

ETSI TS 125 133 V14.1.0 (2017-05)



Universal Mobile Telecommunications System (UMTS); Requirements for support of radio resource management (FDD) (3GPP TS 25.133 version 14.1.0 Release 14)



Reference

RTS/TSRG-0425133ve10

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

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/CommitteeSupportStaff.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 2017.
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.
oneM2M logo is protected for the benefit of its Members
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.....	18
1 Scope	19
2 References	19
3 Definitions, symbols and abbreviations	20
3.1 Definitions.....	20
3.2 Symbols	21
3.3 Abbreviations	22
3.4 Test tolerances.....	23
3.5 Additional notation.....	24
3.5.1 Groups of E-UTRA bands	24
4 Idle Mode Tasks	25
4.1 Cell Selection	25
4.1.1 Introduction.....	25
4.2 Cell Re-selection	25
4.2.1 Introduction.....	25
4.2.2 Requirements	25
4.2.2.1 Measurement and evaluation of cell selection criteria S of serving cell	26
4.2.2.2 Measurements of intra-frequency cells	26
4.2.2.3 Measurements of inter-frequency FDD cells	27
4.2.2.4 Measurements of inter-frequency TDD cells	28
4.2.2.5 Measurements of inter-RAT GSM cells	29
4.2.2.5.1 Cell reselection based on cell ranking	29
4.2.2.5.2 Cell reselection based on priority information	29
4.2.2.5a Measurements of inter-RAT E-UTRA cells.....	30
4.2.2.6 Evaluation of cell re-selection criteria.....	32
4.2.2.7 Maximum interruption in paging reception.....	32
4.2.2.8 Number of cells in cell lists.....	33
4.2.2.8a Number of cells in cell lists (Increased UE carrier monitoring).....	33
4.2.2.9 Additional requirements for measurement of inter-frequency and inter-RAT cells when MBMS reception is active.....	34
4.2.2.10 MTCH Interruption time	34
4.2.2.11 Reselection to CSG cells	34
4.2.2.11.1 Reselection from a non CSG to an inter-frequency CSG cell.....	35
4.2.2.11.2 Reselection from a non CSG to an inter-RAT E-UTRA CSG cell	35
4.3 MBSFN cluster selection.....	36
4.3.1 Introduction.....	36
4.4 MBSFN cluster reselection	36
4.4.1 Introduction.....	36
4.5 Minimization of Drive Tests (MDT)	37
4.5.1 Introduction.....	37
4.5.2 Measurements	37
4.5.2.1 Requirements	37
4.5.3 Relative Time Stamp Accuracy	37
4.5.3.1 Requirements	37
4.5.4 Relative Time Stamp Accuracy for RRC Connection Establishment Failure Log Reporting	37
4.5.4.1 Requirements	38
5 UTRAN Connected mode mobility.....	38
5.1 FDD/FDD Soft Handover	38
5.1.1 Introduction.....	38
5.1.2 Requirements	38

5.1.2.1	Active set dimension	38
5.1.2.2	Active set update delay	38
5.1.2.3	Interruption Time	39
5.2	FDD/FDD Hard Handover	39
5.2.1	Introduction.....	39
5.2.2	Requirements	39
5.2.2.1	Hard handover delay	39
5.2.2.2	Interruption time	39
5.3	FDD/TDD Handover	40
5.3.1	Introduction.....	40
5.3.2	Requirements	41
5.3.2.1	FDD/TDD handover delay	41
5.3.2.2	Interruption time	41
5.4	FDD/GSM Handover	42
5.4.1	Introduction.....	42
5.4.2	Requirements	42
5.4.2.1	Handover delay	42
5.4.2.2	Interruption time	42
5.4a	FDD to E-UTRAN FDD Handover.....	43
5.4a.1	Introduction.....	43
5.4a.2	Requirements	43
5.4a.2.1	Handover delay	43
5.4a.2.2	Interruption time	43
5.4b	FDD to E-UTRAN TDD Handover	44
5.4b.1	Introduction.....	44
5.4b.2	Requirements	44
5.4b.2.1	Handover delay	44
5.4b.2.2	Interruption time	44
5.5	Cell Re-selection in CELL_FACH.....	44
5.5.1	Introduction.....	44
5.5.2	Requirements	45
5.5.2.1	Cell re-selection delay.....	45
5.5.2.1.1	Intra frequency cell reselection.....	45
5.5.2.1.2	Inter frequency cell reselection.....	45
5.5.2.1.3	FDD-TDD cell reselection.....	46
5.5.2.1.4	FDD-GSM Cell Reselection.....	46
5.5.2.1.5	FDD-E-UTRAN Cell Reselection	47
5.5.2.1.6	Void.....	47
5.5.2.1A	Cell reselection delay to CSG cells	47
5.5.2.1A.1	Reselection from a non CSG FDD to an inter-frequency FDD CSG cell.....	48
5.5.2.1A.2	Reselection from a non CSG FDD to an inter-RAT E-UTRA CSG cell	48
5.5.2.2	Interruption time	49
5.5.2.2.1	FDD-FDD cell reselection.....	49
5.5.2.2.2	FDD-TDD cell reselection.....	50
5.5.2.2.3	FDD-GSM cell reselection	50
5.5.2.3	Measurement and evaluation of cell selection criteria S of serving cell	51
5.5.2.2.4	FDD-E-UTRA Cell Reselection	51
5.6	Cell Re-selection in CELL_PCH.....	51
5.6.1	Introduction.....	51
5.6.2	Requirements	51
5.7	Cell Re-selection in URA_PCH	52
5.7.1	Introduction.....	52
5.7.2	Requirements	52
5.8	RACH reporting	52
5.8.1	Introduction.....	52
5.8.2	Requirements	52
5.9	Inter-RAT cell change order from UTRAN in CELL_DCH and CELL_FACH.....	52
5.9.1	Introduction.....	52
5.9.2	Requirements	53
5.9.2.1	Delay	53
5.9.2.2	Interruption time	53
5.10	Serving HS-DSCH cell change	54

5.10.3	Introduction.....	54
5.10.2	Requirements	54
5.10.2.1	Serving HS-DSCH cell change delay.....	54
5.10.2.2	Interruption time	54
5.11	Enhanced Serving HS-DSCH cell change.....	54
5.11.1	Introduction.....	54
5.11.2	Requirements	55
5.12	Interruption on Primary Uplink Frequency in DC-HSUPA	55
5.12.1	Introduction.....	55
5.12.2	Requirements	55
5.13	System information acquisition for CSG cell.....	55
5.13.1	Introduction.....	55
5.13.2	CSG SI acquisition delay.....	55
5.13.3	Interfrequency CSG decoding interruption.....	56
5.13.4	CSG reporting delay	56
5.14	System information acquisition for inter-RAT E-UTRA cell	56
5.14.1	Identification of a new CGI of inter-RAT E-UTRA FDD cell with autonomous gaps.....	56
5.14.2	Identification of a new CGI of inter-RAT E-UTRA TDD cell with autonomous gaps	57
5.14.3	ECGI reporting delay.....	57
5.15	Packet Loss Rate on Serving HS-DSCH Cells in Multi-Carrier HSDPA.....	57
5.15.1	Introduction.....	57
5.15.2	Requirements	57
6	RRC Connection Control	58
6.1	RRC Re-establishment	58
6.1.1	Introduction.....	58
6.1.2	Requirements	58
6.1.2.1	UE Re-establishment delay requirement.....	58
6.2	(void).....	59
6.3	Random Access	59
6.3.1	Introduction.....	59
6.3.2	Requirements	59
6.3.2.1	Correct behaviour when receiving an ACK	59
6.3.2.2	Correct behaviour when receiving an NACK	59
6.3.2.3	Correct behaviour at Time-out	59
6.3.2.4	Correct behaviour when reaching maximum transmit power	59
6.3.2.5	Correct behaviour when selecting 2 or 10msec TTI length for Enhanced Uplink in CELL_FACH state and idle mode.....	59
6.4	Transport format combination selection in UE	60
6.4.1	Introduction.....	60
6.4.2	Requirements	60
6.5	Maximum allowed UL TX Power	64
6.6	(void).....	66
6.7	CSG Proximity Indication for E-UTRAN and UTRAN.....	66
6.7.1	Introduction.....	66
6.7.2	Requirements	66
6.8	10ms Mode/20ms Mode switching in DCH	66
6.8.1	Introduction.....	66
6.8.2	Requirements	66
7	Timing and Signalling characteristics	67
7.1	UE Transmit Timing	67
7.1.1	Introduction.....	67
7.1.2	Requirements	67
7.2	UE Receive - Transmit Time Difference	67
7.2.1	Introduction.....	67
7.2.2	Requirements	68
7.3	UE timer accuracy	68
7.3.1	Introduction.....	68
7.3.2	Requirements	68
7.4	PRACH Burst timing accuracy	68
7.4.1	Introduction.....	68

7.4.2	Requirements	68
8	UE Measurements Procedures.....	69
8.1	General Measurement Requirements in CELL_DCH State	69
8.1.1	Introduction.....	69
8.1.2	Requirements	69
8.1.2.1	UE Measurement Capability	69
8.1.2.1a	UE Measurement Capability (Increased UE carrier monitoring)	71
8.1.2.2	FDD intra frequency measurements	71
8.1.2.2.1	Identification of a new cell	71
8.1.2.2.1.1	Identification of a new cell using IPDL gaps	72
8.1.2.2.2	UE CPICH measurement capability	72
8.1.2.2.2.1	Capabilities for measurements during IPDL gaps	73
8.1.2.2.3	Periodic Reporting	73
8.1.2.2.4	Event-triggered Periodic Reporting	73
8.1.2.2.5	Event Triggered Reporting	73
8.1.2.3	FDD inter frequency measurements	74
8.1.2.3.1	Identification of a new cell	74
8.1.2.3.2	UE CPICH measurement capability	76
8.1.2.3.3	Periodic Reporting	79
8.1.2.3.4	Event Triggered Reporting	79
8.1.2.4	TDD measurements.....	79
8.1.2.4.1	Identification of a new cell	80
8.1.2.4.1.1	3.84 Mcps TDD Option	80
8.1.2.4.1.2	1.28 Mcps TDD Option	80
8.1.2.4.2	P-CCPCH RSCP measurement period	81
8.1.2.4.3	Periodic Reporting	81
8.1.2.4.4	Event Triggered Reporting	81
8.1.2.5	GSM measurements	82
8.1.2.5.1	GSM carrier RSSI.....	82
8.1.2.5.2	BSIC verification.....	83
8.1.2.5.2.1	Initial BSIC identification	85
8.1.2.5.2.2	BSIC re-confirmation	85
8.1.2.5.3	Periodic Reporting	86
8.1.2.5.4	Event Triggered Reporting	86
8.1.2.6	E-UTRAN measurements	86
8.1.2.6.1	Identification of a new cell	87
8.1.2.6.2	E-UTRAN RSRP and RSRQ measurement period	87
8.1.2.6.3	Periodic reporting	88
8.1.2.6.4	Void.....	88
8.1.2.6.5	Event Triggered reporting	88
8.2	Measurements in CELL_DCH State with special requirements.....	88
8.2.1	Introduction.....	88
8.2.2	Requirements	88
8.3	Capabilities for Support of Event Triggering and Reporting Criteria in CELL_DCH state.....	89
8.3.1	Introduction.....	89
8.3.2	Requirements	89
8.4	Measurements in CELL_FACH State when HS-DSCH discontinuous reception is not ongoing	90
8.4.1	Introduction.....	90
8.4.2	Requirements	90
8.4.2.1	UE Measurement Capability when HS-DSCH discontinuous reception is not ongoing	90
8.4.2.1a	UE Measurement Capability when HS-DSCH discontinuous reception is not ongoing (Increased UE carrier monitoring)	92
8.4.2.2	FDD intra frequency measurements when HS-DSCH discontinuous reception is not ongoing.....	92
8.4.2.2.1	Identification of a new cell	92
8.4.2.2.1.1	Identification of a new cell using IPDL gaps	93
8.4.2.2.2	UE CPICH measurement capability	93
8.4.2.2.2.1	Capabilities for measurements during IPDL gaps	93
8.4.2.2.3	RACH reporting	94
8.4.2.3	FDD inter frequency measurements when HS-DSCH discontinuous reception is not ongoing.....	94
8.4.2.3.1	Identification of a new cell	94
8.4.2.3.2	UE CPICH measurement capability	94

8.4.2.4	TDD measurements when HS-DSCH discontinuous reception is not ongoing.....	95
8.4.2.4.1	Identification of a new cell	95
8.4.2.4.1.2	1.28 Mcps TDD Option	96
8.4.2.4.2	P-CCPCH RSCP measurement period	96
8.4.2.5	GSM measurements when HS-DSCH discontinuous reception is not ongoing	97
8.4.2.5.1	GSM carrier RSSI.....	97
8.4.2.5.2	BSIC verification.....	98
8.4.2.5.2.1	Initial BSIC identification.....	99
8.4.2.5.2.2	BSIC re-confirmation.....	99
8.4.2.6	E-UTRAN measurements when HS-DSCH discontinuous reception is not ongoing	100
8.4.2.6.1	Identification of a new cell	100
8.4.2.6.2	UE RSRP and RSRQ measurement capability	101
8.4.2.6.3	E-UTRA measurements reporting	101
8.4a	Measurements in CELL_FACH State when HS-DSCH discontinuous reception is ongoing	102
8.4a.1	Introduction.....	102
8.4a.2	Requirements	102
8.4a.2.1	UE Measurement Capability	102
8.4a.2.2	FDD intra frequency measurements when HS-DSCH discontinuous reception is ongoing.....	102
8.4a.2.2.1	Identification of a new cell	102
8.4a.2.2.2	UE CPICH measurement capability	103
8.4a.2.2.3	RACH reporting	103
8.4a.2.3	FDD inter frequency measurements.....	103
8.4a.2.3.1	Identification of a new cell	103
8.4a.2.3.2	UE CPICH measurement capability	104
8.4a.2.4	TDD measurements when HS-DSCH discontinuous reception is ongoing.....	105
8.4a.2.4.1	Identification of a new cell	105
8.4a.2.4.1.2	1.28 Mcps TDD Option	106
8.4a.2.4.2	P-CCPCH RSCP measurement period	107
8.4a.2.5	GSM measurements when HS-DSCH discontinuous reception is ongoing	107
8.4a.2.5.1	GSM carrier RSSI.....	107
8.4a.2.5.2	BSIC verification.....	107
8.4a.2.5.2.1	Initial BSIC identification.....	108
8.4a.2.5.2.2	BSIC re-confirmation.....	108
8.4a.2.6	E-UTRA measurements when HS-DSCH discontinuous reception is ongoing	108
8.4a.2.6.1	Identification of a new cell	109
8.4a.2.6.2	UE RSRP and RSRQ measurement capability	110
8.4a.2.6.3	E-UTRA measurements reporting	110
8.5	Capabilities for Support of Event Triggering and Reporting Criteria in CELL_FACH state.....	111
8.5.1	Introduction.....	111
8.5.2	Requirements	111
9	Measurements Performance Requirements	111
9.1	Measurement Performance for UE.....	111
9.1.1	CPICH RSCP.....	112
9.1.1.1	Intra frequency measurements accuracy	112
9.1.1.1.1	Absolute accuracy requirement	112
9.1.1.1.2	Relative accuracy requirement	112
9.1.1.2	Inter frequency measurement accuracy	113
9.1.1.2.1	Relative accuracy requirement	113
9.1.1.3	CPICH RSCP measurement report mapping.....	113
9.1.2	CPICH Ec/Io.....	114
9.1.2.1	Intra frequency measurements accuracy	114
9.1.2.1.1	Absolute accuracy requirement	114
9.1.2.1.2	Relative accuracy requirement	114
9.1.2.2	Inter frequency measurement accuracy	115
9.1.2.2.1	Absolute accuracy requirement	115
9.1.2.2.2	Relative accuracy requirement	116
9.1.2.3	CPICH Ec/Io measurement report mapping.....	116
9.1.3	UTRA Carrier RSSI.....	116
9.1.3.1	Absolute accuracy requirement	117
9.1.3.2	Relative accuracy requirement	117
9.1.3.3	UTRA Carrier RSSI measurement report mapping.....	117

9.1.4	GSM carrier RSSI.....	118
9.1.4a	E-UTRAN RSRP	118
9.1.4b	E-UTRAN RSRQ	118
9.1.4c	E-UTRAN WB-RSRQ.....	119
9.1.5	Transport channel BLER	119
9.1.5.1	BLER measurement requirement	119
9.1.5.2	Transport channel BLER measurement report mapping	119
9.1.6	UE transmitted power	119
9.1.6.1	Accuracy requirement	119
9.1.6.2	UE transmitted power measurement report mapping.....	120
9.1.7	SFN-CFN observed time difference	120
9.1.7.1	Intra frequency measurement requirement.....	120
9.1.7.2	Inter frequency measurement requirement.....	121
9.1.7.3	SFN-CFN observed time difference measurement report mapping	122
9.1.8	SFN-SFN observed time difference	122
9.1.8.1	SFN-SFN observed time difference type 1	122
9.1.8.1.1	Measurement requirement	122
9.1.8.1.2	SFN-SFN observed time difference type 1 measurement report mapping	123
9.1.8.2	SFN-SFN observed time difference type 2	123
9.1.8.2.1	Intra frequency measurement requirement accuracy without IPDL period active.....	123
9.1.8.2.2	Intra frequency measurement requirement accuracy with IPDL period active.....	124
9.1.8.2.3	Inter frequency measurement requirement accuracy	125
9.1.8.2.4	SFN-SFN observed time difference type 2 measurement report mapping	125
9.1.9	UE Rx-Tx time difference	125
9.1.9.1	UE Rx-Tx time difference type 1	125
9.1.9.1.1	Measurement requirement	126
9.1.9.1.2	UE Rx-Tx time difference type 1 measurement report mapping	126
9.1.9.2	UE Rx-Tx time difference type 2	126
9.1.9.2.1	Measurement requirement	126
9.1.9.2.2	UE Rx-Tx time difference type 2 measurement report mapping	127
9.1.10	(void)	127
9.1.11	P-CCPCH RSCP	127
9.1.11.1	Absolute accuracy requirements	127
9.1.11.1.1	3.84 Mcps TDD Option.....	127
9.1.11.1.2	1.28 Mcps TDD Option.....	127
9.1.11.2	P-CCPCH RSCP measurement report mapping.....	128
9.1.12	UE GPS Timing of Cell Frames for UE positioning.....	128
9.1.12.1	UE GPS timing of Cell Frames for UE positioning measurement report mapping	128
9.1.13	UE transmission power headroom	129
9.1.13.1	Delay requirement.....	129
9.1.13.2	Measurement period requirement.....	129
9.1.13.3	UE transmission power headroom measurement report mapping	129
9.1.13.4	UE transmission power headroom measurement report accuracy	130
9.1.14	IEEE 802.11 Measurements.....	131
9.1.14.1	Introduction	131
9.1.14.2	IEEE 802.11 Beacon RSSI.....	131
9.1.14.2.1	Accuracy requirement	131
9.2	Measurements Performance for UTRAN	131
9.2.1	Received total wideband power	132
9.2.1.1	Absolute accuracy requirement.....	132
9.2.1.2	Relative accuracy requirement	132
9.2.1.3	Received total wideband power measurement report mapping	132
9.2.2	SIR	133
9.2.2.1	Accuracy requirement	133
9.2.2.2	SIR measurement report mapping	133
9.2.3	SIR _{error}	133
9.2.3.1	Accuracy requirement	133
9.2.3.2	SIR _{error} measurement report mapping	133
9.2.4	Transmitted carrier power	134
9.2.4.1	Accuracy requirement	134
9.2.4.2	Transmitted carrier power measurement report mapping.....	134
9.2.5	Transmitted code power.....	134

9.2.5.1	Absolute accuracy requirement	134
9.2.5.2	Relative accuracy requirement	135
9.2.5.3	Transmitted code power measurement report mapping	135
9.2.6	(void)	135
9.2.7	Physical channel BER	135
9.2.7.1	Accuracy requirement	135
9.2.7.2	Physical channel BER measurement report mapping	135
9.2.8	Round trip time	136
9.2.8.1	Absolute accuracy requirement	136
9.2.8.1.1	Minimum requirement	136
9.2.8.1.2	Requirement for extended round trip time	136
9.2.8.2	Round trip time measurement report mapping	136
9.2.8.2.1	Minimum requirement	136
9.2.8.2.2	Requirement for extended round trip time	137
9.2.9	Transport Channel BER	137
9.2.9.1	Accuracy requirement	137
9.2.9.2	Transport channel BER measurement report mapping	137
9.2.10	UTRAN GPS Timing of Cell Frames for UE positioning	138
9.2.10.1	Accuracy requirement	138
9.2.10.2	UTRAN GPS timing of Cell Frames for UE positioning measurement report mapping	138
9.2.11	PRACH Propagation delay	139
9.2.11.1	Accuracy requirement	139
9.2.11.1.1	PRACH Propagation delay	139
9.2.11.1.2	(void)	139
9.2.11.2	PRACH Propagation delay measurement report mapping	139
9.2.11.2.1	Minimum requirement	139
9.2.11.2.2	Requirement for extended PRACH propagation delay	139
9.2.12	Acknowledged PRACH pREAMBLES	140
9.2.12.1	Acknowledged PRACH pREAMBLES measurement report mapping	140
9.2.13	(void)	140
9.2.14	(void)	140
9.2.15	SFN-SFN observed time difference	140
9.2.15.1	Accuracy requirement	140
9.2.15.1.1	Accuracy requirement without IPDL	140
9.2.15.1.2	Accuracy requirement with IPDL	141
9.2.15.2	SFN-SFN observed time difference measurement report mapping	141
9.2.16	Transmitted carrier power of all codes not used for HS-PDSCH, HS-SCCH, E-AGCH, E-RGCH or E-HICH transmission	141
9.2.16.1	Accuracy requirement	141
9.2.16.2	Measurement report mapping for transmitted carrier power of all codes not used for HS-PDSCH, HS-SCCH, E-AGCH, E-RGCH or E-HICH transmission	142
9.2.17	DL Transmission Branch Load	142
9.2.17.1	Accuracy requirement	142
9.2.17.2	DL Transmission Branch Load measurement report mapping	142
9.2.18	Received scheduled E-DCH power share (RSEPS)	143
9.2.18.1	Accuracy requirement	143
9.2.18.2	Received scheduled E-DCH power share measurement report mapping	143
Annex A (normative):	Test Cases	144
A.1	Purpose of Annex	144
A.2	Requirement classification for statistical testing	144
A.2.1	Types of requirements in TS 25.133	144
A.3	RRM test configurations	145
A.3.1	UE with single antenna connector	145
A.3.2	UE with multiple antenna connectors	145
A.4	Idle Mode	146
A.4.1	(void)	146
A.4.2	Cell Re-Selection	146
A.4.2.1	Scenario 1: Single carrier case	146

A.4.2.1.1	Test Purpose and Environment	146
A.4.2.1.2	Test Requirements.....	147
A.4.2.2	Scenario 2: Multi carrier case	147
A.4.2.2.1	Test Purpose and Environment	147
A.4.2.2.2	Test Requirements.....	148
A.4.2.3	Idle mode interfrequency reselection with an increased number of carriers.....	149
A.4.2.3.1	Test Purpose and Environment	149
A.4.2.3.2	Test Requirements.....	152
A.4.2.4	Scenario 4: Single carrier case with extended DRX	153
A.4.2.4.1	Test Purpose and Environment	153
A.4.2.1.2	Test Requirements.....	154
A.4.2.4 Scenario 5: Idle mode interfrequency reselection with extended DRX.....		154
A.4.2.2.2	Test Requirements.....	155
A.4.3	UTRAN to GSM Cell Re-Selection	156
A.4.3.1	Scenario 1	156
A.4.3.1.1	Test Purpose and Environment	156
A.4.3.1.2	Test Requirements.....	157
A.4.3.2	Scenario 2	157
A.4.3.2.1	Test Purpose and Environment	157
A.4.3.2.2	Test Requirements.....	158
A.4.3.3	Scenario 3	159
A.4.3.3.1	Test Purpose and Environment	159
A.4.3.3.2	Test Requirements.....	160
A.4.4	FDD/TDD Cell Re-selection	160
A.4.4.1	Test Purpose and Environment	160
A.4.4.1.1	3,84 Mcps TDD Option.....	160
A.4.4.1.2	1.28 Mcps TDD Option.....	162
A.4.4.2	Test Requirements	163
A.4.5	UTRAN to E-UTRA Cell Reselection	164
A.4.5.1	E-UTRA FDD is of higher priority.....	164
A.4.5.1.1	Test Purpose and Environment	164
A.4.5.1.2	Test Requirements.....	167
A.4.5.2	E-UTRA FDD is of lower priority.....	167
A.4.5.2.1	Test Purpose and Environment	167
A.4.5.2.2	Test Requirements.....	169
A.4.5.3	RSRQ based reselection when E-UTRA FDD is of higher priority.....	170
A.4.5.3.1	Test Purpose and Environment	170
A.4.5.3.2	Test Requirements.....	172
A.4.5.4	E-UTRA FDD is of higher priority (Increased UE carrier monitoring).....	173
A.4.5.4.1	Test Purpose and Environment	173
A.4.5.4.2	Test Requirements.....	178
A.4.5A	UTRAN to E-UTRA TDD Cell Reselection with Increased Carrier Monitoring.....	179
A.4.5A.1	Test Purpose and Environment	179
A.4.5A.2	Test Requirements.....	182
A.5	UTRAN Connected Mode Mobility.....	183
A.5.1	FDD/FDD Soft Handover	183
A.5.1.1	Test Purpose and Environment	183
A.5.1.1.1	Test procedure.....	184
A.5.1.2	Test Requirements	184
A.5.2	FDD/FDD Hard Handover	184
A.5.2.1	Handover to intra-frequency cell	184
A.5.2.1.1	Test Purpose and Environment	184
A.5.2.1.2	Test Requirements.....	185
A.5.2.2	Handover to inter-frequency cell	185
A.5.2.2.1	Test Purpose and Environment	185
A.5.2.2.2	Test Requirements.....	186
A.5.3	(void).....	187
A.5.4	Inter-system Handover from UTRAN FDD to GSM	187
A.5.4.1	Test Purpose and Environment	187
A.5.4.2	Test Requirements.....	189
A.5.4a	Inter-system Handover from UTRAN FDD to E-UTRAN FDD	189

A.5.4a.1	Test Purpose and Environment	189
A.5.4a.2	Test Requirements	192
A.5.4b	Inter-system Handover from UTRAN FDD to E-UTRAN TDD	192
A.5.4b.1	Test Purpose and Environment	192
A.5.4b.2	Test Requirements	195
A.5.4c	Inter-system Handover from UTRAN FDD to E-UTRAN FDD; Unknown Target Cell.....	195
A.5.4c.1	Test Purpose and Environment	195
A.5.4c.2	Test Requirements	196
A.5.4d	Inter-system Handover from UTRAN FDD to E-UTRAN TDD; Unknown Target Cell.....	197
A.5.4d.1	Test Purpose and Environment	197
A.5.4d.2	Test Requirements	198
A.5.5	Cell Re-selection in CELL_FACH.....	199
A.5.5.1	One frequency present in neighbour list and FACH measurement occasions configured	199
A.5.5.1.1	Test Purpose and Environment	199
A.5.5.1.2	Test Requirements.....	200
A.5.5.1A	One frequency present in neighbour list and HS-DSCH DRX configured	201
A.5.5.1A.1	Test Purpose and Environment	201
A.5.5.1A.2	Test Requirements.....	202
A.5.5.1B	One frequency present in neighbour list and HS-DSCH 2 nd DRX configured	203
A.5.5.1B.1	Test Purpose and Environment	203
A.5.5.1B.2	Test Requirements.....	204
A.5.5.1C	One frequency present in neighbour list and FACH measurement occasions configured, secondary BCH in use.....	205
A.5.5.1C.1	Test Purpose and Environment	205
A.5.5.1C.2	Test Requirements.....	206
A.5.5.2	Two frequencies present in the neighbour list and FACH measurement occasions configured	207
A.5.5.2.1	Test Purpose and Environment	207
A.5.5.2.2	Test Requirements.....	208
A.5.5.2A	Two frequencies present in the neighbour list and HS-DSCH DRX configured (Absolute priority levels not configured)	209
A.5.5.2A.1	Test Purpose and Environment	209
A.5.5.2A.2	Test Requirements.....	210
A.5.5.2B	Two frequencies present in the neighbour list and HS-DSCH DRX configured (Absolute priority levels configured)	211
A.5.5.2B.1	Test Purpose and Environment	211
A.5.5.2B.2	Test Requirements.....	212
A.5.5.2C	Two frequencies present in the neighbour list and HS-DSCH 2 nd DRX configured (Absolute priority levels not configured)	213
A.5.5.2C.1	Test Purpose and Environment	213
A.5.5.2C.2	Test Requirements.....	214
A.5.5.2D	Two frequencies present in the neighbour list and HS-DSCH 2 nd DRX configured (Absolute priority levels configured)	215
A.5.5.2D.1	Test Purpose and Environment	215
A.5.5.2D.2	Test Requirements.....	216
A.5.5.2E	Five frequencies present in the neighbour list and FACH measurement occasions configured for Increased Carrier Monitoring.....	217
A.5.5.2E.1	Test Purpose and Environment	217
A.5.5.2E.2	Test Requirements.....	220
A.5.5.3	Cell Reselection to GSM	221
A.5.5.3.1	Test Purpose and Environment	221
A.5.5.3.2	Test Requirements.....	223
A.5.5.3A	Cell Reselection to GSM in DRX	223
A.5.5.3A.1	Test Purpose and Environment.....	223
A.5.5.3.2	Test Requirements	226
A.5.5.4	Cell Reselection during an MBMS session, two frequencies present in neighbour list.....	226
A.5.5.4.1	Test Purpose and Environment	226
A.5.5.4.2	Test Requirements.....	228
A.5.5.5	UTRAN to E-UTRA Cell Reselection	229
A.5.5.5.1	Reselection to E-UTRA FDD when HS-DSCH DRX is configured (E-UTRA has higher priority) ..229	229
A.5.5.5.1.1	Test Purpose and Environment.....	229
A.5.5.5.1.2	Test Requirements	232
A.5.5.5.2	Reselection to E-UTRA FDD when HS-DSCH DRX is configured (E-UTRA has lower priority) ..232	232

A.5.5.5.2.1	Test Purpose and Environment.....	232
A.5.5.5.2.2	Test Requirements	235
A.5.5.5.3	Reselection to E-UTRA FDD when HS-DSCH 2 nd DRX is configured (E-UTRA has higher priority)	235
A.5.5.5.3.1	Test Purpose and Environment.....	235
A.5.5.5.3.2	Test Requirements	238
A.5.5.5.4	Reselection to E-UTRA TDD when HS-DSCH DRX is configured (E-UTRA has higher priority)	238
A.5.5.5.4.1	Test Purpose and Environment.....	238
A.5.5.5.4.2	Test Requirements	241
A.5.5.5.5	Reselection to E-UTRA TDD when HS-DSCH DRX is configured (E-UTRA has lower priority)	241
A.5.5.5.5.1	Test Purpose and Environment.....	241
A.5.5.5.5.2	Test Requirements	244
A5.5.5.6	Reselection to E-UTRA TDD when HS-DSCH 2 nd DRX is configured configured (E-UTRA has higher priority)	244
A.5.5.5.6.1	Test Purpose and Environment.....	244
A.5.5.5.6.2	Test Requirements	247
A.5.5.5.7	Reselection to E-UTRA FDD with FACH measurement occasions configured	247
A.5.5.5.7.1	Test Purpose and Environment.....	247
A.5.5.5.7.2	Test Requirements	250
A.5.5.5.8	Reselection to E-UTRA TDD with FACH measurement occasions configured	250
A.5.5.5.8.1	Test Purpose and Environment.....	250
A.5.5.5.8.2	Test Requirements	253
A.5.6	Cell Re-selection in CELL_PCH.....	253
A.5.6.1	One frequency present in the neighbour list	253
A.5.6.1.1	Test Purpose and Environment	253
A.5.6.1.2	Test Requirements.....	254
A.5.6.2	Two frequencies present in the neighbour list	255
A.5.6.2.1	Test Purpose and Environment	255
A.5.6.2.2	Test Requirements.....	256
A.5.6.3	Cell re-selection during an MBMS session, one UTRAN inter-frequency and 2 GSM cells present in the neighbour list	256
A.5.6.3.1	Test Purpose and Environment	256
A.5.6.3.2	Test Requirements.....	258
A.5.7	Cell Re-selection in URA_PCH	259
A.5.7.1	One frequency present in the neighbour list	259
A.5.7.1.1	Test Purpose and Environment	259
A.5.7.1.2	Test Requirements.....	260
A.5.7.2	Two frequencies present in the neighbour list	260
A.5.7.2.1	Test Purpose and Environment	260
A.5.7.2.2	Test Requirements.....	261
A.5.8	Serving HS-DSCH cell change	262
A.5.8.1	Test Purpose and Environment	262
A.5.8.1.1	Test procedure.....	263
A.5.8.2	Test Requirements	263
A.5.9	Enhanced Serving HS-DSCH cell change	263
A.5.9.1	Test Purpose and Environment	263
A.5.9.1.1	Test procedure.....	265
A.5.9.2	Test Requirements	265
A.5.10	Intrafrequency System information acquisition for CSG cell.....	265
A.5.10.1	Test Purpose and Environment	265
A.5.10.2	Test Requirements	266
A.5.11	Interfrequency System information acquisition for CSG cell.....	267
A.5.11.1	Test Purpose and Environment	267
A.5.11.2	Test Requirements	268
A.6	RRC Connection Control	269
A.6.1	RRC Re-establishment delay.....	269
A.6.1.1	Test Purpose and Environment	269
A.6.1.1.1	TEST 1	269
A.6.1.1.2	TEST 2	270
A.6.1.2	Test Requirements	271
A.6.1.2.1	Test 1.....	271

A.6.1.2.2	Test 2.....	271
A.6.2	Random Access	272
A.6.2.1	Test Purpose and Environment	272
A.6.2.2	Test Requirements	273
A.6.2.2.1	Correct behaviour when receiving an ACK	273
A.6.2.2.2	Correct behaviour when receiving an NACK	273
A.6.2.2.3	Correct behaviour at Time-out	274
A.6.2.2.4	Correct behaviour when reaching maximum transmit power	274
A.6.2.2.5	Correct behaviour when selecting 2 or 10msec TTI length for Enhanced Uplink in CELL_FACH state and idle mode.....	274
A.6.3	(void).....	274
A.6.4	Transport format combination selection in UE	274
A.6.4.1	Test Purpose and Environment	274
A.6.4.1.1	Interactive or Background, PS, UL: 64 kbps.....	275
A.6.4.1.2	Interactive or Background, PS, UL: 64 kbps + Conversational / speech, CS, UL: 12.2kbps.....	276
A.6.4.2	Test Requirements	278
A.6.4.2.1	Interactive or Background, PS, UL: 64 kbps.....	278
A.6.4.2.2	Interactive or Background, PS, UL: 64 kbps + Conversational / speech, CS, UL: 12.2kbps.....	279
A.6.5	(void).....	279
A.6.6	E-TFC restriction in UE	279
A.6.6.1	Test Purpose and Environment	279
A.6.6.1.1	10ms TTI E-DCH E-TFC restriction testcase	279
A.6.6.1.1.1	Test Requirements	281
A.6.6.1.2	2ms TTI E-DCH E-TFC restriction testcase	282
A.6.6.1.2.1	Test Requirements	284
A.7	Timing and Signalling Characteristics	285
A.7.1	UE Transmit Timing	285
A.7.1.1	Test Purpose and Environment	285
A.7.1.2	Test Requirements	286
A.8	UE Measurements Procedures.....	287
A.8.1	FDD intra frequency measurements	287
A.8.1.1	Event triggered reporting in AWGN propagation conditions	287
A.8.1.1.1	Test Purpose and Environment	287
A.8.1.1.2	Test Requirements.....	288
A.8.1.2	Event triggered reporting of multiple neighbours in AWGN propagation condition.....	288
A.8.1.2.1	Test Purpose and Environment	288
A.8.1.2.2	Test Requirements.....	289
A.8.1.3	Event triggered reporting of two detectable neighbours in AWGN propagation condition.....	290
A.8.1.3.1	Test Purpose and Environment	290
A.8.1.3.2	Test Requirements.....	291
A.8.1.4	Correct reporting of neighbours in fading propagation condition.....	291
A.8.1.4.1	Test Purpose and Environment	291
A.8.1.4.2	Test Requirements.....	292
A.8.1.5	Event triggered reporting of multiple neighbour cells in Case 1 fading condition	292
A.8.1.5.1	Test Purpose and Environment	292
A.8.1.5.2	Test Requirements.....	293
A.8.1.6	Event triggered reporting of multiple neighbour cells in Case 3 fading condition	294
A.8.1.6.1	Test Purpose and Environment	294
A.8.1.6.2	Test Requirements.....	295
A.8.1.7	Event triggered reporting in AWGN propagation conditions	295
A.8.1.7.1	Test Purpose and Environment.....	295
A.8.1.7.2	Test Requirements	297
A.8.2	FDD inter frequency measurements	297
A.8.2.1	Correct reporting of neighbours in AWGN propagation condition	297
A.8.2.1.1	Test Purpose and Environment	297
A.8.2.1.2	Test Requirements.....	298
A.8.2.2	Correct reporting of neighbours in Fading propagation condition.....	299
A.8.2.2.1	Test Purpose and Environment	299
A.8.2.2.2	Test Requirements.....	299
A.8.2.3	Correct reporting of neighbours in fading propagation condition using TGL1=14	300

A.8.2.3.1	Test Purpose and Environment	300
A.8.2.3.2	Test Requirements.....	300
A.8.2A	FDD adjacent frequency measurements	301
A.8.2A.1	Event triggered reporting in AWGN propagation conditions	301
A.8.2A.1.1	Test Purpose and Environment	301
A.8.2A.1.2	Test Requirements.....	302
A.8.2A.2	Event triggered reporting of two detectable neighbours in AWGN propagation condition.....	302
A.8.2A.2.1	Test Purpose and Environment	302
A.8.2A.2.2	Test Requirements.....	303
A.8.2A.3	Correct reporting of neighbours in fading propagation condition.....	303
A.8.2A.3.1	Test Purpose and Environment	303
A.8.2A.3.2	Test Requirements.....	304
A.8.2B	FDD inter frequency measurements without compressed mode	305
A.8.2B.1	Event triggered reporting using enhanced inter-frequency measurements without compressed mode.....	305
A.8.2B.1.1	Test Purpose and Environment	305
A.8.2B.1.2	Test Requirements	306
A.8.2C	FDD detected set measurements	308
A.8.2C.1	Event triggered reporting of interfrequency detected set measurements with compressed mode.....	308
A.8.2C.1.1	Test Purpose and Environment	308
A.8.2C.1.2	Test Requirements	309
A.8.2C.2	Event triggered reporting of inter frequency detected set measurements without compressed mode.....	309
A.8.2C.2.1	Test Purpose and Environment	309
A.8.2D	Correct reporting of neighbours in AWGN propagation condition with an increased number of carriers and reduced performance group configured.....	310
A.8.2D.1	Test Purpose and Environment	310
A.8.2D.2	Test Requirements.....	312
A.8.2C.2.2	Test Requirements	313
A.8.2E	Correct reporting of neighbours in AWGN propagation condition (Increased UE carrier monitoring without reduced performance group configured)	313
A.8.2E.1	Test Purpose and Environment	313
A.8.2E.2	Test Requirements	315
A.8.3	(void)	316
A.8.4	GSM measurements	316
A.8.4.1	Correct reporting of GSM neighbours in AWGN propagation condition.....	316
A.8.4.1.1	Test Purpose and Environment	316
A.8.4.1.1.1	Test 1. With BSIC verification required.....	317
A.8.4.1.1.2	Test 2: Without BSIC verification required.....	318
A.8.4.1.2	Test Requirements.....	319
A.8.4.1.2.1	TEST 1 With BSIC verification required	319
A.8.4.1.2.2	TEST 2 Without BSIC verification required	319
A.8.5	Combined Interfrequency and GSM measurements	320
A.8.5.1	Correct reporting of neighbours in AWGN propagation condition	320
A.8.5.1.1	Test Purpose and Environment	320
A.8.5.1.2	Test Requirements.....	321
A.8.5A	CSG Proximity Indication Testing Case for UTRAN FDD – FDD Inter frequency	322
A.8.5A.1	Test Purpose and Environment	322
A.8.5A.2	Test Requirements	325
A.8.6	E-UTRAN Measurements	325
A.8.6.1	Correct reporting of E-UTRAN FDD neighbours in fading propagation condition in CELL_DCH	325
A.8.6.1.1	Test Purpose and Environment	325
A.8.6.1.2	Test Requirements.....	327
A.8.6.2	Correct reporting of E-UTRAN TDD neighbours in fading propagation condition in CELL_DCH.....	328
A.8.6.2.1	Test Purpose and Environment	328
A.8.6.2.2	Test Requirements.....	330
A.8.6.3	Correct reporting of E-UTRAN FDD neighbours in fading propagation condition in CELL_FACH	331
A.8.6.3.1	Test Purpose and Environment	331
A.8.6.3.2	Test Requirements.....	333
A.8.6.4	Correct reporting of E-UTRAN TDD neighbours in fading propagation condition	334
A.8.6.4.1	Test Purpose and Environment	334
A.8.6.4.2	Test Requirements.....	336
A.8.6.5	Correct reporting of E-UTRAN FDD neighbours in fading propagation condition in CELL_DCH for Increased Carrier Monitoring with reduced performance group configured.....	337

A.8.6.5.1	Test Purpose and Environment	337
A.8.6.5.2	Test Requirements.....	340
A.8.6.6	Correct reporting of E-UTRAN TDD neighbours in fading propagation condition in CELL_DCH for Increased Carrier Monitoring with reduced performance group configured.....	341
A.8.6.6.1	Test Purpose and Environment	341
A.8.6.6.2	Test Requirements.....	345
A.8.7	Combined Interfrequency and E-UTRAN measurements.....	346
A.8.7.1	Correct reporting of E-UTRA FDD neighbours in fading propagation condition	346
A.8.7.1.1	Test Purpose and Environment	346
A.8.7.1.2	Test Requirements.....	348
A.8.7.2	Correct reporting of E-UTRA TDD neighbours in fading propagation condition	349
A.8.7.2.1	Test Purpose and Environment	349
A.8.7.2.2	Test Requirements.....	351
A.9	Measurement Performance Requirements.....	352
A.9.1	Measurement Performance for UE.....	352
A.9.1.1	CPICH RSCP.....	352
A.9.1.1.1	Test Purpose and Environment	352
A.9.1.1.1.1	Intra frequency test parameters.....	352
A.9.1.1.1.2	Inter frequency test parameters.....	353
A.9.1.1.2	Test Requirements.....	354
A.9.1.2	CPICH Ec/Io.....	354
A.9.1.2.1	Test Purpose and Environment	354
A.9.1.2.1.1	Intra frequency test parameters.....	354
A.9.1.2.1.2	Inter frequency test parameters.....	355
A.9.1.2.2	Test Requirements.....	356
A.9.1.3	UTRA Carrier RSSI.....	357
A.9.1.3.1	Test Purpose and Environment	357
A.9.1.3.2	Test Requirements.....	359
A.9.1.3A	GSM Carrier RSSI.....	360
A.9.1.3A.1	Test Purpose and Environment	360
A.9.1.3A.2	Test Requirements.....	361
A.9.1.3B	Transport channel BLER	361
A.9.1.3C	UE transmitted power	361
A.9.1.3C.1	Test Purpose and Environment	361
A.9.1.3C.1.1	Test procedure	362
A.9.1.3C.2	Test Requirements.....	362
A.9.1.4	SFN-CFN observed time difference	362
A.9.1.4.1	Test Purpose and Environment	362
A.9.1.4.1.1	Intra frequency test parameters.....	362
A.9.1.4.1.2	Inter frequency test parameters.....	363
A.9.1.4.2	Test Requirements.....	364
A.9.1.5	SFN-SFN observed time difference	364
A.9.1.5.1	SFN-SFN observed time difference type 1	364
A.9.1.5.1.1	Test Purpose and Environment.....	364
A.9.1.5.1.2	Test Requirements	365
A.9.1.5.2	SFN-SFN observed time difference type 2 without IPDL period active	365
A.9.1.5.2.1	Test Purpose and Environment.....	365
A.9.1.5.2.2	Test Requirements	366
A.9.1.5.3	SFN-SFN observed time difference type 2 with IPDL period active	366
A.9.1.5.3.1	Test Purpose and Environment.....	366
A.9.1.5.3.2	Test Requirements	367
A.9.1.6	UE Rx-Tx time difference	367
A.9.1.6.1	UE Rx-Tx time difference type 1	367
A.9.1.6.1.1	Test Purpose and Environment.....	367
A.9.1.6.1.2	Test Requirements	368
A.9.1.6.2	UE Rx-Tx time difference type 2	368
A.9.1.6.2.1	Test Purpose and Environment.....	368
A.9.1.6.2.2	Test Requirements	369
A.9.1.7	(void)	369
A.9.1.8	(void)	369
A.9.1.9	UE Transmission Power Headroom.....	369

A.9.1.9.1	Test Purpose and Environment	369
A.9.1.9.1.1	Test Procedure	370
A.9.1.9.2	Test Requirements	370
A.9.1.10	E-UTRAN FDD RSRP absolute accuracy (CELL_DCH)	371
A.9.1.10.1	Test Purpose and Environment	371
A.9.1.10.2	Test Requirements	374
A.9.1.11	E-UTRAN TDD RSRP Absolute Accuracy (CELL_DCH)	374
A.9.1.11.1	Test Purpose and Environment	374
A.9.1.11.2	Test Requirements	375
A.9.1.12	E-UTRA FDD RSRQ absolute accuracy (CELL_DCH)	376
A.9.1.12.1	Test Purpose and Environment	376
A.9.1.12.2	Test Requirements	379
A.9.1.13	E-UTRAN TDD RSRQ Absolute Accuracy (CELL_DCH)	379
A.9.1.13.1	Test Purpose and Environment	379
A.9.1.13.2	Test Requirements	380
A.9.1.14	E-UTRAN FDD RSRP Absolute Accuracy for 5 MHz Bandwidth	381
A.9.1.14.1	Test Purpose and Environment	381
A.9.1.14.2	Test Requirements	382
A.9.1.15	E-UTRA FDD RSRQ Absolute Accuracy for 5 MHz Bandwidth	382
A.9.1.15.1	Test Purpose and Environment	382
A.9.1.15.2	Test Requirements	384
A.9.1.16	E-UTRAN FDD RSRP absolute accuracy (CELL_FACH)	384
A.9.1.16.1	Test Purpose and Environment	384
A.9.1.16.2	Test Requirements	387
A.9.1.17	E-UTRAN TDD RSRP Absolute Accuracy (CELL_FACH)	387
A.9.1.17.1	Test Purpose and Environment	387
A.9.1.17.2	Test Requirements	388
A.9.1.18	E-UTRA FDD RSRQ absolute accuracy (CELL_FACH)	389
A.9.1.18.1	Test Purpose and Environment	389
A.9.1.18.2	Test Requirements	391
A.9.1.19	E-UTRAN TDD RSRQ Absolute Accuracy (CELL_FACH)	391
A.9.1.19.1	Test Purpose and Environment	391
A.9.1.19.2	Test Requirements	392
A.9.1.20	E-UTRA FDD WB-RSRQ Absolute Accuracy (CELL_DCH)	393
A.9.1.20.1	Test Purpose and Environment	393
A.9.1.20.2	Test Requirements	394
A.9.1.21	E-UTRA TDD WB-RSRQ Absolute Accuracy (CELL_DCH)	395
A.9.1.21.1	Test Purpose and Environment	395
A.9.1.21.2	Test Requirements	396

Annex B (normative): Conditions for RRM requirements applicability for operating bands ...397

B.1.	Conditions for Idle mode tasks	397
B.1.1.	Conditions for measurements of inter-RAT E-UTRA cells	397
B.2.	Conditions for UE Measurements Procedures	397
B.2.1.	Conditions for E-UTRAN measurements	397
B.3.	Conditions for Measurement Performance for UE	398
B.3.1.	Conditions for intra frequency CPICH RSCP measurements accuracy	398
B.3.2.	Conditions for intra frequency CPICH RSCP relative measurements accuracy	398
B.3.3.	Conditions for inter frequency CPICH RSCP relative measurements accuracy	399
B.3.4.	Conditions for intra frequency CPICH Ec/Io measurements accuracy	399
B.3.5.	Conditions for intra frequency CPICH Ec/Io relative measurements accuracy	399
B.3.6.	Conditions for inter frequency CPICH Ec/Io measurements accuracy	399
B.3.7.	Conditions for inter frequency CPICH Ec/Io relative measurements accuracy	399
B.3.8.	Conditions for intra frequency SFN-SFN observed time difference	400
B.3.9.	Conditions for inter frequency SFN-SFN observed time difference	400
B.3.10.	Conditions for SFN-SFN observed time difference type 1	400
B.3.11.	Conditions for intra frequency SFN-SFN observed time difference type 2 without or with IPDL period active	400
B.3.12.	Conditions for inter frequency SFN-SFN observed time difference type 2	400

B.4. Conditions for UTRAN Connected mode mobility	400
B.4.1. Conditions for identification of a new CGI of inter-RAT E-UTRA cell with autonomous gaps.....	400
Annex C (informative): Change History	402
History	410

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.

1 Scope

The present document specifies requirements for support of Radio Resource Management for FDD. These requirements include requirements on measurements in UTRAN and the UE as well as requirements on node dynamical behaviour and interaction, in terms of delay and response characteristics.

2 References

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

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

- [1] 3GPP TS 25.304: "UE Procedures in Idle Mode and Procedures for Cell Reselection in Connected Mode".
- [2] 3GPP TS 25.211: "Physical channels and mapping of transport channels onto physical channels (FDD)".
- [3] 3GPP TS 25.101: "UE Radio transmission and reception (FDD)".
- [4] 3GPP TS 25.104: "BTS Radio transmission and reception (FDD)".
- [5] 3GPP TS 25.102: "UE Radio transmission and reception (TDD)".
- [6] 3GPP TS 25.105: "BTS Radio transmission and reception (TDD)".
- [7] 3GPP TS 25.212: "Multiplexing and channel coding (FDD)".
- [8] 3GPP TS 25.141: "Base station conformance testing (FDD)".
- [9] 3GPP TS 25.142: "Base station conformance testing (TDD)".
- [10] 3GPP TS 25.113: "Base station EMC".
- [11] 3GPP TR 25.942: "RF System scenarios".
- [12] 3GPP TR 25.922: "RRM Strategies".
- [13] 3GPP TS 25.215: "Physical Layer Measurements (FDD)".
- [14] 3GPP TS 25.225: "Physical Layer Measurements (TDD)".
- [15] 3GPP TS 25.302: "Services provided by Physical Layer".
- [16] 3GPP TS 25.331: "RRC Protocol Specification".
- [17] ETSI ETR 273-1-2: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Improvement of radiated methods of measurement (using test sites) and evaluation of the corresponding measurement uncertainties; Part 1: Uncertainties in the measurement of mobile radio equipment characteristics; Sub-part 2: Examples and annexes".
- [18] 3GPP TS 25.214: "Physical layer procedures (FDD)"
- [19] 3GPP TS 25.321: "MAC protocol specification"
- [20] 3GPP TS 25.303: "Interlayer Procedures in Connected Mode".