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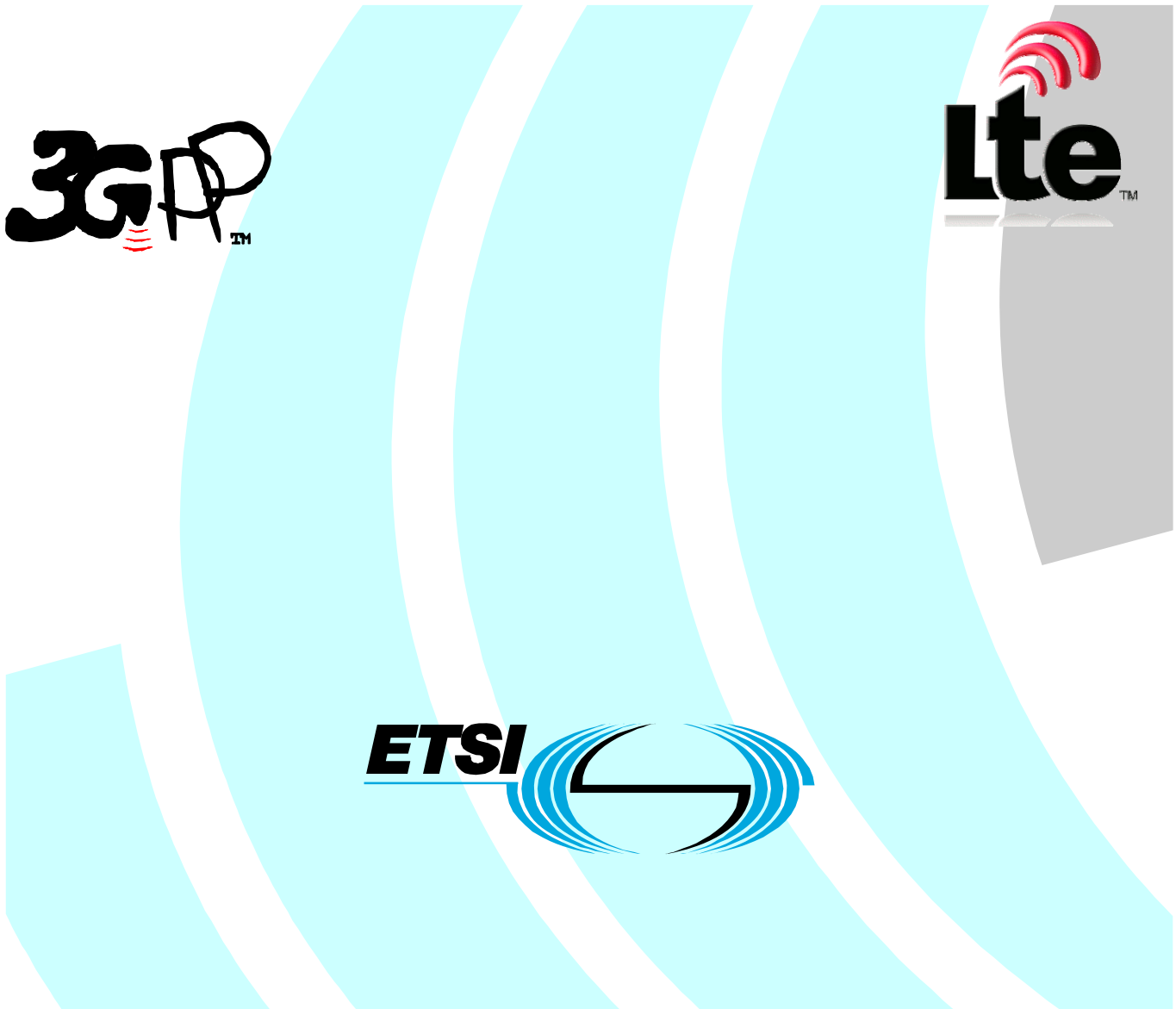
Technical Specification

LTE;
Evolved Universal Terrestrial Radio Access (E-UTRA);
User Equipment (UE) conformance specification;
Radio transmission and reception;
Part 2: Implementation Conformance Statement (ICS)
(3GPP TS 36.521-2 version 8.2.0 Release 8)



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Foreword

This Technical Specification (TS) has been produced by 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 http://webapp.etsi.org/key/queryform.asp.

Contents

Foreword

This Technical Specification 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 present document is part 2 of a multi-parts TS:

3GPP TS 36.521-1 [1]: Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) conformance specification Radio transmission and reception Part 1: Conformance testing.

3GPP TS 36.521-2: Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) conformance specification Radio transmission and reception Part :2 Implementation Conformance Statement (ICS).

3GPP TS 36.521-3 [2]: Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) conformance specification Radio transmission and reception Part 3: Radio Resource Management Conformance Testing.

1 Scope

The present document provides the Implementation Conformance Statement (ICS) proforma for 3G Evolved Universal Terrestrial Radio Access (E-UTRA) User Equipment (UE), in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-1 [3] and ISO/IEC 9646-7 [4]

The present document specifies the recommended applicability statement for the test cases included in 3GPP TS 36.521-1 [1] and 3GPP TS 36.521-3 [2]. These applicability statements are based on the features implemented in the UE.

Special conformance testing functions can be found in 3GPP TS 36.509 [5] and the common test environments are included in 3GPP TS 36.508 [6].

The present document is valid for UE implemented according to 3GPP releases starting from Release 8 up to the Release indicated on the cover page of the present document.

2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.
  - For a Release 8 UE, references to 3GPP documents are to version 8.x.y, when available.

Editor's Note: The Reference list is incomplete and some references are still to UMTS specs.

[1] 3GPP TS 36.521-1: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) conformance specification Radio transmission and reception Part 1: Conformance testing ".

[2] 3GPP TS 36.521-3: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) conformance specification Radio transmission and reception Part 3: Radio Resource Management Conformance Testing ".

[3] ISO/IEC 9646-1: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 1: General concepts".

[4] ISO/IEC 9646-7: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

[5] 3GPP TS 36.509: " Evolved Universal Terrestrial Radio Access (E-UTRA); Special conformance testing functions for User Equipment ".

[6] 3GPP TS 36.508: "Evolved Universal Terrestrial Radio Access (E-UTRA); Common Test Environments for User Equipment (UE) Conformance Testing".

[8] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[9] 3GPP TS 36.201: " LTE Physical Layer - General Description"

[10] 3GPP TS 36.302: " Evolved Universal Terrestrial Radio Access (E-UTRA); Services provided by the physical layer for E-UTRA".

[11] 3GPP TS 36.321: "Evolved Universal Terrestrial Radio Access (E-UTRA); Medium Access Control (MAC) protocol specification".

[12] 3GPP TS 36.322: "Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Link Control (RLC) protocol specification".

[13] 3GPP TS 36.323: "Evolved Universal Terrestrial Radio Access (E-UTRA); Packet Data Convergence Protocol (PDCP) specification".

[14] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC) Protocol Specification".[15] 3GPP TS 24.301: "Non-Access-Stratum (NAS) protocol for Evolved Packet System (EPS); Stage 3"

3 Definitions, symbols and abbreviations

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

- such given in TR 21.905 [8]
- such given in ISO/IEC 9646-1 [3] and ISO/IEC 9646-7 [4]

Note: Some terms and abbreviations defined in [3] and [4] are explicitly included below with small modification to reflect the terminology used in 3GPP.

3.1 Definitions

Implementation Conformance Statement (ICS): statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented

ICS proforma: document, in the form of a questionnaire, which when completed for an implementation or system becomes an ICS

Implementation eXtra Information for Testing (IXIT): A statement made by a supplier or implementer of an UEUT which contains or references all of the information (in addition to that given in the ICS) related to the UEUT and its testing environment, which will enable the test laboratory to run an appropriate test suite against the UEUT

IXIT proforma: A document, in the form of a questionnaire, which when completed for an UEUT becomes an IXIT

Protocol Implementation Conformance Statement (PICS): An ICS for an implementation or system claimed to conform to a given protocol specification

Protocol Implementation eXtra Information for Testing (PIXIT): An IXIT related to testing for conformance to a given protocol specification

static conformance review: A review of the extent to which the static conformance requirements are claimed to be supported by the UEUT, by comparing the answers in the ICS(s) with the static conformance requirements expressed in the relevant specification(s)

3.2 Symbols

No specific symbols have been identified so far.

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in TR 21.905 [8].

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

ICS	Implementation Conformance Statement
IXIT	Implementation eXtra Information for Testing
PICS	Protocol Implementation Conformance Statement

PIXIT	Protocol Implementation eXtra Information for Testing
RRM	Radio Resource Management
SCS	System Conformance Statement
TC	Test Case
UEUT	User Equipment Under Test

4 Recommended test case applicability

The applicability of each individual test is identified in the tables 4.1-1 or 4.2-1. This is just a recommendation based on the purpose for which the test case was written.

The applicability of every test is formally expressed by the use of Boolean expression that are based on parameters (ICS) included in annex A of the present document.

Additional information related to the Test Case (TC), e.g. affecting its dynamic behaviour or its execution may be provided as well

The columns in tables 4.1-1 / 4.2-1 have the following meaning:

Clause

The clause column indicates the clause number in TS 36.521-1 [1] or respectively TS 36.521-3 [2] that contains the test body.

Title

The title column describes the name of the test and contains the clause title of the clause in TS 36.521-1 [1] or TS 36.521-3 [2] that contains the test body.

Release

The release column indicates the earliest release from which each test case is applicable.

Applicability - Condition

The following notations are used for the applicability column:

R	recommended - the test case is recommended to all terminals supporting E-UTRA
O	optional – the test case is optional
N/A	not applicable - in the given context, the test case is not recommended.
Ci	conditional - the test is recommended ("R") or not ("N/A") depending on the support of other items. "i" is an integer identifying an unique conditional status expression which is defined immediately following the table. For nested conditional expressions, the syntax "IF ... THEN (IF ... THEN ... ELSE...) ELSE ..." is used to avoid ambiguities.

Applicability - Comments

This comments column contains a verbal description of the condition included in the applicability column.

Additional Information

This column contains indication if the test case may perform differently depending on the UE capabilities.

NOTE To meet the validation requirements from certification bodies then there is a need to uniquely reference the FDD and TDD branch (i.e. different behaviour within one and the same TC) of common FDD and TDD test cases. The FDD and TDD branches of common FDD and TDD test cases can be referenced by amending a "FDD" or "TDD" suffix to the test case clause nunber. For example for test case 6.2.2 the FDD and TDD branches can be identified by "6.2.2 FDD" and "6.2.2 TDD".

4.1 RF conformance test cases

Table 4.1-1: Applicability of RF conformance test cases, ref. TS 36.521-1 [1]

Clause	Title	Release	Applicability		Additional Information
			Condition	Comments	
Transmiter Characteristics					
6.2.2	Maximum Output Power	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.2.3	Maximum Power Reduction (MPR)	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.2.4	Additional Maximum Power Reduction (A-MPR)	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.3.1	void				
6.3.2	Minimum Output Power	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.3.3	Transmit OFF Power	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.3.4.1	General ON/OFF time mask	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.3.4.2	PRACH and SRS time mask	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.3.5.1	Power Control Absolute Power Tolerance	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.3.5.2	Power Control Relative Power Tolerance	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.3.5.3	Aggregate Power Control Tolerance	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.5.1	Frequency Error	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.5.2.1	Error Vector Magnitude (EVM)	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.5.2.2	IQ-component	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.5.2.3	In-band emissions for non allocated RB	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.5.2.4	Spectrum flatness	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.6.1	Occupied bandwidth	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.6.2.1	Spectrum Emission Mask	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.6.2.2	Additional Spectrum Emission Mask	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.6.2.3	Adjacent Channel Leakage power Ratio	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.6.2.4	Additional ACLR requirements	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.6.3.1	Transmitter Spurious emissions	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
6.6.3.2	Spurious emission band UE co-existence	Rel-8	R	UE supporting E-UTRA	FDD
				UE supporting E-UTRA	TDD
6.6.3.3	Additional spurious emissions	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
Receiver Characteristics					

Clause	Title	Release	Applicability		Additional Information
			Condition	Comments	
7.3	Reference sensitivity level	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
7.4	Maximum input level	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
7.5	Adjacent Channel Selectivity (ACS)	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
7.6.1	In-band blocking	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
7.6.2	Out of-band blocking	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
7.6.3	Narrow band blocking	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
7.7	Spurious response	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
7.8.1	Wide band Intermodulation	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
7.9	Spurious emissions	Rel-8	R	UE supporting E-UTRA	FDD
					TDD
Performance Requirement					
8.2.1.1	FDD PDSCH Single Antenna Port Performance (Cell-Specific Reference Symbols)	Rel-8	C01	UE supporting E-UTRA FDD	
8.2.1.2	FDD PDSCH Transmit Diversity Performance (Cell-Specific Reference Symbols)	Rel-8	C01	UE supporting E-UTRA FDD	
8.2.1.3	FDD PDSCH Open Loop Spatial Multiplexing Performance (Cell-Specific Reference Symbols)	Rel-8	C01	UE supporting E-UTRA FDD	
8.2.1.4	FDD PDSCH Closed Loop Spatial Multiplexing Performance (Cell-Specific Reference Symbols)	Rel-8	C01	UE supporting E-UTRA FDD	
8.2.2.1	TDD PDSCH Single Antenna Port Performance (Cell-Specific Reference Symbols)	Rel-8	C02	UE supporting E-UTRA TDD	
8.2.2.2	TDD PDSCH Transmit Diversity Performance (Cell-Specific Reference Symbols)	Rel-8	C02	UE supporting E-UTRA TDD	
8.2.2.3	TDD PDSCH Open Loop Spatial Multiplexing Performance (Cell-Specific Reference Symbols)	Rel-8	C02	UE supporting E-UTRA TDD	
8.2.2.4	TDD PDSCH Closed Loop Spatial Multiplexing Performance (Cell-Specific Reference Symbols)	Rel-8	C02	UE supporting E-UTRA TDD	
8.2.2.5	TDD PDSCH Performance (UE-Specific Reference Symbols)	Rel-8	C02	UE supporting E-UTRA TDD	
8.3	Demodulation of PDSCH (User-Specific Reference Symbols)	Rel-8	FFS	FFS	
8.4.1.1	FDD PCFICH/PDCCH Single-antenna Port Performance	Rel-8	C01	UE supporting E-UTRA FDD	
8.4.1.2	FDD PCFICH/PDCCH Transmit Diversity Performance	Rel-8	C01	UE supporting E-UTRA FDD	
8.4.2.1	TDD PCFICH/PDCCH Single-antenna Port Performance	Rel-8	C02	UE supporting E-UTRA TDD	
8.4.2.2	TDD PCFICH/PDCCH Transmit Diversity Performance	Rel-8	C02	UE supporting E-UTRA TDD	
8.5.1.1	FDD PHICH Single-antenna Port Performance	Rel-8	C01	UE supporting E-UTRA FDD	
8.5.1.2	FDD PHICH Transmit Diversity Performance	Rel-8	C01	UE supporting E-UTRA FDD	
8.5.2.1	TDD PHICH Single-antenna Port Performance	Rel-8	C02	UE supporting E-UTRA TDD	
8.5.2.2	TDD PHICH Transmit Diversity Performance	Rel-8	C02	UE supporting E-UTRA TDD	
Reporting of Channel State Information					
9.2.1.1	FDD CQI Reporting under AWGN conditions – PUCCH 1-0	Rel-8	C01	UE supporting E-UTRA FDD	
9.2.1.2	TDD CQI Reporting under AWGN conditions – PUCCH 1-0	Rel-8	C02	UE supporting E-UTRA TDD	

Clause	Title	Release	Applicability		Additional Information
			Condition	Comments	
9.2.2.1	FDD CQI Reporting under AWGN conditions – PUCCH 1-1	Rel-8	C01	UE supporting E-UTRA FDD	
9.2.2.2	TDD CQI Reporting under AWGN conditions – PUCCH 1-1	Rel-8	C02	UE supporting E-UTRA TDD	
9.3.1.1.1	FDD Frequency-selective scheduling mode – PUSCH 3-0	Rel-8	C01	UE supporting E-UTRA FDD	
9.3.1.1.2	TDD Frequency-selective scheduling mode – PUSCH 3-0	Rel-8	C02	UE supporting E-UTRA TDD	
9.3.2.1.1	FDD Frequency non-selective scheduling mode – PUCCH 1-0	Rel-8	C01	UE supporting E-UTRA FDD	
9.3.2.1.2	TDD Frequency non-selective scheduling mode – PUCCH 1-0	Rel-8	C02	UE supporting E-UTRA TDD	
9.4.1.1.1	FDD Single PMI – PUSCH 3-1	Rel-8	C01	UE supporting E-UTRA FDD	
9.4.1.1.2	TDD Single PMI – PUSCH 3-1	Rel-8	C02	UE supporting E-UTRA TDD	
9.4.2.1.1	FDD Multiple PMI – PUSCH 1-2	Rel-8	C01	UE supporting E-UTRA FDD	
9.4.2.1.2	TDD Multiple PMI – PUSCH 1-2	Rel-8	C02	UE supporting E-UTRA TDD	

Table 4.1-1a: Applicability of RF conformance test cases Conditions

C01	IF A.4.1-1/1 THEN R ELSE N/A
C02	IF A.4.1-1/2 THEN R ELSE N/A

4.2 RRM conformance test cases

Table 4.2-1: Applicability of RRM conformance test cases, ref. TS 36.521-3 [2]

Clause	Title	Release	Applicability		Additional Information
			Condition	Comments	
E-UTRAN RRC_IDLE State Mobility					
4.2.1	E-UTRAN FDD – FDD cell re-selection intra frequency case	Rel-8	C01	UE supporting E-UTRA FDD	
4.2.2	E-UTRAN TDD – TDD cell re-selection intra frequency case	Rel-8	C02	UE supporting E-UTRA TDD	
4.2.3	E-UTRAN FDD – FDD cell re-selection inter frequency case	Rel-8	C01	UE supporting E-UTRA FDD	
4.2.4	E-UTRAN FDD – TDD cell re-selection inter frequency case	Rel-8	C03	UE supporting E-UTRA FDD and E-UTRA TDD	
4.2.5	E-UTRAN TDD – FDD cell re-selection inter frequency case	Rel-8	C03	UE supporting E-UTRA FDD and E-UTRA TDD	
4.2.6	E-UTRAN TDD – TDD cell re-selection inter frequency case	Rel-8	C02	UE supporting E-UTRA TDD	
4.3.1.1	E-UTRA FDD – UTRAN FDD cell re-selection	Rel-8	C04	UE supporting E-UTRA FDD and UTRA FDD	
4.3.1.2	E-UTRA FDD – UTRAN FDD cell re-selection: UTRA FDD is of lower priority	Rel-8	C04	UE supporting E-UTRA FDD and UTRA FDD	
4.3.2	E-UTRAN FDD – UTRAN TDD cell re-selection	Rel-8	C06	UE supporting E-UTRA FDD and UTRA TDD	
4.3.3	E-UTRAN TDD – UTRAN FDD cell re-selection	Rel-8	C07	UE supporting E-UTRA TDD and UTRA FDD	
4.3.4.1	E-UTRA TDD – UTRAN TDD cell re-selection	Rel-8	C05	UE supporting E-UTRA TDD and UTRA TDD	
4.3.4.2	E-UTRAN TDD – UTRAN TDD cell re-selection: UTRA is of lower priority	Rel-8	C05	UE supporting E-UTRA TDD and UTRA TDD	
4.4.1	E-UTRAN FDD – GSM cell re-selection	Rel-8	C08	UE supporting E-UTRA FDD and GSM	
4.4.2	E-UTRAN TDD – GSM cell re-selection	Rel-8	C09	UE supporting E-UTRA TDD and GSM	
4.5.1.1	E-UTRAN FDD – HRPD Cell re-selection: HRPD is of lower priority	Rel-8	C10	UE supporting E-UTRA FDD and cdma2000 HRPD	
4.6.1.1	E-UTRAN FDD – cdma2000 1xRTT Cell re-selection: cdma2000 1x is of lower priority	Rel-8	C11	UE supporting E-UTRA FDD and cdma2000 1xRTT	
E-UTRAN RRC_CONNECTED State Mobility					
5.1.1	E-UTRAN FDD-FDD Handover intra frequency case	Rel-8	C01	UE supporting E-UTRA FDD	
5.1.2	E-UTRAN TDD-TDD Handover intra frequency case	Rel-8	C02	UE supporting E-UTRA TDD	
5.1.3	E-UTRAN FDD-FDD Handover inter frequency case	Rel-8	C01	UE supporting E-UTRA FDD	
5.1.4	E-UTRAN TDD-TDD Handover inter frequency case	Rel-8	C02	UE supporting E-UTRA TDD	
5.2.1	E-UTRAN FDD – UTRAN FDD handover	Rel-8	C04	UE supporting E-UTRA FDD and UTRA FDD	
5.2.2	E-UTRAN TDD – UTRAN FDD handover	Rel-8	C07	UE supporting E-UTRA TDD and UTRA FDD	
5.2.3	E-UTRAN FDD – GSM handover	Rel-8	C08	UE supporting E-UTRA FDD and GSM	
5.2.4	E-UTRAN TDD – UTRAN TDD handover	Rel-8	C05	UE supporting E-UTRA TDD and UTRA TDD	
5.2.5	E-UTRAN FDD – UTRAN TDD handover	Rel-8	C06	UE supporting E-UTRA FDD and UTRA TDD	
5.3.1	E-UTRAN FDD – HRPD Handover	Rel-8	C10	UE supporting E-UTRA FDD and cdma2000 HRPD	
5.3.2	E-UTRAN FDD – cdma2000 1xRTT Handover	Rel-8	C11	UE supporting E-UTRA FDD and cdma2000 1xRTT	
RRC Connection Mobility Control					
6.1.1	RRC Re-establishment to E-UTRAN	Rel-8	C01	UE supporting E-UTRA FDD	
6.2.1	E-UTRAN FDD – Contention Based Random Access Test	Rel-8	C01	UE supporting E-UTRA FDD	
6.2.2	E-UTRAN FDD – Non-Contention Based Random Access Test	Rel-8	C01	UE supporting E-UTRA FDD	
Timing and Signalling Characteristics					

Clause	Title	Release	Applicability		Additional Information
			Condition	Comments	
7.1.1	E-UTRAN FDD – UE Transmit Timing Accuracy	Rel-8	C01	UE supporting E-UTRA FDD	
7.1.2	E-UTRAN TDD – UE Transmit Timing Accuracy	Rel-8	C02	UE supporting E-UTRA TDD	
7.2.1	E-UTRAN FDD – UE Timing Advance Adjustment Accuracy	Rel-8	C01	UE supporting E-UTRA FDD	
7.2.2	E-UTRAN TDD – UE Timing Advance Adjustment Accuracy	Rel-8	C02	UE supporting E-UTRA TDD	
7.3.1	E-UTRAN FDD Radio Link Monitoring Test for Out-of-Sync	Rel-8	C01	UE supporting E-UTRA FDD	
7.3.2	E-UTRAN FDD Radio Link Monitoring Test for In-Sync	Rel-8	C01	UE supporting E-UTRA FDD	
7.3.3	E-UTRAN TDD Radio Link Monitoring Test for Out-of-Sync	Rel-8	C02	UE supporting E-UTRA TDD	
7.3.4	E-UTRAN TDD Radio Link Monitoring Test for In-Sync	Rel-8	C02	UE supporting E-UTRA TDD	
UE Measurements Procedures					
8.1.1	E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in asynchronous cells	Rel-8	C01	UE supporting E-UTRA FDD	
8.1.2	E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells	Rel-8	C01	UE supporting E-UTRA FDD	
8.1.3	E-UTRAN FDD-FDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells with DRX	Rel-8	C01	UE supporting E-UTRA FDD	
8.1.4	Void				
8.2.1	E-UTRAN TDD-TDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells	Rel-8	C02	UE supporting E-UTRA TDD	
8.2.2	E-UTRAN TDD-TDD intra-frequency event triggered reporting under fading propagation conditions in synchronous cells with DRX	Rel-8	C02	UE supporting E-UTRA TDD	
8.3.1	E-UTRAN FDD-FDD inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells	Rel-8	C01	UE supporting E-UTRA FDD	
8.3.2	E-UTRAN FDD-FDD inter-frequency event triggered reporting when DRX is used under fading propagation conditions in asynchronous cells	Rel-8	C01	UE supporting E-UTRA FDD	
8.4.1	E-UTRAN TDD-TDD inter-frequency event triggered reporting under fading propagation conditions in synchronous cells	Rel-8	C02	UE supporting E-UTRA TDD	
8.4.2	E-UTRAN TDD-TDD inter-frequency event triggered reporting when DRX is used under fading propagation conditions in synchronous cells	Rel-8	C02	UE supporting E-UTRA TDD	
8.5.1	E-UTRAN FDD-UTRAN FDD event triggered reporting under fading propagation conditions	Rel-8	C04	UE supporting E-UTRA FDD and UTRA FDD	
8.5.2	E-UTRAN FDD-UTRAN FDD SON ANR cell search reporting under AWGN propagation conditions	Rel-8	C04	UE supporting E-UTRA FDD and UTRA FDD	
8.6.1	E-UTRAN TDD-UTRAN FDD event triggered reporting under fading propagation conditions	Rel-8	C07	UE supporting E-UTRA TDD and UTRA FDD	
8.7.1	E-UTRAN TDD-UTRAN TDD cell search under fading propagation conditions	Rel-8	C05	UE supporting E-UTRA TDD and UTRA TDD	
8.8.1	E-UTRAN FDD-GSM event triggered reporting in AWGN	Rel-8	C08	UE supporting E-UTRA FDD and GSM	
8.9.1	E-UTRAN FDD-UTRAN TDD event triggered reporting in fading propagation conditions	Rel-8	C06	UE supporting E-UTRA FDD and UTRA TDD	

Clause	Title	Release	Applicability		Additional Information
			Condition	Comments	
8.10.1	E-UTRAN TDD-GSM event triggered reporting in AWGN	Rel-8	C09	UE supporting E-UTRA TDD and GSM	
Measurement Performance Requirements					
9.1.1.1	FDD Intra Frequency Absolute RSRP Accuracy	Rel-8	C01	UE supporting E-UTRA FDD	
9.1.1.2	FDD Intra Frequency Relative Accuracy of RSRP	Rel-8	C01	UE supporting E-UTRA FDD	
9.1.2.1	TDD Intra Frequency Absolute RSRP Accuracy	Rel-8	C02	UE supporting E-UTRA TDD	
9.1.2.2	TDD Intra Frequency Relative Accuracy of RSRP	Rel-8	C02	UE supporting E-UTRA TDD	
9.1.3.1	FDD – FDD Inter Frequency Absolute RSRP Accuracy	Rel-8	C01	UE supporting E-UTRA FDD	
9.1.3.2	FDD – FDD Inter Frequency Relative Accuracy of RSRP	Rel-8	C01	UE supporting E-UTRA FDD	
9.1.4.1	TDD – TDD Inter Frequency Absolute RSRP Accuracy	Rel-8	C02	UE supporting E-UTRA TDD	
9.1.4.2	TDD – TDD Inter Frequency Relative Accuracy of RSRP	Rel-8	C02	UE supporting E-UTRA TDD	
9.2.1.1	FDD Intra Frequency Absolute RSRQ Accuracy	Rel-8	C01	UE supporting E-UTRA FDD	
9.2.2.1	TDD Intra Frequency Absolute RSRQ Accuracy	Rel-8	C02	UE supporting E-UTRA TDD	
9.2.3.1	FDD – FDD Inter Frequency Absolute RSRQ Accuracy	Rel-8	C01	UE supporting E-UTRA FDD	
9.2.3.2	FDD – FDD Inter Frequency Relative Accuracy of RSRQ	Rel-8	C01	UE supporting E-UTRA FDD	
9.2.4.1	TDD – TDD Inter Frequency Absolute RSRQ Accuracy	Rel-8	C02	UE supporting E-UTRA TDD	
9.2.4.2	TDD –TDD Inter Frequency Relative Accuracy of RSRQ	Rel-8	C02	UE supporting E-UTRA TDD	

Table 4.2-1a: Applicability of RRM conformance test cases Conditions

C01	IF A.4.1-1/1 THEN R ELSE N/A
C02	IF A.4.1-1/2 THEN R ELSE N/A
C03	IF (A.4.1-1/1 AND A.4.1-1/2) THEN R ELSE N/A
C04	IF (A.4.1-1/1 AND A.4.1-1/3) THEN R ELSE N/A
C05	IF (A.4.1-1/2 AND A.4.1-1/4) THEN R ELSE N/A
C06	IF (A.4.1-1/1 AND A.4.1-1/4) THEN R ELSE N/A
C07	IF (A.4.1-1/2 AND A.4.1-1/3) THEN R ELSE N/A
C08	IF (A.4.1-1/1 AND A.4.1-1/5) THEN R ELSE N/A
C09	IF (A.4.1-1/2 AND A.4.1-1/5) THEN R ELSE N/A
C10	IF (A.4.1-1/1 AND A.4.1-1/6) THEN R ELSE N/A
C11	IF (A.4.1-1/1 AND A.4.1-1/7) THEN R ELSE N/A

Annex A (normative): ICS proforma for E-UTRA User Equipment

A.1 Guidance for completing the ICS proforma

A.1.1 Purposes and structure

The purpose of this ICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in relevant specifications may provide information about the implementation in a standardised manner.

The ICS proforma is subdivided into clauses for the following categories of information:

- instructions for completing the ICS proforma;
- identification of the implementation;
- identification of the protocol;
- ICS proforma tables (for example: UE implementation types, Teleservices, etc).

A.1.2 Abbreviations and conventions

The ICS proforma contained in this annex is comprised of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7 [4].

Item column

The item column contains a number which identifies the item in the table.

Item description column

The item description column describes in free text each respective item (e.g. parameters, timers, etc.). It implicitly means "is <item description> supported by the implementation?".

Reference column

The reference column gives reference to the relevant 3GPP core specifications.

Release column

The release column indicates the earliest release from which the capability or option is relevant.

Comments column

This column is left blank for particular use by the reader of the present document.

References to items

For each possible item answer (answer in the support column) within the ICS proforma there exists a unique reference, used, for example, in the conditional expressions. It is defined as the table identifier, followed by a solidus character "/", followed by the item number in the table. If there is more than one support column in a table, the columns shall be discriminated by letters (a, b, etc.), respectively.

EXAMPLE 1: A.4.1-1/2 is the reference to the answer of item 2 in table A.4.1-1.

A.1.3 Instructions for completing the ICS proforma

The supplier of the implementation may complete the ICS proforma in each of the spaces provided. More detailed instructions are given at the beginning of the different clauses of the ICS proforma.

A.2 Identification of the User Equipment

Identification of the User Equipment should be filled in so as to provide as much detail as possible regarding version numbers and configuration options.

The product supplier information and client information should both be filled in if they are different.

A person who can answer queries regarding information supplied in the ICS should be named as the contact person.

A.2.1 Date of the statement

.....

A.2.2 User Equipment Under Test (UEUT) identification

UEUT name:

.....

.....

Hardware configuration:

.....

.....

.....

Software configuration:

.....

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A.2.3 Product supplier

Name:

.....

Address:

.....

.....

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

.....

A.2.4 Client

Name:

.....

Address:

.....

.....

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Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

.....

A.2.5 ICS contact person

Name:

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

A.3 Identification of the protocol

This ICS proforma applies to the 3GPP standards listed in the normative references clause of the present document.

A.4 ICS proforma tables

Editor's Note: This clause is not completed

A.4.1 UE Implementation Types

Table A.4.1-1: UE Radio Technologies

Item	UE Radio Technologies	Ref.	Release	Comments
1	E-UTRA FDD	36.101	Rel-8	
2	E-UTRA TDD	36.101	Rel-8	
3	UTRA FDD	25.101	FFS	
4	UTRA TDD	25.102	FFS	
5	GSM	45.005	FFS	
6	cdma2000 HRPD	FFS	FFS	
7	cdma2000 1xRTT	FFS	FFS	

A.4.2 UE Service Capabilities

Table A.4.2-1: UE Radio Technologies

Item	UE Radio Technologies	Ref.	Release	Comments
1	FFS			

A.4.3 Baseline Implementation Capabilities

Table A.4.3-1: Supported protocols

Item	Supported protocols	Ref.	Release	Comments
1	EPS Mobility Management	24.301	Rel-8	
2	EPS Session Management	24.301	Rel-8	
3	GPRS Mobility Management	FFS	Rel-8	
4	Radio Resource Control	36.331	Rel-8	
5	Packet Data Convergence Protocol	36.323	Rel-8	
6	Radio Link Control	36.322	Rel-8	
7	Medium Access Control	36.321	Rel-8	
8	Physical Layer	36.201, 36.302	Rel-8	

Table A.4.3-2: Special Conformance Testing Functions

Item	Special Conformance Testing Functions	Ref.	Release	Comments
1	UE test loop	36.509	Rel-8	
2	Max UE test loop UL RLC SDU size 65535 bits	36.509	Rel-8	

Table A.4.3-3: RF Baseline Implementation Capabilities

Item	RF Baseline Implementation Capabilities	Ref.	Release	Comments
1	Frequency band: 1920-1980, 2110-2170 MHz	36.101, 5.5	Rel-8	FDD Band 1
2	Frequency band: 1850-1910, 1930-1990 MHz	36.101, 5.5	Rel-8	FDD Band 2
3	Frequency band: 1710-1785, 1805-1880 MHz	36.101, 5.5	Rel-8	FDD Band 3
4	Frequency band: 1710-1755, 2110-2155 MHz	36.101, 5.5	Rel-8	FDD Band 4
5	Frequency band: 824-849, 869-894 MHz	36.101, 5.5	Rel-8	FDD Band 5
6	Frequency band: 830-840, 875-885 MHz	36.101, 5.5	Rel-8	FDD Band 6
7	Frequency band: 2500-2570, 2620-2690 MHz	36.101, 5.5	Rel-8	FDD Band 7
8	Frequency band: 880-915, 925-960 MHz	36.101, 5.5	Rel-8	FDD Band 8
9	Frequency band: 1749.9-1784.9, 1844.9-1879.9 MHz	36.101, 5.5	Rel-8	FDD Band 9
10	Frequency band: 1710-1770, 2110-2170 MHz	36.101, 5.5	Rel-8	FDD Band 10
11	Frequency band: 1427.9-1452.9, 1475.9-1500.9 MHz	36.101, 5.5	Rel-8	FDD Band 11
12	Frequency band: 698-716, 728-746 MHz	36.101, 5.5	Rel-8	FDD Band 12
13	Frequency band: 777-787, 746-756 MHz	36.101, 5.5	Rel-8	FDD Band 13
14	Frequency band: 788-798, 758-768 MHz	36.101, 5.5	Rel-8	FDD Band 14
15	Reserved	36.101, 5.5	Rel-8	FDD Band 15
16	Reserved	36.101, 5.5	Rel-8	FDD Band16
17	Frequency band: 704-716, 734-746 MHz	36.101, 5.5	Rel-8	FDD Band 17
18	Frequency band: 815-830, 860-875 MHz	36.101, 5.5	Rel-9	FDD Band 18
19	Frequency band: 830-845, 875-890 MHz	36.101, 5.5	Rel-9	FDD Band 19
…				
33	Frequency band: 1900-1920, 1900-1920 MHz	36.101, 5.5	Rel-8	TDD Band 33
34	Frequency band: 2010-2025, 2010-2025 MHz	36.101, 5.5	Rel-8	TDD Band 34
35	Frequency band: 1850-1910, 1850-1910 MHz	36.101, 5.5	Rel-8	TDD Band 35
36	Frequency band: 1930-1990, 1930-1990 MHz	36.101, 5.5	Rel-8	TDD Band 36
37	Frequency band: 1910-1930, 1910-1930 MHz	36.101, 5.5	Rel-8	TDD Band 37
38	Frequency band: 2570-2620, 2570-2620 MHz	36.101, 5.5	Rel-8	TDD Band 38
39	Frequency band: 1880-1920, 1880-1920 MHz	36.101, 5.5	Rel-8	TDD Band 39
40	Frequency band: 2300-2400, 2300-2400 MHz	36.101, 5.5	Rel-8	TDD Band 40

Table A.4.3-4: PUSCH physical layer Categories

Item	PUSCH physical layer categories	Ref.	Release	Comments
1	Category 1	36.306, 4.1	Rel-8	
2	Category 2	36.306, 4.1	Rel-8	
3	Category 3	36.306, 4.1	Rel-8	
4	Category 4	36.306, 4.1	Rel-8	
5	Category 5	36.306, 4.1	Rel-8	Support for 64QAM in UL

Table A.4.3-5: PDSCH physical layer Categories

Item	PDSCH physical layer categories	Ref.	Release	Comments
1	Category 1	36.306, 4.1	Rel-8	
2	Category 2	36.306, 4.1	Rel-8	
3	Category 3	36.306, 4.1	Rel-8	
4	Category 4	36.306, 4.1	Rel-8	
5	Category 5	36.306, 4.1	Rel-8	

Table A.4.3-6: Supported Mixed MBSFN-unicast capabilities

Item	Supported Mixed MBSFN-unicast capabilities	Ref.	Release	Comments
1	Mixed MBSFN-unicast	36.211, 6.5	Rel-8	Support for MBSFN subframes: 1, 2, 3, 6, 7, 8

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
2008-03					Skeleton proposed for RAN5#38 Malaga		0.0.1
2008-06					Updated after RAN5#39bis: - Editorial update and alignment with 36.523-2 - TC included in 36.521-1 and 36.521-3 included - Some Conditions for TC selections introduce	0.0.1	0.1.0
2008-08					Updated after RAN5#40: - Editorial update in regard to changing spec names, etc. - FDD and TDD split (R5-083839) - RRM TC numbers aligned with 36.521-3 v030	0.1.1	0.2.0
2008-10					Update after RAN5#40bis: - Table split in different clauses for Conformance and RRM test cases - Extension of applicability tables to include Additional information column - Change of applicability of TCs that apply to any E-UTRA device into "R" - recommended - Updated TCs in accordance to 36.521-1 v110 and 36.521-3 v040 - Some editorial updates	0.2.0	0.3.0
2008-11					Update After RAN5#41 (R5-055360): - Renamed 8.1.1, added new 8.1.2, - Added new TCs to RRM section Measurement Performance Requirements - Added Table A.4.3-2 with reference to test loop functions in 36.509 - Some editorial changes - Normative References updated - Change RRM TC titles to reflect their applicability to FDD only	0.3.0	2.0.0
2008-12	RAN#42	RP-080970			Approval of version 2.0.0 at RAN#42, then put to version 8.0.0.	2.0.0	8.0.0
2008-01					Editorial corrections.	8.0.0	8.0.1
2009-05	RAN#44	RP-090448	0001		CR to 36.521-2: Applicability changes and additions for RRM test cases	8.0.1	8.1.0
2009-05	RAN#44	RP-090448	0002		LTE-RF: Applicability for Output Power Dynamics test cases	8.0.1	8.1.0
2009-09	RAN#45	R5-094035	0003	-	Correction CR to 36.521-2: Applicability changes to introduce additional RRM tests	8.1.0	8.2.0
2009-09	RAN#45	R5-094572	0004	-	Applicability for Output Power Dynamics test cases	8.1.0	8.2.0
2009-09	RAN#45	R5-094710	0005	-	Resubmission-Correction CR to 36.521-2: Applicability changes to introduce additional RRM tests	8.1.0	8.2.0
2009-09	RAN#45	R5-094768	0006	-	Update of RRM Confomance test applicability for SON	8.1.0	8.2.0
2009-09	RAN#45	R5-094999	0007	-	Correction CR to 36.521-2: Applicability changes to RF PDSCH Demodulation tests	8.1.0	8.2.0

History

Document history		
V8.0.1	January 2009	Publication
V8.1.0	June 2009	Publication
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