

ETSI TS 136 508 V12.9.0 (2016-05)



**LTE;
Evolved Universal Terrestrial Radio Access (E-UTRA)
and Evolved Packet Core (EPC);
Common test environments for User Equipment (UE)
conformance testing
(3GPP TS 36.508 version 12.9.0 Release 12)**



Reference

RTS/TSGR-0536508vc90

Keywords

LTE

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

The present document can be downloaded from:
<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (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
<https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:
<https://portal.etsi.org/People/CommiteeSupportStaff.aspx>

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2016.
All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.
3GPP™ and **LTE™** are Trade Marks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.
GSM® and the GSM logo are Trade Marks registered and owned by the GSM Association.

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 (<https://ipr.etsi.org>).

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 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>.

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Contents

Intellectual Property Rights	2
Foreword.....	2
Modal verbs terminology.....	2
Foreword.....	19
Introduction	19
1 Scope	20
2 References	20
3 Definitions, symbols and abbreviations	22
3.1 Definitions.....	22
3.2 Symbols.....	23
3.3 Abbreviations	23
4 Common test environment	23
4.1 Environmental conditions.....	23
4.1.1 Temperature.....	23
4.1.2 Voltage.....	24
4.2 Common requirements of test equipment.....	24
4.2.1 General functional requirements.....	25
4.2.2 Minimum functional requirements	25
4.2.2.1 Supported Cell Configuration	25
4.2.2.1.1 Supported Channels.....	25
4.2.2.2 Support of T _{cell} timing offset	26
4.2.2.3 Supported Sidelink Configuration.....	26
4.2.2.3.1 Supported Sidelink Channels.....	27
4.3 Reference test conditions.....	27
4.3.1 Test frequencies	27
4.3.1.1 FDD Mode Test frequencies	31
4.3.1.1.1 FDD reference test frequencies for operating band 1	31
4.3.1.1.1A FDD reference test frequencies for CA in operating band 1.....	31
4.3.1.1.2 FDD reference test frequencies for operating band 2	31
4.3.1.1.2A FDD reference test frequencies for CA in operating band 2.....	32
4.3.1.1.3 FDD reference test frequencies for operating band 3	34
4.3.1.1.3A FDD reference test frequencies for CA in operating band 3.....	34
4.3.1.1.4 FDD reference test frequencies for operating band 4	35
4.3.1.1.4A FDD reference test frequencies for CA in operating band 4.....	36
4.3.1.1.5 FDD reference test frequencies for operating band 5	36
4.3.1.1.6 FDD reference test frequencies for operating band 6	36
4.3.1.1.7 FDD reference test frequencies for operating band 7	37
4.3.1.1.7A FDD reference test frequencies for CA in operating band 7.....	37
4.3.1.1.8 FDD reference test frequencies for operating band 8	38
4.3.1.1.9 FDD reference test frequencies for operating band 9	38
4.3.1.1.10 FDD reference test frequencies for operating band 10	39
4.3.1.1.11 FDD reference test frequencies for operating band 11	39
4.3.1.1.12 FDD reference test frequencies for operating band 12	39
4.3.1.1.12A FDD reference test frequencies for CA in operating band 12.....	40
4.3.1.1.13 FDD reference test frequencies for operating band 13	40
4.3.1.1.14 FDD reference test frequencies for operating band 14	40
4.3.1.1.15 FDD reference test frequencies for operating band 15	40
4.3.1.1.16 FDD reference test frequencies for operating band 16	40
4.3.1.1.17 FDD reference test frequencies for operating band 17	41
4.3.1.1.18 FDD reference test frequencies for operating band 18	41
4.3.1.1.19 FDD reference test frequencies for operating band 19	41
4.3.1.1.20 FDD reference test frequencies for operating band 20	41
4.3.1.1.21 FDD reference test frequencies for operating band 21	42

4.3.1.1.22	FDD reference test frequencies for operating band 22	42
4.3.1.1.23	FDD reference test frequencies for operating band 23	42
4.3.1.1.23A	FDD reference test frequencies for CA in operating band 23.....	43
4.3.1.1.24	FDD reference test frequencies for operating band 24	43
4.3.1.1.25	FDD reference test frequencies for operating band 25	43
4.3.1.1.25A	FDD reference test frequencies for CA in operating band 25.....	44
4.3.1.1.26	FDD reference test frequencies for operating band 26	44
4.3.1.1.27	FDD reference test frequencies for operating band 27	45
4.3.1.1.27A	FDD reference test frequencies for CA in operating band 27.....	45
4.3.1.1.28	FDD reference test frequencies for operating band 28	46
4.3.1.1.29	FDD reference test frequencies for CA in operating band 29.....	47
4.3.1.1.31	FDD reference test frequencies for operating band 31	47
4.3.1.1.32	FDD reference test frequencies for CA in operating band 32.....	47
4.3.1.1.33 to 4.3.1.1.64	Void.....	48
4.3.1.1.65	Reserved	48
4.3.1.1.66	Reserved	48
4.3.1.1.67	FDD reference test frequencies for CA in operating band 67.....	48
4.3.1.2	TDD Mode Test frequencies	48
4.3.1.2.1	TDD reference test frequencies for Operating Band 33	48
4.3.1.2.2	TDD reference test frequencies for Operating Band 34	49
4.3.1.2.3	TDD reference test frequencies for Operating Band 35	49
4.3.1.2.4	TDD reference test frequencies for Operating Band 36	49
4.3.1.2.5	TDD reference test frequencies for Operating Band 37	50
4.3.1.2.6	TDD reference test frequencies for Operating Band 38	50
4.3.1.2.6A	TDD reference test frequencies for CA in operating band 38	50
4.3.1.2.7	TDD reference test frequencies for Operating Band 39	51
4.3.1.2.7A	TDD reference test frequencies for CA in Operating Band 39.....	51
4.3.1.2.8	TDD reference test frequencies for Operating Band 40	52
4.3.1.2.8A	TDD reference test frequencies for CA in operating band 40	52
4.3.1.2.9	TDD reference test frequencies for Operating Band 41	53
4.3.1.2.9A	TDD reference test frequencies for CA in operating band 41	54
4.3.1.2.10	TDD reference test frequencies for Operating Band 42	58
4.3.1.2.10A	TDD reference test frequencies for CA in operating band 42	59
4.3.1.2.11	TDD reference test frequencies for Operating Band 43	60
4.3.1.2.12	TDD reference test frequencies for Operating Band 44	60
4.3.1.3	HRPD Test frequencies.....	60
4.3.1.3.1	HRPD test frequencies for Band Class 0	60
4.3.1.3.2	HRPD test frequencies for Band Class 1	60
4.3.1.3.3	HRPD test frequencies for Band Class 3	61
4.3.1.3.4	HRPD test frequencies for Band Class 4	61
4.3.1.3.5	HRPD test frequencies for Band Class 6	61
4.3.1.3.6	HRPD test frequencies for Band Class 10.....	61
4.3.1.3.7	HRPD test frequencies for Band Class 15	61
4.3.1.4	1xRTT Test frequencies	62
4.3.1.4.1	1xRTT test frequencies for Band Class 0	62
4.3.1.4.2	1xRTT test frequencies for Band Class 1	62
4.3.1.4.3	1xRTT test frequencies for Band Class 3	62
4.3.1.4.4	1xRTT test frequencies for Band Class 4	62
4.3.1.4.5	1xRTT test frequencies for Band Class 6	62
4.3.1.4.6	1xRTT test frequencies for Band Class 10.....	63
4.3.1.4.7	1xRTT test frequencies for Band Class 15	63
4.3.1.5	MFBI Test frequencies.....	63
4.3.1.5.1	MFBI Test frequencies for operation band 2 overlapping with band 25	63
4.3.1.5.2	MFBI Test frequencies for operation band 3 overlapping with band 9	63
4.3.1.5.3	MFBI Test frequencies for operation band 4 overlapping with band 10	63
4.3.1.5.4	MFBI Test frequencies for operation band 5 overlapping with band 18	64
4.3.1.5.5	MFBI Test frequencies for operation band 5 overlapping with band 19	64
4.3.1.5.6	MFBI Test frequencies for operation band 5 overlapping with band 26	64
4.3.1.5.7	MFBI Test frequencies for operation band 9 overlapping with band 3	64
4.3.1.5.8	MFBI Test frequencies for operation band 10 overlapping with band 4	64
4.3.1.5.9	MFBI Test frequencies for operation band 12 overlapping with band 17	65
4.3.1.5.10	MFBI Test frequencies for operation band 17 overlapping with band 12	65

4.3.1.5.11	MFBI Test frequencies for operation band 18 overlapping with band 5	65
4.3.1.5.12	MFBI Test frequencies for operation band 18 overlapping with band 26	65
4.3.1.5.13	MFBI Test frequencies for operation band 18 overlapping with band 27	66
4.3.1.5.14	MFBI Test frequencies for operation band 19 overlapping with band 5	66
4.3.1.5.15	MFBI Test frequencies for operation band 19 overlapping with band 26	66
4.3.1.5.16	MFBI Test frequencies for operation band 25 overlapping with band 2	66
4.3.1.5.17	MFBI Test frequencies for operation band 26 overlapping with band 5	66
4.3.1.5.18	MFBI Test frequencies for operation band 26 overlapping with band 18	67
4.3.1.5.19	MFBI Test frequencies for operation band 26 overlapping with band 19	67
4.3.1.5.20	MFBI Test frequencies for operation band 26 overlapping with band 27	68
4.3.1.5.21	MFBI Test frequencies for operation band 27 overlapping with band 18	68
4.3.1.5.22	MFBI Test frequencies for operation band 27 overlapping with band 26	68
4.3.1.5.23	MFBI Test frequencies for operation band 33 overlapping with band 39	68
4.3.1.5.24	MFBI Test frequencies for operation band 38 overlapping with band 41	68
4.3.1.5.25	MFBI Test frequencies for operation band 39 overlapping with band 33	69
4.3.1.5.26	MFBI Test frequencies for operation band 41 overlapping with band 38	69
4.3.1.6	WLAN Test frequencies	69
4.3.1.6.1	WLAN Test frequencies for 2.4 GHz ISM Band	69
4.3.1.6.2	WLAN Test frequencies for 5 GHz ISM Band	69
4.3.2	Radio conditions	70
4.3.2.1	Normal propagation condition	70
4.3.3	Physical channel allocations	70
4.3.3.1	Antennas	70
4.3.3.2	Downlink physical channels and physical signals.....	70
4.3.3.3	Mapping of downlink physical channels and signals to physical resources.....	71
4.3.3.4	Uplink physical channels and physical signals	74
4.3.3.5	Mapping of uplink physical channels and signals to physical resources.....	74
4.3.4	Signal levels.....	74
4.3.4.1	Downlink signal levels.....	74
4.3.4.2	Uplink signal levels.....	74
4.3.5	Standard test signals.....	74
4.3.5.1	Downlink test signals	74
4.3.5.2	Uplink test signals	74
4.3.6	Physical layer parameters	75
4.3.6.1	Downlink physical layer parameters	75
4.3.6.1.1	Physical layer parameters for DCI format 0	75
4.3.6.1.2	Physical layer parameters for DCI format 1	76
4.3.6.1.3	Physical layer parameters for DCI format 1A	76
4.3.6.1.3A	Physical layer parameters for DCI format 1B	77
4.3.6.1.4	Physical layer parameters for DCI format 1C	77
4.3.6.1.5	Physical layer parameters for DCI format 2	78
4.3.6.1.6	Physical layer parameters for DCI format 2A	79
4.3.6.1.7	Physical layer parameters for DCI format 5	79
4.4	Reference system configurations.....	79
4.4.1	Simulated network scenarios	79
4.4.1.1	Single cell network scenarios	80
4.4.1.2	E-UTRA single mode multi cell network scenarios.....	80
4.4.1.3	E-UTRA dual mode multi cell network scenarios	80
4.4.1.4	3GPP Inter-RAT network scenarios.....	80
4.4.1.5	3GPP2 Inter-RAT network scenarios.....	80
4.4.1.6	WLAN Inter-RAT network scenarios	80
4.4.2	Simulated cells.....	81
4.4.3	Common parameters for simulated E-UTRA cells	84
4.4.3.1	Common configurations of system information blocks	84
4.4.3.1.1	Combinations of system information blocks	84
4.4.3.1.2	Scheduling of system information blocks.....	88
4.4.3.2	Common contents of system information messages	92
-	<i>MasterInformationBlock</i>	92
-	<i>SystemInformation</i>	92
-	<i>SystemInformationBlockType1</i>	94
4.4.3.3	Common contents of system information blocks	96
-	<i>SystemInformationBlockType2</i>	96

-	<i>SystemInformationBlockType3</i>	97
-	<i>SystemInformationBlockType4</i>	98
-	<i>SystemInformationBlockType5</i>	98
-	<i>SystemInformationBlockType6</i>	102
-	<i>SystemInformationBlockType7</i>	104
-	<i>SystemInformationBlockType8</i>	105
-	<i>SystemInformationBlockType9</i>	108
-	<i>SystemInformationBlockType10</i>	108
-	<i>SystemInformationBlockType11</i>	110
-	<i>SystemInformationBlockType12</i>	112
-	<i>SystemInformationBlockType13</i>	113
-	<i>SystemInformationBlockType14</i>	113
-	<i>SystemInformationBlockType15</i>	114
-	<i>SystemInformationBlockType17</i>	115
-	<i>SystemInformationBlockType18</i>	115
-	<i>SystemInformationBlockType19</i>	126
4.4.3.4	Channel-bandwidth-dependent parameters in system information blocks.....	134
4.4.4	Common parameters for simulated UTRA cells.....	134
4.4.4.1	Common contents of system information blocks for UTRA cells.....	135
-	System Information Block type 19.....	135
4.4.4.2	UTRA SIB scheduling for inter EUTRA - UTRA test.....	137
4.4.4.3	UTRA SIB scheduling for inter EUTRA – UTRA - GERAN test.....	137
4.4.5	Common parameters for simulated GERAN cells.....	138
4.4.6	Common parameters for simulated CDMA2000 cells.....	141
4.4.7	Default parameters specific for simulated cells.....	141
4.4.7.1	Common contents of HRPD Overhead messages.....	141
4.4.7.2	Common contents of 1XRTT Overhead messages.....	146
4.4.7.2.1	Configuration sequence number.....	146
4.4.7.2.2	Over Head messages.....	147
4.4.8	Common parameters for simulated WLAN AP's.....	156
4.5	Generic procedures.....	156
4.5.1	UE test states.....	157
4.5.2	UE Registration (State 2).....	160
4.5.2.1	Initial conditions.....	161
4.5.2.2	Definition of system information messages.....	161
4.5.2.3	Procedure.....	162
4.5.2.4	Specific message contents.....	165
4.5.2A	UE Registration, UE Test Mode Activated (State 2A).....	166
4.5.2A.1	Initial conditions.....	167
4.5.2A.2	Definition of system information messages.....	167
4.5.2A.3	Procedure.....	168
4.5.2A.4	Specific message contents.....	170
4.5.2B	UE Registration, pre-registration on HRPD (State 2B).....	171
4.5.2B.1	Initial conditions.....	171
4.5.2B.2	Definition of system information messages.....	171
4.5.2B.3	Procedure.....	172
4.5.2B.4	Specific message contents.....	177
4.5.2C	UE Registration, pre-registration on 1xRTT (State 2C).....	178
4.5.2C.1	Initial conditions.....	178
4.5.2C.2	Definition of system information messages.....	178
4.5.2C.3	Procedure.....	180
4.5.2C.4	Specific message contents.....	180
4.5.2D	UE Registration, 2 PDN for RAN Assisted WLAN Interworking (State 2).....	186
4.5.2D.1	Initial conditions.....	186
4.5.2D.2	Definition of system information messages.....	186
4.5.2D.3	Procedure.....	187
4.5.2D.4	Specific message contents.....	187
4.5.3	Generic Radio Bearer Establishment (State 3).....	189
4.5.3.1	Initial conditions.....	189
4.5.3.2	Definition of system information messages.....	189
4.5.3.3	Procedure.....	190
4.5.3.4	Specific message contents.....	192

4.5.3A	Generic Radio Bearer Establishment, UE Test Mode Activated (State 3A)	192
4.5.3A.1	Initial conditions	192
4.5.3A.2	Definition of system information messages	192
4.5.3A.3	Procedure	193
4.5.3A.4	Specific message contents	193
4.5.3B	Generic Radio Bearer Establishment, pre-registered on HRPD (State 3B)	193
4.5.3B.1	Initial conditions	193
4.5.3B.2	Definition of system information messages	193
4.5.3B.3	Procedure	193
4.5.3B.4	Specific message contents	193
4.5.3C	Generic Radio Bearer Establishment, pre-registered on 1xRTT (State 3C)	193
4.5.3C.1	Initial conditions	193
4.5.3C.2	Definition of system information messages	193
4.5.3C.3	Procedure	194
4.5.3C.4	Specific message contents	194
4.5.3D	Generic Radio Bearer Establishment for RAN Assisted WLAN Interworking (State 3)	194
4.5.3D.1	Initial conditions	194
4.5.3D.2	Definition of system information messages	194
4.5.3D.3	Procedure	194
4.5.3D.4	Specific message contents	195
4.5.4	Loopback Activation (State 4)	195
4.5.4.1	Initial conditions	195
4.5.4.2	Definition of system information messages	195
4.5.4.3	Procedure	195
4.5.4.4	Specific message contents	195
4.5.5	HRPD registration (State H2)	195
4.5.5.1	Initial conditions	195
4.5.5.2	Definition of system information messages	195
4.5.5.3	Procedure	196
4.5.5.4	Specific message contents	196
4.5.5A	HRPD registration, pre-registration on E-UTRAN (State H2A)	196
4.5.5A.1	Initial conditions	196
4.5.5A.2	Definition of system information messages	196
4.5.5A.3	Procedure	196
4.5.5A.4	Specific message contents	196
4.5.6	HRPD session establishment (State H3)	196
4.5.6.1	Initial conditions	196
4.5.6.2	Definition of system information messages	196
4.5.6.3	Procedure	197
4.5.6.4	Specific message contents	197
4.5.6A	HRPD session establishment, pre-registered on E-UTRAN (State H3A)	197
4.5.6A.1	Initial conditions	197
4.5.6A.2	Definition of system information messages	197
4.5.6A.3	Procedure	197
4.5.6A.4	Specific message contents	197
4.5.7	Out of Coverage (State 5)	197
4.5.7.1	Initial conditions	197
4.5.7.2	Definition of system information messages	197
4.5.7.3	Procedure	198
4.5A	Other generic procedures	198
4.5A.1	Procedure for IP address allocation in the U-plane	198
4.5A.2	Tracking area updating procedure	198
4.5A.3	Procedure for IMS signalling	199
4.5A.3A	Procedure for IMS Signalling over UTRA	200
4.5A.3A.1	Initial conditions	200
4.5A.3A.2	Procedure	201
4.5A.3A.3	Specific message contents	202
4.5A.4	Generic Test Procedure for IMS Emergency call establishment in EUTRA: Normal Service	204
4.5A.4.1	Initial conditions	204
4.5A.4.2	Definition of system information messages	204
4.5A.4.3	Procedure	204
4.5A.4.4	Specific message contents	207

4.5A.5	Generic Test Procedure for IMS Emergency call establishment in EUTRA: Limited Service.....	208
4.5A.5.1	Initial conditions	208
4.5A.5.2	Definition of system information messages	208
4.5A.5.3	Procedure	209
4.5A.5.4	Specific message contents.....	212
4.5A.6	Generic Test Procedure for IMS MO speech call establishment in E-UTRA.....	214
4.5A.6.1	Initial conditions	214
4.5A.6.2	Definition of system information messages	214
4.5A.6.3	Procedure	215
4.5A.6.4	Specific message contents.....	216
4.5A.7	Generic Test Procedure for IMS MT Speech call establishment in E-UTRA	216
4.5A.7.1	Initial conditions	216
4.5A.7.2	Definition of system information messages	216
4.5A.7.3	Procedure	217
4.5A.7.4	Specific message contents.....	217
4.5A.8	Generic Test Procedure for IMS MO video call establishment in E-UTRA.....	218
4.5A.8.1	Initial conditions	218
4.5A.8.2	Definition of system information messages	218
4.5A.8.3	Procedure	219
4.5A.8.4	Specific message contents.....	220
4.5A.9	Generic Test Procedure for IMS MT video call establishment in E-UTRA	220
4.5A.9.1	Initial conditions	220
4.5A.9.2	Definition of system information messages	220
4.5A.9.3	Procedure	221
4.5A.9.4	Specific message contents.....	221
4.5A.10	Generic Test Procedure for IMS MO speech and aSRVCC in E-UTRA.....	222
4.5A.10.1	Initial conditions	222
4.5A.10.2	Definition of system information messages	222
4.5A.10.3	Procedure	223
4.5A.10.4	Specific message contents.....	224
4.5A.11	Generic Test Procedure for IMS MO add video establishment in E-UTRA.....	224
4.5A.11.1	Initial conditions	224
4.5A.11.2	Definition of system information messages	224
4.5A.11.3	Procedure	224
4.5A.11.4	Specific message contents.....	225
4.5A.12	Generic Test Procedure for IMS MT add video establishment in E-UTRA	225
4.5A.12.1	Initial conditions	225
4.5A.12.2	Definition of system information messages	225
4.5A.12.3	Procedure	225
4.5A.12.4	Specific message contents.....	226
4.5A.14	Generic Test Procedure for IMS XCAP establishment in EUTRA	226
4.5A.14.1	Initial conditions	226
4.5A.14.2	Definition of system information messages	226
4.5A.14.3	Procedure	227
4.5A.14.4	Specific message contents.....	227
4.5A.15	Generic Test Procedure for EPS Bearer Deactivation	227
4.5A.15.1	Initial conditions	227
4.5A.15.2	Definition of system information messages	227
4.5A.15.3	Procedure	228
4.5A.15.4	Specific message contents.....	228
4.5A.16	Generic Test Procedure to establish additional PDN connectivity	228
4.5A.16.1	Initial conditions	229
4.5A.16.2	Definition of system information messages	229
4.5A.16.3	Procedure	229
4.5A.16.4	Specific message contents.....	229
4.5A.17	Generic Test Procedure for user initiated release of additional PDN connectivity.....	230
4.5A.17.1	Initial conditions	230
4.5A.17.2	Definition of system information messages	230
4.5A.17.3	Procedure	231
4.5A.17.4	Specific message contents.....	231
4.5A.18	Generic Test Procedure for network initiated release of additional PDN connectivity	232
4.5A.18.1	Initial conditions	232

4.5A.18.2	Definition of system information messages	233
4.5A.18.3	Procedure	233
4.5A.18.4	Specific message contents	233
4.5A.19	Generic Test Procedure for IMS MO speech call establishment in E-UTRA / EVS	234
4.5A.19.1	Initial conditions	234
4.5A.19.2	Definition of system information messages	234
4.5A.19.3	Procedure	234
4.5A.19.4	Specific message contents	235
4.5A.20	Generic Test Procedure for IMS MT speech call establishment in E-UTRA / EVS	235
4.5A.20.1	Initial conditions	235
4.5A.20.2	Definition of system information messages	235
4.5A.20.3	Procedure	235
4.5A.20.4	Specific message contents	235
4.5A.21	Generic Test Procedure for IMS MO Customized Alerting Tones and speech establishment in E-UTRA	235
4.5A.21.1	Initial conditions	235
4.5A.21.2	Definition of system information messages	236
4.5A.21.3	Procedure	236
4.5A.21.4	Specific message contents	236
4.5A.22	Communication with the ProSe Function	236
4.5A.22.1	Initial conditions	236
4.5A.22.2	Definition of system information messages	236
4.5A.22.3	Procedure	236
4.5A.22.4	Specific message contents	239
4.5A.23	Generic Test Procedure for IMS call establishment in E-UTRA / WLAN	239
4.5A.23.1	Initial conditions	239
4.5A.23.2	Definition of system information messages	239
4.5A.23.3	Procedure	239
4.5A.23.4	Specific message contents	240
4.6	Default RRC message and information elements contents	240
4.6.1	Contents of RRC messages	240
-	<i>CounterCheck</i>	240
-	<i>CounterCheckResponse</i>	240
-	<i>CSFBParametersRequestCDMA2000</i>	241
-	<i>CSFBParametersResponseCDMA2000</i>	241
-	<i>DLInformationTransfer</i>	241
-	<i>HandoverFromEUTRAPreparationRequest</i>	242
-	<i>LoggedMeasurementConfiguration</i>	243
-	<i>MBMSCountingRequest</i>	244
-	<i>MBMSCountingResponse</i>	244
-	<i>MBMSInterestIndication</i>	245
-	<i>MBSFNAreaConfiguration</i>	245
-	<i>MeasurementReport</i>	246
-	<i>MobilityFromEUTRACommand</i>	246
-	<i>Paging</i>	247
-	<i>RRCConnectionReconfiguration</i>	248
-	<i>RRCConnectionReconfigurationComplete</i>	251
-	<i>RRCConnectionReestablishment</i>	252
-	<i>RRCConnectionReestablishmentComplete</i>	252
-	<i>RRCConnectionReestablishmentReject</i>	252
-	<i>RRCConnectionReestablishmentRequest</i>	253
-	<i>RRCConnectionReject</i>	253
-	<i>RRCConnectionRelease</i>	253
-	<i>RRCConnectionRequest</i>	254
-	<i>RRCConnectionSetup</i>	254
-	<i>RRCConnectionSetupComplete</i>	254
-	<i>SecurityModeCommand</i>	255
-	<i>SecurityModeComplete</i>	255
-	<i>SecurityModeFailure</i>	255
-	<i>SidelinkUEInformation</i>	256
-	<i>UECapabilityEnquiry</i>	256
-	<i>UECapabilityInformation</i>	257

-	<i>UEInformationRequest</i>	263
-	<i>UEInformationResponse</i>	264
-	<i>ULHandoverPreparationTransfer</i>	264
-	<i>ULInformationTransfer</i>	265
-	<i>UEAssistanceInformation</i>	265
4.6.2	System information blocks	265
4.6.3	Radio resource control information elements	266
-	BCCH-Config-DEFAULT	266
-	CQI-ReportAperiodic-r10-DEFAULT	266
-	CQI-ReportConfig-DEFAULT	267
-	CQI-ReportConfig-r10-DEFAULT	267
-	CQI-ReportConfig-v1130-eIMTA	271
-	CQI-ReportConfig-v1250-DEFAULT	273
-	CQI-ReportConfigSCell-r10-DEFAULT	274
-	CQI-ReportPeriodic-r10-DEFAULT	274
-	CSI-RS-ConfigNZP-r11-DEFAULT	275
-	CSI-RS-ConfigZP-r11-DEFAULT	275
-	DMRS-Config-r11-DEFAULT	276
-	DRB-ToAddModList-RECONFIG	276
-	EPDCCH-Config-r11-DEFAULT	277
-	EPDCCH-Config-r11-eIMTA.....	279
-	PCCH-Config-DEFAULT	281
-	PHICH-Config-DEFAULT	281
-	PDSCH-ConfigCommon-DEFAULT	281
-	PDSCH-ConfigDedicated-DEFAULT	282
-	PDSCH-ConfigDedicated-v1130-DEFAULT	282
-	PhysicalConfigDedicatedSCell-r10-DEFAULT	283
-	PhysicalConfigDedicatedSCell-r10-eIMTA	284
-	PRACH-Config-DEFAULT	285
-	PRACH-ConfigSIB-DEFAULT	285
-	PUCCH-ConfigCommon-DEFAULT	286
-	PUCCH-ConfigDedicated-DEFAULT	286
-	PUCCH-ConfigDedicated-v1020-DEFAULT	287
-	PUCCH-ConfigDedicated-v1130-DEFAULT	288
-	PUCCH-ConfigDedicated-v1250-DEFAULT	288
-	PUSCH-ConfigCommon-DEFAULT	289
-	PUSCH-ConfigDedicated-DEFAULT	289
-	PUSCH-ConfigDedicated-v1130-DEFAULT	290
-	PUSCH-ConfigDedicated-v1250-DEFAULT	290
-	RACH-ConfigCommon-DEFAULT	291
-	Rach-ConfigDedicated-DEFAULT	292
-	RadioResourceConfigCommon-DEFAULT	292
-	RadioResourceConfigCommonSCell-r10-DEFAULT	293
-	RadioResourceConfigCommonSIB-DEFAULT	294
-	RadioResourceConfigDedicated-SRB1	295
-	RadioResourceConfigDedicated-SRB2-DRB(n,m)	296
-	RadioResourceConfigDedicated-DRB(n,m)	297
-	RadioResourceConfigDedicated-HO-TO-EUTRA(n,m)	298
-	RadioResourceConfigDedicated-AM-DRB-ADD(bid)	299
-	RadioResourceConfigDedicated-UM-DRB-ADD(bid)	299
-	RadioResourceConfigDedicated- DRB-REL(bid)	300
-	RadioResourceConfigDedicated-HO	300
-	RadioResourceConfigDedicatedSCell-r10-DEFAULT	300
-	RadioResourceConfigDedicated-SCell_AddMod.....	301
-	RadioResourceConfigDedicated-DC	301
-	RLC-Config-DRB-AM-RECONFIG	302
-	RLC-Config-DRB-UM-RECONFIG	302
-	RLC-Config-SRB-AM-RECONFIG.....	302
-	SCellToAddMod-r10-DEFAULT	303
-	SCellToRelease-r10-DEFAULT	303
-	SCG-Configuration-r12-DEFAULT	304
-	SchedulingRequest-Config-DEFAULT	307

-	SoundingRS-UL-ConfigCommon-DEFAULT	308
-	SoundingRS-UL-ConfigDedicated-DEFAULT	308
-	SoundingRS-UL-ConfigDedicatedAperiodic-r10-DEFAULT	309
-	SRB-ToAddModList-RECONFIG.....	309
-	TDD-Config-DEFAULT.....	309
-	TPC-PDCCH-Config-DEFAULT	310
-	UplinkPowerControlCommon-DEFAULT	310
-	UplinkPowerControlCommonSCell-r10-DEFAULT.....	311
-	UplinkPowerControlCommon-v1020-DEFAULT	311
-	UplinkPowerControlDedicated-DEFAULT	311
-	UplinkPowerControlDedicated-v1020-DEFAULT	312
-	UplinkPowerControlDedicated-v1130-DEFAULT	312
-	UplinkPowerControlDedicated-v1250-DEFAULT	312
-	UplinkPowerControlDedicatedSCell-r10-DEFAULT	313
-	RadioResourceConfigDedicated-DRB-Mod.....	313
-	RadioResourceConfigDedicated-PCell-PATTERN.....	313
-	OtherConfig-r9.....	314
-	WLAN-OffloadConfig-r12	315
-	EIMTA-MainConfig-r12-DEFAULT	316
-	EIMTA-MainConfigServCell-r12-DEFAULT	316
4.6.4	Security control information elements.....	317
-	SecurityConfigHO-DEFAULT	317
-	SecurityConfigSMC-DEFAULT	317
4.6.5	Mobility control information elements	318
-	MobilityControlInfo-HO	318
4.6.6	Measurement information elements.....	319
-	MeasConfig-DEFAULT	319
-	MeasGapConfig-GP1	319
-	MeasDS-Config-DEFAULT	320
-	MeasCSI-RS-Config-DEFAULT.....	320
-	MeasGapConfig-GP2.....	321
-	MeasObjectCDMA2000-GENERIC.....	321
-	ReportConfigToAddModList_DEFAULT.....	322
-	MeasIdToAddModList_DEFAULT.....	322
-	MeasObjectEUTRA-GENERIC.....	322
-	MeasObjectGERAN-GENERIC	323
-	MeasObjectUTRA-GENERIC	323
-	QuantityConfig-DEFAULT	324
-	ReportConfigEUTRA-A1	325
-	ReportConfigEUTRA-A2	325
-	ReportConfigEUTRA-A3	326
-	ReportConfigEUTRA-A4	327
-	ReportConfigEUTRA-A5	328
-	ReportConfigEUTRA-A6	329
-	ReportConfigEUTRA-PERIODICAL	329
-	ReportConfigInterRAT-B1-GERAN	330
-	ReportConfigInterRAT-B1-UTRA	331
-	ReportConfigInterRAT-B2-CDMA2000	332
-	ReportConfigInterRAT-B2-GERAN	333
-	ReportConfigInterRAT-B2-UTRA	334
-	ReportConfigInterRAT-PERIODICAL	335
-	ReportConfigEUTRA-C1	335
-	ReportConfigEUTRA-C2	336
-	ReportConfigEUTRA-PERIODICAL-CSI-RS.....	337
4.6.7	Other information elements	337
-	RRC-TransactionIdentifier-DL.....	337
-	RRC-TransactionIdentifier-UL.....	337
4.6.8	Channel-bandwidth-dependent parameters.....	337
4.7	Default NAS message and information element contents	338
4.7.1	Security protected NAS messages	338
4.7.2	Contents of EMM messages	340
-	ATTACH ACCEPT	340

-	ATTACH COMPLETE	343
-	ATTACH REJECT	343
-	ATTACH REQUEST.....	344
-	AUTHENTICATION FAILURE.....	345
-	AUTHENTICATION REJECT	345
-	AUTHENTICATION REQUEST.....	346
-	AUTHENTICATION RESPONSE.....	346
-	CS SERVICE NOTIFICATION	347
-	DETACH ACCEPT (UE originating detach).....	347
-	DETACH ACCEPT (UE terminated detach).....	347
-	DETACH REQUEST (UE originating detach).....	348
-	DETACH REQUEST (UE terminated detach)	348
-	DOWNLINK NAS TRANSPORT.....	349
-	EMM INFORMATION	349
-	EMM STATUS	349
-	EXTENDED SERVICE REQUEST	350
-	GUTI REALLOCATION COMMAND	350
-	GUTI REALLOCATION COMPLETE	351
-	IDENTITY REQUEST	351
-	IDENTITY RESPONSE	351
-	SECURITY MODE COMMAND	352
-	SECURITY MODE COMPLETE	353
-	SECURITY MODE REJECT	353
-	SERVICE REJECT	353
-	SERVICE REQUEST	354
-	TRACKING AREA UPDATE ACCEPT	355
-	TRACKING AREA UPDATE COMPLETE.....	357
-	TRACKING AREA UPDATE REJECT	358
-	TRACKING AREA UPDATE REQUEST.....	359
-	UPLINK NAS TRANSPORT.....	360
4.7.3	Contents of ESM messages.....	360
-	ACTIVATE DEDICATED EPS BEARER CONTEXT ACCEPT.....	360
-	ACTIVATE DEDICATED EPS BEARER CONTEXT REJECT	361
-	ACTIVATE DEDICATED EPS BEARER CONTEXT REQUEST	362
-	ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT	363
-	ACTIVATE DEFAULT EPS BEARER CONTEXT REJECT	363
-	ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST.....	364
-	BEARER RESOURCE ALLOCATION REJECT	368
-	BEARER RESOURCE ALLOCATION REQUEST.....	368
-	BEARER RESOURCE MODIFICATION REJECT	369
-	BEARER RESOURCE MODIFICATION REQUEST	369
-	DEACTIVATE EPS BEARER CONTEXT ACCEPT	370
-	DEACTIVATE EPS BEARER CONTEXT REQUEST.....	370
-	ESM INFORMATION REQUEST.....	371
-	ESM INFORMATION RESPONSE.....	371
-	ESM STATUS	372
-	MODIFY EPS BEARER CONTEXT ACCEPT.....	372
-	MODIFY EPS BEARER CONTEXT REJECT	373
-	MODIFY EPS BEARER CONTEXT REQUEST	374
-	NOTIFICATION	375
-	PDN CONNECTIVITY REJECT	375
-	PDN CONNECTIVITY REQUEST	376
-	PDN DISCONNECT REJECT	377
-	PDN DISCONNECT REQUEST.....	377
4.7A	Default TC message and information element contents	377
-	ACTIVATE TEST MODE	378
-	ACTIVATE TEST MODE COMPLETE.....	378
-	CLOSE UE TEST LOOP.....	379
-	CLOSE UE TEST LOOP COMPLETE.....	381
-	DEACTIVATE TEST MODE	381
-	DEACTIVATE TEST MODE COMPLETE	381
-	OPEN UE TEST LOOP	382

-	OPEN UE TEST LOOP COMPLETE	382
-	UE TEST LOOP MODE C MBMS PACKET COUNTER REQUEST	382
-	UE TEST LOOP MODE C MBMS PACKET COUNTER RESPONSE	382
-	UE TEST LOOP PROSE PACKET COUNTER REQUEST	383
-	UE TEST LOOP PROSE PACKET COUNTER RESPONSE	383
4.7B	Default UTRA message and information element contents	384
4.7B.1	UTRA RRC messages	384
-	HANDOVER TO UTRAN COMMAND	384
-	HANDOVER FROM UTRAN COMMAND	396
-	MEASUREMENT CONTROL	396
-	MEASUREMENT REPORT	398
-	PHYSICAL CHANNEL RECONFIGURATION	399
-	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	400
-	RRC CONNECTION REQUEST	401
-	SECURITY MODE COMMAND	402
-	SECURITY MODE COMPLETE	402
-	UTRAN MOBILITY INFORMATION	402
-	UTRAN MOBILITY INFORMATION CONFIRM	402
4.7B.2	UTRA NAS messages	402
4.7C	Default DS-MIPv6 message and information element contents	412
4.7C.1	IKEv2 messages	412
-	IKEv2 IKE_SA_INIT Request	412
-	IKE_SA_INIT Response	415
-	IKE_AUTH Request	416
-	IKE_AUTH Response	419
4.7C.2	Messages used to perform DS-MIPv6 registration and deregistration	423
-	Router Advertisement	423
-	Binding Update	424
-	Binding Acknowledgement	425
-	Binding Revocation Indication	426
-	Binding Revocation Acknowledgement	427
4.7D	Default GERAN message and information element contents	428
4.7D.1	GPRS message	428
-	PS HANDOVER COMMAND	428
4.7E	Default HTTP messages for communication with the ProSe Function	429
-	HTTP Request	429
-	HTTP Response	429
4.8	Reference radio bearer configurations	430
4.8.1	General	430
4.8.2	SRB and DRB parameters and combinations	430
4.8.2.1	SRB and DRB parameters	430
4.8.2.1.1	SRB configurations	430
4.8.2.1.2	DRB PDCP configurations	430
4.8.2.1.3	DRB RLC configurations	431
4.8.2.1.4	DRB Logical Channel configurations	432
4.8.2.1.5	MAC configurations	433
4.8.2.1.6	Physical Layer configurations	436
4.8.2.1.7	DRB configurations	445
4.8.2.2	SRB and DRB combinations	445
4.8.2.2.1	Combinations on DL-SCH and UL-SCH	445
4.8.3	UTRA reference radio parameters and combinations	445
4.8.4	GERAN reference PDP context parameters	446
4.9	Common test USIM, CSIM and ISIM parameters	446
4.9.1	General	446
4.9.1.1	Definitions	446
4.9.1.2	Definition of the test algorithm for authentication	446
4.9.1.2.1	Authentication and key derivation in the test USIM, CSIM and ISIM and SS	446
4.9.1.2.2	Generation of re-synchronization parameters in the USIM, CSIM and ISIM	446
4.9.1.2.3	Using the authentication test algorithm for UE conformance testing	446
4.9.2	Default parameters for the test USIM, CSIM and ISIM	446
4.9.3	Default settings for the Elementary Files (EFs)	446

4.9.3.1	Modified contents of the USIM Elementary Files and additional USIM Elements files at the DF ProSe level	447
4.9.3.2	Modified contents of the CSIM Elementary Files.....	449
5	Test environment for RF test.....	461
5.1	Requirements of test equipment	461
5.2	RF Reference system configurations.....	461
5.2.1	Common parameters for simulated E-UTRA cells	461
5.2.1.1	Combinations of system information blocks.....	461
5.2.1.2	Scheduling of system information blocks	461
5.2.1.3	Common contents of system information messages	462
5.2A	Generic RF procedures.....	463
5.2A.1	UE RF test states.....	464
5.2A.1A	Registered, Idle Mode, UE Test Mode Activated (State 2A-RF)	464
5.2A.1A.1	Initial conditions	464
5.2A.1A.2	Definition of system information messages	465
5.2A.1A.3	Procedure	466
5.2A.1A.4	Specific message contents.....	467
5.2A.2	Generic Default Radio Bearer Establishment, UE Test Mode Activated (State 3A-RF).....	469
5.2A.2.1	Initial conditions	469
5.2A.2.2	Definition of system information messages	469
5.2A.2.3	Procedure	469
5.2A.2.4	Specific message contents.....	469
5.2A.2A	DC MCG/SCG Dedicated RB established, UE Test Mode Activate (State 3B-RF).....	469
5.2A.2A.1	Initial conditions	469
5.2A.2A.2	Definition of system information messages	470
5.2A.2A.3	Procedure	470
5.2A.2A.4	Specific message contents.....	470
5.2A.2B	DC Split Dedicated RB established, UE Test Mode Activate (State 3C-RF).....	470
5.2A.2B.1	Initial conditions	470
5.2A.2B.2	Definition of system information messages	470
5.2A.2B.3	Procedure	470
5.2A.2B.4	Specific message contents.....	471
5.2A.3	Loopback Activation without looped data (State 4A-RF)	471
5.2A.3.1	Initial conditions	471
5.2A.3.2	Definition of system information messages	471
5.2A.3.3	Procedure	471
5.2A.3.4	Specific message contents.....	471
5.2A.3A	DC MCG/SCG DRBs Loopback Activation without looped data (State 4B-RF).....	472
5.2A.3A.1	Initial conditions	472
5.2A.3A.2	Definition of system information messages	472
5.2A.3A.3	Procedure	472
5.2A.3A.4	Specific message contents.....	472
5.2A.3B	DC Split DRB Loopback Activation without looped data (State 4C-RF)	472
5.2A.3B.1	Initial conditions	473
5.2A.3B.2	Definition of system information messages	473
5.2A.3B.3	Procedure	473
5.2A.3B.4	Specific message contents.....	473
5.2A.4	Procedure to configure SCC	473
5.2 A.41.	Specific message contents.....	473
5.2A.4.1.1	Exceptions for all CA tests	473
5.2A.4.1.2	Exceptions for UL CA tests.....	474
5.2A.5	Exceptions for feICIC tests.....	475
5.2A.5.1	Specific message contents.....	475
5.2A.5.1.1	Neighbour cell info for all feICIC test cases	475
5.2A.6	Exceptions for NAICS tests	476
5.2A.6.1	NAICS specific RRC Connection reconfiguration procedure.....	476
5.2A.6.1.1	Procedure.....	476
5.2A.6.1.1	Specific message contents	476
5.2A.6.2	Specific message contents.....	476
5.2A.6.2.1	RRCConnectionReconfiguration for setting up and releasing NAICS configuration in NAICS test cases	477

5.3	Default RRC message and information elements contents.....	478
5.3.1	Radio resource control information elements	478
5.4	Default NAS message and information elements contents.....	480
5.5	Reference radio bearer configurations.....	480
5.5.1	SRB and DRB parameters	480
5.5.1.1	MAC configurations.....	480
5.5.1.2	Physical Layer configurations.....	481
5.5.1.3	SRB and DRB combinations.....	481
5.5.1.3.1	Combinations on DL-SCH and UL-SCH	481
6	Test environment for Signalling test	482
6.1	Requirements of test equipment	482
6.2	Reference test conditions.....	482
6.2.1	Physical channel allocations	482
6.2.1.1	Antennas	482
6.2.1.2	Downlink physical channels and physical signals.....	482
6.2.1.3	Mapping of downlink physical channels and signals to physical resources.....	483
6.2.1.4	Uplink physical channels and physical signals	483
6.2.1.5	Mapping of uplink physical channels and signals to physical resources.....	483
6.2.2	Signal levels.....	483
6.2.2.1	Downlink signal levels	483
6.2.2.2	Measurement accuracy and side conditions	484
6.2.3	Default test frequencies	485
6.2.3.1	Test frequencies for signalling test.....	486
6.2.3.2	Test frequencies for CA signalling test.....	488
6.2.3.3	Test frequencies for ProSe signalling test	494
6.3	Reference system configurations.....	495
6.3.1	Default parameter specific for simulated cells.....	495
6.3.1.1	Intra-frequency neighbouring cell list in SIB4 for E-UTRA cells	495
6.3.1.2	Inter-frequency carrier frequency list in SIB5 for E-UTRA cells	496
6.3.1.3	UTRA carrier frequency list in SIB6 for E-UTRA cells.....	497
6.3.1.4	GERAN carrier frequency group list in SIB7 for E-UTRA cells.....	497
6.3.1.5	CDMA2000 HRPD carrier frequency list in SIB8 for E-UTRA cells	498
6.3.1.6	CDMA2000 1xRTT carrier frequency list in SIB8 for E-UTRA cells	498
6.3.1.7	E-UTRA carrier frequency list in SIB19 for UTRA cells	498
6.3.2	Default configurations for NAS test cases	498
6.3.2.1	Simulated network scenarios for NAS test cases	498
6.3.2.2	Simulated NAS cells	499
6.3.2.3	Broadcast system information.....	500
6.3.2.3.1	Intra-frequency neighbouring cell list in SIB4 for E-UTRA NAS cells.....	500
6.3.2.3.2	Inter-frequency carrier frequency list in SIB5 for E-UTRA NAS cells.....	501
6.3.3	Cell configurations.....	501
6.3.3.1	Full cell configuration.....	502
6.3.3.2	Minimum uplink cell configuration	502
6.3.3.3	Broadcast only cell configuration	502
6.3.3.3A	Virtual cell configuration	502
6.3.3.4	Application of different cell configurations	502
6.3.4	SCell configurations	503
6.4	Generic procedures.....	503
6.4.1	Initial UE states and setup procedures	503
6.4.1.1	Initial UE states and setup procedures	503
6.4.1.2	Dedicated Bearer Establishment (to state 5)	504
6.4.1.2.1	Initial conditions.....	504
6.4.1.2.2	Definition of system information messages.....	505
6.4.1.2.3	Procedure.....	505
6.4.1.2.4	Specific message contents	505
6.4.1.2A	DC MCG/SCG Dedicated Bearer Establishment (to state 5A)	505
6.4.1.2A.1	Initial conditions	505
6.4.1.2A.2	Definition of system information messages.....	505
6.4.1.2A.3	Procedure.....	505
6.4.1.2A.4	Specific message contents	506
6.4.1.2B	DC Split Dedicated Bearer Establishment (to state 5B).....	506

6.4.1.2B.1	Initial conditions.....	506
6.4.1.2B.2	Definition of system information messages.....	506
6.4.1.2B.3	Procedure.....	506
6.4.1.2B.4	Specific message contents	507
6.4.1.3	Loopback Activation (to state 6).....	507
6.4.1.3.1	Initial conditions.....	507
6.4.1.3.2	Definition of system information messages.....	507
6.4.1.3.3	Procedure.....	508
6.4.1.3.4	Specific message contents	508
6.4.1.3A	DC MCG/SCG DRB Loopback Activation (to state 6A).....	508
6.4.1.3A.1	Initial conditions.....	508
6.4.1.3A.2	Definition of system information messages.....	508
6.4.1.3A.3	Procedure.....	508
6.4.1.3A.4	Specific message contents	508
6.4.1.3B	DC Split DRB Loopback Activation (to state 6B).....	508
6.4.1.3B.1	Initial conditions.....	508
6.4.1.3B.2	Definition of system information messages.....	509
6.4.1.3B.3	Procedure.....	509
6.4.1.3B.4	Specific message contents	509
6.4.2	Test procedures	509
6.4.2.1	Introduction.....	509
6.4.2.2	Test procedure to check RRC_IDLE state	509
6.4.2.3	Test procedure to check RRC_CONNECTED state	510
6.4.2.4	Test procedure Paging (for NAS testing).....	510
6.4.2.5	Test procedure for no response to paging (for NAS testing).....	510
6.4.2.6	Test procedure to check that a dedicated EPS bearer context is active (for NAS testing)	511
6.4.2.7	Test procedure to check that UE is camped on a new E-UTRAN cell.....	511
6.4.2.7A	Test procedure to check that UE is camped on E-UTRAN cell upon mobility from another RAT	512
6.4.2.8	Test procedure to check that UE is camped on a new UTRAN cell.....	515
6.4.2.9	Test procedure to check that UE is camped on a new GERAN cell.....	516
6.4.2.10	Test procedure to check that UE performs tracking area updating procedure without ISR and security reconfiguration after successful completion of handover from UTRA	517
6.4.3	Reference test procedures for TTCN development.....	519
6.4.3.1	UE triggered establishment of a dedicated EPS bearer context	520
6.4.3.2	UE triggered establishment of a default EPS bearer context associated with an additional PDN.....	521
6.4.3.3	UE triggered modification of an EPS bearer context	523
6.4.3.4	UE triggered deletion of an EPS bearer context.....	524
6.4.3.5	UE triggered CS call	525
6.4.3.6	UE triggered MO SMS over SGs.....	526
6.4.3.7	CS fallback to UTRAN procedures (LAI of UTRAN cell same as the LAI received in combined Attach procedure in EUTRA cell).....	526
6.4.3.7.1	CS fallback to UTRAN with redirection / MT call (PS bearers not established)	527
6.4.3.7.2	CS fallback to UTRAN with redirection / MO call (PS bearers not established).....	528
6.4.3.7.3	CS fallback to UTRAN with redirection / MT call (PS bearer established).....	529
6.4.3.7.4	CS fallback to UTRAN with redirection / MO call (PS bearer established)	529
6.4.3.7.5	CS fallback to UTRAN with Handover / MT call.....	530
6.4.3.7.5.1	Specific message contents.....	531
6.4.3.7.6	CS fallback to UTRAN with Handover / MO call.....	532
6.4.3.7.6.1	Specific message contents.....	533
6.4.3.7.7	CS fallback to UTRAN with Handover / emergency call.....	534
6.4.3.7.7.1	Specific message contents.....	535
6.4.3.8	CS fallback to GERAN procedures (LAI of GERAN cell same as the LAI received in combined Attach procedure in EUTRA cell).....	535
6.4.3.8.1	CS fallback to GERAN with redirection or CCO / MT call (DTM not supported).....	536
6.4.3.8.2	CS fallback to GERAN with redirection or CCO / MO call (DTM not supported)	537
6.4.3.8.3	CS fallback to GERAN with PS Handover / MT call (EDTM not supported).....	537
6.4.3.8.4	CS fallback to GERAN with PS Handover / MO call (EDTM not supported).....	537
6.4.3.8.5	CS fallback to GERAN with PS Handover / MT call (EDTM supported)	537
6.4.3.9	SRVCC Handover to UTRA.....	537
6.4.3.9.1	Specific message contents	538
6.4.3.10	Offload to WLAN.....	538
6.4.3.10.1	Specific message contents	539

6.4.3.11	Offload from WLAN.....	539
6.4.3.11.1	Specific message contents	539
6.4.3.12	Check UE does not offload to WLAN	540
6.4.3.12.1	Specific message contents	540
6.4.3.13	Check UE does not Offload to E-UTRAN.....	540
6.4.3.13.1	Specific message contents	540
6.4.3A	Test case postambles.....	540
6.4.3A.1	Introduction.....	540
6.4.3A.2	Reference end states	541
6.5	Default RRC message and information element contents	543
6.5.1	Measurement information elements.....	543
-	MeasConfig-DEFAULT	543
-	MeasGapConfig-GP1	544
-	MeasGapConfig-GP2.....	544
6.6	Default NAS message and information element contents	544
6.6.1	Reference default EPS bearer contexts	544
6.6.2	Reference dedicated EPS bearer contexts.....	545
6.6A	Default SMS over SGs message and information element contents.....	550
6.6A.1	CM-sublayer messages	550
-	CP-ACK.....	550
-	CP-DATA	550
6.6A.2	Short Message Relay Layer (SM-RL) messages	551
-	RP-ACK RPDU	551
-	RP-DATA RPDU.....	551
6.6A.3	Short Message Transfer Layer (SM-TL) messages	552
-	SMS-DELIVER	552
-	SMS-SUBMIT	552
6.6B	Reference radio bearer configurations.....	553
6.6B.1	SRB and DRB parameters and combinations	553
6.6B.1.1	SRB and DRB parameters.....	553
6.6B.1.1.1	Physical Layer configurations	553
6.7	Timer Tolerances.....	553
7	Test environment for RRM tests	554
7.1	Requirements of <i>test</i> equipment	554
7.2	RRM Reference system configurations	554
7.2.1	Common parameters for simulated E-UTRA cells	554
7.2.1.1	Combinations of system information blocks.....	554
7.2.1.2	Scheduling of system information blocks	554
7.2.1.3	Common contents of system information messages	554
7.2.2	Common parameters for simulated GERAN cells	556
7.2.2.1	Mapping of GERAN cells.....	556
7.2A	Generic RRM procedures.....	556
7.2A.1	UE RRM test states.....	556
7.2A.2	UE Registration, UE Test Mode Activated (State 2A-RF)	556
7.2A.3	Generic Default Radio Bearer Establishment, UE Test Mode Activated (State 3A-RF).....	557
7.2A.4	Generic Default Radio Bearer Establishment, UE Test Mode Activated, pre-registration on HRPD (State 3B-RF).....	557
7.2A.4.1	Initial conditions	557
7.2A.4.2	Definition of system information messages	557
7.2A.4.3	Procedure	557
7.2A.4.4	Specific message contents.....	557
7.2A.5	Procedure to configure SCC	557
7.2A.6	Exceptions for feCIC tests.....	557
7.2B	Other generic RRM procedures.....	557
7.2B.1	Tracking area updating procedure.....	557
7.3	Default RRC message and information elements contents.....	559
7.3.1	Contents of RRC messages.....	559
7.3.2	Radio resource control information elements	559
7.3.3	Measurement information elements.....	560
7.3A	Default UTRA message and information element contents	560
7.3A.1	UTRA RRC messages	560

7.4	Default NAS message and information elements contents.....	561
7.5	Reference radio bearer configurations.....	561
7.5.1	SRB and DRB parameters	561
7.5.1.1	MAC configurations.....	561
Annex A (informative):	Connection Diagrams	562
Annex B (informative):	Change history	648
History		674

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 definition of the Conformance Tests for UE in E-UTRAN 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 the present document defines testing conditions that are common to several tests avoiding the need to duplicate the same information for every single test.

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

1 Scope

The present document contains definitions of reference conditions and test signals, default parameters, reference radio bearer configurations used in radio bearer interoperability testing, common radio bearer configurations for other test purposes, common requirements for test equipment and generic set-up procedures for use in conformance tests for the 3rd Generation E-UTRAN User Equipment (UE).

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 unless the context in which the reference is made suggests a different Release is relevant (information on the applicable release in a particular context can be found in e.g. test case title, description or applicability, message description or content).

- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 23.003: "Numbering, addressing and identification".
- [3] 3GPP TS 23.122: "Non-Access-Stratum functions related to Mobile Station (MS) in idle mode".
- [4] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core network protocols; Stage 3".
- [5] 3GPP TS 34.108: "Common Test Environments for User Equipment (UE); Conformance testing".
- [6] 3GPP TS 34.109: "Terminal logical test interface; Special conformance testing functions".
- [7] 3GPP TS 34.123-1: "User Equipment (UE) conformance specification; Part 1: Protocol conformance specification".
- [8] 3GPP TS 34.123-2: "User Equipment (UE) conformance specification; Part 2: Implementation conformance statement (ICS) specification".
- [9] 3GPP TS 34.123-3: "User Equipment (UE) conformance specification; Part 3: Abstract test suites (ATSS)".
- [10] 3GPP TS 36.300: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2".
- [11] 3GPP TS 36.302: "Evolved Universal Terrestrial Radio Access (E-UTRA); Services provided by the physical layer".
- [12] 3GPP TS 36.304: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) procedures in idle mode".
- [13] 3GPP TS 36.306: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio access capabilities".
- [14] 3GPP TS 36.321: "Evolved Universal Terrestrial Radio Access (E-UTRA); Medium Access Control (MAC) protocol specification".
- [15] 3GPP TS 36.322: "Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Link Control (RLC) protocol specification".