	
Max number of bits/TTI after channel coding	1980(alt. 3948)		

6.10.2.4.1.13.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.13.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / unknown / 32 kbps / CS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size		4
	DTX position		Flexible
	Spreading factor		64
DPCCH	Number of TFCI bits/slot		8
	Number of TPC bits/slot		4
	Number of Pilot bits/slot		8
DPDCH	Number of data bits/slot		60
	Number of data bits/frame		900

6.10.2.4.1.14 Streaming / unknown / UL:28.8/DL:28.8 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.14.1 Uplink

6.10.2.4.1.14.1.1 Transport channel parameters for Streaming / unknown / UL:28.8 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	576	
	Max data rate, bps	28800	
	RLC header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	576	
	TFS	TF0, bits	0
		TF1, bits	1x576
		TF2, bits	2x576
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
Max number of bits/TTI after channel coding	3564		
Uplink: Max number of bits/radio frame before rate matching	891		

6.10.2.4.1.14.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.14.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Streaming / unknown / 28.8 kbps / CS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	6	
	Min spreading factor	32	
	Max number of DPDCH data bits/radio frame	1200	
	Puncturing Limit	1	

6.10.2.4.1.14.2 Downlink

6.10.2.4.1.14.2.1 Transport channel parameters for Streaming / unknown / DL:28.8 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	576	
	Max data rate, bps	28800	
	RLC header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	576	
	TFS	TF0, bits	0
		TF1, bits	1x576
		TF2, bits	2x576
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
Max number of bits/TTI after channel coding	3564		

6.10.2.4.1.14.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.14.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Streaming / unknown / 28.8 kbps / CS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	6	
	DTX position	Flexible	
	Spreading factor	64	
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	60
		Number of data bits/frame	900

6.10.2.4.1.15 Streaming / unknown / UL:57.6/DL:57.6 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.15.1 Uplink

6.10.2.4.1.15.1.1 Transport channel parameters for Streaming / unknown / UL:57.6 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	576	
	Max data rate, bps	57600	
	RLC header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	576	
	TFS	TF0, bits	0
		TF1, bits	1x576
		TF2, bits	2x576
		TF3, bits	3x576
		TF4, bits	4x576
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
Max number of bits/TTI after channel coding	7116		
Uplink: Max number of bits/radio frame before rate matching	1779		

6.10.2.4.1.15.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.15.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Streaming / unknown / 57.6 kbps / CS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	10	
	Min spreading factor	16	
	Max number of DPDCH data bits/radio frame	2400	
	Puncturing Limit	1	

6.10.2.4.1.15.2 Downlink

6.10.2.4.1.15.2.1 Transport channel parameters for Streaming / unknown / DL:57.6 kbps / CS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	576	
	Max data rate, bps	57600	
	RLC header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	576	
	TFS	TF0, bits	0
		TF1, bits	1x576
		TF2, bits	2x576
		TF3, bits	3x576
		TF4, bits	4x576
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
Max number of bits/TTI after channel coding	7116		

6.10.2.4.1.15.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.15.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Streaming / unknown / 57.6 kbps / CS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size		10
	DTX position		Flexible
	Spreading factor		32
DPCCH	Number of TFCI bits/slot		8
	Number of TPC bits/slot		4
	Number of Pilot bits/slot		8
DPDCH	Number of data bits/slot		140
	Number of data bits/frame		2100

6.10.2.4.1.16 Streaming / unknown / UL:0 DL:64 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.16.1 Uplink

6.10.2.4.1.16.1.1 Transport channel parameters for Streaming / unknown / UL:0 kbps / CS or PS RAB

N/A

6.10.2.4.1.16.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.16.1.3 Physical channel parameters

See 6.10.2.4.1.2.1.2.

6.10.2.4.1.16.2 Downlink

6.10.2.4.1.16.2.1 Transport channel parameters for Streaming / unknown / DL:64 kbps / CS or PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	320	
	Max data rate, bps	64000	
	RLC header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	320	
	TFS	TF0, bits	0
		TF1, bits	1x320
		TF2, bits	2x320
		TF3, bits	4x320
		TF4, bits	8x320
	TTI, ms	40	
	Coding type	TC	
	CRC, bit	16	
Max number of bits/TTI after channel coding	8076		

6.10.2.4.1.16.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.16.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Streaming / unknown / 64 kbps / CS or PS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	5	
	DTX position	Flexible	
	Spreading factor	32	
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2100

6.10.2.4.1.17 Streaming / unknown / UL:64 DL:0 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.17.1 Uplink

6.10.2.4.1.17.1.1 Transport channel parameters for Streaming / unknown / UL:64 kbps / CS or PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	TM
	Payload sizes, bit	320
	Max data rate, bps	64000
	RLC header, bit	0
MAC	MAC header, bit	0
	MAC multiplexing	N/A
Layer 1	TrCH type	DCH
	TB sizes, bit	320
	TFS	TF0, bits
		TF1, bits
		TF2, bits
		TF3, bits
		TF4, bits
	TTI, ms	40
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	8076
	Uplink: Max number of bits/radio frame before rate matching	2019

6.10.2.4.1.17.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.17.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / unknown / 64 kbps / CS or PS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	5	
	Min spreading factor	16	
	Max number of DPDCH data bits/radio frame	2400	
	Puncturing Limit	1	

6.10.2.4.1.17.2 Downlink

6.10.2.4.1.17.2.1 Transport channel parameters for Streaming / unknown / DL:0 kbps / CS or PS RAB

N/A

6.10.2.4.1.17.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.17.2.3 Physical channel parameters

See 6.10.2.4.1.2.2.2.

6.10.2.4.1.18 Streaming / unknown / UL:0 DL:128 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.18.1 Uplink

6.10.2.4.1.18.1.1 Transport channel parameters for Streaming / unknown / UL:0 kbps / CS or PS RAB
N/A

6.10.2.4.1.18.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.18.1.3 Physical channel parameters

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.18.2 Downlink

6.10.2.4.1.18.2.1 Transport channel parameters for Streaming / unknown / DL:128 kbps / CS or PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	320	
	Max data rate, bps	128000	
	RLC header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	320	
	TFS	TF0, bits	0
		TF1, bits	1x320
		TF2, bits	2x320
		TF3, bits	4x320
		TF4, bits	8x320
		TF5, bits	16x320
		TTI, ms	40
		Coding type	TC
	CRC, bit	16	
	Max number of bits/TTI after channel coding	16152	

6.10.2.4.1.18.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.18.2.3 Physical channel parameters

DPCCH Downlink	RAB or SRB, TrCh	Interactive or background / 128 kbps / CS or PS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	6	
	DTX position	Flexible	
	Spreading factor	16	
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	288
		Number of data bits/frame	4320

6.10.2.4.1.19 Streaming / unknown / UL:128 DL:0 kbps / CS or PS RAB
+ UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.19.1 Uplink

6.10.2.4.1.19.1.1 Transport channel parameters for Streaming / unknown / UL:128 kbps / CS or PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	TM	
	Payload sizes, bit	320	
	Max data rate, bps	128000	
	RLC header, bit	0	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	320	
	TFS	TF0, bits	0
		TF1, bits	1x320
		TF2, bits	2x320
		TF3, bits	4x320
		TF4, bits	8x320
	TF5, bits	16x320	
	TTI, ms	40	
	Coding type	TC	
CRC, bit	16		
Max number of bits/TTI after channel coding	16152		
Uplink: Max number of bits/radio frame before rate matching	4038		

6.10.2.4.1.19.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.19.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / unknown / 128 kbps / CS or PS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	6	
	Min spreading factor	8	
	Max number of DPDCH data bits/radio frame	4800	
	Puncturing Limit	1	

6.10.2.4.1.19.2 Downlink

6.10.2.4.1.19.2.1 Transport channel parameters for Streaming / unknown / DL:0 kbps / CS or PS RAB

N/A

6.10.2.4.1.19.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.19.2 Physical channel parameters

See 6.10.2.4.1.2.2.2.

6.10.2.4.1.20 Streaming / unknown / UL:0 DL:384 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.20.1 Uplink

6.10.2.4.1.20.1.1 Transport channel parameters for Streaming / unknown / UL:0 kbps / CS or PS RAB

N/A

6.10.2.4.1.20.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.20.1.3 Physical channel parameters

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.20.2 Downlink

6.10.2.4.1.20.2.1 Transport channel parameters for Streaming / unknown / DL:384 kbps / CS or PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	TM
	Payload sizes, bit	320
	Max data rate, bps	384000
	RLC header, bit	0
MAC	MAC header, bit	0
	MAC multiplexing	N/A
Layer 1	TrCH type	DCH
	TB sizes, bit	320
	TFS	TF0, bits
		TF1, bits
		TF2, bits
		TF3, bits
		TF4, bits
		TF5, bits
		TF6, bits
		TF7, bits
	TTI, ms	40
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	48432

6.10.2.4.1.20.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.20.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Interactive or background / 384 kbps / CS or PS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	12(alt. 14)	
	DTX position	Flexible	
	Spreading factor	8	
	Number of DPDCH	1	
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	608
		Number of data bits/frame	9120

6.10.2.4.1.21 Interactive or background / UL:32 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.21.1 Uplink

6.10.2.4.1.21.1.1 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	32000	
	RLC header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336 (alt. TF2 is N/A)
	TTI, ms	20 (alt. 10)	
	Coding type	TC (alt. CC 1/3)	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	2124 (alt. 1080)	
	Uplink: Max number of bits/radio frame before rate matching	1062 (alt. 1080)	

6.10.2.4.1.21.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.21.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Interactive or background / 32 kbps / PS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	6 (alt. 4)	
	Min spreading factor	32	
	Max number of DPDCH data bits/radio frame	1200	
	Puncturing Limit	1	

6.10.2.4.1.21.2 Downlink

6.10.2.4.1.21.2.1 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	8000	
	RLC header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0
		TF1, bits	1x336
	TTI, ms	40	
	Coding type	TC (alt. CC 1/3)	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	1068 (alt. 1080)	

6.10.2.4.1.21.2.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.21.2.1.

6.10.2.4.1.21.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Interactive or background / 8 kbps / PS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	4	
	DTX position	Flexible	
	Spreading factor	128	
	DPCCH	Number of TFCI bits/slot	2
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	4
	DPDCH	Number of data bits/slot	32
		Number of data bits/frame	480

6.10.2.4.1.22 Interactive or background / UL:64 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.22.1 Uplink

6.10.2.4.1.22.1.1 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	64000	
	RLC header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	4236	
Uplink: Max number of bits/radio frame before rate matching	2118		

6.10.2.4.1.22.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.22.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Interactive or background / 64 kbps / PS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	8	
	Min spreading factor	16	
	Max number of DPDCH data bits/radio frame	2400	
	Puncturing Limit	1	

6.10.2.4.1.22.2 Downlink

See 6.10.2.4.1.21.2.

6.10.2.4.1.23 Interactive or background / UL:32 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.23.1 Uplink

See 6.10.2.4.1.21.1.

6.10.2.4.1.23.2 Downlink

6.10.2.4.1.23.2.1 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	64000	
	RLC header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4x336
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
	Max number of bits/TTI after channel coding	4236	

6.10.2.4.1.23.2.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.23.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Interactive or background / 64 kbps / PS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	8	
	DTX position	Flexible	
	Spreading factor	32	
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	4
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	140
		Number of data bits/frame	2100

6.10.2.4.1.24 Interactive or background / UL:64 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.24.1 Uplink

See 5.4.1.22.1.

6.10.2.4.1.24.2 Downlink

See 5.4.1.23.2

6.10.2.4.1.25 Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.25.1 Uplink

See 6.10.2.4.1.22.1

6.10.2.4.1.25.2 Downlink

6.10.2.4.1.25.2.1 Transport channel parameters for Interactive or background / DL:128 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	128000	
	RLC header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4 x336
		TF4, bits	8 x336
	TTI, ms	20	
	Coding type	TC	
	CRC, bit	16	
Max number of bits/TTI after channel coding	8460		

6.10.2.4.1.25.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.25.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Interactive or background / 128 kbps / PS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	10	
	DTX position	Flexible	
	Spreading factor	16	
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	288
		Number of data bits/frame	4320

6.10.2.4.1.26 Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.25.1 Uplink

6.10.2.4.1.25.1.1 Transport channel parameters for Interactive or background / UL:128 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	320
	Max data rate, bps	128000
	RLC header, bit	16
MAC	MAC header, bit	0
	MAC multiplexing	N/A
Layer 1	TrCH type	DCH
	TB sizes, bit	336
	TFS	TF0, bits
		TF1, bits
		TF2, bits
		TF3, bits
		TF4, bits
	TTI, ms	20
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	8460
	Uplink: Max number of bits/radio frame before rate matching	4230

6.10.2.4.1.25.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.25.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Interactive or background / 128 kbps / PS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	10	
	Min spreading factor	8	
	Max number of DPDCH data bits/radio frame	4800	
	Puncturing Limit	1	

6.10.2.4.1.25.2 Downlink

See 6.10.2.4.1.25.2.

6.10.2.4.1.27 Interactive or background / UL:64 DL:144 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

6.10.2.4.1.27.1 Uplink

See 6.10.2.4.1.22.1.

6.10.2.4.1.27.2 Downlink

6.10.2.4.1.27.2.1 Transport channel parameters for Interactive or background / DL:144 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	144000	
	RLC header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4 x336
		TF4, bits	8 x336
	TF5, bits	9x336	
	TTI, ms	20	
	Coding type	TC	
CRC, bit	16		
Max number of bits/TTI after channel coding	9516		

6.10.2.4.1.27.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.27.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Interactive or background / 144 kbps / PS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	10	
	DTX position	Flexible	
	Spreading factor	16	
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	288
		Number of data bits/frame	4320

6.10.2.4.1.28 Interactive or background / UL:144 DL:144 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

6.10.2.4.1.28.1 Uplink

6.10.2.4.1.28.1.1 Transport channel parameters for Interactive or background / UL:144 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	144000	
	RLC header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4 x336
		TF4, bits	8 x336
	TF5, bits	9 x336	
	TTI, ms	20	
	Coding type	TC	
CRC, bit	16		
Max number of bits/TTI after channel coding	9516		
Uplink: Max number of bits/radio frame before rate matching	4758		

6.10.2.4.1.28.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.28.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Interactive or background / 144 kbps / PS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	10	
	Min spreading factor	4	
	Max number of DPDCH data bits/radio frame	9600	
	Puncturing Limit	1	

6.10.2.4.1.28.2 Downlink

See 6.10.2.4.1.28.2.

6.10.2.4.1.29 Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

6.10.2.4.1.29.1 Uplink

See 6.10.2.4.1.22.1.

6.10.2.4.1.29.2 Downlink

6.10.2.4.1.29.2.1 Transport channel parameters for Interactive or background / DL:384 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	320	
	Max data rate, bps	384000	
	RLC header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	336	
	TFS	TF0, bits	0
		TF1, bits	1x336
		TF2, bits	2x336
		TF3, bits	4 x336
		TF4, bits	8 x336
		TF5, bits	12x336
	(alt. TF6, bits)	(alt. 24 x336)	
	TTI, ms	10(alt. 20)	
	Coding type	TC	
CRC, bit	16		
Max number of bits/TTI after channel coding	12684(alt. 25368)		

6.10.2.4.1.29.2.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.29.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Interactive or background / 384 kbps / PS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	12(alt. 14)	
	DTX position	Flexible	
	Spreading factor	8	
	Number of DPDCH	1	
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	608
		Number of data bits/frame	9120

6.10.2.4.1.30 Interactive or background / UL:128 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.30.1 Uplink

See 6.10.2.4.1.26.1.

6.10.2.4.1.30.2 Downlink

See 6.10.2.4.1.29.2.

6.10.2.4.1.31 Interactive or background / UL:384 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.31.1 Uplink

6.10.2.4.1.31.1.1 Transport channel parameters for Interactive or background / UL:384 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB
RLC	Logical channel type	DTCH
	RLC mode	AM
	Payload sizes, bit	320
	Max data rate, bps	384000
	RLC header, bit	16
MAC	MAC header, bit	0
	MAC multiplexing	N/A
Layer 1	TrCH type	DCH
	TB sizes, bit	336
	TFS	TF0, bits
		TF1, bits
		TF2, bits
		TF3, bits
		TF4, bits
		TF5, bits
		(alt. TF6, bits)
	TTI, ms	10(alt. 20)
	Coding type	TC
	CRC, bit	16
	Max number of bits/TTI after channel coding	12684(alt. 25368)
	Uplink: Max number of bits/radio frame before rate matching	12684

6.10.2.4.1.31.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.31.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Interactive or background / 384 kbps / PS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	12(alt. 14)	
	Min spreading factor	4	
	Max number of DPDCH data bits/radio frame	9600	
	Number of DPDCH	1	
	Puncturing Limit	0.72	

6.10.2.4.1.31.2 Downlink

See 6.10.2.4.1.29.2.

6.10.2.4.1.32 Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.32.1 Uplink

See 6.10.2.4.1.22.1.

6.10.2.4.1.32.2 Downlink

6.10.2.4.1.32.2.1 Transport channel parameters for Interactive or background / DL:2048 kbps / PS RAB

Higher layer	RAB/Signalling RB	RAB	
RLC	Logical channel type	DTCH	
	RLC mode	AM	
	Payload sizes, bit	640	
	Max data rate, bps	2048000	
	RLC header, bit	16	
MAC	MAC header, bit	0	
	MAC multiplexing	N/A	
Layer 1	TrCH type	DCH	
	TB sizes, bit	656	
	TFS	TF0, bits	0
		TF1, bits	1x656
		TF2, bits	2x656
		TF3, bits	4 x656
		TF4, bits	8 x656
		TF5, bits	16x656
		TF6, bits	32x656
	(alt. TF7, bits)	(alt. 64x656)	
	TTI, ms	10(alt. 20)	
	Coding type	TC	
CRC, bit	16		
	Max number of bits/TTI after channel coding	64572 (alt. 129132)	

6.10.2.4.1.32.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.32.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Interactive or background / 2048 kbps / PS RAB, DCH	3.4 kbps SRB for DCCH, DCH
	RM attribute	TBD	TBD
	TFCS size	14(alt. 16)	
	DTX position	Flexible	
	Spreading factor	4	
	Number of DPCH	3	
	DPCCH	Number of TFCI bits/slot	8
		Number of TPC bits/slot	8
		Number of Pilot bits/slot	16
	DPDCH	Number of data bits/slot	1248
		Number of data bits/frame	18720

6.10.2.4.1.33 Interactive or background / UL:128 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.33.1 Uplink

See 6.10.2.4.1.26.1.

6.10.2.4.1.33.2 Downlink

See 6.10.2.4.1.28.2.

- 6.10.2.4.1.34 Interactive or background / UL:384 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.2.4.1.34.1 Uplink
- See 6.10.2.4.1.31.1.
- 6.10.2.4.1.34.2 Downlink
- See 6.10.2.4.1.28.2.
- 6.10.2.4.1.35 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH
- 6.10.2.4.1.35.1 Uplink
- 6.10.2.4.1.35.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB
- See 6.10.2.4.1.4.1.1.
- 6.10.2.4.1.35.1.2 Transport channel parameters for Interactive or background / UL:32 kbps / PS RAB
- See 6.10.2.4.1.21.1.1.
- 6.10.2.4.1.35.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH
- See 6.10.2.4.1.2.1.1.
- 6.10.2.4.1.35.1.4 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			Interactive or background / 32 kbps / PS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	18				
	Min spreading factor	16				
	Max number of DPDCH data bits/radio frame	2400				
	Puncturing Limit	1				

- 6.10.2.4.1.35.2 Downlink
- 6.10.2.4.1.35.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB
- See 6.10.2.4.1.4.2.1.
- 6.10.2.4.1.35.2.2 Transport channel parameters for Interactive or background / DL:8 kbps / PS RAB
- See 6.10.2.4.1.21.2.1.
- 6.10.2.4.1.35.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH
- See 6.10.2.4.1.2.2.1

6.10.2.4.1.35.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			Interactive or background / 8 kbps / PS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	18				
	DTX position	Flexible				
	Spreading factor	64				
	DPCCH	Number of TFCI bits/slot			8	
		Number of TPC bits/slot			4	
		Number of Pilot bits/slot			8	
	DPDCH	Number of data bits/slot			60	
		Number of data bits/frame			900	

6.10.2.4.1.36 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:64 kbps / PS RAB+ UL:3.4 DL: 3.4 kbps SRBs for DCCH

6.10.2.4.1.36.1 Uplink

See 6.10.2.4.1.31.1.

6.10.2.4.1.36.2 Downlink

6.10.2.4.1.36.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.2.1.

6.10.2.4.1.36.2.2 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB

See 6.10.2.4.1.23.2.1.

6.10.2.4.1.36.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.36.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			Interactive or background / 64 kbps / PS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	24				
	DTX position	Flexible				
	Spreading factor	32				
	DPCCH	Number of TFCI bits/slot	8			
		Number of TPC bits/slot	4			
		Number of Pilot bits/slot	8			
	DPDCH	Number of data bits/slot	140			
		Number of data bits/frame	2100			

6.10.2.4.1.37 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB+ UL:3.4 DL: 3.4 kbps SRBs for DCCH

6.10.2.4.1.37.1 Uplink

6.10.2.4.1.37.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.1.1.

6.10.2.4.1.37.1.2 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB

See 6.10.2.4.1.22.1.

6.10.2.4.1.37.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.37.1.4 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			Interactive or background / 64 kbps / PS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	24				
	Min spreading factor	8				
	Max number of DPDCH data bits/radio frame	4800				
	Puncturing Limit	1				

6.10.2.4.1.37.2 Downlink

See 6.10.2.4.1.32.2.

6.10.2.4.1.38 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.38.1 Uplink

See 6.10.2.4.1.33.1.

6.10.2.4.1.38.2 Downlink

6.10.2.4.1.38.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.1.1

6.10.2.4.1.38.2.2 Transport channel parameters for Interactive or background / DL:128 kbps / PS RAB

See 6.10.2.4.1.25.2.

6.10.2.4.1.38.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.38.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			Interactive or background / 128 kbps / PS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	30				
	DTX position	Flexible				
	Spreading factor	16				
	DPCCH	Number of TFCI bits/slot	8			
		Number of TPC bits/slot	8			
		Number of Pilot bits/slot	16			
	DPDCH	Number of data bits/slot	288			
		Number of data bits/frame	4320			

6.10.2.4.1.39 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.39.1 Uplink

See 6.10.2.4.1.33.1.

6.10.2.4.1.39.2 Downlink

6.10.2.4.1.39.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.1.1.

6.10.2.4.1.39.2.2 Transport channel parameters for Interactive or background / DL:384 kbps / PS RAB

See 6.10.2.4.1.29.2.

6.10.2.4.1.39.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.39.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			Interactive or background / 384 kbps / PS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	36(alt. 42)				
	DTX position	Flexible				
	Spreading factor	8				
	Number of DPDCH	1				
	DPCCH	Number of TFCI bits/slot		8		
		Number of TPC bits/slot		8		
		Number of Pilot bits/slot		16		
	DPDCH	Number of data bits/slot		608		
		Number of data bits/frame		9120		

6.10.2.4.1.40 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.40.1 Uplink

6.10.2.4.1.40.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.1.1.

6.10.2.4.1.40.1.2 Transport channel parameters for Interactive or background / UL:128 kbps / PS RAB

See 6.10.2.4.1.26.1.

6.10.2.4.1.40.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.40.1.4 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			Interactive or background / 128 kbps / PS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	30				
	Min spreading factor	8				
	Max number of DPDCH data bits/radio frame	4800				
	Puncturing Limit	1				

6.10.2.4.1.40.2 Downlink

6.10.2.4.1.40.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.2.1.

6.10.2.4.1.40.2.2 Transport channel parameters for Interactive or background / DL:2048 kbps / PS RAB

See 6.10.2.4.1.28.2.1

6.10.2.4.1.40.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.40.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			Interactive or background / 2048 kbps / PS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	42(alt. 48)				
	DTX position	Flexible				
	Spreading factor	4				
	Number of DPDCH	3				
	DPCCH	Number of TFCI bits/slot		8		
		Number of TPC bits/slot		8		
		Number of Pilot bits/slot		16		
	DPDCH	Number of data bits/slot		1248		
		Number of data bits/frame		18720		

6.10.2.4.1.41 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:57.6 DL:57.6 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.41.1 Uplink

6.10.2.4.1.41.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.1.1.

6.10.2.4.1.41.1.2 Transport channel parameters for Streaming / unknown / UL:57.6 kbps / CS RAB

See 5.4.1.15.1.1.

6.10.2.4.1.41.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.41.1.4 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			Streaming / 57.6 kbps / CS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	30				
	Min spreading factor	16				
	Max number of DPDCH data bits/radio frame	2400				
	Puncturing Limit	1				

6.10.2.4.1.41.2 Downlink

6.10.2.4.1.41.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.2.1.

6.10.2.4.1.41.2.2 Transport channel parameters for Streaming / unknown / DL:57.6 kbps / CS RAB

See 6.10.2.4.1.15.2.1.

6.10.2.4.1.41.2.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.41.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			Streaming / 57.6 kbps / CS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	30				
	DTX position	Flexible				
	Spreading factor	32				
	DPCCH	Number of TFCI bits/slot		8		
		Number of TPC bits/slot		4		
		Number of Pilot bits/slot		8		
	DPDCH	Number of data bits/slot		140		
		Number of data bits/frame		2100		

6.10.2.4.1.42 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:64 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.42.1 Uplink

See 6.10.2.4.1.4.1.

6.10.2.4.1.42.2 Downlink

6.10.2.4.1.42.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.2.1.

6.10.2.4.1.42.2.2 Transport channel parameters for Streaming / unknown / DL:64 kbps / CS or PS RAB

See 6.10.2.4.1.16.2.1.

6.10.2.4.1.42.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.42.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			Streaming / 64 kbps / CS or PS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	36				
	DTX position	Flexible				
	Spreading factor	32				
	DPCCH	Number of TFCI bits/slot	8			
		Number of TPC bits/slot	4			
		Number of Pilot bits/slot	8			
	DPDCH	Number of data bits/slot	140			
		Number of data bits/frame	2100			

6.10.2.4.1.43 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:128 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.43.1 Uplink

See 6.10.2.4.1.4.1.

6.10.2.4.1.43.2 Downlink

6.10.2.4.1.43.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.2.1.

6.10.2.4.1.43.2.2 Transport channel parameters for Streaming / unknown / DL:128 kbps / CS or PS RAB

See 6.10.2.4.1.18.2.1.

6.10.2.4.1.43.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.43.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			Streaming / 128 kbps / CS or PS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	30				
	DTX position	Flexible				
	Spreading factor	16				
	DPCCH	Number of TFCI bits/slot		8		
		Number of TPC bits/slot		8		
		Number of Pilot bits/slot		16		
	DPDCH	Number of data bits/slot		288		
		Number of data bits/frame		4320		

6.10.2.4.1.44 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:384 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.44.1 Uplink

See 5.4.1.4.1.

6.10.2.4.1.44.2 Downlink

6.10.2.4.1.44.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.2.1.

6.10.2.4.1.44.2.2 Transport channel parameters for Streaming / unknown / DL:384 kbps / CS or PS RAB

See 6.10.25.4.1.22.2.1.

6.10.2.4.1.44.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1.

6.10.2.4.1.44.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			Streaming / 384 kbps / CS or PS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	30				
	DTX position	Flexible				
	Spreading factor	8				
	DPCCH	Number of TFCI bits/slot		8		
		Number of TPC bits/slot		8		
		Number of Pilot bits/slot		16		
	DPDCH	Number of data bits/slot		608		
		Number of data bits/frame		9120		

6.10.2.4.1.45 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.45.1 Uplink

6.10.2.4.1.45.1.1 Transport channel parameters for Conversational / speech / UL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.1.1.

6.10.2.4.1.45.1.2 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See 6.10.2.4.1.12.1.1

6.10.2.4.1.45.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.45.1.4 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			Conversational / unknown / 64 kbps / CS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	12				
	Min spreading factor	8				
	Max number of DPDCH data bits/radio frame	4800				
	Puncturing Limit	1				

6.10.2.4.1.45.2 Downlink

6.10.2.4.1.45.2.1 Transport channel parameters for Conversational / speech / DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.2.1.

6.10.2.4.1.45.2.2 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

See 6.10.2.4.1.12.2.1.

6.10.2.4.1.45.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.45.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			Conversational / unknown / 64 kbps / CS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3		
	RM attribute	TBD	TBD	TBD	TBD	TBD
	TFCS size	12				
	DTX position	Flexible				
	Spreading factor	32				
	DPCCH	Number of TFCI bits/slot		8		
		Number of TPC bits/slot		4		
		Number of Pilot bits/slot		8		
	DPDCH	Number of data bits/slot		140		
		Number of data bits/frame		2100		

6.10.2.4.1.46 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.46.1 Uplink

6.10.2.4.1.46.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See 6.10.2.5.4.1.12.1.1.

6.10.2.4.1.46.1.2 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.46.1.3 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / unknown / 64 kbps / CS RAB, DCH	Conversational / unknown / 64 kbps / CS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
		TBD	TBD	
	RM attribute	TBD	TBD	TBD
	TFCS size	8		
	Min spreading factor	8		
	Max number of DPDCH data bits/radio frame	4800		
	Puncturing Limit	1		

6.10.2.4.1.46.2 Downlink

6.10.2.4.1.46.2.1 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

See 6.10.2.4.1.12.2.1.

6.10.2.4.1.46.2.2 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.46.2.3 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / unknown / 64 kbps / CS RAB, DCH	Conversational / unknown / 64 kbps / CS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
	RM attribute	TBD	TBD	TBD
	TFCS size	8		
	DTX position	Flexible		
	Spreading factor	16		
	DPCCH	Number of TFCI bits/slot	8	
		Number of TPC bits/slot	8	
		Number of Pilot bits/slot	16	
	DPDCH	Number of data bits/slot	288	
		Number of data bits/frame	4320	

6.10.2.4.1.47 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.47.1 Uplink

6.10.2.4.1.47.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See 6.10.2.4.1.12.1.1.

6.10.2.4.1.47.1.2 Transport channel parameters for Interactive or background / UL:64 kbps / PS RAB

See 6.10.2.4.1.22.1.1.

6.10.2.4.1.47.1.3 Transport channel parameters for UL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.47.1.4 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / unknown / 64 kbps / CS RAB, DCH	Interactive or background / 64 kbps / PS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
	RM attribute	TBD	TBD	TBD
	TFCS size	16		
	Min spreading factor	8		
	Max number of DPDCH data bits/radio frame	4800		
	Puncturing Limit	1		

6.10.2.4.1.47.2 Downlink

6.10.2.4.1.47.2.1 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

See 6.10.2.4.1.12.2.1.

6.10.2.4.1.47.2.2 Transport channel parameters for Interactive or background / DL:64 kbps / PS RAB

See 6.10.2.4.1.23.2.1.

6.10.2.4.1.47.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.47.2.4 Physical channel parameters

DPCCH Downlink	RAB or SRB, TrCh	Conversational / unknown / 64 kbps / CS RAB, DCH	Interactive or background / 64 kbps / PS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
	RM attribute	TBD	TBD	TBD
	TFCS size	16		
	DTX position	Flexible		
	Spreading factor	16		
	DPCCH	Number of TFCH bits/slot	8	
		Number of TPC bits/slot	8	
		Number of Pilot bits/slot	16	
	DPDCH	Number of data bits/slot	288	
		Number of data bits/frame	4320	

6.10.2.4.1.48 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.48.1 Uplink

See 6.10.2.4.1.43.1.

6.10.2.4.1.48.2 Downlink

6.10.2.4.1.48.2.1 Transport channel parameters for Conversational / unknown / DL:64 kbps / CS RAB

See 6.10.2.4.1.12.1.

6.10.2.4.1.48.2.2 Transport channel parameters for Interactive or background / DL:128 kbps / PS RAB

See 6.10.2.4.1.25.2.1.

6.10.2.4.1.48.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.1.48.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Conversational / unknown / 64 kbps / CS RAB, DCH	Interactive or background / 128 kbps / PS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
	RM attribute	TBD	TBD	TBD
	TFCS size	20		
	DTX position	Flexible		
	Spreading factor	8		
	DPCCH	Number of TFCI bits/slot	8	
		Number of TPC bits/slot	8	
		Number of Pilot bits/slot	16	
	DPDCH	Number of data bits/slot	608	
		Number of data bits/frame	9120	

6.10.2.4.1.49 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.49.1 Uplink

6.10.2.4.1.49.1.1 Transport channel parameters for Conversational / unknown / UL:64 kbps / CS RAB

See 6.10.2.4.1.12.1.1.

6.10.2.4.1.49.1.2 Transport channel parameters for Interactive or background / UL:128 kbps / PS RAB

See 6.10.2.4.1.26.1.1

6.10.2.4.1.49.1.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.49.1.4 Physical channel parameters

DPCH Uplink	RAB or SRB, TrCh	Conversational / unknown / 64 kbps / CS RAB, DCH	Interactive or background / 128 kbps / PS RAB, DCH	3.4 kbps SRBs for DCCH, DCH
	RM attribute	TBD	TBD	TBD
	TFCS size	20		
	Min spreading factor	4		
	Max number of DPDCH data bits/radio frame	9600		
	Puncturing Limit	1		

6.10.2.4.1.49.2 Downlink

See 6.10.2.4.1.44.2.

6.10.2.4.1.50 Interactive or background / UL:64 DL:128 kbps / PS RAB + Streaming / unknown / UL:0 DL:64 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.50.1 Uplink

See 6.10.2.4.1.22.1.1.

6.10.2.4.1.50.2 Downlink

6.10.2.4.1.50.2.1 Transport channel parameters for Interactive or background / DL:128 kbps / PS RAB

See 6.10.2.4.1.25.2.1.

6.10.2.4.1.50.2.2 Transport channel parameters for Streaming / unknown / DL:64 kbps / CS or PS RAB

See 6.10.2.4.1.16.2.1.

6.10.2.4.1.50.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.50.2.4 Physical channel parameters

DPCCH Downlink	RAB or SRB, TrCh	Interactive or background / 128 kbps / PS RAB, DCH	Streaming / unknown / 64 kbps / CS or PS RAB	3.4 kbps SRBs for DCCH, DCH
	RM attribute	TBD	TBD	TBD
	TFCS size	50		
	DTX position	Flexible		
	Spreading factor	8		
	DPCCH	Number of TFCl bits/slot	8	
		Number of TPC bits/slot	8	
		Number of Pilot bits/slot	16	
	DPDCH	Number of data bits/slot	608	
		Number of data bits/frame	9120	

6.10.2.4.1.51 Interactive or background / UL:64 DL:128 kbps / PS RAB + Streaming / unknown / UL:0 DL:128 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.1.51.1 Uplink

See 6.10.2.4.1.46.1.

6.10.2.4.1.51.2 Downlink

6.10.2.4.1.51.2.1 Transport channel parameters for Interactive or background / DL:128 kbps / PS RAB

See 6.10.2.4.1.25.2.1.

6.10.2.4.1.51.2.2 Transport channel parameters for Streaming / unknown / DL:128 kbps / CS or PS RAB

See 6.10.2.4.1.18.2.1.

6.10.2.4.1.51.2.3 Transport channel parameters for DL:3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.1.1.

6.10.2.4.1.51.2.4 Physical channel parameters

DPCH Downlink	RAB or SRB, TrCh	Interactive or background / 128 kbps / PS RAB, DCH	Streaming / unknown / 128 kbps / CS or PS RAB	3.4 kbps SRBs for DCCH, DCH
	RM attribute	TBD	TBD	TBD
	TFCS size	50		
	DTX position	Flexible		
	Spreading factor	8		
	DPCCH	Number of TFCl bits/slot	8	
		Number of TPC bits/slot	8	
		Number of Pilot bits/slot	16	
	DPDCH	Number of data bits/slot	608	
		Number of data bits/frame	9120	

6.10.2.4.2 Combinations on PDSCH and DPCH

6.10.2.4.2.1 Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

6.10.2.4.2.1.1 Uplink

See 6.10.2.4.1.22.1.

6.10.2.4.2.1.2 Downlink

6.10.2.4.2.1.2.1 Transport channel parameters for Interactive or background / DL:384 kbps / PS RAB

See 6.10.2.4.1.29.2.1.

6.10.2.4.2.1.2.2 Transport channel parameters for DL:3.4 DL: 3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.2.1.2.3 Physical channel parameters

PDSCH	RAB or SRB, TrCh	Interactive or background / 384 kbps / PS RAB, DSCH	
	TFCS size	6(alt. 7)	
	DTX position	N/A (SingleTrCH)	
	Spreading factor	4	
DPCH Downlink associated with PDSCH	RAB or SRB, TrCh	3.4 kbps SRB for DCCH, DCH	
	DTX position	N/A (SingleTrCH)	
	Minimum spreading factor	256	
	DPCCH	Number of TFCl bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	10
Number of data bits/frame		150	

6.10.2.4.2.2 Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

6.10.2.4.2.2.1 Uplink

See 6.10.2.4.1.22.1.

6.10.2.4.2.2.2 Downlink

6.10.2.4.2.1.2.1 Transport channel parameters for Interactive or background / DL:2048 kbps / PS RAB

See 6.10.2.4.1.28.2.1.

6.10.2.4.2.1.2.2 Transport channel parameters for DL:3.4 DL: 3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.2.1.2.3 Physical channel parameters

PDSCH	RAB or SRB, TrCh	Interactive or background / 2048 kbps / PS RAB, DSCH	
	TFCS size	7(alt. 8)	
	DTX position	N/A (SingleTrCH)	
	Spreading factor	4	
DPCH Downlink associated with PDSCH	RAB or SRB, TrCh	3.4 kbps SRB for DCCH, DCH	
	DTX position	N/A (SingleTrCH)	
	Minimum spreading factor	256	
	DPCCH	Number of TFCI bits/slot	0
		Number of TPC bits/slot	2
		Number of Pilot bits/slot	8
	DPDCH	Number of data bits/slot	10
Number of data bits/frame		150	

6.10.2.4.2.3 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.2.3.1 Uplink

See 6.10.2.4.1.33.1.

6.10.2.4.2.3.2 Downlink

6.10.2.4.2.1.2.1 Transport channel parameters for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.2.1.

6.10.2.4.2.1.2.2 Transport channel parameters for Interactive or background / DL:384 kbps / PS RAB

See 6.10.2.4.1.29.2.1.

6.10.2.4.2.1.2.3 Transport channel parameters for DL:3.4 DL: 3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.2.1.2.4 Physical channel parameters

PDSCH	RAB or SRB, TrCh	Interactive or background / 384 kbps / PS RAB, DSCH			
	TFCS size	6(alt. 7)			
	DTX position	N/A (SingleTrCH)			
	Spreading factor	4			
DPCH Downlink	RAB or SRB, TrCh	Conversational / speech / 12.2 kbps / CS RAB, DCH			3.4 kbps SRBs for DCCH. DCH
		RAB subflow #1	RAB subflow #2	RAB subflow #3	
	RM attribute	TBD	TBD	TBD	TBD
	TFCS size	6			
	DTX position	Fixed			
	Spreading factor	128			
	DPCCH	Number of TFCI bits/slot	0		
		Number of TPC bits/slot	2		
		Number of Pilot bits/slot	4		
	DPDCH	Number of data bits/slot	34		
		Number of data bits/frame	510		

6.10.2.4.2.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

6.10.2.4.2.4.1 Uplink

See 6.10.2.4.1.33.1.

6.10.2.4.2.4.2 Downlink

6.10.2.4.2.4.2.1 Transport channel parameters for Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB

See 6.10.2.4.1.4.1.1.

6.10.2.4.2.4.2.2 Transport channel parameters for Interactive or background / DL:2048 kbps / PS RAB

See 6.10.2.4.1.28.2.

6.10.2.4.2.4.2.3 Transport channel parameters for DL:3.4 DL: 3.4 kbps SRBs for DCCH

See 6.10.2.4.1.2.2.1

6.10.2.4.2.4 Physical channel parameters

PDSCH	RAB or SRB, TrCh		Interactive or background / 2048 kbps / PS RAB, DSCH			
	TFCS size		7(alt. 8)			
	DTX position		N/A (SingleTrCH)			
	Spreading factor		4			
DPCH Downlink	RAB or SRB, TrCh		Conversational / speech / 12.2 kbps / CS RAB, DCH			3.4 kbps SRBs for DCCH. DCH
			RAB subflow #1	RAB subflow #2	RAB subflow #3	
	RM attribute		TBD	TBD	TBD	TBD
	TFCS size		6			
	DTX position		Fixed			
	Spreading factor		128			
	DPCCH	Number of TFCI bits/slot	0			
		Number of TPC bits/slot	2			
		Number of Pilot bits/slot	4			
	DPDCH	Number of data bits/slot	34			
		Number of data bits/frame	510			

6.10.2.4.3 Combinations on SCCPCH

6.10.2.4.3.1 Stand-alone signalling RB for PCCH

6.10.2.4.3.1.1 Transport channel parameter

Higher layer	RAB/signalling RB		SRB			
	User of Radio Bearer		RRC			
RLC	Logical channel type		PCCH			
	RLC mode		TM			
	Payload sizes, bit		240 (alt. 64)			
	Max data rate, bps		24000 (alt. 6400)			
	RLC header, bit		0			
MAC	MAC header, bit		0			
	MAC multiplexing		N/A			
Layer 1	TrCH type		PCH			
	TB sizes, bit		240 (alt. 64)			
	TFS	TF1, bits	0			
		TF0, bits	1x240 (alt. 1x64)			
	TTI, ms		10			
	Coding type		CC 1/2			
	CRC, bit		16			
	Max number of bits/TTI before rate matching		528 (alt. 176)			

6.10.2.4.3.1.2 Physical channel parameters

SCCPCH	TFCS size		2				
	DTX position		N/A (SingleTrCH)				
	Spreading factor		128(alt. 256)				
	DPCCH	Number of TFCI bits/slot		0			
		Number of Pilot bits/slot		0			
		Number of data bits/slot		40(alt. 20)			
	DPDCH	Number of data bits/frame		600(alt. 300)			

6.10.2.4.3.2 Interactive/Background 32 kbps PS RAB + 50.4 kbps SRBs for CCCH + 13.6 kbps SRB for DCCH + SRB for BCCH

6.10.2.4.3.2.1 Transport channel parameters

Higher layer	RAB/signalling RB	RAB	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5	SRB#6	
	User of Radio Bearer	Interactive/Background RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC	
RLC	Logical channel type	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH	BCCH	
	RLC mode	AM	UM	UM	AM	AM	AM	TM	
	Payload sizes, bit	320	152	136	128	128	128	166	
	Max data rate, bps	32000	45600	40800	38400	38400	38400	49800	
	RLC header, bit	16	8	8	16	16	16	0	
MAC	MAC header, bit	24	8	24	24	24	24	2	
	MAC multiplexing	N/A	6 logical channel multiplexing						
Layer 1	TrCH type	FACH	FACH						
	TB sizes, bit	360	168						
	TFS	TF0, bits	0	0					
		TF1, bits	1x360	1x168					
		TF2, bits	-	2x168					
		TF3, bits	-	3x168					
	TTI, ms	10	10						
	Coding type	TC	CC 1/2						
	CRC, bit	16	16						
	Max number of bits/TTI before rate matching	1140	1120						

6.10.2.4.3.2.2 Physical channel parameters

SCCPCH	TFCS size	TBD		
	DTX position	Flexible		
	Spreading factor	64		
	DPCCH	Number of TFCI bits/slot	8	
		Number of Pilot bits/slot	0	
		Number of data bits/slot	72	
	DPDCH	Number of data bits/frame	1080	

6.10.2.4.3.3 Interactive/Background 32 kbps RAB + SRBs for PCCH + 50.4 kbps SRB for CCCH + 13.6 kbps SRB for DCCH + SRB for BCCH

6.10.2.4.3.3.1 Transport channel parameters

Higher layer	RAB/signalling RB	RAB	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5	SRB#6	SRB#7	
	User of Radio Bearer	Interactive/ Background RAB	RRC	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	RRC	
RLC	Logical channel type	DTCH	PCCH	CCCH	DCCH	DCCH	DCCH	DCCH	BCCH	
	RLC mode	AM	TM	UM	UM	AM	AM	AM	TM	
	Payload sizes, bit	320	240 (alt. 64)	152	136	128	128	128	166	
	Max data rate, bps	32000	24000 (alt. 6400)	45600	40800	38400	38400	38400	49800	
	RLC header, bit	16	0	8	8	16	16	16	0	
MAC	MAC header, bit	24	0	8	24	24	24	24	2	
	MAC multiplexing	N/A	N/A	6 logical channel multiplexing						
Layer 1	TrCH type	FACH	PCH	FACH						
	TB sizes, bit	360	240 (alt. 64)	168						
	TFS	TF0, bits	0	0	0					
		TF1, bits	1x360	1x240 (alt. 1x64)	1x168					
		TF2, bits	-	-	2x168					
		TF3, bits	-	-	3x168					
	TTI, ms		10	10	10					
	Coding type		TC	CC 1/2	CC 1/2					
	CRC, bit		16	16	16					
	Max number of bits/TTI before rate matching		1140	528 (alt. 176)	1120					

6.10.2.4.3.3.2 Physical channel parameters

SCCPCH	TFCS size	TBD	
	DTX position	Flexible	
	Spreading factor	64	
	DPCCH	Number of TFCI bits/slot	8
		Number of Pilot bits/slot	0
		Number of data bits/slot	72
	DPDCH	Number of data bits/frame	1080

6.10.2.4.4 Combinations on PRACH

6.10.2.4.4.1 Interactive/Background 32 kbps PS RAB + 16.6 kbps SRB for CCCH + 13.6 kbps SRB for DCCH

6.10.2.4.4.1.1 Transport channel parameter

Higher layer	RAB/signalling RB	RAB	SRB#1	SRB#2	SRB#3	SRB#4	SRB#5	
	User of Radio Bearer	Interactive/Background RAB	RRC	RRC	RRC	NAS_DT High prio	NAS_DT Low prio	
RLC	Logical channel type	DTCH	CCCH	DCCH	DCCH	DCCH	DCCH	
	RLC mode	AM	UM	UM	AM	AM	AM	
	Payload sizes, bit	320	166	136	128	128	128	
	Max data rate, bps	32000	16600	13600	12800	12800	12800	
	RLC header, bit	16	0	8	16	16	16	
MAC	MAC header, bit	24	2	24	24	24	24	
	MAC multiplexing	6 logical channel multiplexing						
Layer 1	TrCH type	RACH						
	TB sizes, bit	360	168	168	168	168	168	
	TFS	TF0, bits	0					
		TF1, bits	1x168					
		TF2, bits	1x360					
	TTI, ms	10						
	Coding type	CC 1/2						
	CRC, bit	16						
Max number of bits/TTI before rate matching	768	384	384	384	384	384		

6.10.2.4.4.1.2 Physical channel parameters

PRACH	TFCS size	3
	DTX position	Flexible
	Minimum Spreading factor	32
	Max number of DPDCH data bits/radio frame	1200
	Puncturing Limit	1

7 Generic setup procedures

7.1 Basic Generic Procedures

7.1.1 UE Test States for Basic Generic Procedures

This clause describes a set of procedures for use by test cases in TS 34.123-1. Describing these procedures in a generic manner allows their use in many test cases. By using these procedures, test case descriptions need not detail signalling that is not relevant to its purpose or understanding.

The procedures are based upon default values that are adapted to the most common usage. Test cases that require values different from the default will, when specifying the Basic Generic Procedure, also specify those parameters that are modified.

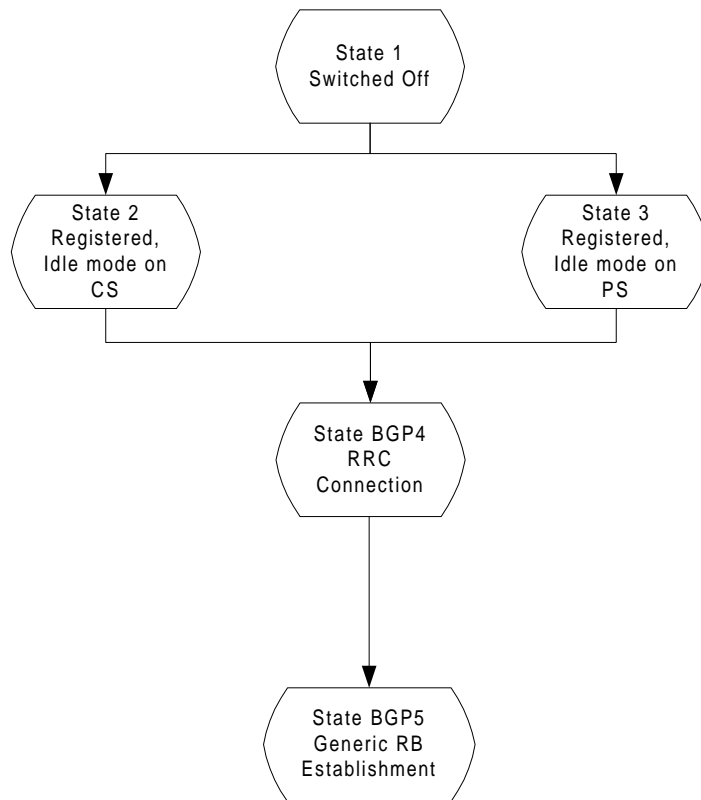


Figure 7.1.1: UE Test States for Basic Generic Procedures

In order that the UE can set up a call in UTRAN, there are a number of procedures to be undertaken in a hierarchical sequence to move between known states. The sequences are shown in Figure 7.1.1 above and the status of the relevant protocols in the UE in the different states are given in Table 7.1.1 below.

Table 7.1.1: The UE states

		RRC	CC	MM	SM	GMM
State 1	Power OFF	----	null	detached	inactive	detached
State 2	CS Registered Idle Mode	idle	null	idle	inactive	detached
State 3	PS Registered Idle Mode	idle	null	detached	inactive	idle
State BGP4	RRC Connection	connected	null	as previous	inactive	as previous
State BGP5	Generic RB Establishment	connected	null	as previous	inactive	as previous

7.1.2 Mobile terminated establishment of Radio Resource Connection

7.1.2.1 Initial conditions

System Simulator:

The system simulator will start from the default idle state. Parameters will be the default parameters for a single cell, unless otherwise specified in the test case.

User Equipment:

Unless otherwise specified in the test case, the UE will be in the following state:

- Default test operating conditions
- The UE shall have followed the generic registration procedure for CS or PS operations, and will be in Idle Mode, Camped-on (State 2 or State 3).

7.1.2.2 Definition of system information messages

The default system information messages are used.

7.1.2.3 Procedure

- The SS sends a PAGING TYPE 1 message to the UE on the appropriate paging block, and with the IE "Paging record" containing the TMSI or P-TMSI of the UUT.
- The SS receives an RRC CONNECTION REQUEST message from the UE.
- On receipt of the RRC CONNECTION REQUEST the SS shall transmit a RRC CONNECTION SETUP message to the UE. The SS shall wait for the receipt of an RRC CONNECTION COMPLETE message from the UE.
- On receipt of an RRC CONNECTION COMPLETE message, the procedure is complete.

Step	Direction		Message	Comments
	UE	SS		
1		←	SYSTEM INFORMATION (BCCH)	Default SI messages
2		←	PAGING TYPE 1 (PCCH)	Sent on appropriate cycle
3		→	RRC CONNECTION REQUEST (CCCH)	RRC
4		←	RRC CONNECTION SETUP (CCCH)	RRC
5		→	RRC CONNECTION SETUP COMPLETE (DCCH)	RRC

7.1.2.4 Specific message contents

7.1.2.4.1 PAGING TYPE 1

This message is sent from the SS to the UE, using the TM RLC SAP, on the PCCH logical channel:

Information Element				Value/Remark
Message Type				PAGING TYPE 1
UE Information elements				
Paging record list	Paging record	CN originator	Paging cause	Terminating Speech Call *
			CN domain identity	CS domain *
			TMSI (GSM-MAP)	As specified during Registration procedure
Other information elements				
BCCH modification info				omit

NOTE * : These defaults are applied if no subsequent procedure is to be run. Otherwise, the Paging cause and CN domain identity are selected in accordance with the requirements of the following procedure.

7.1.2.4.2 RRC CONNECTION REQUEST

This message is sent by the UE to the SS using the TM-RLC SAP. It is sent on the CCCH Logical channel.

Information Element			Value/Remark
Message Type			RRC CONNECTION REQUEST
UE information elements			
Initial UE identity	TMSI and LAI	TMSI (GSM-MAP)	As specified during Registration procedure
		LAI (GSM-MAP)	As specified by default 1 cell environment
Initial UE capability	Maximum number of AM entities		As declared in UE ICS
Establishment cause			As appropriate
Protocol error indicator			FALSE
Measurement information elements			
Measured results on RACH			Not checked

7.1.2.4.3 RRC CONNECTION SETUP

This message is sent from the SS to the UE using the UM-RLC SAP. The message is sent on the CCCH Logical channel.

The default RRC CONNECTION SETUP message for the transition to connected mode CELL_DCH is used except for the IE fields specified below.

Information Element			Value/Remark
Message Type			RRC CONNECTION SETUP
UE Information Elements			
Initial UE identity	TMSI and LAI	TMSI (GSM-MAP)	As specified during Registration procedure
		LAI (GSM-MAP)	As specified by default 1 cell environment
RB Information Elements			
Use default for 3.4k bit/s signalling radio bearer			
TrCH Information Elements			
Use default for 3.4k bit/s signalling radio bearer			
Frequency info			As specified by default 1 cell environment
Uplink radio resources			
Use default			
Downlink radio resources			
Use default			

7.1.2.4.4 RRC CONNECTION SETUP COMPLETE

This message is sent by the UE to the SS using AM-RLC SAP. The message is sent on the DCCH Logical channel.

Information Element		Value/Remark	
Message Type		RRC CONNECTION SETUP COMPLETE	
UE Information Elements			
Hyper frame number		Not checked	
UE radio access capability	Conformance test compliance		R99
	PDCP capability	Support for lossless SRNS relocation	Not checked
		Supported algorithm types	Not checked
	RLC capability	Total RLC AM buffer size	Not checked
		Maximum number of AM entities	Not checked
	Transport channel capability	Downlink	
		Max no of bits received	Not checked
		Max convolutionally coded bits received	Not checked
		Max turbo coded bits received	Not checked
		Maximum number of simultaneous transport channels	Not checked
		Max no of received transport blocks	Not checked
		Maximum number of TFC in the TFCS	Not checked
		Maximum number of TF	Not checked
		Support for turbo decoding	Not checked
		Uplink	
		Max no of bits transmitted	Not checked
		Max convolutionally coded bits received	Not checked
		Max turbo coded bits received	Not checked
		Maximum number of simultaneous transport channels	Not checked
		Max no of transmitted transport blocks	Not checked
		Maximum number of TFC in the TFCS	Not checked
		Maximum number of TF	Not checked
		Support for turbo encoding	Not checked
	RF capability	UE power class	As declared for UE
		Tx/Rx frequency separation	Not checked
	Physical channel capability	Downlink	
		Maximum number of simultaneous CCTrCH	Not checked
		Max no DPCH/PDSCH codes	Not checked
		Max no physical channel bits received	Not checked
		Support for SF 512	Not checked
		Support of PDSCH	Not checked
		Simultaneous reception of SCCPCH and DPCH	Not checked
		Max no of S-CCPCH RL	Not checked
		Uplink	
		Maximum number of DPDCH bits transmitted per 10 ms	Not checked
		Support of PCPCH	Not checked

	UE multi-mode/multi-RAT capability	Multi-RAT capability	
		Multi-mode capability	FDD or FDD/TDD
	Security capability	Ciphering algorithm capability	Not checked
		Integrity protection algorithm capability	Not checked
	LCS capability	Standalone location method(s) supported	Not checked
		UE based OTDOA supported	Not checked
		Network Assisted GPS support	Not checked
		GPS reference time capable	Not checked
		Support for IPDL	Not checked
	Measurement capability	Need for downlink compressed mode	Not checked
		FDD measurements DL	Not checked
		TDD measurements DL	Not checked
		GSM 900 DL	Not checked
		DCS 1800 DL	Not checked
		GSM 1900 DL	Not checked
		Multi-carrier measurement DL	Not checked
		Need for uplink compressed mode	Not checked
		FDD measurements UL	Not checked
		TDD measurements UL	Not checked
		GSM 900 UL	Not checked
		DCS 1800 UL	Not checked
		GSM 1900 UL	Not checked
		Multi-carrier measurement UL	Not checked
UE system specific capability			Not checked

7.1.3 Radio Bearer Setup Procedure

7.1.3.1 Initial conditions

The procedure specified in clause 7.1.2 will be run. This procedure starts from the successful completion of clause 7.1.2.:

7.1.3.2 Definition of system information messages

The default system information messages are used.

7.1.3.3 Procedure

- The SS sends a RADIO BEARER SETUP message to the UE on the DCCH established by the RRC Connection Establishment procedure.
- The SS receives a RADIO BEARER SETUP COMPLETE message from the UE in RLC Acknowledged mode on the DCCH.

On reception of the RADIO BEARER SETUP COMPLETE the procedure is complete.

Step	Direction		Message	Comments
	UE	SS		
1	←		RADIO BEARER SETUP (DCCH)	RRC
2	→		RADIO BEARER SETUP COMPLETE (DCCH)	RRC

7.1.3.4 Specific message contents

7.1.3.4.1 RADIO BEARER SETUP

The RADIO BEARER SETUP message is sent from the System Simulator to the UE, using AM-RLC on the DCCH logical channel.

The default RRC CONNECTION SETUP message for the setup of a speech radio access bearer is used except for the IE fields specified below.

Information Element	Value/Remark
Message Type	RADIO BEARER SETUP
UE Information Elements	
CN Information Elements	
RB Information Elements	
RAB information for setup	Default parameters for 12.2 kbps speech RAB

7.1.3.4.2 RADIO BEARER SETUP COMPLETE

The RADIO BEARER SETUP COMPLETE message is sent from the UE to the System Simulator, using AM-RLC on the DCCH logical channel.

The default RADIO BEARER SETUP COMPLETE message is used .

Information Element	Value/Remark
Message Type	RADIO BEARER SETUP COMPLETE
Use default	

7.2 Generic setup procedures

7.2.1 UE Test States for Generic setup procedures

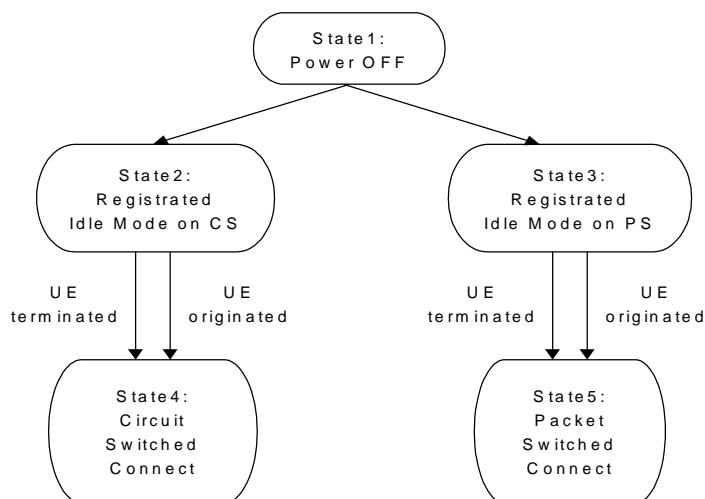


Figure 7.2.1.1: UE Test States for Generic setup procedures

In order that the UE can set up a call in UTRAN, there are a number of procedures to be undertaken in a hierarchical sequence to move between known states. The sequences are shown in Figure 7.2.1.1 above and the status of the relevant protocols in the UE in the different states are given in Table 7.2.1.1 below.

Table 7.2.1.1: The UE states

		RRC	CC	MM	SM	GMM
State1	Power OFF	----	null	detached	inactive	detached
State2	CS Registered Idle Mode	idle	null	idle	inactive	detached
State3	PS Registered Idle Mode	idle	null	detached	inactive	idle
State3	Circuit Switched Connect	connected	active	connected	inactive	detached
State4	Packet Switched Connect	connected	null	detached	active	connected

7.2.2 Registration of UE

7.2.2.1 Registration on CS

7.2.2.1.1 Initial condition

System Simulator:

1 cell, default parameters.

User Equipment:

- The UE shall be operated under normal test conditions.
- The special Test-USIM shall be inserted.

7.2.2.1.2 Definition of system information messages

The default system information messages are used.

7.2.2.1.3 Procedure

Registration of UE for SS shall be established under ideal radio conditions as defined in 5. Reference Test Conditions:

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION (BCCH)	NW Broadcast
2	-->		RRC CONNECTION REQUEST (CCCH)	RRC
3	<--		RRC CONNECTION SETUP (CCCH)	RRC
4	-->		RRC CONNECTION SETUP COMPLETE (DCCH)	RRC
5	-->		LOCATION UPDATING REQUEST	MM
6	<--		AUTHENTICATION REQUEST	MM
7	-->		AUTHENTICATION RESPONSE	MM
8	<--		SECURITY MODE COMMAND	RRC
9	-->		SECURITY MODE COMPLETE	RRC
10	<--		LOCATION UPDATING ACCEPT	MM
11	-->		TMSI RELOCATION COMPLETE	MM
12	<--		RRC CONNECTION RELEASE	RRC
13	-->		RRC CONNECTION RELEASE COMPLETE	RRC

7.2.2.1.4 Specific message contents

All Specific message contents shall be referred to clause 9 "Default Message Contents of Layer3 Messages for Layer 3 Testing".

7.2.2.2 Registration on PS

7.2.2.2.1 Initial condition

System Simulator:

1 cell, default parameters.

User Equipment:

- The UE shall be operated under normal test conditions.
- The special Test-USIM shall be inserted.

7.2.2.2.2 Definition of system information messages

The default system information messages are used.

7.2.2.2.3 Procedure

Registration of UE for SS shall be established under ideal radio conditions as defined in 5. Reference Test Conditions:

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION (BCCH)	NW Broadcast
2	-->		RRC CONNECTION REQUEST (CCCH)	RRC
3	<--		RRC CONNECTION SETUP (CCCH)	RRC
4	-->		RRC CONNECTION SETUP COMPLETE (DCCH)	RRC
5	-->		ATTACH REQUEST	GMM
6	<--		AUTHENTICATION AND CIPHERING REQUEST	GMM
7	-->		AUTHENTICATION AND CIPHERING RESPONSE	GMM
8	<--		SECURITY MODE COMMAND	RRC
9	-->		SECURITY MODE COMPLETE	RRC
10	<--		ATTACH ACCEPT	GMM
11	-->		ATTACH COMPLETE	GMM
12	<--		RRC CONNECTION RELEASE	RRC
13	-->		RRC CONNECTION RELEASE COMPLETE	RRC

7.2.2.2.4 Specific message contents

All Specific message contents shall be referred to clause 9 "Default Message Contents of Layer3 Messages for Layer 3 Testing".

7.2.3 Call setup

7.2.3.1 Generic call set up procedure for mobile terminating circuit switched calls

7.2.3.1.1 Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

- The UE shall be operated under normal test conditions.
- The special Test-USIM shall be inserted.

7.2.3.1.2 Definition of system information messages

The default system information messages are used.

7.2.3.1.3 Procedure

The Call Set-up procedure shall be performed under Ideal radio conditions as defined in 5. Reference Test Conditions:

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION (BCCH)	Broadcast
2	<--		PAGING (PCCH)	Paging
3	-->		RRC CONNECTION REQUEST (CCCH)	RRC
4	<--		RRC CONNECTION SETUP (CCCH)	RRC
5	-->		RRC CONNECTION SETUP COMPLETE (DCCH)	RRC
6	-->		PAGING RESPONSE	RR
7	<--		AUTHENTICATION REQUEST	MM
8	-->		AUTHENTICATION RESPONSE	MM
9	<--		SECURITY MODE COMMAND	RRC
10	-->		SECURITY MODE COMPLETE	RRC
11	<--		SET UP	CC
12	-->		CALL CONFIRMED	CC
13	<--		RADIO BEARER SETUP	RRC RAB SETUP
14	-->		RADIO BEARER SETUP COMPLETE	RRC
15	-->		ALERTING	CC
16	-->		CONNECT	CC
17	<--		CONNECT ACKNOWLEDGE	CC

7.2.3.1.4 Specific message contents

All Specific message contents shall be referred to clause 9 "Default Message Contents of Layer3 Messages for Layer 3 Testing".

7.2.3.2 Generic call set-up procedure for mobile originating circuit switched calls

7.2.3.2.1 Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

- The UE shall be operated under normal test conditions.
- The special Test-USIM shall be inserted.

7.2.3.2.2 Definition of system information messages

The default system information messages are used.

7.2.3.2.3 Procedure

The Call Set-up procedure shall be performed under Ideal radio conditions as defined in 5. Reference Test Conditions:

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION (BCCH)	Broadcast
2	-->		RRC CONNECTION REQUEST (CCCH)	RRC
3	<--		RRC CONNECTION SETUP (CCCH)	RRC
4	-->		RRC CONNECTION SETUP COMPLETE (DCCH)	RRC
5	-->		PAGING RESPONSE	RR
6	-->		CM SERVICE REQUEST	MM
5	<--		AUTHENTICATION REQUEST	MM
6	-->		AUTHENTICATION RESPONSE	MM
7	<--		SECURITY MODE COMMAND	RRC
8	-->		SECURITY MODE COMPLETE	RRC
9	-->		SET UP	CC
10	<--		CALL PROCEEDING	CC
11	<--		RADIO BEARER SETUP	RRC RAB SETUP
12	-->		RADIO BEARER SETUP COMPLETE	RRC
13	<--		ALERTING	CC
14	<--		CONNECT	CC
15	-->		CONNECT ACKNOWLEDGE	CC

7.2.3.2.4 Specific message contents

All Specific message contents shall be referred to clause 9 "Default Message Contents of Layer3 Messages for Layer 3 Testing".

7.2.4 Session setup

7.2.4.1 Generic session set up procedure for mobile terminating packet switched sessions

7.2.4.1.1 Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

- The UE shall be operated under normal test conditions.
- The special Test-USIM shall be inserted.

7.2.4.1.2 Definition of system information messages

The default system information messages are used.

7.2.4.1.3 Procedure

The Session Set-up procedure shall be performed under Ideal radio conditions as defined in 5. Reference Test Conditions:

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION (BCCH)	Broadcast
2	<--		PAGING TYPE1 (PCCH)	Paging
3	-->		RRC CONNECTION REQUEST (CCCH)	RRC
4	<--		RRC CONNECTION SETUP (CCCH)	RRC
5	-->		RRC CONNECTION SETUP COMPLETE (DCCH)	RRC
6	-->		SERVICE REQUEST	GMM
7	<--		AUTHENTICATION AND CIPHERING REQUEST	GMM
8	-->		AUTHENTICATION AND CIPHERING RESPONSE	GMM
9	<--		SECURITY MODE COMMAND	RRC
10	-->		SECURITY MODE COMPLETE	RRC
11	<--		REQUEST PDP CONTEXT ACTIVATION	SM
12	-->		ACTIVATE PDP CONTEXT REQUEST	SM
13	<--		RADIO BEARER SETUP	RRC RAB SETUP
14	-->		RADIO BEARER SETUP COMPLETE	RRC
15	<--		ACTIVATE PDP CONTEXT ACCEPT	SM

7.4.1.4 Specific message contents

All Specific message contents shall be referred to clause 9 "Default Message Contents of Layer3 Messages for Layer 3 Testing".

7.2.4.2 Generic session set up procedure for mobile originating packet switched sessions

7.2.4.2.1 Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

- The UE shall be operated under normal test conditions.
- The special Test-USIM shall be inserted.

7.2.4.2.2 Definition of system information messages

The default system information messages are used.

7.2.4.2.3 Procedure

The Session Set-up procedure shall be performed under Ideal radio conditions as defined in 5. Reference Test Conditions:

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION (BCCH)	Broadcast
2	-->		RRC CONNECTION REQUEST (CCCH)	RRC
3	<--		RRC CONNECTION SETUP (CCCH)	RRC
4	-->		RRC CONNECTION SETUP COMPLETE (DCCH)	RRC
5	-->		SERVICE REQUEST	GMM
6	<--		AUTHENTICATION AND CIPHERING REQUEST	GMM
7	-->		AUTHENTICATION AND CIPHERING RESPONSE	GMM
8	<--		SECURITY MODE COMMAND	RRC
9	-->		SECURITY MODE COMPLETE	RRC
10	-->		ACTIVATE PDP CONTEXT REQUEST	SM
11	<--		RADIO BEARER SETUP	RRC RAB SETUP
12	-->		RADIO BEARER SETUP COMPLETE	RRC
13	<--		ACTIVATE PDP CONTEXT ACCEPT	SM

7.2.4.2.4 Specific message contents

All Specific message contents shall be referred to clause 9 "Default Message Contents of Layer3 Messages for Layer 3 Testing".

7.3 Test procedures for RF test

7.3.1 UE Test States for RF testing

In this sub clause, the states of the UE for the test are defined.

		RRC	CC	MM	SM	GMM
State1	Power OFF	----	null	detached	inactive	detached
State2	CS Registered Idle Mode	idle	null	idle	inactive	detached
State3	PS Registered Idle Mode	idle	null	detached	inactive	idle
State4	Test Mode	connected	null	detached	inactive	detached

7.3.2 Test procedure for TX, RX and Performance Requirement (without handover)

7.3.2.1 Initial conditions

System Simulator

1cell, default parameters.

User Equipment

The UE shall be operated under RF test conditions.

The special Test-USIM shall be inserted.

7.3.2.2 Definition of system information messages

[T.B.D.]

7.3.2.2 Procedure

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION (BCCH)	Broadcast
2	<--		PAGING (PCCH)	Paging
3	-->		RRC CONNECTION REQUEST (CCCH)	RRC
4	<--		RRC CONNECTION SETUP (CCCH)	RRC
5	-->		RRC CONNECTION SETUP COMPLETE (DCCH)	RRC
6	<--		ACTIVATE RB TEST MODE (DCCH)	TC
7	-->		ACTIVATE RB TEST MODE COMPLETE (DCCH)	TC
8	<--		RADIO BEARER SETUP (DCCH)	RRC (RAB SETUP using Reference Radio Bearer Configuration)
9	-->		RADIO BEARER SETUP COMPLETE (DCCH)	RRC
10	<--		CLOSE UE TEST LOOP (DCCH)	TC
11	-->		CLOSE UE TEST LOOP COMPLETE	TC (confirms that loopback entities for the radio bearer(s) have been created and loop back is activated)
12	<--		OPEN UE TEST LOOP	TC
13	-->		OPEN UE TEST LOOP COMPLETE	TC
14	<--		RRC CONNECTION RELEASE	RRC
15	-->		RRC CONNECTION RELEASE COMPLETE	RRC

7.3.2.4 Specific message contents

[T.B.D.]

7.3.3 Test procedure for Handover

FFS

7.3.4 Test procedure for Measurement Performance Requirement

FFS

8. Test USIM Parameters

8.1 Introduction

This clause defines default parameters for programming the elementary files of the test USIM. The requirements of this clause do not apply to the USIM/ME tests of TS34.123-1 clause <TBD>.

8.1.1 Definitions

"Test USIM card":

A USIM card supporting the test algorithm for authentication, programmed with the parameters defined in this clause. The electrical, mechanical and environmental requirements of the test USIM card are specified in TS31.101 and TS31.102.

"Test USIM":

Either a test USIM card or the USIM simulator programmed with the parameters defined in this clause.

8.1.2 Definition of the test algorithm for authentication

In order to be able to easily test the UMTS authentication and key agreement procedure as specified in TS 33.102 along the whole system, the availability of a test algorithm for generation of authentication vector based on quintets is needed (in GSM triplets was used).

The test algorithm defined in the present clause shall be implemented in test USIM cards as well in test USIM simulators.

The following procedure employs bit wise modulo 2 addition ("XOR").

The following convention applies:

In all data transfer the most significant byte is the first byte to be sent; data is represented so that the left most bit is the most significant bit of the most significant byte.

Step 1:

XOR to the challenge **RAND**, a predefined number **Ki** (in which at least one bit is not zero, see 8.2), having the same bit length (128 bits) as **RAND**.

The result **XDOUT** of this is:

$$\mathbf{XDOUT}[\text{bits } 0,1, \dots 126,127] = \mathbf{Ki}[\text{bits } 0,1, \dots 126,127] \text{ XOR } \mathbf{RAND}[\text{bits } 0,1, \dots 126,127]$$

Step 2:

XRES, **CK**, **IK** and **AK** are extracted from **XDOUT** this way:

$$\mathbf{XRES}[\text{bits } 0,1, \dots n-1,n] = \mathbf{XDOUT}[\text{bits } 0,1, \dots n-1,n] \quad (\text{with } 30 < n < 128)$$

$$\mathbf{CK}[\text{bits } 0,1, \dots 126,127] = \mathbf{XDOUT}[\text{bits } 8,9, \dots 126,127,0,1, \dots 6,7]$$

$$\mathbf{IK}[\text{bits } 0,1, \dots 126,127] = \mathbf{XDOUT}[\text{bits } 16,17, \dots 126,127,0,1, \dots 14,15]$$

$$\mathbf{AK}[\text{bits } 0,1, \dots 62,63] = \mathbf{XDOUT}[\text{bits } 24,25, \dots 86,87]$$

Step 3:

Concatenate **SQN** with **AMF** to obtain **CDOUT** like this:

$$\mathbf{CDOUT}[\text{bits } 0,1, \dots 62,63] = \mathbf{SQN}[\text{bits } 0,1, \dots 46,47] \parallel \mathbf{AMF}[\text{bits } 0,1, \dots 14,15]$$

Step 4:

MAC and **MACS** are calculated from **XDOUT** and **CDOUT** this way:

$$\mathbf{MAC}[\text{bits } 0,1, \dots 62, 63] = \mathbf{MACS}[\text{bits } 0,1, \dots 62, 63] = \mathbf{XDOUT}[\text{bits } 0,1, \dots 62,63] \text{ XOR } \mathbf{CDOUT}[\text{bits } 0,1, \dots 62,63]$$

8.2 Default Parameters for the test USIM

Ki:

The authentication key "Ki" will be chosen by the test house and will be non zero. The "Ki" value used by the SS will align with this value.

PIN Disabling:

The PIN enabled / disabled flag will be set to "PIN Disabled". This ensures that when the Test USIM is inserted into a UE the user will not be prompted for PIN entry. This requires a specific card capability defined by the USIM service table (see clause<TBD>).

8.3 Default settings for the Elementary Files (EFs)

The format and coding of elementary files of the USIM are defined in TS31.101 and TS31.102. The following clauses define the default parameters to be programmed into each elementary file. Some files may be updated by the UE based on information received from the SS. These are identified in the following clauses.

If EFs have an unassigned value, it may not be clear from the main text what this value should be. This clause suggests values in these cases.

File identification	EF Contents	Description	Value <all contents are TBD>
MF	2F 00	EFDIR	
MF	2F E2	EFICCID	ICC Identification
MF	2F 05	EFPL	Preferred languages
MF	2F 06	EFARR	Access rule reference
MF/USIM	6F 05	EFLI	Language indication
MF/USIM	6F 07	EFIMSI	IMSI
MF/USIM	6F 08	EFKeys	Ciphering and Integrity Keys
MF/USIM	6F 09	EFKeysPs	Ciphering and Integrity Keys for Packet Switched domain
MF/USIM	6F 30	EFUPLMNsel	User PLMN selector
MF/USIM	6F 31	EFHPLMN	HPLMN search period
MF/USIM	6F 37	EFACMmax	ACM maximum value
MF/USIM	6F 38	EFUST	USIM service table
MF/USIM	6F 39	EFACM	Accumulated call meter
MF/USIM	6F 3E	EFGID1	Group Identifier Level 1
MF/USIM	6F 3F	EFGID2	Group Identifier Level 2
MF/USIM	3F 46	EFSPN	Service Provider Name
MF/USIM	6F 41	EFPUCT	Price per unit and currency table
MF/USIM	6F 45	EFCBMI	Cell broadcast message identifier selection
MF/USIM	6F 78	EFACC	Access control class
MF/USIM	6F 7B	EFFPLMN	Forbidden PLMNs
MF/USIM	6F 7E	EFLOCI	Location information
MF/USIM	6F AD	EFAD	Administrative data
MF/USIM	6F 48	EFCBMID	Cell Broadcast Message Identifier for Data Download
MF/USIM	6F B7	EFEC	Emergency Call Codes
MF/USIM	6F 50	EFCBMIR	Cell broadcast message identifier range selection
MF/USIM	6F 73	EFPSLOCI	Packet Switched location information
MF/USIM	6F 3B	EFFDN	Fixed dialling numbers
MF/USIM	6F 3C	EF SMS	Short messages
MF/USIM	6F 40	EFMSISDN	MSISDN storage
MF/USIM	6F 42	EFMSMP	Short message service parameters
MF/USIM	6F 43	EFMSMS	SMS status
MF/USIM	6F 49	EFSDN	Service Dialling Numbers
MF/USIM	6F 4B	EFEXT2	Extension 2
MF/USIM	6F 4C	EFEXT3	Extension 3
MF/USIM	6F 47	EFMSR	Short message status reports
MF/USIM	6F 80	EFICI	Incoming Call Information
MF/USIM	6F 81	EFOCI	Outgoing Call Information
MF/USIM	6F 82	EFICT	Incoming Call Timer
MF/USIM	6F 83	EFOCT	Outgoing Call Timer
MF/USIM	6F 4E	EFEXT5	Extension5
MF/USIM	6F 4F	EFCCP2	Capability configuration parameters2
MF/USIM	6F B5	EF eMLPP	enhanced Multi Level Precedence and Pre-emption
MF/USIM	6F B6	EF AAeM	Automatic Answer for eMLPP Service

MF/USIM	6F C2	EFGMSI	Group Identity	'FFFFFFFF'
MF/USIM	6F C3	EFHiddenkey	Keys for hiddenphone book entries	'FF...FF'
MF/USIM	6F 20	EFKc	Ciphering key Kc	'FF...FF07'
MF/USIM	6F 52	EFKcGPRS	GPRS Ciphering key KcGPRS	'FF...FF07'
MF/USIM	6F 53	EFLOCIGPRS	GPRS location information	'FFFFFFFF FFFFFFFF 42F618 FFFE FF 01'
MF/USIM	6F 7F	EFLOCIGSM	GSM Location information	'FFFFFFFF 42F618 0000 FF 01'
MF/USIM	6F 74	EFBCCH	Broadcast control channels	'FF...FF'
MF/USIM	6F 4D	EFBDN	Barred dialling numbers	'FF...FF'
MF/USIM	6F 55	EFEXT4	Extension 4	'FF...FF'
MF/USIM	6F 58	EFCMI	Comparison method information	'FF...FF'
MF/USIM	6F 56	EFEST	Enabled service table	test house option
MF/USIM	6F 57	EFACL	Access point name control list	'00FF...FF'
MF/USIM	6F 2C	EFDCK	Depersonalization control keys	'FF...FF'
MF/USIM	6F 32	EFCNL	Co-operative network list	'FF...FF'
MF/USIM	6F 5B	EFCOUNT	Hyperframe number	'00...00'
MF/USIM	6F 5C	EFCOUNTMAX	Maximum value for hyperframe number	Test house option
MF/USIM	6F 5D	EFOPLMNsel	Operator PLMN selector	'FF...FF'
MF/USIM	6F 5E	EFPHPLMNsel	Preferred HPLMN selector	'FF...FF'
MF/USIM	6F 06	EFARR	Access rule reference	
MF/USIM/DF-SoLSA	5F ??	EFSAI	SoLSA Access Indicator (release 2000)	'00FF...FF'
MF/USIM/DF-SoLSA	5F ??	EFSLL	SoLSA LSAList (release 2000)	'FF...FF'
MF/USIM/DF-SoLSA	5F ??		LSA Descriptor files (release 2000)	
MF/USIM/DF-DF-PHONEBOOK	4F 30	EFPBR	Phone Book Reference	Test house option
MF/USIM/DF-DF-PHONEBOOK	4F XX	EFIAP	Index Administration phone book	'FF...FF'
MF/USIM/DF-DF-PHONEBOOK	4F XX	EFADN	Abbreviated dialling numbers	'FF...FF'
MF/USIM/DF-DF-PHONEBOOK	4F XX	EFEXT1	Extension 1	'00FF...FF'
MF/USIM/DF-DF-PHONEBOOK	4F XX	EFPBC	Phone book control	'0000'
MF/USIM/DF-DF-PHONEBOOK	4F XX	EFGRP	Grouping file	'00...00'
MF/USIM/DF-DF-PHONEBOOK	4F XX	EFAAS	Additional number Alpha string	'FF...FF'
MF/USIM/DF-DF-PHONEBOOK	4F XX	EFGAS	Grouping information Alpha String	'FF...FF'
MF/USIM/DF-DF-PHONEBOOK	4F XX	EFANR	Additional Number	'FF...FF'
MF/USIM/DF-DF-PHONEBOOK	4F XX	EFSNE	Second Name Entry	'FF...FF'
MF/USIM/DF-DF-PHONEBOOK	4F 3D	EFCCP1	Capability configuration parameters 1	'FF...FF'
MF/USIM/DF-DF-PHONEBOOK	4F 21	EFUID	Unique Identifier	'0000'
MF/USIM/DF-DF-PHONEBOOK	4F 22	EFPSC	Phone book Synchronisation Counter	'00000000'
MF/USIM/DF-DF-PHONEBOOK	4F 23	EFCC	Change Counter	'0000'
MF/USIM/DF-DF-PHONEBOOK	4F 24	EFUID	Previous Unique Identifier	'0000'
MF/USIM/DF-DF-PHONEBOOK	4F XX	EFEMAIL	E-mail address	'FF...FF'
MF/TELECOM		EFARR	Access rule reference	
MF/TELECOM		EFADN	Abbreviated dialling numbers	
MF/TELECOM	4F XX	EFEXT1	Extension 1	'00FF...FF'

MF/TELECOM	4F 3D	EF CCP1	Capability configuration parameters 1	'0101A0FF'
MF/TELECOM	6F 54	EFSUME	SetUpMenu Elements	test house option
MF/TELECOM/DF- GRAPHICS	4F 20	EFIMG	Image data	'00FF...FF'
MF/TELECOM/DF- GRAPHICS	4F XX		Image Instance Data Files	'FF...FF'
MF/TELECOM/PHONEB OOK	4F 3D	EF CCP	Capability Configuration Parameters	

8.3.1 Contents of the EFs at the MF level

8.3.1.1 EF_{DIR}

8.3.1.2 EF_{ICCID} (ICC Identity)

The programming of this EF is a test house option.

8.3.1.3 EF_{PL} (Preferred Languages)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.1.4 EF_{ARR} (Access rule reference)

The programming of this EF is a test house option.

8.3.2 Contents of files at the USIM ADF (Application DF) level

8.3.2.1 EF_{LI} (Language Indication)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.2 EF_{IMSI} (IMSI)

The IMSI value will be chosen by the test house. The IMSI used by the SS will align this value.

File size: 9 bytes

Default values: Byte 1 (DEC): 8

Bytes 2-9 (HEX): 09 10 10 ** ** ** **

"*" indicates any number between 0 and 9 subject to the restriction that IMSI mod 1000 (i.e. bytes 7, 8 and 9) lies in one of the following ranges:

063-125, 189-251, 315-377, 441-503, 567-629, 693-755, 819-881 or 945-999

NOTE: This ensures that the UE can listen to the second CCCH when more than one basic physical channel is configured for the CCCH. This is necessary for the test of "paging re-organization".

8.3.2.3 EF_{Keys} (Cipherring and Integrity Keys)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.4 EF_{KeysPS} (Cipherring and Integrity Keys for Packet Switched domain)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.5 EF_{UPLMNsel} (User PLMN selector)

File size: 5n bytes

Default values (HEX): Bytes 1-3: 32 F4 10 (MCC, MNC) - Translates to 234, 01

Bytes 4-6: 32 F4 20 (MCC, MNC)

Bytes 7-9: 32 F4 30 (MCC, MNC)

....

....

....

Bytes 94-96: 32 F4 23 (MCC, MNC)

Bytes 97-99: 32 F4 33 (MCC, MNC)

Bytes 100-102: 32 F4 43 (MCC, MNC)

Bytes 2n-2(n+1): 32 F4 43 (MCC, MNC)

34 PLMNs are shown coded above since this is the largest number required for a test - see clause <TBD>. It is necessary to take this into account since the USIM cards must be dimensioned to cope with this number of records.

8.3.2.6 EF_{HPLMN} (HPLMN search period)

File size: 1 byte

Default value (HEX): 00 (no HPLMN search attempts)

8.3.2.7 EF_{ACMmax} (ACM maximum value)

File size: 3 bytes

Default: Byte 1: 00

Byte 2: 00

Byte 3: 00

The above translates to: "Not valid".

8.3.2.8 EF_{UST} (USIM Service Table)

Services will be allocated and activated as follows:

Services		Allocated	Activated
Service n°1 :	Local Phone Book		
Service n°2 :	Fixed Dialling Numbers (FDN): FFS		
Service n°3 :	Extension 2		
Service n°4 :	Service Dialling Numbers (SDN)		
Service n°5 :	Extension3		
Service n°6 :	Barred Dialling Numbers (BDN): FFS		
Service n°7 :	Extension4		
Service n°8 :	Outgoing Call Information (OCI and OCT)		
Service n°9 :	Incoming Call Information (ICI and ICT)		
Service n°10:	Short Message Storage (SMS)		
Service n°11:	Short Message Status Reports (SMSR)		
Service n°12:	Short Message Service Parameters (SMSP)		
Service n°13:	Advice of Charge (AoC)		
Service n°14:	Capability Configuration Parameters (CCP)		
Service n°15:	Cell Broadcast Message Identifier		
Service n°16:	Cell Broadcast Message Identifier Ranges		
Service n°17:	Group Identifier Level 1		
Service n°18:	Group Identifier Level 2		
Service n°19:	Service Provider Name		
Service n°20:	PLMN selector		
Service n°21:	MSISDN		
Service n°22:	Image (IMG)		
Service n°23:	Not used (reserved for SoLSA)		
Service n°24:	Enhanced Multi-Level Precedence and Pre-emption Service		
Service n°25:	Automatic Answer for Empp		
Service n°26:	EUIC (Enhanced User Identity Confidentiality)		
Service n°27:	GSM Access		
Service n°28:	Data download via SMS-PP		
Service n°29:	Data download via SMS-CB		
Service n°30:	Call Control by USIM		
Service n°31:	MO-SMS Control by USIM		
Service n°32:	RUN AT COMMAND command		
Service n°33:	Packet Switched Domain		
Service n°34:	Enabled Services Table		
Service n°35:	APN Control List (ACL)		
Service n°36:	Depersonalisation Control Keys		
Service n°37:	Co-operative Network List		
Service n°38:	GSM security context		

8.3.2.9 EF_{ACM} (Accumulated Call Meter)

File size: 3 bytes

Default: Byte 1: 00
 Byte 2: 00
 Byte 3: 00

The above translates to: “Not yet implemented”.

8.3.2.10 EF_{GID1} (Group Identifier Level 1)

The programming of this EF is a test house option.

8.3.2.11 EF_{GID2} (Group Identifier Level 2)

The programming of this EF is a test house option.

8.3.2.12 EF_{SPN} (Service Provider Name)

The programming of this EF is a test house option.

8.3.2.13 EF_{PUCT} (Price per Unit and Currency Table)

File size: 5 bytes

Default: Byte 1-3: FF

Byte 4-5: 00

8.3.2.14 EF_{CBMI} (Cell Broadcast Message identifier selection)

The programming of this EF is a test house option.

The file size is 2n bytes, where n is the number of Cell broadcast message identifier records - each record defining a type of Cell Broadcast message which may be accessed by the UE. Care should be taken when dimensioning the USIM to take into account the number of Cell Broadcast message identifier records required.

8.3.2.15 EF_{ACC} (Access Control Class)

File size: 2 Bytes

Default values (BIN): Byte 1: 00000000

Byte 2: *****

The test house may set any single bit of byte 2 to "1". All remaining bits of byte 2 will be set to "0". This determines the access control class of the USIM.

8.3.2.16 EF_{FPLMN} (Forbidden PLMNs)

Length: 12 Bytes

Format (HEX): Bytes 1-3: FF FF FF

Bytes 4-6: FF FF FF

Bytes 7-9: FF FF FF

Bytes 10-12: FF FF FF

This coding corresponds to an empty "forbidden PLMN list". The bytes within this file may be updated if a LOCATION UPDATE REJECT message is received by the UE with cause, "PLMN not allowed".

8.3.2.17 EF_{LOCi} (Location Information)

File size: 11 Bytes

Default values: Bytes 1-4 (HEX): FF FF FF FF (TMSI)

Bytes 5-9 (HEX): 42 F6 18 FF FE (LAI)

Byte 10 (HEX): FF (RFU)

Byte 11 (BIN): 00000001 (Location Update Status = "not updated")

Bytes 5-9: LAI-MCC = 246 (bytes 5-6) and LAI-MNC = 81 (byte 7) are frequently used in clause<TBD>. The LAC (bytes 8-9) is set to "FF FE" since this, in conjunction with byte 11 setting of "01", is used to ensure that the UE performs a location update at the beginning of a test.

Bytes in this file (e.g. TMSI in bytes 1-4) may be updated as a result of a location update attempt by the UE.

8.3.2.18 EF_{AD} (Administrative Data)

File size: 3 bytes

Default values

Byte 1:	10000000 - (type approval operations)
Byte 2:	11111111
Byte 3:	11111111

8.3.2.19 Spare**8.3.2.20 EF_{CBMID} (Cell Broadcast Message Identifier for Data Download)**

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.21 EF_{ECC} (Emergency Call Codes)

The programming of this EF is a test house option.

8.3.2.22 EF_{CBMIR} (Cell Broadcast Message Identifier Range selection)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.23 EF_{PSLOCI} (Packet Switched location information)

File size: 14 Bytes

Default values:

Bytes 1-4 (HEX):	FF FF FF FF (P-TMSI)
Bytes 5-7 (HEX):	FF FF FF (P-TMSI signature value)
Bytes 8-13 (HEX):	42 F6 18 FF FE FF (RAI)
Byte 14 (BIN):	001 (Routing Area update status = "not updated")

Bytes 8-13: RAI-MCC = 246 (bytes 8-9) and RAI-MNC = 81 (byte 10) are frequently used in clause<TBD>. The LAC (bytes 11-12) is set to "FF FE" since this, in conjunction with byte 14 setting of "01", is used to ensure that the UE performs a location update at the beginning of a test.

Bytes in this file (e.g. P-TMSI in bytes 1-4) may be updated as a result of a location update attempt by the UE.

8.3.2.24 EF_{FDN} (Fixed Dialling Numbers)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.25 EF_{SMS} (Short messages)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.26 EF_{MSISDN} (MSISDN)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.27 EF_{SMSP} (Short message service parameters)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.28 EF_{SMSS} (SMS status)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.29 EF_{SDN} (Service Dialling Numbers)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.30 EF_{EXT2} (Extension2)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.31 EF_{EXT3} (Extension3)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.32 EF_{SMSR} (Short message status reports)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.33 EF_{ICI} (Incoming Call Information)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.34 EF_{OCl} (Outgoing Call Information)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.35 EF_{ICT} (Incoming Call Timer)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.36 EF_{OCT} (Outgoing Call Timer)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.37 EF_{EXT5} (Extension5)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.38 EF_{CCP2} (Capability Configuration Parameters 2)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.39 EF_{eMLPP} (enhanced Multi Level Precedence and Pre-emption)

The programming of this EF is a test house option.

8.3.2.40 EF_{AAeM} (Automatic Answer for eMLPP Service)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.41 EF_{GMSI} (Group identity)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.42 EF_{Hiddenkey} (Key for hidden phone book entries)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.43 Files required for GSM Access

8.3.2.43.1 EF_{Kc} (GSM Cipherring key Kc)

File size: 9 Bytes

Default values (HEX): Bytes 1-8: Align with Kc used by SS

Byte 9: 07

Byte 9 is set to 07 to indicate that there is no key available at the start of a test.

The bytes within this elementary file may be updated by the UE as a result of a successful authentication attempt.

8.3.2.43.2 EF_{KcGPRS} (GPRS Cipherring key KcGPRS)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.43.3 EF_{LOCIGPRS} (GPRS location information)

File size: 14 Bytes

Default values: Bytes 1-4 (HEX): FF FF FF FF (P-TMSI)

Bytes 5-7 (HEX): FF FF FF (P-TMSI signature value)

Bytes 8-13 (HEX): 42 F6 18 FF FE FF (RAI)

Byte 14 (BIN): 001 (Routing Area update status = "not updated")

Bytes 8-13: RAI-MCC = 246 (bytes 8-9) and RAI-MNC = 81 (byte 10) are frequently used in clause<TBD>. The LAC (bytes 11-12) is set to "FF FE" since this, in conjunction with byte 14 setting of "01", is used to ensure that the UE performs a location update at the beginning of a test.

Bytes in this file (e.g. P-TMSI in bytes 1-4) may be updated as a result of a location update attempt by the UE.

8.3.2.43.4 EF_{LOCIGSM} (GSM Location Information)

File size: 11 Bytes

Default values: Bytes 1-4 (HEX): FF FF FF FF (TMSI)

Bytes 5-9 (HEX): 42 F6 18 FF FE (LAI)

Byte 10 (HEX): FF (Reserved (was used in GSM phase 1))

Byte 11 (BIN): 00000001 (Location Update Status = "not updated")

Bytes 5-9: LAI-MCC = 246 (bytes 5-6) and LAI-MNC = 81 (byte 7) are frequently used in clause<TBD>. The LAC (bytes 8-9) is set to "FF FE" since this, in conjunction with byte 11 setting of "01", is used to ensure that the UE performs a location update at the beginning of a test.

Bytes in this file (e.g. TMSI in bytes 1-4) may be updated as a result of a location update attempt by the UE.

8.3.2.43.5 EF_{BCCCH} (Broadcast Control Channels)

File size:	16 Bytes	
Default values (BIN):	Bytes 1-2:	11111111 11111111
	Bytes 3-4:	11111111 11111111
	Bytes 5-6:	11111111 11111111
	Bytes 7-8:	11111111 11111111
	Bytes 9-10:	11111111 11111111
	Bytes 11-12:	11111111 11111111
	Bytes 13-14:	11111111 11111111
	Bytes 15-16:	11111111 11111111

This field may be updated dependent on the UE implementation.

8.3.2.44 EF_{BDN} (Barred dialling numbers)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.45 EF_{EXT4} (Extension 4)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.46 EF_{CMI} (Comparison method information)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.47 EF_{EST} (Enabled service table)

The programming of this EF is a test house option.

8.3.2.48 EF_{ACL} (Access point name control list)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.49 EF_{DCK} (Depersonalisation control keys)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.50 EF_{CNL} (Co-operative network list)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.51 EF_{COUNT} (Hyperframe number)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.52 EF_{COUNTMAX} (Maximum value for hyperframe number)

The programming of this EF is a test house option.

8.3.2.53 EF_{OPLMNsel} (Operator PLMN selector)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.54 EF_{PHPLMNsel} (Preferred HPLMN Access Technology)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.2.55 EF_{ARR} (Access rule reference)

8.3.3 Contents of DFs at the USIM ADF (Application DF) level

8.3.3.1 Contents of files at the USIM ADF (Application DF) level

8.3.3.1.1 EF_{SAI} (SoLSA Access Indicator)

This subclause is expected to be defined in the release 2000 version of the present document.

8.3.3.1.2 EF_{SLL} (SoLSA LSA List)

This subclause is expected to be defined in the release 2000 version of the present document.

8.3.3.1.3 LSA Descriptor files

This subclause is expected to be defined in the release 2000 version of the present document.

8.3.3.2 Contents of files at the DF PHONEBOOK level

8.3.3.2.1 EF_{PBR} (Phone Book Reference file)

The programming of this EF is a test house option.

8.3.3.2.2 EF_{IAP} (Index Administration Phone book)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.3 EF_{ADN} (Abbreviated dialling numbers)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.4 EF_{EXT1} (Extension1)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.5 EF_{PBC} (Phone Book Control)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.6 EF_{GRP} (Grouping file)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.7 EF_{AAS} (Additional number Alpha String)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.8 EF_{GAS} (Grouping information Alpha String)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.9 EF_{ANR} (Additional Number)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.10 EF_{SNE} (Second Name Entry)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.11 EF_{CCP1} (Capability Configuration Parameters 1)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.12 Phone Book Synchronisation**8.3.3.2.12.1 EF_{UID} (Unique Identifier)**

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.12.2 EF_{PSC} (Phone book Synchronisation Counter)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.12.3 EF_{CC} (Change Counter)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.12.4 EF_{PUID} (Previous Unique Identifier)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.3.2.13 EF_{EMAIL} (E-mail address)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.4 Contents of DFs at the TELECOM level**8.3.4.1 EF_{ADN} (Abbreviated dialling numbers)**

The programming of this EF is a test house option. It should be noted that sufficient space should be provided on the USIM card for 101 records - see clause <TBD><27.15.4.1.>

8.3.4.2 EF_{EXT1} (Extension1)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.4.3 EF_{CCP1} (Capability Configuration Parameters 1)

File size: 14 bytes

Default values Byte 1: 04

Byte 2: 01

Byte 3: A0

Bytes 4-14: FF

<The above translates to: "Full rate, GSM Standardized coding, circuit mode and speech">

8.3.4.4 EF_{SUME} (SetUpMenu Elements)

The programming of this EF is a test house option.

8.3.4.5 EF_{ARR} (Access rule reference)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.5 Contents of DFs at the TELECOM level

8.3.5.1 Contents of files at the DF_{GRAPHICS} level

8.3.5.1.1 EF_{IMG} (Image)

The programming of this EF follows default parameter written in TS31.102 Annex E.

8.3.5.1.2 Image Instance Data Files

8.3.5.2 Contents of files at the DF_{PHONEBOOK} under the DF_{TELECOM}

8.3.5.2.1 EF_{CCP} (Capability Configuration Parameters)

The programming of this EF follows default parameter written in TS31.102 Annex E.

9 Default Message Contents

This clause contains the default values of common messages, which unless indicated otherwise in specific clauses of TS34.123-1, shall be transmitted and checked by the system simulator.

Contents of DOWNLINK DIRECT TRANSFER message: AM

Information Element	Value/remark
Message Type	Not Present CS domain See Specific Message Content for each test case
Integrity check info	
CN domain identity	
NAS message	

Contents of INITIAL DIRECT TRANSFER message: AM

Information Element	Value/remark
Message Type	Not checked Not checked Not checked Not checked Not checked Not checked
Integrity check info	
Service Descriptor	
Flow Identifier	
CN domain identity	
NAS message	
Measured results on RACH	

Contents of PAGING TYPE1 message: TM (Speech in CS)

Information Element	Value/remark
Message Type	
Paging record	
- Paging cause	Terminating Speech Call
- CN domain identity	CS domain
- CHOICE UE identity	
- IMSI	Set to the same octed string as in the IMSI stored in the USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE1 message: TM (The others of speech in CS)

Information Element	Value/remark
Message Type	
Paging record	
- Paging cause	Terminating CS DATA Call
- CN domain identity	CS domain
- CHOICE UE identity	
- IMSI	Set to the same octed string as in the IMSI stored in the USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE1 message: TM (Packet in PS)

Information Element	Value/remark
Message Type	
Paging record	
- Paging cause	Terminating PS DATA Call
- CN domain identity	PS domain
- CHOICE UE identity	
- IMSI	Set to the same octed string as in the IMSI stored in the USIM card
BCCH modification info	Not Present

Contents of RADIO BEARER SETUP message: AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	$(256+CFN-(CFN \text{ MOD } 8 + 8))\text{MOD } 256$
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	Not Present
- RB identity	
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	4
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	(TM RLC)

- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	(TM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- RB information to setup	(This IE is needed for 12.2 kbps and 10.2 kbps)
- RB identity	6
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	(TM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1

- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor β_c	0
- Gain factor β_d	0
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	3
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	

- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	(This IE is needed for 12.2 kbps and 10.2 kbps)
- Transport channel identity	4
- TFS	(This IE is repeated for TFI number)
- Dynamic Transport format information	Reference to clause 6.10 Parameter Set
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	Reference to clause 6.10 Parameter Set
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	Reference to clause 6.10 Parameter Set
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(
- Transport channel identity	e.g The rate of SRB for DCCH is changed.).
- TFS	1
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	Reference to clause 6.10 Parameter Set
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	Reference to clause 6.10 Parameter Set
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor β_c	
- Gain factor β_d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	0
- Gain factor β_c	0
- Gain factor β_d	0dB
- Power offset Pp-m	
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	(This IE is repeated for TFI number)
- Dynamic Transport format information	

- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	(This IE is needed for 12.2 kbps and 10.2 kbps)
- Transport channel identity	4
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCCH power offset	-6dB
- PC Preamble	8slot

- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to clause 6.10 Parameter Set
- Fixed or Flexible Position	Fixed
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	4 bits
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	

<ul style="list-style-type: none"> - Secondary CPICH info - Secondary scrambling code - channelisation code - Secondary scrambling code - SSDT Indicator - Spreading factor - Code number - Pilot symbol existence - TFCI existence - Fixed or Flexible Position - Timing offset - TFCS - Normal - TFCI Field 1 information(Explicit TFCS 	<p>Not Present</p>
<p>Configuration)</p> <ul style="list-style-type: none"> - Addition - TFCS addition information(Reconfiguration/Addtion 	<p>Not Present</p>
<p>information)</p> <ul style="list-style-type: none"> - CTFC information - CTFC - Gain factor information - Gain factor β_c - Gain factor β_d - Power offset Pp-m - FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information 	<p>Not Present</p>

Contents of RADIO BEARER SETUP COMPLETE message: AM

<p>Message Type</p>	<p>Not checked</p>
<p>Hyper frame number</p>	<p>Not checked</p>
<p>Other information element</p>	<p>Not checked</p>

Contents of RADIO BEARER RELEASE message: AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	$(256+CFN-(CFN \text{ MOD } 8 + 8))\text{MOD } 256$
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to release	
- RB identity	4
RB information to release	
- RB identity	5
RB information to release	
- RB identity	6
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2
- RB mapping info	

- Information for each multiplexing option	1
- Number of RLC logical channels	DCH
- Uplink transport channel type	1
- Transport channel identity	3
- Logical channel identity	3
- MAC logical channel priority	1
- Number of RLC logical channels	DCH
- Downlink transport channel type	1
- Transport channel identity	3
- Logical channel identity	(AM DCCH for NAS_DT Low priority)
RB information to be affected	3
- RB identity	
- RB mapping info	
- Information for each multiplexing option	1
- Number of RLC logical channels	DCH
- Uplink transport channel type	1
- Transport channel identity	4
- Logical channel identity	4
- MAC logical channel priority	1
- Number of RLC logical channels	DCH
- Downlink transport channel type	1
- Transport channel identity	4
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- CTFC	
- Gain factor information	0
- Gain factor β_c	0
- Gain factor β_d	0dB
- Power offset Pp-m	
Deleted UL TrCH Information	
- Transport channel identity	2
Deleted UL TrCH Information	
- Transport channel identity	3
Deleted UL TrCH Information	
- Transport channel identity	4
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	(This IE is repeated for TFI number)
- Dynamic Transport format information	Reference to clause 6.10 Parameter Set
- Number of Transport blocks	
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	

- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor β_c	
- Gain factor β_d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	0
- Gain factor β_c	0
- Gain factor β_d	0dB
- Power offset Pp-m	
Deleted DL TrCH Information	
- Transport channel identity	2
Deleted DL TrCH Information	
- Transport channel identity	3
Deleted DL TrCH Information	
- Transport channel identity	4
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- DCH quality target	0.00
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	

- Downlink DPCH power control information	0 (single)
- DPC mode	Reference to clause 6.10 Parameter Set
- Spreading factor	N/A
- Fixed or Flexible Position	FALSE
- TFCI existence	Reference to clause 6.10 Parameter Set
- Number of bits for Pilot bits(SF=128,256)	0
- Downlink DPCH Offset Value	1
- DPCH compressed mode info	inactive
-TGPSI	FDD Measurement
-TGPS Status Flg	62
- TGMP	(Current CFN + (256 – TTI/10msec)) mod 256
- TGPRC	8
- TGCFN	10
- TGSN	5
- TGL1	15
- TGL2	35
- TGD	35
- TGPL1	Mode 1
- TGPL2	Mode 1
- RPP	DL
- ITPRM	F/2
- UL/DL Mode	F/2
- Downlink compressed mode method	No code change
- Uplink compressed mode method	A
	2.0
- Scrambling code change	1.0
- Downlink frame type	None
- DeltaSIR1	Not Present
- DeltaSIRafter1	
- TX Diversity mode	
- SSDT information	
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	

<ul style="list-style-type: none"> - TFCS - Normal - TFCI Field 1 information(Explicit TFCS Configuration) - Addition - TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor β_c - Gain factor β_d - FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information 	<p>Not Present</p>
	<p>Not Present</p>
	<p>Not Present</p>

Contents of RADIO BEARER RELEASE COMPLETE message: AM

<p>Message Type Other information element</p>	<p>Not checked</p>
---	--------------------

Contents of RRC CONNECTION REQUEST message: TM

Information Element	Value/remark
Message Type	
Initial UE identity	To be checked against requirement if specified
Initial UE capability	Reference to clause 6.10 Parameter Set
Establishment cause	To be checked against requirement if specified
Protocol error indicator	FALSE
Measured results on RACH	Not checked

Contents of RRC CONNECTION RELEASE message: UM

Information Element	Value/remark
Message Type	Not Present
Integrity check info	Not Present
Number of RRC Message Transmissions	2 (for CELL_DCH state). Not Present for UE in other
	connected mode states.
Release cause	Normal

Contents of RRC CONNECTION RELEASE COMPLETE message: AM or UM

Information Element	Semantics description
Message Type Integrity check info	Not checked.

Contents of RRC CONNECTION SETUP message: UM (Transition to CELL_DCH)

Information Element	Value/remark
Message Type	
Initial UE identity	Reference to clause 6.10 Parameter Set
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
New C-RNTI	0000 0000 0000 0001B
UTRAN DRX cycle length coefficient	5 (2 to 12)
Capability update requirement	
- UE radio access capability update requirement	FALSE
- System specific capability update requirement	Not Present
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	0
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(UM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Downlink RLC mode	(UM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1

- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1

- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor β_c	0
- Gain factor β_d	0
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor β_c	
- Gain factor β_d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor β_c	0
- Gain factor β_d	0
- Power offset Pp-m	0dB
Added or Reconfigured DL TrCH information	

- Transport channel identity	1
- TFS	(This IE is repeated for TFI number)
- Dynamic Transport format information	Reference to clause 6.10 Parameter Set
- Number of Transport blocks	
- Bit mode RLC size info	Reference to clause 6.10 Parameter Set
- Transport block size	
- Semi-static Transport Format information	Reference to clause 6.10 Parameter Set
- Transmission time interval	Reference to clause 6.10 Parameter Set
- Type of channel coding	Reference to clause 6.10 Parameter Set
- Coding Rate	Reference to clause 6.10 Parameter Set
- Rate matching attribute	Reference to clause 6.10 Parameter Set
- CRC size	Reference to clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSdT information	Not Present
- S field	
- Code Word Set	
Downlink information for each radio links	
- Primary CPICH info	

- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor β_c	
- Gain factor β_d	
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	

- References to system information blocks - Scheduling information	Not Present
---	-------------

Contents of RRC CONNECTION SETUP COMPLETE message: AM

Information Element	Value/remark
Message Type	
Hyper Frame Number	Not checked
UE radio access capability	Reference to clause 6.10 Parameter Set
UE system specific capability	Not checked

Contents of SECURITY MODE COMMAND message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not Present.
Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1.
Ciphering mode info	
- Ciphering mode command	Start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	$(256 + CFN - (CFN \text{ MOD } 8 + 8)) \text{ MOD } 256$
- Radio bearer downlink ciphering activation time info	
- Radio bearer activation time	
- RB identity	2
- RLC sequence number	Set to the SN of the last frame sent by RB2
- Radio bearer activation time	
- RB identity	3
- RLC sequence number	Set to the SN of the last frame sent by RB2
Integrity protection mode info	Not Present
CN domain identity	CS domain

Contents of SECURITY MODE COMPLETE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Hyper frame number	Should be not present.
Uplink integrity protection activation info	Not checked.
Radio bearer uplink ciphering activation time info	
- Radio bearer activation time	
- RB identity	2
- RLC sequence number	Checked to see if it's a valid SD from RLC entity associated with RB2
- Radio bearer activation time	
- RB identity	3
- RLC sequence number	Checked to see if it's a valid SD from RLC entity associated with RB3

Contents of SIGNALLING CONNECTION RELEASE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Signalling Flow related information list	
- Flow Identifier requirement	Set to "Flow Identifier" field in the INITIAL DIRECT TRANSFER message

Contents of UPLINK DIRECT TRANSFER message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Flow Identifier	To be checked against requirement if specified
NAS message	Set according to that indicated in specific message content clause
Measured results on RACH	Not checked

Annex A (informative): Change history

V0.0.1	December 1999	Initial Proforma generated with Table of contents
V0.0.2	2000-01	First draft circulated for comment on prior to T1/SIG and T1/RF meeting in Morgans Hill, USA on 24 th –26 th January 2000
V.0.0.3	2000-02-24	Submitted for T1 approval for version 1.0.0 in TSG T1 WG1#6 meeting in Munich, Germany on 24-25 February 2000.
V1.0.0	2000-03-13	Presented to TSG T#7 for information
V1.0.1	2000-03-23	Cosmetic beauty treatment by Secretariat.
V1.0.2	2000-05-25	<ul style="list-style-type: none"> - Add new subclause 5.5 for Timers Tolerances - Power levels added in subclause 5.4.1 - Frequency bands as agreed in Yokohama - Include ISG Document as clause 6.10, with editorial changes to fit 34.108 layout - Include recent version of 6.11 (Default Test USIM Parameters) as Clause 8 - Clause 7 updated with NTT DoCoMo's proposal of Yokohama - Add clause 9 for default message content
V1.0.3	2000-06-07	<p>Due to certain problems with document Corruption (V1.0.2) started again from V1.0.1; So:</p> <p>Added 6.10 (ref Radio Access Bearers) from 3G formatted Document (NTT DoCoMo T1s000044 from Yokohama)</p> <p>Moved sub-clause 6.11 (Test USIM parameters) to clause 8.</p> <p>Replaced clause 8 with latest NTT DoCoMo update</p> <p>Added clause 8.1.2 (testing authentication algorithm) latest version from Ericsson</p> <p>Removed AICH from power levels (not needed in RF testing), also added table for TDD test frequencies and added editor's note to support frequency range in other regions (discussion with T1/RF group 6/6/2000)</p> <p>Test frequencies: leave an offset 2.6 MHz to avoid interference with adjacent bands (discussion after discussion with T1/RF group 6/6/2000)</p> <p>Added clause 9 from latest MCI's contribution 'Default Message content'.</p> <p>Contents of sub-clauses 6.3, 6.4 and 6.5 were <FFS> but it seems their content can be derived from the default message content sub-clause. Hence replaced <FFS> by a explanatory sentence.</p> <p>Replaced all occurrences of 'Clause', 'Sub-clause' by 'Clause' and 'Sub-clause' respectively</p> <p>Removed automatic numbering of clauses and use manual numbering</p>
v2.0.0	2000-06-21	Presented at T#8 for approval
v3.0.0	2000-06-21	Approved at T#8

History

Document history		
V3.0.1	June 2000	Publication