ETSI TS 134 122 V11.13.0 (2016-12)

Universal Mobile Telecommunications System (UMTS);
Terminal conformance specification;
Radio transmission and reception (TDD)
(3GPP TS 34.122 version 11.13.0 Release 11)

Reference
RTS/TSGR-0534122vbd0

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/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 the ETSI 3rd Generation Partnership Project (3GPP).

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

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under 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 44
1 Scope 45
2 References 45
3 Definitions, abbreviations and equations 46
3.1 Definitions 46
3.2 Abbreviations 47
3.3 Equations 48
4 Frequency bands and channel arrangement 48
4.1 General 48
4.2 Frequency bands 48
4.3 TX–RX frequency separation 49
4.3.1 3,84 Mcps TDD Option 49
4.3.2 1,28 Mcps TDD Option 49
4.3.3 7,68 Mcps TDD Option 49
4.4 Channel arrangement 49
4.4.1 Channel spacing 49
4.4.1.1 3,84 Mcps TDD Option 49
4.4.1.2 1,28 Mcps TDD Option 49
4.4.1.3 7,68 Mcps TDD Option 49
4.4.2 Channel raster 49
4.4.3 Channel number 49
4.4.4 UARFCN (3,84 Mcps TDD Option) 49
4.4.4A UARFCN (1.28 Mcps TDD Option) 50
4.4.5 UARFCN (7,68 Mcps TDD Option) 50
5 Transmitter Characteristics 51
5.1 General 51
5.2 User Equipment maximum output power 51
5.2.1 Definition and applicability 51
5.2.2 Minimum Requirements 51
5.2.2.1 3.84 Mcps TDD option 51
5.2.2.2 1.28 Mcps TDD option 52
5.2.2.3 7.68 Mcps TDD option 52
5.2.3 Test purpose 53
5.2.4 Method of test 53
5.2.4.1 Initial conditions 53
5.2.4.1.1 3,84 Mcps TDD Option 53
5.2.4.1.2 1,28 Mcps TDD Option 54
5.2.4.1.3 7,68 Mcps TDD Option 54
5.2.4.2 Procedure 55
5.2.5 Test Requirements 55
5.2.5.1 3,84 Mcps TDD Option 55
5.2.5.2 1.28 Mcps TDD Option 55
5.2.5.3 7.68 Mcps TDD Option 56
5.2A User Equipment maximum output power with E-DCH 56
5.2A.1 Definition and applicability 56
5.2A.2 Minimum Requirements 56
5.2A.2.1 3.84 Mcps TDD option 56
5.2A.2.2 1.28 Mcps TDD option 56
5.2A.2.3 7.68 Mcps TDD option 57
5.2A.3 Test purpose 57

5.2A.4 Method of test 57
5.2A.4.1 Initial conditions 57
5.2A.4.1.1 3,84 Mcps TDD Option 57
5.2A.4.1.2 1,28 Mcps TDD Option 58
5.2 A.4.1.3 7,68 Mcps TDD Option 58
5.2A.4.2 Procedure 58
5.2A.5 Test requirements 58
5.2A.5.1 3.84 Mcps TDD Option 58
5.2A.5.2 1.28 Mcps TDD Option 58
5.2A.5.3 7.68 Mcps TDD Option 59
5.2B User Equipment maximum output power with HS-SICH and DPCH 59
5.2B.1 Definition and applicability 59
5.2B.2 Minimum Requirements 59
5.2B.2.1 3.84 Mcps TDD option 59
5.2B2.2 1.28 Mcps TDD option 59
5.2B.2.3 7.68 Mcps TDD option 60
5.2B.3 Test purpose 60
5.2B.4 Method of test 60
5.2B.4.1 Initial conditions 60
5.2B.4.2 Procedure 60
5.2B.5 Test requirements 61
5.2B.5.1 3.84 Mcps TDD Option 61
5.2B.5.2 1.28 Mcps TDD Option 61
5.2B.5.3 7.68 Mcps TDD Option 61
5.3 UE frequency stability 61
5.3.1 Definition and applicability 61
5.3.2 Minimum Requirements 61
5.3.3 Test purpose 62
5.3.4 Method of test 62
5.3.4.1 Initial conditions 62
5.3.4.1.1 3,84 Mcps TDD Option 62
5.3.4.1.2 1,28 Mcps TDD Option 62
5.3.4.1.3 7,68 Mcps TDD Option 62
5.3.4.2 Procedure 63
5.3.5 Test Requirements 63
5.4 Output Power Dynamics 63
5.4.1 Uplink power control 63
5.4.1.1 Initial accuracy (3,84 Mcps TDD Option) 63
5.4.1.1.1 Definition and applicability 63
5.4.1.1.2 Minimum requirements 63
5.4.1.1.3 Test purpose 63
5.4.1.1.4 Method of test 64
5.4.1.1.5 Test requirements 64
5.4.1.2 Differential accuracy, controlled input (3,84 Mcps TDD Option) 65
5.4.1.2.1 Definition and applicability 65
5.4.1.2.2 Minimum requirements 65
5.4.1.2.3 Test purpose 65
5.4.1.2.4 Method of test 65
5.4.1.2.5 Test requirements 66
5.4.1.2A Differential accuracy, controlled input 67
5.4.1.3 Open loop power control (1,28 Mcps TDD Option) 67
5.4.1.3.1 Definition and applicability 67
5.4.1.3.2 Minimum requirements 67
5.4.1.3.3 Test purpose 67
5.4.1.3.4 Method of test 67
5.4.1.3.5 Test requirements 68
5.4.1.4 Closed loop power control (1,28 Mcps TDD Option) 69
5.4.1.4.1 Definition and applicability 69
5.4.1.4.2 Minimum requirements 69
5.4.1.4.3 Test purpose 69
5.4.1.4.4 Method of test 69
5.4.1.4.5 Test requirements 70

5.4.1.5 Initial accuracy (7,68 Mcps TDD Option) 71
5.4.1.5.1 Definition and applicability 71
5.4.1.5.2 Minimum requirements 71
5.4.1.5.3 Test purpose 71
5.4.1.5.4 Method of test 71
5.4.1.5.4.1 Initial conditions 71
5.4.1.5.4.2 Procedure 72
5.4.1.5.5 Test requirements 72
5.4.2 Minimum output power 72
5.4.2.1 Definition and applicability 72
5.4.2.2 Minimum Requirements 72
5.4.2.2.1 3,84Mcps TDD Option 72
5.4.2.2.2 1,28Mcps TDD Option 72
5.4.2.2.3 7,68Mcps TDD Option 73
5.4.2.3 Test purpose 73
5.4.2.4 Method of test 73
5.4.2.4.1 Initial conditions 73
5.4.2.4.2 Procedure 73
5.4.2.5 Test requirements 73
5.4.2.5.1 3,84 Mcps TDD Option 73
5.4.2.5.2 1,28 Mcps TDD Option 73
5.4.2.5.3 7,68 Mcps TDD Option 73
5.4.3 Transmit OFF power 74
5.4.3.1 Definition and applicability 74
5.4.3.2 Minimum Requirements 74
5.4.3.3 Test purpose 74
5.4.3.4 Method of test 74
5.4.3.5 Test requirements 74
5.4.4 Transmit ON/OFF Time mask 74
5.4.4.1 Definition and applicability 74
5.4.4.2 Minimum requirements 74
5.4.4.2.1 3,84Mcps TDD Option 74
5.4.4.2.2 1,28Mcps TDD Option 75
5.4.4.2.3 7,68Mcps TDD Option 75
5.4.4.3 Test Purpose 76
5.4.4.4 Method of test 76
5.4.4.4.1 Initial conditions 76
5.4.4.4.2 Procedure 76
5.4.4.5 Test requirements 76
5.4.5 Out-of-synchronisation handling of output power for continuous transmission 77
5.4.5.1 Definition and applicability 77
5.4.5.2 Minimum Requirement 77
5.4.5.2.1 3,84 Mcps TDD Option 77
5.4.5.2.2 1,28 Mcps TDD Option 78
5.4.5.2.3 7,68 Mcps TDD Option 79
5.4.5.3 Test purpose 80
5.4.5.4 Method of test 81
5.4.5.4.1 Initial conditions 81
5.4.5.4.2 Procedure 81
5.4.5.5 Test Requirements 82
5.4.6 Out-of-synchronisation handling of output power for discontinuous transmission 82
5.4.6.1 Definition and applicability 82
5.4.6.2 Minimum Requirement 83
5.4.6.2.1 3,84 Mcps TDD Option 83
5.4.6.2.2 1,28 Mcps TDD Option 84
5.4.6.2.3 7,68 Mcps TDD Option 85
5.4.6.3 Test purpose 86
5.4.6.4 Method of test 87
5.4.6.4.1 Initial conditions 87
5.4.6.4.2 Procedure 87
5.4.6.5 Test Requirements 88
5.5 Output RF spectrum emissions 88

5.5.1 Occupied bandwidth 88
5.5.1.1 Definition and applicability 88
5.5.1.2 Minimum Requirements 88
5.5.1.2.1 3,84Mcps TDD Option 88
5.5.1.2.2 1,28Mcps TDD Option 88
5.5.1.2.3 7,68Mcps TDD Option 89
5.5.1.3 Test purpose 89
5.5.1.4 Method of test 89
5.5.1.4.1 Initial conditions 89
5.5.1.4.2 Procedure 89
5.5.1.5 Test requirements 89
5.5.1.5.1 3,84 Mcps TDD Option 89
5.5.1.5.2 1,28 Mcps TDD Option 90
5.5.1.5.3 7,68 Mcps TDD Option 90
5.5.2 Out of band emission 90
5.5.2.1 Spectrum emission mask 90
5.5.2.1.1 Definition and applicability 90
5.5.2.1.1.1 3,84 Mcps TDD Option 90
5.5.2.1.1.2 1,28 Mcps TDD Option 90
5.5.2.1.1.3 7,68 Mcps TDD Option 90
5.5.2.1.2 Minimum Requirements 90
5.5.2.1.2.1 3,84 Mcps TDD Option 90
5.5.2.1.2.2 1,28 Mcps TDD Option 91
5.5.2.1.2.3 7,68 Mcps TDD Option 91
5.5.2.1.3 Test purpose 92
5.5.2.1.4 Method of test 92
5.5.2.1.5 Test requirements 93
5.5.2.1.5.1 3,84 Mcps TDD Option 93
5.5.2.1.5.2 1,28 Mcps TDD Option 94
5.5.2.1.5.3 7,68 Mcps TDD Option 95
5.5.2.1A Spectrum emission mask with E-DCH 95
5.5.2.1A.1 Definition and applicability 95
5.5.2.1A.2 Minimum Requirements 95
5.5.2.1A.3 Test purpose 96
5.5.2.1A.4 Method of test 96
5.5.2.1A5 Test requirements 97
5.5.2.1B Spectrum emission mask with HS-SICH and DPCH 97
5.5.2.1B.1 Definition and applicability 97
5.5.2.1B.2 Minimum Requirements 98
5.5.2.1B.3 Test purpose 98
5.5.2.1B.4 Method of test 98
5.5.2.1B5 Test requirements 99
5.5.2.2 Adjacent Channel Leakage power Ratio (ACLR) 99
5.5.2.2.1 Definition and applicability 99
5.5.2.2.2 Minimum Requirements 100
5.5.2.2.2.1 3,84Mcps TDD Option 100
5.5.2.2.2.2 1,28Mcps TDD Option 100
5.5.2.2.2.3 7,68Mcps TDD Option 100
5.5.2.2.3 Test purpose 100
5.5.2.2.4 Method of test 101
5.5.2.2.5 Test requirements 101
5.5.2.2.5.1 3,84 Mcps TDD Option 101
5.5.2.2.5.2 1,28 Mcps TDD Option 101
5.5.2.2.5.3 7,68 Mcps TDD Option 102
5.5.2.2A Adjacent Channel Leakage power Ratio (ACLR) with E-DCH 102
5.5.2.2A.1 Definition and applicability 102
5.5.2.2A.2 Minimum Requirements 102
5.5.2.2A.2.1 3,84Mcps TDD Option 102
5.5.2.2A.2.2 1,28Mcps TDD Option 102
5.5.2.2A.2.3 7,68Mcps TDD Option 103
5.5.2.2A.3 Test purpose 103
5.5.2.2A.4 Method of test 103

5.5.2.2A.5 Test requirements 103
5.5.2.2A.5.1 3,84 Mcps TDD Option 103
5.5.2.2A.5.2 1,28 Mcps TDD Option 103
5.5.2.2A.5.3 7,68 Mcps TDD Option 104
5.5.2.2B Adjacent Channel Leakage power Ratio (ACLR) with HS-SICH and DPCH 104
5.5.2.2B.1 Definition and applicability 104
5.5.2.2B.2 Minimum Requirements 104
5.5.2.2B.2.1 3,84Mcps TDD Option 104
5.5.2.2B.2.2 1,28Mcps TDD Option 104
5.5.2.2B.2.3 7,68Mcps TDD Option 104
5.5.2.2B.3 Test purpose 104
5.5.2.2B.4 Method of test 105
5.5.2.2B.5 Test requirements 105
5.5.2.2B.5.1 3,84 Mcps TDD Option 105
5.5.2.2B.5.2 1,28 Mcps TDD Option 105
5.5.2.2B.5.3 7,68 Mcps TDD Option 105
5.5.3 Spurious emissions 105
5.5.3.1 Definition and applicability 105
5.5.3.2 Minimum Requirements 106
5.5.3.2.1 3,84 Mcps TDD Option 106
5.5.3.2.2 1,28Mcps TDD Option 106
5.5.3.2.3 7,68 Mcps TDD Option 107
5.5.3.3 Test purpose 108
5.5.3.3.1 3,84 Mcps Option 108
5.5.3.3.2 1,28 Mcps Option 108
5.5.3.3.3 7,68 Mcps Option 108
5.5.3.4 Method of test 108
5.5.3.4.1 Initial conditions 108
5.5.3.4.2 Procedure 108
5.5.3.5 Test requirements 109
5.5.3.5.1 3,84 Mcps TDD Option 109
5.5.3.5.2 1,28 Mcps TDD Option 109
5.5.3.5.3 7,68 Mcps TDD Option 111
5.6 Transmit Intermodulation 111
5.6.1 Definition and applicability 111
5.6.2 Minimum Requirements 111
5.6.2.1 3,84 Mcps TDD Option 111
5.6.2.2 1,28 Mcps TDD Option 112
5.6.2.3 7,68 Mcps TDD Option 112
5.6.3 Test purpose 112
5.6.4 Method of test 112
5.6.4.1 Initial conditions 112
5.6.4.2 Procedure 113
5.6.4.2.1 3,84 Mcps TDD Option 113
5.6.4.2.2 1,28 Mcps TDD Option 113
5.6.4.2.3 7,68 Mcps TDD Option 113
5.6.5 Test requirements 113
5.6.5.1 3,84 Mcps TDD Option 113
5.6.5.2 1,28 Mcps TDD Option 113
5.6.5.3 7,68 Mcps TDD Option 114
5.7 Transmit Modulation 114
5.7.1 Error Vector Magnitude 114
5.7.1.1 Definition and applicability 114
5.7.1.2 Minimum Requirements 114
5.7.1.3 Test purpose 115
5.7.1.4 Method of test 115
5.7.1.4.1 Initial conditions 115
5.7.1.4.2 Procedure 115
5.7.1.5 Test requirements 115
5.7.1A Error Vector Magnitude with E-DCH16QAM 115
5.7.1A.1 Definition and applicability 115
5.7.1A.2 Minimum Requirements 115

5.7.1A.4 Method of test 116
5.7.1A.4.1 Initial conditions 116
5.7.1A.4.2 Procedure 116
5.7.1A.5 Test requirements 116
5.7.1B Error Vector Magnitude with HS-SICH and DPCH 117
5.7.1B.1 Definition and applicability 117
5.7.1B.2 Minimum Requirements 117
5.7.B1.3 Test purpose 117
5.7.1B.4 Method of test 117
5.7.1B.4.1 Initial conditions 117
5.7.1B.4.2 Procedure 117
5.7.1B.5 Test requirements 117
5.7.2 Peak code domain error 118
5.7.2.1 Definition and applicability 118
5.7.2.2 Minimum Requirement 118
5.7.2.3 Test purpose 118
5.7.2.4 Method of test 118
5.7.2.4.1 Initial conditions 118
5.7.2.4.1.1 3,84 Mcps TDD Option 118
5.7.2.4.1.2 1,28 Mcps TDD Option 118
5.7.2.4.1.3 7,68 Mcps TDD Option 119
5.7.2.4.2 Procedure 119
5.7.2.5 Test requirements 119

6 Receiver Characteristics 119
6.1 General 119
6.2 Reference sensitivity level 120
6.2.1 Definition and applicability 120
6.2.2 Minimum Requirements 120
6.2.2.1 3,84 Mcps TDD Option 120
6.2.2.2 1,28 Mcps TDD Option 120
6.2.2.3 7,68 Mcps TDD Option 121
6.2.3 Test purpose 121
6.2.4 Method of test 121
6.2.4.1 Initial conditions 121
6.2.4.2 Procedure 121
6.2.5 Test requirements 121
6.2.5.1 3,84 Mcps TDD Option 121
6.2.5.2 1,28 Mcps TDD Option 122
6.2.5.3 7,68 Mcps TDD Option 122
6.2A Reference sensitivity level (IMB) 122
6.2A.1 Definition and applicability 122
6.2A.2 Minimum Requirements 122
6.2A.3 Test purpose 123
6.2A.4 Method of test 123
6.2A.4.1 Initial conditions 123
6.2A.4.2 Procedure 123
6.2A.5 Test requirements 123
6.3 Maximum Input Level 124
6.3.1 Definition and applicability 124
6.3.2 Minimum requirements 124
6.3.2.1 3,84 Mcps TDD Option 124
6.3.2.2 1,28 Mcps TDD Option 124
6.3.2.3 7,68 Mcps TDD Option 125
6.3.3 Test purpose 125
6.3.4 Method of test 125
6.3.4.1 Initial conditions 125
6.3.4.2 Procedure 125
6.3.5 Test requirements 125
6.3A Maximum Input Level for HS-PDSCH Reception (16QAM) 125
6.3A.1 Definition and applicability 125
6.3A.2 Minimum requirements 125

6.3A.3 Test purpose....126
6.3A.4 Method of test....126
6.3A.4.1 Initial conditions....126
6.3A.4.2 Procedure....126
6.3A.5 Test requirements....126
6.3B Maximum Input Level for HS-PDSCH Reception (64QAM)....127
6.3B.1 Definition and applicability....127
6.3B.2 Minimum requirements....127
6.3B.3 Test purpose....127
6.3B.4 Method of test....127
6.3B.4.1 Initial conditions....127
6.3B.4.2 Procedure....128
6.3B.5 Test requirements....128
6.3C Maximum Input Level (IMB)....128
6.3C.1 Definition and applicability....128
6.3C.2 Minimum requirements....128
6.3C.3 Test purpose....128
6.3C.4 Method of test....128
6.3C.4.1 Initial conditions....128
6.3C.4.2 Procedure....129
6.3C.5 Test requirements....129
6.4 Adjacent Channel Selectivity (ACS)....129
6.4.1 Definition and applicability....129
6.4.2 Minimum Requirements....129
6.4.2.1 3,84 Mcps TDD Option....129
6.4.2.2 1,28 Mcps TDD Option....130
6.4.2.3 7,68 Mcps TDD Option....130
6.4.3 Test purpose....130
6.4.4 Method of test....130
6.4.4.1 Initial conditions....130
6.4.4.2 Procedure....131
6.4.5 Test Requirements....131
6.4.5.1 3,84 Mcps TDD Option....131
6.4.5.2 1,28 Mcps TDD Option....131
6.4.5.3 7,68 Mcps TDD Option....132
6.4A Adjacent Channel Selectivity (ACS) (IMB)....132
6.4A.1 Definition and applicability....132
6.4A.2 Minimum Requirements....132
6.4A.3 Test purpose....133
6.4A.4 Method of test....133
6.4A.4.1 Initial conditions....133
6.4A.4.2 Procedure....133
6.4A.5 Test Requirements....133
6.5 Blocking Characteristics....134
6.5.1 Definition and applicability....134
6.5.2 Minimum Requirements....134
6.5.2.1 3,84 Mcps TDD Option....134
6.5.2.2 1,28 Mcps TDD Option....135
6.5.2.3 7,68 Mcps TDD Option....137
6.5.3 Test purpose....138
6.5.4 Method of test....138
6.5.4.1 Initial conditions....138
6.5.4.2 Procedure....138
6.5.5 Test requirements....139
6.5.5.1 3,84 Mcps TDD Option....139
6.5.5.2 1,28 Mcps TDD Option....139
6.5.5.3 7,68 Mcps TDD Option....140
6.5A Blocking Characteristics (IMB)....141
6.5A.1 Definition and applicability....141
6.5A.2 Minimum Requirements....141
6.5A.3 Test purpose....142
6.5A.4 Method of test....142

6.5A.4.1 Initial conditions 142
6.5A.4.2 Procedure 143
6.5A.5 Test requirements 143
6.6 Spurious Response 144
6.6.1 Definition and applicability 144
6.6.2 Minimum Requirements 144
6.6.2.1 3,84 Mcps TDD Option 144
6.6.2.2 1,28 Mcps TDD Option 145
6.6.2.3 7,68 Mcps TDD Option 145
6.6.3 Test purpose 145
6.6.4 Method of test 145
6.6.4.1 Initial conditions 145
6.6.4.2 Procedure 145
6.6.5 Test requirements 146
6.6.5.1 3,84 Mcps TDD 146
6.6.5.2 1,28 Mcps TDD 146
6.6.5.3 7,68 Mcps TDD 146
6.6A Spurious Response (IMB) 147
6.6A.1 Definition and applicability 147
6.6A.2 Minimum Requirements 147
6.6A.3 Test purpose 147
6.6A.4 Method of test 147
6.6A.4.1 Initial conditions 147
6.6A.4.2 Procedure 148
6.6A.5 Test requirements 148
6.7 Intermodulation Characteristics 148
6.7.1 Definition and applicability 148
6.7.2 Minimum Requirements 149
6.7.2.1 3,84 Mcps TDD Option 149
6.7.2.2 1,28 Mcps TDD Option 149
6.7.2.3 7,68 Mcps TDD Option 149
6.7.3 Test purpose 150
6.7.4 Method of test 150
6.7.4.1 Initial conditions 150
6.7.4.2 Procedure 150
6.7.5 Test requirements 150
6.7.5.1 3,84 Mcps TDD Option 150
6.7.5.2 1,28 Mcps TDD Option 150
6.7.5.3 7,68 Mcps TDD Option 151
6.7A Intermodulation Characteristics (IMB) 151
6.7A.1 Definition and applicability 151
6.7A.2 Minimum Requirements 151
6.7A.3 Test purpose 152
6.7A.4 Method of test 152
6.7A.4.1 Initial conditions 152
6.7A.4.2 Procedure 152
6.7A.5 Test requirements 153
6.8 Spurious Emissions 153
6.8.1 Definition and applicability 153
6.8.2 Minimum Requirements 153
6.8.2.1 3,84 Mcps TDD Option 153
6.8.2.2 1,28 Mcps TDD Option 153
6.8.2.3 7,68 Mcps TDD Option 154
6.8.3 Test purpose 155
6.8.4 Method of test 155
6.8.4.1 Initial conditions 155
6.8.4.2 Procedure 155
6.8.5 Test requirements 156
6.8.5.1 3,84 Mcps TDD Option 156
6.8.5.2 1,28 Mcps TDD Option 156
6.8.5.3 7,68 Mcps TDD Option 157

7 Performance Requirements 159
7.1 General 159
7.1.2 Definition of Additive White Gaussian Noise (AWGN) Interferer 159
7.2 Demodulation in static propagation conditions 159
7.2.1 Demodulation of DCH 159
7.2.1.1 Definition and applicability 159
7.2.1.2 Minimum requirements 159
7.2.1.2.1 3,84 Mcps TDD Option 159
7.2.1.2.2 1,28 Mcps TDD Option 160
7.2.1.2.3 7,68 Mcps TDD Option 160
7.2.1.3 Test purpose 161
7.2.1.4 Method of test 161
7.2.1.4.1 Initial conditions 161
7.2.1.4.2 Procedure 161
7.2.1.5 Test requirements 161
7.2.1.5.1 3.84Mcps TDD Option 161
7.2.1.5.2 1.28Mcps TDD Option 162
7.2.1.5.3 7.68Mcps TDD Option 162
7.3 Demodulation of DCH in multipath fading conditions 162
7.3.1 Multipath fading Case 1 162
7.3.1.1 Definition and applicability 162
7.3.1.2 Minimum requirements 162
7.3.1.2.1 3,84 Mcps TDD Option 162
7.3.1.2.2 1,28 Mcps TDD Option 163
7.3.1.2.3 7,68 Mcps TDD Option 164
7.3.1.3 Test purpose 164
7.3.1.4 Method of test 164
7.3.1.4.1 Initial conditions 164
7.3.1.4.2 Procedure 165
7.3.1.5 Test requirements 165
7.3.1.5.1 3.84Mcps TDD Option 165
7.3.1.5.2 1.28Mcps TDD Option 165
7.3.1.5.3 7.68Mcps TDD Option 165
7.3.2 Multipath fading Case 2 165
7.3.2.1 Definition and applicability 165
7.3.2.2 Minimum requirement 166
7.3.2.2.1 3,84 Mcps TDD Option 166
7.3.2.2.2 1,28 Mcps TDD Option 166
7.3.2.2.3 7,68 Mcps TDD Option 167
7.3.2.3 Test purpose 167
7.3.2.4 Method of test 168
7.3.2.4.1 Initial conditions 168
7.3.2.4.2 Procedure 168
7.3.2.5 Test requirements 168
7.3.2.5.1 3.84Mcps TDD Option 168
7.3.2.5.2 1.28Mcps TDD Option 168
7.3.2.5.3 7.68Mcps TDD Option 168
7.3.3 Multipath fading Case 3 169
7.3.3.1 Definition and applicability 169
7.3.3.2 Minimum requirements 169
7.3.3.2.1 3,84 Mcps TDD Option 169
7.3.3.2.2 1,28 Mcps TDD Option 169
7.3.3.2.3 7,68 Mcps TDD Option 170
7.3.3.3 Test purpose 171
7.3.3.4 Method of test 171
7.3.3.4.1 Initial conditions 171
7.3.3.4.2 Procedure 171
7.3.3.5 Test requirements 171
7.3.3.5.1 3.84Mcps TDD Option 171
7.3.3.5.2 1.28Mcps TDD Option 171
7.3.3.5.3 7.68Mcps TDD Option 172
7.3A Demodulation of DCH in High speed train conditions 172

7.3A.1 Definition and applicability....172
7.3A.1.1 3,84 Mcps TDD Option....172
7.3A.1.2 1,28 Mcps TDD Option....172
7.3A.1.3 3,84 Mcps TDD Option....172
7.3A.2 Minimum requirements....172
7.3A.2.1 3,84 Mcps TDD Option....172
7.3A.2.2 1,28 Mcps TDD Option....172
7.3A.2.3 7,68 Mcps TDD Option....173
7.3A.3 Test purpose....173
7.3A.4 Method of test....173
7.3A.4.1 Initial conditions....173
7.3A.4.2 Procedure....173
7.3A.5 Test requirements....173
7.3A.5.1 3.84Mcps TDD Option....173
7.3A.5.2 1.28Mcps TDD Option....173
7.3A.5.3 7.68Mcps TDD Option....174
7.4 Base station transmit diversity mode for 3,84 Mcps TDD Option....174
7.4.1 Demodulation of BCH in SCTD mode....174
7.5 Power control in downlink....174
7.5.1 Definition and applicability....174
7.5.2 Power control in downlink for 3,84 Mcps TDD option, constant BLER Target....174
7.5.2.1 Minimum requirements....174
7.5.2.2 Test purpose....175
7.5.2.3 Method of test....175
7.5.2.3.1 Initial conditions....175
7.5.2.3.2 Procedure....175
7.5.2.4 Test Requirements....175
7.5.3 Power control in downlink for 1,28 Mcps TDD option, constant BLER Target(Release 6 and earlier)....175
7.5.3.1 Definition and applicability....175
7.5.3.2 Minimum requirements....176
7.5.3.3 Test purpose....176
7.5.3.4 Method of test....176
7.5.3.4.1 Initial conditions....176
7.5.3.4.2 Procedure....177
7.5.3.5 Test Requirements....177
7.5.3A Power control in downlink for 1,28 Mcps TDD option, constant BLER Target(Release 7 and later)....177
7.5.3A.1 Definition and applicability....177
7.5.3A.2 Minimum requirements....177
7.5.3A.3 Test purpose....178
7.5.3A.4 Method of test....178
7.5.3A.4.1 Initial conditions....178
7.5.3A.4.2 Procedure....178
7.5.3A.5 Test Requirements....178
7.5.4 Power control in the downlink for 1,28 Mcps TDD option, wind up effects....178
7.5.4.1 Definition and applicability....178
7.5.4.2 Minimum requirements....179
7.5.4.3 Test purpose....179
7.5.4.4 Method of test....179
7.5.4.5 Test Requirements....180
7.5.5 Power control in the downlink for 1,28 Mcps TDD option, initial convergence....180
7.5.5.1 Definition and applicability....180
7.5.5.2 Minimum requirements....180
7.5.5.3 Test purpose....181
7.5.5.4 Method of test....181
7.5.5.5 Test Requirements....181
7.6 Uplink Power Control....181
7.6.1 Definition and applicability....181
7.6.2 Minimum requirements....181
7.6.3 Test purpose....183
7.6.4 Method of test....183
7.6.4.1 Initial conditions....183
7.6.4.2 Procedure....183

7.6.5 Test Requirements 183
7.7 Demodulation of DCH in moving conditions 184
7.7.1 Definition and applicability 184
7.7.1.1 3,84 Mcps TDD Option 184
7.7.1.2 1,28 Mcps TDD Option 184
7.7.1.3 7,68 Mcps TDD Option 184
7.7.2 Minimum requirements 184
7.7.2.1 3.84 Mcps TDD Option 184
7.7.2.2 1.28 Mcps TDD Option 184
7.7.2.3 7.68 Mcps TDD Option 185
7.7.3 Test purpose 185
7.7.4 Method of test 185
7.7.4.1 Initial conditions 185
7.7.4.2 Procedure 185
7.7.5 Test Requirements 185
7.7.5.1 3.84 Mcps option 185
7.7.5.2 1.28 Mcps option 185
7.7.5.3 7.68Mcps option 186
7.8 Demodulation of DCH in birth-death conditions 186
7.8.1 Definition and applicability 186
7.8.1.1 3,84 Mcps TDD Option 186
7.8.1.2 1,28 Mcps TDD Option 186
7.8.1.3 7,68 Mcps TDD Option 186
7.8.2 Minimum requirements 186
7.8.2.1 3.84 Mcps TDD Option 186
7.8.2.2 1.28 Mcps TDD Option 187
7.8.2.3 7.68 Mcps TDD Option 187
7.8.3 Test purpose 187
7.8.4 Method of test 187
7.8.4.1 Initial conditions 187
7.8.4.2 Procedure 187
7.8.5 Test Requirements 188
7.8.5.1 3.84 Mcps option 188
7.8.5.2 1.28 Mcps option 188
7.8.5.3 7.68 Mcps option 188

8 Requirements for Support of RRM 189
8.1 General 189
8.2 Idle Mode Tasks 189
8.2.1 RF Cell Selection Scenario 189
8.2.1.1 Introduction 189
8.2.2 Cell Re-Selection 189
8.2.2.1 Scenario 1: Cell re-selection to intra frequency TDD cell 189
8.2.2.1.1 Definition and applicability 189
8.2.2.1.1.1 3,84 Mcps TDD Option 189
8.2.2.1.1.2 1,28 Mcps TDD Option 189
8.2.2.1.1.3 7,68 Mcps TDD Option 189
8.2.2.1.2 Minimum requirement 189
8.2.2.1.2.1 3,84 Mcps TDD Option 189
8.2.2.1.2.2 1,28 Mcps TDD Option 190
8.2.2.1.2.3 7,68 Mcps TDD Option 190
8.2.2.1.3 Test purpose 190
8.2.2.1.4 Method of test 190
8.2.2.1.4.1 3,84 Mcps TDD Option 190
8.2.2.1.4.1.1 Initial conditions 190
8.2.2.1.4.1.2 Procedure 193
8.2.2.1.4.2 1,28 Mcps TDD Option 193
8.2.2.1.4.3 7,68 Mcps TDD Option 195
8.2.2.1.4.3.1 Initial conditions 195
8.2.2.1.4.3.2 Procedure 197
8.2.2.1.5 Test Requirements 197
8.2.2.1.5.1 3,84 Mcps TDD Option 197

8.2.2.1.5.2 1,28 Mcps TDD Option 197
8.2.2.1.5.3 7,68 Mcps TDD Option 197
8.2.2.2 Scenario 2: Cell re-selection to inter-frequency TDD cell 198
8.2.2.2.1 Definition and applicability 198
8.2.2.2.1.1 3,84 Mcps Option 198
8.2.2.2.1.2 1,28 Mcps Option 198
8.2.2.2.1.3 7,68 Mcps Option 198
8.2.2.2.2 Minimum requirement 198
8.2.2.2.2.1 3,84 Mcps Option 198
8.2.2.2.2.2 1,28 Mcps Option 198
8.2.2.2.2.3 7,68 Mcps Option 199
8.2.2.2.3 Test purpose 199
8.2.2.2.4 Method of test 199
8.2.2.2.4.1 3,84 Mcps Option 199
8.2.2.2.4.1.1 Initial conditions 199
8.2.2.2.4.1.2 Procedure 201
8.2.2.2.4.2 1,28 Mcps Option 201
8.2.2.2.4.3 7,68 Mcps Option 203
8.2.2.2.4.3.1 Initial conditions 203
8.2.2.2.4.3.2 Procedure 205
8.2.2.2.5 Test Requirements 205
8.2.2.2.5.1 3,84 Mcps Option 205
8.2.2.2.5.2 1,28 Mcps Option 205
8.2.2.2.5.3 7,68 Mcps Option 205
8.2.2.2A Scenario 2A: 3,84 Mcps TDD cell re-selection for 1,28 Mcps TDD UE 206
8.2.2.2B Scenario 2B: 1,28 Mcps TDD cell re-selection for 3,84 Mcps TDD UE 206
8.2.2.2C Scenario 2C: 3,84 Mcps TDD cell re-selection for 7,68 Mcps TDD UE 206
8.2.2.2C.1 Definition and applicability 206
8.2.2.2C.2 Minimum requirement 206
8.2.2.2C.3 Test purpose 206
8.2.2.2C.4 Method of test 206
8.2.2.2C.4.1 Initial conditions 206
8.2.2.2C.4.2 Procedure 207
8.2.2.2C.5 Test Requirements 208
8.2.2.2D Scenario 2D: 7,68 Mcps TDD cell re-selection for 3,84 Mcps TDD UE 208
8.2.2.2D.1 Definition and applicability 208
8.2.2.2D.2 Minimum requirement 208
8.2.2.2D.3 Test purpose 208
8.2.2.2D.4 Method of test 208
8.2.2.2D.4.1 Initial conditions 208
8.2.2.2D.4.2 Procedure 209
8.2.2.2D.5 Test Requirements 210
8.2.2.3 Scenario 3: TDD/FDD Cell re-selection 210
8.2.2.3.1 Definition and applicability 210
8.2.2.3.1.1 3,84 Mcps Option 210
8.2.2.3.1.2 1,28 Mcps Option 210
8.2.2.3.1.3 7,68 Mcps Option 210
8.2.2.3.2 Minimum requirements 210
8.2.2.3.3 Test purpose 211
8.2.2.3.4 Method of test 211
8.2.2.3.4.1 3,84 Mcps Option 211
8.2.2.3.4.1.1 Initial conditions 211
8.2.2.3.4.1.2 Procedure 212
8.2.2.3.4.2 1,28 Mcps Option 213
8.2.2.3.4.3 7,68 Mcps Option 214
8.2.2.3.4.3.1 Initial conditions 214
8.2.2.3.4.3.2 Procedure 215
8.2.2.3.5 Test requirements 215
8.2.2.4 Scenario 4: inter RAT cell re-selection 216
8.2.2.4.1 Definition and applicability 216
8.2.2.4.1.1 3,84 Mcps Option 216
8.2.2.4.1.2 1,28 Mcps Option 216

8.2.2.4.1.3 7,68 Mcps Option 216
8.2.2.4.2 Minimum requirement 216
8.2.2.4.2.1 3,84 Mcps Option 216
8.2.2.4.2.2 1,28 Mcps Option 216
8.2.2.4.2.3 7,68 Mcps Option 217
8.2.2.4.3 Test purpose 217
8.2.2.4.4 Method of Test 217
8.2.2.4.4.1 3,84 Mcps Option 217
8.2.2.4.4.1.1 Initial conditions 217
8.2.2.4.4.1.2 Procedure 218
8.2.2.4.4.2 1,28 Mcps Option 219
8.2.2.4.4.3 7,68 Mcps Option 220
8.2.2.4.5 Test Requirements 221
8.2.2.4.5.1 3,84 Mcps Option 221
8.2.2.4.5.2 1,28 Mcps Option 221
8.2.2.4.5.3 7,68 Mcps Option 221
8.2.2.5 Scenario 4A: inter RAT cell acquisition and re-selection 221
8.2.2.5.1 Definition and applicability 221
8.2.2.5.1.1 3,84 Mcps Option 221
8.2.2.5.1.2 1,28 Mcps Option 222
8.2.2.5.1.3 7,68 Mcps Option 222
8.2.2.5.2 Minimum requirement 222
8.2.2.5.2.1 3,84 Mcps Option 222
8.2.2.5.2.2 1,28 Mcps Option 222
8.2.2.5.2.3 7,68 Mcps Option 222
8.2.2.5.3 Test purpose 222
8.2.2.5.4 Method of Test 222
8.2.2.5.4.1 3,84 Mcps Option 222
8.2.2.5.4.2 1,28 Mcps Option 222
8.2.2.5.4.2.1 Initial conditions 222
8.2.2.5.4.2.2 Procedure 223
8.2.2.5.4.3 7,68 Mcps Option 224
8.2.2.5.5 Test Requirements 224
8.2.2.5.5.1 3,84 Mcps Option 224
8.2.2.5.5.2 1,28 Mcps Option 224
8.2.2.5.5.3 7,68 Mcps Option 224
8.2.2.5A Scenario 4B: UTRAN to GSM Cell Re-Selection: HCS with only UTRA level changed 224
8.2.2.5A.1 Definition and applicability 224
8.2.2.5A.1.1 3,84 Mcps Option 224
8.2.2.5A.1.2 1,28 Mcps Option 224
8.2.2.5A.1.3 7,68 Mcps Option 224
8.2.2.5A.2 Minimum requirement 224
8.2.2.5A.2.1 3,84 Mcps Option 224
8.2.2.5A.2.2 1,28 Mcps Option 224
8.2.2.5A.2.3 7,68 Mcps Option 225
8.2.2.5A.3 Test purpose 225
8.2.2.5A.4 Method of Test 225
8.2.2.5A.4.1 3,84 Mcps Option 225
8.2.2.5A.4.2 1,28 Mcps Option 225
8.2.2.5A.4.2.1 Initial conditions 225
8.2.2.5A.4.2.2 Procedure 226
8.2.2.5A.4.3 7,68 Mcps Option 227
8.2.2.5A.5 Test Requirements 227
8.2.2.5A.5.1 3,84 Mcps Option 227
8.2.2.5A.5.2 1,28 Mcps Option 227
8.2.2.5A.5.3 7,68 Mcps Option 227
8.2.2.6 Scenario 5:TDD/E-UTRA cell re-selection 227
8.2.2.6.1 UTRA to E-UTRA TDD cell reselection: E-UTRA is of higher priority 227
8.2.2.6.1.5.2 1.28Mcps Option 232
8.2.2.6.1.5.3 7.68Mcps Option 233
8.2.2.6.2 UTRA to E-UTRA TDD cell reselection: E-UTRA is of lower priority 233
8.2.2.6.2.5 Test requirement 238

8.2.2.7 Scenario 6: Inter-band Cell Re-selection for 1.28 Mcps TDD UE 239
8.2.2.7.1 Definition and applicability 239
8.2.2.7.2 Minimum requirement 239
8.2.2.7.3 Test purpose 240
8.2.2.7.4 Method of test 240
8.2.2.7.4.1 Initial conditions 240
8.2.2.7.4.2 Procedure 242
8.2.2.7.5 Test Requirements 242
8.3 UTRAN Connected Mode Mobility 242
8.3.1 TDD/TDD Handover for 3,84 Mcps Option 242
8.3.1.1 Handover to intra-frequency cell 242
8.3.1.1.1 Definition and applicability 242
8.3.1.1.2 Minimum requirement 242
8.3.1.1.3 Test purpose 243
8.3.1.1.4 Method of test 243
8.3.1.1.5 Test requirements 250
8.3.1.2 Handover to inter-frequency cell 250
8.3.1.2.1 Definition and applicability 250
8.3.1.2.2 Minimum requirement 250
8.3.1.2.3 Test purpose 251
8.3.1.2.4 Method of test 251
8.3.1.2.5 Test requirements 257
8.3.1A TDD/TDD Handover for 1,28 Mcps Option 257
8.3.1A.1 Handover to intra-frequency cell 257
8.3.1A.1.1 Scenario 1 257
8.3.1A.1.2 Scenario 2 265
8.3.1A.2 Handover to inter-frequency cell 271
8.3.1A.2.1 Scenario 1 271
8.3.1A.2.2 Scenario 2 277
8.3.1A.3 Handover to inter-band cell 285
8.3.1A.3.1 Scenario 1 285
8.3.1A.3.2 Scenario 2 292
8.3.1A.3.3 Scenario 3 298
8.3.1B TDD/TDD Handover for 7,68 Mcps Option 304
8.3.1B.1 Handover to intra-frequency cell 304
8.3.1B.1.1 Definition and applicability 304
8.3.1B.1.2 Minimum requirement 304
8.3.1B.1.3 Test purpose 304
8.3.1B.1.4 Method of test 304
8.3.1B.1.5 Test requirements 311
8.3.1B.2 Handover to inter-frequency cell 311
8.3.1B.2.1 Definition and applicability 311
8.3.1B.2.2 Minimum requirement 311
8.3.1B.2.3 Test purpose 312
8.3.1B.2.4 Method of test 312
8.3.1B.2.5 Test requirements 318
8.3.2 TDD/FDD Handover for 3,84 Mcps Option 318
8.3.2.1 Definition and applicability 318
8.3.2.2 Minimum requirement 318
8.3.2.3 Test purpose 319
8.3.2.4 Method of test 319
8.3.2.5 Test requirements 325
8.3.2A TDD/FDD Handover for 1,28 Mcps Option 325
8.3.2A.1 Definition and applicability 325
8.3.2A.2 Minimum requirement 325
8.3.2A.3 Test purpose 326
8.3.2A.4 Method of test 326
8.3.2A.4.1 Initial conditions 326
8.3.2A.4.2 Procedure 328
8.3.2A.5 Test requirements 332
8.3.2B TDD/FDD Handover for 7,68 Mcps Option 332
8.3.2B.1 Definition and applicability 332

8.3.2B.2 Minimum requirement 332
8.3.2B.3 Test purpose 333
8.3.2B.4 Method of test 333
8.3.2B.5 Test requirements 339
8.3.3 TDD/GSM Handover 339
8.3.3.1 Definition and applicability 339
8.3.3.1.1 3,84 Mcps option 339
8.3.3.1.2 1,28 Mcps option 339
8.3.3.1.3 7,68 Mcps option 340
8.3.3.2 Minimum requirement 340
8.3.3.2.1 3,84 Mcps option 340
8.3.3.2.2 1,28 Mcps option 340
8.3.3.2.3 7,68 Mcps option 340
8.3.3.3 Test purpose 340
8.3.3.3.1 3,84 Mcps option 340
8.3.3.3.2 1,28 Mcps option 340
8.3.3.4 Method of test 340
8.3.3.4.1 3,84 Mcps option 340
8.3.3.4.2 1,28 Mcps option 344
8.3.3.4.3 7,68 Mcps option 349
8.3.3.5 Test requirements 353
8.3.3.5.1 3,84 Mcps option 353
8.3.3.5.2 1,28 Mcps option 353
8.3.3.5.3 7,68 Mcps option 353
8.3.3a UTRA TDD to E-UTRA FDD Handover 353
8.3.3a.1 Definition and applicability 354
8.3.3a.1.1 3,84 Mcps option 354
8.3.3a.1.2 1,28 Mcps option 354
8.3.3a.1.3 7,68 Mcps option 354
8.3.3a.2 Minimum requirement 354
8.3.3a.2.1 3,84 Mcps option 354
8.3.3a.2.2 1,28 Mcps option 354
8.3.3a.2.3 7,68 Mcps option 355
8.3.3a.3 Test purpose 355
8.3.3a.3.1 3,84 Mcps option 355
8.3.3a.3.2 1,28 Mcps option 355
8.3.3a.3.3 7,68 Mcps option 355
8.3.3a.4 Method of test 355
8.3.3a.4.1 3,84 Mcps option 355
8.3.3a.4.2 1,28 Mcps option 355
8.3.3a.4.3 7,68 Mcps option 362
8.3.3a.5 Test Requirments 362
8.3.3a.5.1 3,84 Mcps option 362
8.3.3a.5.2 1,28 Mcps option 362
8.3.3a.5.3 7,68 Mcps option 363
8.3.3b UTRA TDD to E-UTRA TDD Handover 363
8.3.3b.1 Definition and applicability 364
8.3.3b.1.1 3,84 Mcps option 364
8.3.3b.1.2 1,28 Mcps option 364
8.3.3b.1.3 7,68 Mcps option 364
8.3.3b.2 Minimum requirement 364
8.3.3b.2.1 3,84 Mcps option 364
8.3.3b.2.2 1,28 Mcps option 364
8.3.3b.2.3 7,68 Mcps option 365
8.3.3b.3 Test purpose 365
8.3.3b.3.1 3,84 Mcps option 365
8.3.3b.3.2 1,28 Mcps option 365
8.3.3b.3.3 7,68 Mcps option 365
8.3.3b.4 Method of test 365
8.3.3b.4.1 3,84 Mcps option 365
8.3.3b.4.2 1,28 Mcps option 365
8.3.3b.4.3 7,68 Mcps option 372

8.3.3b.5 Test Requirments 372
8.3.3b.5.1 3,84 Mcps option 372
8.3.3b.5.2 1,28 Mcps option 372
8.3.3b.5.3 7,68 Mcps option 373
8.3.3c UTRA TDD to E-UTRA FDD Handover: unknown target cell 373
8.3.3c.1 Definition and applicability 374
8.3.3c.1.1 3,84 Mcps option 374
8.3.3c.1.2 1,28 Mcps option 374
8.3.3c.1.3 7,68 Mcps option 374
8.3.3c.2 Minimum requirement 374
8.3.3c.2.1 3,84 Mcps option 374
8.3.3c.2.2 1,28 Mcps option 374
8.3.3c.2.3 7,68 Mcps option 375
8.3.3c.3 Test purpose 375
8.3.3c.3.1 3,84 Mcps option 375
8.3.3c.3.2 1,28 Mcps option 375
8.3.3c.3.3 7,68 Mcps option 375
8.3.3c.4 Method of test 375
8.3.3c.4.1 3,84 Mcps option 375
8.3.3c.4.2 1,28 Mcps option 375
8.3.3c.4.3 7,68 Mcps option 381
8.3.3c.5 Test Requirments 381
8.3.3c.5.1 3,84 Mcps option 381
8.3.3c.5.2 1,28 Mcps option 381
8.3.3c.5.3 7,68 Mcps option 382
8.3.3d UTRA TDD to E-UTRA TDD Handover: unknown target cell 382
8.3.3d.1 Definition and applicability 382
8.3.3d.1.1 3,84 Mcps option 382
8.3.3d.1.2 1,28 Mcps option 382
8.3.3d.1.3 7,68 Mcps option 383
8.3.3d.2 Minimum requirement 383
8.3.3d.2.1 3,84 Mcps option 383
8.3.3d.2.2 1,28 Mcps option 383
8.3.3d.2.3 7,68 Mcps option 383
8.3.3d.3 Test purpose 383
8.3.3d.3.1 3,84 Mcps option 383
8.3.3d.3.2 1,28 Mcps option 383
8.3.3d.3.3 7,68 Mcps option 384
8.3.3d.4 Method of test 384
8.3.3d.4.1 3,84 Mcps option 384
8.3.3d.4.2 1,28 Mcps option 384
8.3.3d.4.3 7,68 Mcps option 390
8.3.3d.5 Test Requirments 390
8.3.3d.5.1 3,84 Mcps option 390
8.3.3d.5.2 1,28 Mcps option 390
8.3.3d.5.3 7,68 Mcps option 391
8.3.3e TDD/GSM Handover: non-synchronization target cell 391
8.3.4 Cell Re-selection in CELL_FACH 395
8.3.4.1 Scenario 1: TDD/TDD cell re-selection single carrier case 395
8.3.4.1.1 Definition and applicability 395
8.3.4.1.1.1 3,84 Mcps TDD option 395
8.3.4.1.1.2 1,28 Mcps TDD option 395
8.3.4.1.1.3 7,68 Mcps TDD option 395
8.3.4.1.2 Minimum requirement 395
8.3.4.1.2.1 3,84 Mcps TDD option 395
8.3.4.1.2.2 1,28 Mcps TDD option 395
8.3.4.1.2.3 7,68 Mcps TDD option 395
8.3.4.1.3 Test purpose 396
8.3.4.1.4 Method of test 396
8.3.4.1.4.1 3,84 Mcps TDD option 396
8.3.4.1.4.2 1,28 Mcps TDD option 399
8.3.4.1.4.3 7,68 Mcps TDD option 401

8.3.4.1.5 Test Requirements 405
8.3.4.1.5.1 3,84 Mcps TDD option 405
8.3.4.1.5.2 1,28 Mcps TDD option 405
8.3.4.1.5.3 7,68 Mcps TDD option 405
8.3.4.2 Scenario 2: TDD/TDD cell re-selection multi carrier case 406
8.3.4.2.1 Definition and applicability 406
8.3.4.2.1.1 3,84 Mcps TDD option 406
8.3.4.2.1.2 1,28 Mcps TDD option 406
8.3.4.2.1.3 7,68 Mcps TDD option 406
8.3.4.2.2 Minimum requirement 406
8.3.4.2.2.1 3,84 Mcps TDD option 406
8.3.4.2.2.2 1,28 Mcps TDD option 406
8.3.4.2.2.3 7,68 Mcps TDD option 406
8.3.4.2.3 Test purpose 406
8.3.4.2.4 Method of test 407
8.3.4.2.4.1 3,84 Mcps TDD option 407
8.3.4.2.4.2 1,28 Mcps TDD option 410
8.3.4.2.4.3 7,68 Mcps TDD option 413
8.3.4.2.5 Test Requirements 417
8.3.4.2.5.1 3,84 Mcps TDD option 417
8.3.4.2.5.2 1,28 Mcps TDD option 417
8.3.4.2.5.3 7,68 Mcps TDD option 418
8.3.4.3 Scenario 3: TDD/GSM cell re-selection 418
8.3.4.3.1 Definition and applicability 418
8.3.4.3.1.1 3,84 Mcps TDD option 418
8.3.4.3.1.2 1,28 Mcps TDD option 418
8.3.4.3.1.3 7,68 Mcps TDD option 418
8.3.4.3.2 Minimum requirement 418
8.3.4.3.2.1 3,84 Mcps TDD option 418
8.3.4.3.2.2 1,28 Mcps TDD option 418
8.3.4.3.2.3 7,68 Mcps TDD option 419
8.3.4.3.3 Test purpose 419
8.3.4.3.4 Method of test 419
8.3.4.3.4.1 3,84 Mcps TDD option 419
8.3.4.3.4.2 1,28 Mcps TDD option 419
8.3.4.3.4.3 7,68 Mcps TDD option 422
8.3.4.3.5 Test Requirements 422
8.3.4.3.5.1 3,84 Mcps TDD option 422
8.3.4.3.5.2 1,28 Mcps TDD option 422
8.3.4.3.5.3 7,68 Mcps TDD option 422
8.3.4A Cell Re-selection in Enhanced CELL_FACH 422
8.3.4A.1 Scenario 1: Cell Re-selection to Intra-Frequency TDD cell 422
8.3.5 Cell Re-selection in CELL_PCH 431
8.3.5.1 Scenario 1: TDD/TDD cell re-selection single carrier case 431
8.3.5.1.1 Definition and applicability 431
8.3.5.1.1.1 3,84 Mcps TDD option 431
8.3.5.1.1.2 1,28 Mcps TDD option 431
8.3.5.1.1.3 7,68 Mcps TDD option 431
8.3.5.1.2 Minimum requirement 431
8.3.5.1.2.1 3,84 Mcps TDD option 431
8.3.5.1.2.2 1,28 Mcps TDD option 432
8.3.5.1.2.3 7,68 Mcps TDD option 432
8.3.5.1.3 Test purpose 432
8.3.5.1.4 Method of test 432
8.3.5.1.4.1 3,84 Mcps TDD option 432
8.3.5.1.4.2 1,28 Mcps TDD option 435
8.3.5.1.4.3 7,68 Mcps TDD option 438
8.3.5.1.5 Test Requirements 441
8.3.5.1.5.1 3,84 Mcps TDD option 441
8.3.5.1.5.2 1,28 Mcps TDD option 441
8.3.5.1.5.3 7,68 Mcps TDD option 442
8.3.5.2 Scenario 2: TDD/TDD cell re-selection multi carrier case 442

8.3.5.2.1 Definition and applicability 442
8.3.5.2.1.1 3,84 Mcps TDD option 442
8.3.5.2.1.2 1,28 Mcps TDD option 442
8.3.5.2.1.3 7,68 Mcps TDD option 442
8.3.5.2.2 Minimum requirement 442
8.3.5.2.2.1 3,84 Mcps TDD option 442
8.3.5.2.2.2 1,28 Mcps TDD option 442
8.3.5.2.2.3 7,68 Mcps TDD option 443
8.3.5.2.3 Test purpose 443
8.3.5.2.4 Method of test 443
8.3.5.2.4.1 3,84 Mcps TDD option 443
8.3.5.2.4.1.1 Initial conditions 443
8.3.5.2.4.2 1,28 Mcps TDD option 445
8.3.5.2.4.2.1 Initial conditions 445
8.3.5.2.4.3 7,68 Mcps TDD option 448
8.3.5.2.4.3.1 Initial conditions 448
8.3.5.2.5 Test Requirements 450
8.3.5.2.5.1 3,84 Mcps TDD option 450
8.3.5.2.5.2 1,28 Mcps TDD option 450
8.3.5.2.5.3 7,68 Mcps TDD option 451
8.3.6 Cell Re-selection in URA_PCH 451
8.3.6.1 Scenario 1: TDD/TDD cell re-selection single carrier case 451
8.3.6.1.1 Definition and applicability 451
8.3.6.1.1.1 3,84 Mcps TDD option 451
8.3.6.1.1.2 1,28 Mcps TDD option 451
8.3.6.1.1.3 7,68 Mcps TDD option 451
8.3.6.1.2 Minimum requirement 451
8.3.6.1.2.1 3,84 Mcps TDD option 451
8.3.6.1.2.2 1,28 Mcps TDD option 451
8.3.6.1.2.3 7,68 Mcps TDD option 452
8.3.6.1.3 Test purpose 452
8.3.6.1.4 Method of test 452
8.3.6.1.4.1 3,84 Mcps TDD option 452
8.3.6.1.4.1.1 Initial conditions 452
8.3.6.1.4.1.2 Procedure 454
8.3.6.1.4.2 1,28 Mcps TDD option 454
8.3.6.1.4.2.1 Initial conditions 454
8.3.6.1.4.2.2 Procedure 457
8.3.6.1.4.3 7,68 Mcps TDD option 457
8.3.6.1.4.3.1 Initial conditions 457
8.3.6.1.4.3.2 Procedure 460
8.3.6.1.5 Test Requirements 460
8.3.6.1.5.1 3,84 Mcps TDD option 460
8.3.6.1.5.2 1,28 Mcps TDD option 460
8.3.6.1.5.3 7,68 Mcps TDD option 461
8.3.6.2 Scenario 2: TDD/TDD cell re-selection multi carrier case 461
8.3.6.2.1 Definition and applicability 461
8.3.6.2.1.1 3,84 Mcps TDD option 461
8.3.6.2.1.2 1,28 Mcps TDD option 461
8.3.6.2.1.3 7,68 Mcps TDD option 461
8.3.6.2.2 Minimum requirement 461
8.3.6.2.2.1 3,84 Mcps TDD option 461
8.3.6.2.2.2 1,28 Mcps TDD option 461
8.3.6.2.2.3 7,68 Mcps TDD option 462
8.3.6.2.3 Test purpose 462
8.3.6.2.4 Method of test 462
8.3.6.2.4.1 3,84 Mcps TDD option 462
8.3.6.2.4.1.2 Procedure 464
8.3.6.2.4.2 1,28 Mcps TDD option 464
8.3.6.2.4.3 7,68 Mcps TDD option 466
8.3.6.2.4.3.2 Procedure 469
8.3.6.2.5 Test Requirements 469

8.3.6.2.5.1 3,84 Mcps TDD option 469
8.3.6.2.5.2 1,28 Mcps TDD option 469
8.3.6.2.5.3 7,68 Mcps TDD option 470
8.3.7 Serving HS-DSCH cell change 470
8.3.7.1 3.84 Mcps option (duplication) 470
8.3.7.2 1.28 Mcps option 470
8.3.7.2.1 Definition and applicability 470
8.3.7.2.2 Minimum requirement 470
8.3.7.2.3 Test purpose 470
8.3.7.2.4 Method of test 470
8.3.7.2.4.1 Initial conditions 470
8.3.7.2.5 Test Requirements 473
8.3.7.3 7.68 Mcps option 478
8.3.8 Inter-RAT cell change order from UTRAN TDD to GSM(GPRS) 478
8.3.8.1 Definition and applicability 478
8.3.8.1.1 3,84 Mcps option 478
8.3.8.1.2 1,28 Mcps option 478
8.3.8.1.3 7,68 Mcps option 478
8.3.8.2 Minimum requirement 478
8.3.8.2.1 3,84 Mcps option 478
8.3.8.2.2 1,28 Mcps option 478
8.3.8.2.3 7,68 Mcps option 479
8.3.8.3 Test Purpose 479
8.3.8.3.1 3,84 Mcps option 479
8.3.8.3.2 1,28 Mcps option 479
8.3.8.3.3 7,68 Mcps option 479
8.3.8.4 Method of test 479
8.3.8.4.1 3,84 Mcps option 479
8.3.8.4.2 1,28 Mcps option 479
8.3.8.4.3 7,68 Mcps option 481
8.3.8.5 Test requirement 481
8.3.8.5.1 3,84 Mcps option 481
8.3.8.5.2 1,28 Mcps option 481
8.3.8.5.3 7,68 Mcps option 482
8.4.1 RRC re-establishment delay 482
8.4.1.1 3,84 Mcps TDD option 482
8.4.1.1.1 RRC re-establishment delay to a known target cell 482
8.4.1.1.1.1 Definition and applicability 482
8.4.1.1.1.2 Minimum requirement 482
8.4.1.1.1.3 Test purpose 482
8.4.1.1.1.4 Method of test 483
8.4.1.1.1.4.1 Initial conditions 483
8.4.1.1.1.4.2 Procedure 484
8.4.1.1.1.5 Test requirements 484
8.4.1.1.2 RRC re-establishment delay to an unknown target cell 484
8.4.1.1.2.1 Definition and applicability 484
8.4.1.1.2.2 Minimum requirement 484
8.4.1.1.2.3 Test purpose 485
8.4.1.1.2.4 Method of test 485
8.4.1.1.2.4.1 Initial conditions 485
8.4.1.1.2.4.2 Procedure 486
8.4.1.1.2.5 Test requirements 487
8.4.1.2 1,28 Mcps TDD option 487
8.4.1.2.1 RRC re-establishment delay to an known target cell 487
8.4.1.2.1.1 Definition and applicability 487
8.4.1.2.1.2 Minimum requirement 487
8.4.1.2.1.3 Test purpose 488
8.4.1.2.1.4 Method of test 488
8.4.1.2.1.5 Test requirements 490
8.4.1.2.2 RRC re-establishment delay to an unknown target cell 490
8.4.1.2.2.1 Definition and applicability 490
8.4.1.2.2.2 Minimum requirement 490

8.4.1.2.2.3 Test purpose 490
8.4.1.2.2.4 Method of test 491
8.4.1.2.2.5 Test requirements 492
8.4.1.3 7,68 Mcps TDD option 492
8.4.1.3.1 RRC re-establishment delay to a known target cell 492
8.4.1.3.1.1 Definition and applicability 492
8.4.1.3.1.2 Minimum requirement 492
8.4.1.3.1.3 Test purpose 493
8.4.1.3.1.4 Method of test 493
8.4.1.3.1.4.1 Initial conditions 493
8.4.1.3.1.4.2 Procedure 494
8.4.1.3.1.5 Test requirements 494
8.4.1.3.2 RRC re-establishment delay to an unknown target cell 495
8.4.1.3.2.1 Definition and applicability 495
8.4.1.3.2.2 Minimum requirement 495
8.4.1.3.2.3 Test purpose 495
8.4.1.3.2.4 Method of test 495
8.4.1.3.2.4.1 Initial conditions 495
8.4.1.3.2.4.2 Procedure 496
8.4.1.3.2.5 Test requirements 497
8.4.1A Random Access 497
8.4.1A.1 3,84 Mcps TDD option 497
8.4.1A.2 1,28 Mcps TDD option 497
8.4.1A.2.1 Correct behaviour when receiving FPACH 497
8.4.1A.2.1.1 Definition and applicability 497
8.4.1A.2.1.2 Minimum requirement 497
8.4.1A.2.1.3 Test purpose 498
8.4.1A.2.1.4 Method of test 498
8.4.1A.2.1.5 Test requirements 499
8.4.1A.2.2 Correct behaviour when reaching maximum allowed UL transmit power 499
8.4.1A.2.2.1 Definition and applicability 499
8.4.1A.2.2.2 Minimum requirement 499
8.4.1A.2.2.3 Test purpose 499
8.4.1A.2.2.4 Method of test 499
8.4.1A.2.2.5 Test requirements 500
8.4.1A.3 7.68 Mcps TDD option 500
8.4.2 Transport Format Combination selection in UE 501
8.4.2.1 Interactive or Background, PS, UL: 64 kbps 501
8.4.2.1.1 Definition and applicability 501
8.4.2.1.1.1 3,84 Mcps TDD option 501
8.4.2.1.1.1A 1,28 Mcps TDD option 501
8.4.2.1.1.2 7,68 Mcps TDD option 501
8.4.2.1.2 Minimum requirements 501
8.4.2.1.2.1 3,84 Mcps TDD option 501
8.4.2.1.2.1A 1,28 Mcps TDD option 502
8.4.2.1.2.2 7,68 Mcps TDD option 503
8.4.2.1.3 Test purpose 504
8.4.2.1.3.1 3,84 Mcps TDD option 504
8.4.2.1.3.1A 1,28 Mcps TDD option 505
8.4.2.1.3.2 7,68 Mcps TDD option 505
8.4.2.1.4 Method of test 505
8.4.2.1.4.1 Initial conditions 505
8.4.2.1.4.1.1 3,84 Mcps TDD option 505
8.4.2.1.4.1.1A 1,28 Mcps TDD option 506
8.4.2.1.4.1.2 7,68 Mcps TDD option 507
8.4.2.1.4.2 Procedure 509
8.4.2.1.4.2.1 3,84 Mcps TDD option 509
8.4.2.1.4.2.1A 1,28 Mcps TDD option 509
8.4.2.1.4.2.2 7.68 Mcps TDD option 510
8.4.2.1.5 Test requirements 510
8.4.2.1.5.1 3,84 Mcps TDD option 510
8.4.2.1.5.1A 1,28 Mcps TDD option 510

8.4.2.1.5.2 7,68 Mcps TDD option 510
8.4.3 E-TFC selection in UE 510
8.4.3.1 3.84 Mcps option 510
8.4.3.2 1.28 Mcps option 511
8.4.3.2.1 5ms TTI E-DCH E-TFC selection 511
8.4.3.2.1.1 Definition and applicability 511
8.4.3.2.1.2 Minimum requirements 511
8.4.3.2.1.3 Test Purpose 511
8.4.3.2.1.4 Method of test 511
8.4.3.2.1.5 Test Requirements 513
8.4.3.3 7.68 Mcps option 515
8.5 Timing Characteristics 515
8.5.1 UE Timing Advance 515
8.5.1.1 3,84 Mcps TDD Option 515
8.5.1.1.1 Definition and applicability 515
8.5.1.1.2 Minimum requirement 515
8.5.1.1.3. Test purpose 515
8.5.1.1.4 Method of test 515
8.5.1.1.5 Test requirements 517
8.5.1.2 1,28 Mcps TDD Option 517
8.5.1.2.1 Definition and applicability 517
8.5.1.2.2 Minimum requirement 517
8.5.1.2.3. Test purpose 518
8.5.1.2.4 Method of test 518
8.5.1.2.5 Test requirements 519
8.5.1.3 7,68 Mcps TDD Option 519
8.5.1.3.1 Definition and applicability 519
8.5.1.3.2 Minimum requirement 519
8.5.1.3.3 Test purpose 519
8.5.1.3.4 Method of test 519
8.5.1.3.5 Test requirements 521
8.5.2 UE Transmit Timing 521
8.5.3 UE Uplink Synchronization 521
8.5.3.1 3,84 Mcps TDD option 521
8.5.3.2 1,28 Mcps TDD option 522
8.5.3.2.2 Uplink synchronization control during handover 524
8.5.3.2.2.1 Scenario 1: Handover to intra-frequency cell 524
8.5.3.2.2.1.1 Definition and applicability 524
8.5.3.2.2.1.2 Minimum requirement 524
8.5.3.2.2.1.3 Test purpose 524
8.5.3.2.2.1.4 Initial conditions 524
8.5.3.2.2.1.5 Procedure 526
8.5.3.2.2.1.6 Test requirements 531
8.5.3.2.2.2 Scenario 2: Handover to inter-frequency cell 532
8.5.3.2.2.2.1 Definition and applicability 532
8.5.3.2.2.2.2 Minimum requirement 532
8.5.3.2.2.1.3 Test purpose 532
8.5.3.2.2.2.4 Initial conditions 532
8.5.3.2.2.2.5 Procedure 534
8.5.3.2.2.2.6 Test requirements 539
8.5.3.3 7.68 Mcps TDD option 540
8.6 UE Measurements Procedures 540
8.6.1 TDD intra frequency measurements 540
8.6.1.1 Event 1G triggered reporting in AWGN propagation conditions 540
8.6.1.1.1 Definition and applicability 540
8.6.1.1.1.1 3,84 Mcps TDD Option 540
8.6.1.1.1.2 1,28 Mcps TDD Option 540
8.6.1.1.1.3 7,68 Mcps TDD Option 540
8.6.1.1.2 Minimum requirement 540
8.6.1.1.2.1 3,84 Mcps TDD Option 540
8.6.1.1.2.2 1,28 Mcps TDD Option 541
8.6.1.1.2.3 7,68 Mcps TDD Option 541

8.6.1.1.3 Test purpose 541
8.6.1.1.3.1 3,84 Mcps TDD Option 541
8.6.1.1.3.2 1,28 Mcps TDD Option 541
8.6.1.1.3.3 7,68 Mcps TDD Option 542
8.6.1.1.4 Method of test 542
8.6.1.1.4.1 3,84 Mcps TDD Option 542
8.6.1.1.4.1.1 Initial conditions 542
8.6.1.1.4.1.2 Procedure 543
8.6.1.1.4.2 1,28 Mcps TDD Option 545
8.6.1.1.4.3 7,68 Mcps TDD Option 551
8.6.1.1.4.3.1 Initial conditions 551
8.6.1.1.4.3.2 Procedure 552
8.6.1.1.5 Test requirements 555
8.6.1.1.5.1 3,84 Mcps TDD Option 555
8.6.1.1.5.2 1,28 Mcps TDD Option 555
8.6.1.1.5.3 7,68 Mcps TDD Option 555
8.6.1.2 Event 1H and 1I triggered reporting in AWGN propagation condition 556
8.6.1.2.1 Definition and applicability 556
8.6.1.2.1.1 3,84 Mcps TDD Option 556
8.6.1.2.1.2 1,28 Mcps TDD Option 556
8.6.1.2.1.3 7,68 Mcps TDD Option 556
8.6.1.2.2 Minimum requirement 556
8.6.1.2.2.1 3,84 Mcps TDD Option 556
8.6.1.2.2.2 1,28 Mcps TDD Option 556
8.6.1.2.2.3 7,68 Mcps TDD Option 556
8.6.1.2.3 Test purpose 557
8.6.1.2.3.1 3,84 Mcps TDD Option 557
8.6.1.2.3.2 1,28 Mcps TDD Option 557
8.6.1.2.3.3 7,68 Mcps TDD Option 557
8.6.1.2.4 Method of test 557
8.6.1.2.4.1 3,84 Mcps TDD Option 557
8.6.1.2.4.1.1 Initial conditions 557
8.6.1.2.4.1.2 Procedure 560
8.6.1.2.4.2 1,28 Mcps TDD Option 564
8.6.1.2.4.3 7,68 Mcps TDD Option 570
8.6.1.2.4.3.1 Initial conditions 570
8.6.1.2.4.3.2 Procedure 572
8.6.1.2.5 Test requirements 577
8.6.1.2.5.1 3,84 Mcps TDD Option 577
8.6.1.2.5.2 1,28 Mcps TDD Option 577
8.6.1.2.5.3 7,68 Mcps TDD Option 577
8.6.1.3 Correct reporting of neighbours in fading propagation conditions 578
8.6.1.3.1 3,84 Mcps TDD Option 578
8.6.1.3.1.1 Definition and applicability 578
8.6.1.3.1.2 Minimum requirement 578
8.6.1.3.1.3 Test purpose 578
8.6.1.3.1.4 Method of test 578
8.6.1.3.1.4.1 Initial conditions 578
8.6.1.3.1.4.2 Procedure 579
8.6.1.3.1.5 Test requirements 581
8.6.1.3.2 1,28 Mcps TDD Option 581
8.6.1.3.3 7,68 Mcps TDD Option 581
8.6.1.3.3.1 Definition and applicability 581
8.6.1.3.3.2 Minimum requirement 581
8.6.1.3.3.3 Test purpose 581
8.6.1.3.3.4 Method of test 581
8.6.1.3.3.4.1 Initial conditions 581
8.6.1.3.3.4.2 Procedure 582
8.6.1.3.3.5 Test requirements 584
8.6.2 TDD inter frequency measurements 584
8.6.2.1 Correct reporting of neighbours in AWGN propagation condition 584
8.6.2.1.1 Definition and applicability 584

8.6.2.1.1.1 3,84 Mcps TDD Option 584
8.6.2.1.1.2 1,28 Mcps TDD Option 584
8.6.2.1.1.3 7,68 Mcps TDD Option 584
8.6.2.1.2 Minimum requirement 584
8.6.2.1.2.1 3,84 Mcps TDD Option 584
8.6.2.1.2.2 1,28 Mcps TDD Option 585
8.6.2.1.2.3 7,68 Mcps TDD Option 586
8.6.2.1.3 Test purpose 586
8.6.2.1.3.1 3,84 Mcps TDD Option 586
8.6.2.1.3.2 1,28 Mcps TDD Option 586
8.6.2.1.3.3 7,68 Mcps TDD Option 586
8.6.2.1.4 Method of test 587
8.6.2.1.4.1 3,84 Mcps TDD Option 587
8.6.2.1.4.1.1 Initial conditions 587
8.6.2.1.4.1.2 Procedure 588
8.6.2.1.4.2 1,28 Mcps TDD Option 590
8.6.2.1.4.3 7,68 Mcps TDD Option 594
8.6.2.1.4.3.1 Initial conditions 594
8.6.2.1.4.3.2 Procedure 595
8.6.2.1.5 Test requirements 598
8.6.2.1.5.1 3,84 Mcps TDD Option 598
8.6.2.1.5.2 1,28 Mcps TDD Option 598
8.6.2.1.5.3 7,68 Mcps TDD Option 599
8.6.3 FDD measurements 599
8.6.3.1 Correct reporting of FDD neighbours in AWGN propagation condition 599
8.6.3.1.1 Definition and applicability 599
8.6.3.1.1.1 3,84 Mcps TDD Option 599
8.6.3.1.1.2 1,28 Mcps TDD Option 599
8.6.3.1.1.3 7,68 Mcps TDD Option 599
8.6.3.1.2 Minimum requirement 599
8.6.3.1.2.1 3,84 Mcps TDD Option 599
8.6.3.1.2.2 1,28 Mcps TDD Option 600
8.6.3.1.2.3 7,68 Mcps TDD Option 600
8.6.3.1.3 Test purpose 601
8.6.3.1.3.1 3,84 Mcps TDD Option 601
8.6.3.1.3.2 1,28 Mcps TDD Option 601
8.6.3.1.3.3 7,68 Mcps TDD Option 601
8.6.3.1.4 Method of test 601
8.6.3.1.4.1 3,84 Mcps TDD Option 601
8.6.3.1.4.1.1 Initial conditions 601
8.6.3.1.4.1.2 Procedure 602
8.6.3.1.4.2 1,28 Mcps TDD Option 605
8.6.3.1.4.2.1 Test Procedure 606
8.6.3.1.4.3 7,68 Mcps TDD Option 609
8.6.3.1.4.3.1 Initial conditions 609
8.6.3.1.4.3.2 Procedure 610
8.6.3.1.5 Test requirements 613
8.6.3.1.5.1 3,84 Mcps TDD Option 613
8.6.3.1.5.2 1,28 Mcps TDD Option 613
8.6.3.1.5.3 7,68 Mcps TDD Option 614
8.6.4 GSM measurements 614
8.6.4.1 Correct reporting of GSM neighbours in AWGN propagation condition 614
8.6.4.1.1 3,84 Mcps TDD option 614
8.6.4.1.2 1,28 Mcps TDD option 614
8.6.4.1.2.1 Definition and applicability 614
8.6.4.1.2.2 Minimum requirement 614
8.6.4.1.2.3 Test purpose 614
8.6.4.1.2.4 Method of test 614
8.6.4.1.2.5 Test Procedure 617
8.6.4.1.2.6 Test requirements 622
8.6.4.1.3 7,68 Mcps TDD option 622

8.6.4.2 Combined UTRA TDD inter-frequency and GSM Cell search under AWGN propagation condition 626
8.6.4.2.2 1.28 Mcps TDD option 627
8.6.4.2.2.4 Method of test 627
8.6.5 E-UTRA measurements 633
8.6.5.1 UTRA TDD to E-UTRA FDD cell search under fading propagation conditions 633
8.6.5.1.1 Definition and applicability 633
8.6.5.1.1.1 3,84 Mcps TDD Option 633
8.6.5.1.1.2 1,28 Mcps TDD Option 633
8.6.5.1.1.3 7,68 Mcps TDD Option 633
8.6.5.1.2 Minimum requirement 633
8.6.5.1.2.1 3,84 Mcps TDD Option 633
8.6.5.1.2.2 1,28 Mcps TDD Option 633
8.6.5.1.2.3 7,68 Mcps TDD Option 634
8.6.5.1.3 Test purpose 634
8.6.5.1.3.1 3,84 Mcps TDD Option 634
8.6.5.1.3.2 1,28 Mcps TDD Option 634
8.6.5.1.3.3 7,68 Mcps TDD Option 635
8.6.5.1.4 Method of test 635
8.6.5.1.4.1 3,84 Mcps TDD Option 635
8.6.5.1.4.2 1,28 Mcps TDD Option 635
8.6.5.1.4.2.1 Initial conditions 635
8.6.5.1.4.3 7,68 Mcps TDD Option 638
8.6.5.1.5 Test requirements 638
8.6.5.1.5.1 3,84 Mcps TDD Option 638
8.6.5.1.5.2 1,28 Mcps TDD Option 638
8.6.5.1.5.3 7,68 Mcps TDD Option 639
8.6.5.2 UTRA TDD to E-UTRA TDD cell search under fading propagation conditions 639
8.6.5.2.1 Definition and applicability 639
8.6.5.2.1.1 3,84 Mcps TDD Option 639
8.6.5.2.1.2 1,28 Mcps TDD Option 639
8.6.5.2.1.3 7,68 Mcps TDD Option 639
8.6.5.2.2 Minimum requirement 639
8.6.5.2.2.1 3,84 Mcps TDD Option 639
8.6.5.2.2.2 1,28 Mcps TDD Option 639
8.6.5.2.2.3 7,68 Mcps TDD Option 640
8.6.5.2.3 Test purpose 640
8.6.5.2.3.1 3,84 Mcps TDD Option 640
8.6.5.2.3.2 1,28 Mcps TDD Option 640
8.6.5.2.3.3 7,68 Mcps TDD Option 641
8.6.5.2.4 Method of test 641
8.6.5.2.4.1 3,84 Mcps TDD Option 641
8.6.5.2.4.2 1,28 Mcps TDD Option 641
8.6.5.2.4.2.1 Initial conditions 641
8.6.5.2.4.3 7,68 Mcps TDD Option 644
8.6.5.2.5 Test requirements 644
8.6.5.2.5.1 3,84 Mcps TDD Option 644
8.6.5.2.5.2 1,28 Mcps TDD Option 644
8.6.5.2.5.3 7,68 Mcps TDD Option 645
8.6.5.3 Combined UTRA TDD inter-frequency and E-UTRA FDD cell search under fading propagation conditions 645
8.6.5.3.1 Definition and applicability 646
8.6.5.3.1.1 3,84 Mcps TDD Option 646
8.6.5.3.1.2 1,28 Mcps TDD Option 646
8.6.5.3.1.3 7,68 Mcps TDD Option 646
8.6.5.3.2 Minimum requirement 646
8.6.5.3.2.1 3,84 Mcps TDD Option 646
8.6.5.3.2.2 1,28 Mcps TDD Option 646
8.6.5.3.2.3 7,68 Mcps TDD Option 646
8.6.5.3.3 Test purpose 646
8.6.5.3.3.1 3,84 Mcps TDD Option 646
8.6.5.3.3.2 1,28 Mcps TDD Option 646

8.6.5.3.3.3 7,68 Mcps TDD Option 646
8.6.5.3.4 Method of test 646
8.6.5.3.4.1 3,84 Mcps TDD Option 646
8.6.5.3.4.2 1,28 Mcps TDD Option 646
8.6.5.3.4.2.1 Initial conditions 646
8.6.5.3.4.2.3 7,68 Mcps TDD Option 652
8.6.5.3.5 Test requirements 652
8.6.5.3.5.1 3,84 Mcps TDD Option 652
8.6.5.3.5.2 1,28 Mcps TDD Option 652
8.6.5.3.5.3 7,68 Mcps TDD Option 653
8.6.5.4 Combined UTRA TDD inter-frequency and E-UTRA TDD cell search under fading propagation conditions 653
8.6.5.4.1 Definition and applicability 654
8.6.5.4.1.1 3,84 Mcps TDD Option 654
8.6.5.4.1.2 1,28 Mcps TDD Option 654
8.6.5.4.1.3 7,68 Mcps TDD Option 654
8.6.5.4.2 Minimum requirement 654
8.6.5.4.2.1 3,84 Mcps TDD Option 654
8.6.5.4.2.2 1,28 Mcps TDD Option 654
8.6.5.4.2.3 7,68 Mcps TDD Option 654
8.6.5.4.3 Test purpose 654
8.6.5.4.3.1 3,84 Mcps TDD Option 654
8.6.5.4.3.2 1,28 Mcps TDD Option 654
8.6.5.4.3.3 7,68 Mcps TDD Option 654
8.6.5.4.4 Method of test 654
8.6.5.4.4.1 3,84 Mcps TDD Option 654
8.6.5.4.4.2 1,28 Mcps TDD Option 654
8.6.5.4.4.2.1 Initial conditions 654
8.6.5.4.5 Test requirements 659
8.6.5.4.5.1 3,84 Mcps TDD Option 659
8.6.5.4.5.2 1,28 Mcps TDD Option 659
8.6.5.4.5.3 7,68 Mcps TDD Option 660
8.7 Measurements Performance Requirements 660
8.7.1 P-CCPCH RSCP 661
8.7.1.1 Intra frequency measurement accuracy for 3,84 Mcps TDD Option 661
8.7.1.1.1 Absolute accuracy requirement 661
8.7.1.1.2 Relative accuracy requirement 664
8.7.1.1A Intra frequency measurement accuracy for 1,28 Mcps TDD Option 665
8.7.1.1A.1 Absolute accuracy requirement 665
8.7.1.1A.2 Relative accuracy requirement 670
8.7.1.1A.3 Absolute accuracy requirement with two neighbouring cells 671
8.7.1.1B Intra frequency measurement accuracy for 7,68 Mcps TDD Option 676
8.7.1.1B.1 Absolute accuracy requirement 676
8.7.1.1B.2 Relative accuracy requirement 679
8.7.1.2 Inter frequency measurement accuracy for 3,84 Mcps TDD Option 680
8.7.1.2.1 Relative accuracy requirement 680
8.7.1.2A Inter frequency measurement accuracy for 1,28 Mcps TDD Option 685
8.7.1.2A.1 Relative accuracy requirement 685
8.7.1.2A.2 Absolute accuracy requirement 690
8.7.1.2B Inter frequency measurement accuracy for 7,68 Mcps TDD Option 695
8.7.1.2B.1 Relative accuracy requirement 695
8.7.1.3 Local cell accuracy for 3.84 Mcps TDD option 698
8.7.1.3A Local cell cccuracy for 1.28 Mcps TDD option 699
8.7.1.3A.1 Absolute accuracy requirement 699
8.7.1.3B Local cell accuracy for 7.86 Mcps TDD option 702
8.7.1.4 Local cell absolute accuracy in white noise for 3.84 Mcps TDD 702
8.7.1.4A Local cell absolute accuracy in white noise for 1.28 Mcps TDD 702
8.7.1.4A.1 Absolute accuracy requirement 702
8.7.1.4B Local cell absolute accuracy in white noise for 3.84 Mcps TDD 706
8.7.2 CPICH measurements (FDD) 706
8.7.2.1 CPICH RSCP 706
8.7.2.1.1 Absolute measurement accuracy for 3,84 Mcps TDD Option 706

8.7.2.1.1.1 Definition and applicability 706
8.7.2.1.1.2 Minimum Requirements 706
8.7.2.1.1.3 Test purpose 706
8.7.2.1.1.4 Method of test 707
8.7.2.1.1.4.1 Initial conditions 707
8.7.2.1.1.4.2 Procedure 707
8.7.2.1.1.5 Test requirements 708
8.7.2.1A.1 Absolute measurement accuracy for 1,28 Mcps TDD Option 708
8.7.2.1A.1.1 Definition and applicability 708
8.7.2.1A.1.2 Minimum Requirements 709
8.7.2.1A.1.3 Test purpose 709
8.7.2.1A.1.4 Method of test 709
8.7.2.1A.1.4.1 Initial conditions 709
8.7.2.1A.1.4.2 Procedure 710
8.7.2.1.1.5 Test requirements 711
8.7.2.1B.1 Absolute measurement accuracy for 7,68 Mcps TDD Option 711
8.7.2.1B.1.1 Definition and applicability 711
8.7.2.1B.1.2 Minimum Requirements 712
8.7.2.1B.1.3 Test purpose 712
8.7.2.1B.1.4 Method of test 712
8.7.2.1B.1.4.1 Initial conditions 712
8.7.2.1B.1.4.2 Procedure 713
8.7.2.1B.1.5 Test requirements 714
8.7.2.2 CPICH Ec/Io 714
8.7.3 Timeslot ISCP 715
8.7.3.1 Intra frequency measurement accuracy for 3,84 Mcps TDD Option 715
8.7.3.1.1 Absolute accuracy requirement 715
8.7.3.1A Intra frequency measurement accuracy for 1,28 Mcps TDD Option 718
8.7.3.1A.1 Absolute accuracy requirement 718
8.7.3.1A.1.1 Definition and applicability 718
8.7.3.1A.1.2 Minimum Requirements 718
8.7.3.1A.1.3 Test Purpose 719
8.7.3.1A.1.4 Method of test 719
8.7.3.1A.1.4.1 Initial conditions 719
8.7.3.1A.1.4.2 Procedure 720
8.7.3.1A.1.5 Test requirements 723
8.7.3.1B Intra frequency measurement accuracy for 7,68 Mcps TDD Option 723
8.7.3.1B.1 Absolute accuracy requirement 723
8.7.4 UTRA carrier RSSI 727
8.7.4.1 Absolute measurement accuracy for 3,84 Mcps TDD Option 727
8.7.4.1.1 Definition and applicability 727
8.7.4.1.2 Minimum Requirements 727
8.7.4.1.3 Test Purpose 727
8.7.4.1.4 Method of test 727
8.7.4.1.4.1 Initial conditions 727
8.7.4.1.4.2 Procedure 728
8.7.4.1.5 Test requirements 729
8.7.4.1A Absolute measurement accuracy for 1,28 Mcps TDD Option 730
8.7.4.1A.1 Definition and applicability 730
8.7.4.1A.2 Minimum Requirements 730
8.7.4.1A.3 Test Purpose 730
8.7.4.1A.4 Method of test 730
8.7.4.1A.4.1 Initial conditions 730
8.7.4.1A.4.2 Procedure 731
8.7.4.1A.5 Test requirements 733
8.7.4.1B Absolute measurement accuracy for 7,68 Mcps TDD Option 734
8.7.4.1B.1 Definition and applicability 734
8.7.4.1B.2 Minimum Requirements 734
8.7.4.1B.3 Test Purpose 734
8.7.4.1B.4 Method of test 734
8.7.4.1B.4.1 Initial conditions 734
8.7.4.1B.4.2 Procedure 735

8.7.4.1B.5 Test requirements 736
8.7.4.2 Relative measurement accuracy for 3,84 Mcps TDD Option 737
8.7.4.2.1 Definition and applicability 737
8.7.4.2.2 Minimum Requirements 737
8.7.4.2.3 Test Purpose 737
8.7.4.2.4 Method of test 737
8.7.4.2.4.1 Initial conditions 737
8.7.4.2.4.2 Procedure 737
8.7.4.2.5 Test requirements 738
8.7.4.2A Relative measurement accuracy for 1,28 Mcps TDD Option 738
8.7.4.2A.1 Definition and applicability 738
8.7.4.2A.2 Minimum Requirements 738
8.7.4.2A.3 Test Purpose 738
8.7.4.2A.4 Method of test 739
8.7.4.2A.4.1 Initial conditions 739
8.7.4.2A.4.2 Procedure 740
8.7.4.2A.5 Test requirements 740
8.7.4.2B Relative measurement accuracy for 7,68 Mcps TDD Option 740
8.7.4.2B.1 Definition and applicability 740
8.7.4.2B.2 Minimum Requirements 741
8.7.4.2B.3 Test Purpose 741
8.7.4.2B.4 Method of test 741
8.7.4.2B.4.1 Initial conditions 741
8.7.4.2B.4.2 Procedure 741
8.7.4.2B.5 Test requirements 742
8.7.5 GSM carrier RSSI 742
8.7.5.1.1 RSSI (RX_LEV) 3,84 Mcps TDD Option 742
8.7.5.1A.1 RSSI (RX_LEV) 1,28 Mcps TDD Option 742
8.7.5.1A.1.1 Definition and applicability 742
8.7.5.1A.1.2 Minimum Requirements 742
8.7.5.1A.1.3 Test purpose 742
8.7.5.1A.1.4 Method of test 743
8.7.5.1A.1.4.1 Initial conditions 743
8.7.5.1A.1.4.2 Procedure 743
8.7.2.1.1.5 Test requirements 744
8.7.5.1B.1 RSSI (RX_LEV) 7,68 Mcps TDD Option 745
8.7.5.1B.1.1 Definition and applicability 745
8.7.5.1B.1.2 Minimum Requirements 745
8.7.5.1B.1.3 Test purpose 745
8.7.5.1B.1.4 Method of test 745
8.7.5.1B.1.4.1 Initial conditions 745
8.7.5.1B.1.4.2 Procedure 746
8.7.5.1B.1.5 Test requirements 747
8.7.6 SIR 747
8.7.7 Transport Channel BLER 747
8.7.8 SFN-SFN observed time difference 748
8.7.8.1 SFN-SFN observed time difference type 1 748
8.7.8.1.1 Measurement accuracy for 3,84 Mcps TDD Option 748
8.7.8.1.1.1 Definition and applicability 748
8.7.8.1.1.2 Minimum requirements 748
8.7.8.1.1.3 Test purpose 748
8.7.8.1.1.4 Method of test 749
8.7.8.1.1.4.1 Initial conditions 749
8.7.8.1.1.4.2 Procedure 749
8.7.8.1.1.5 Test requirements 750
8.7.8.1.1A Measurement accuracy for 1,28 Mcps TDD Option 751
8.7.8.1.1B Measurement accuracy for 7,68 Mcps TDD Option 751
8.7.8.1.1B.1 Definition and applicability 751
8.7.8.1.1B.2 Minimum requirements 751
8.7.8.1.1B.3 Test purpose 751
8.7.8.1.1B.4 Method of test 752
8.7.8.1.1B.4.1 Initial conditions 752

8.7.8.1.1B.4.2 Procedure....752
8.7.8.1.1B.5 Test requirements....753
8.7.8.2 SFN-SFN observed time difference type 2....754
8.7.9 Observed time difference to GSM cell....754
8.7.10 UE GPS Timing of Cell Frames for UP....754
8.7.11 SFN-CFN observed time difference....754
8.7.11.1 Intra frequency measurement requirement for 3,84 Mcps option....754
8.7.11.1.1 Definition and applicability....754
8.7.11.1.2 Minimum requirements....754
8.7.11.1.3 Test Purpose....755
8.7.11.1.4 Method of test....755
8.7.11.1.5 Test requirements....757
8.7.11.1A Intra frequency measurement requirement for 1,28 Mcps option....757
8.7.11.1B Intra frequency measurement requirement for 7,68 Mcps option....758
8.7.11.1B.1 Definition and applicability....758
8.7.11.1B.2 Minimum requirements....758
8.7.11.1B.3 Test Purpose....758
8.7.11.1B.4 Method of test....758
8.7.11.1B.5 Test requirements....760
8.7.11.2 Inter frequency measurement requirement for 3,84 Mcps option....761
8.7.11.2.1 Definition and applicability....761
8.7.11.2.2 Minimum requirements....761
8.7.11.2.3 Test purpose....761
8.7.11.2.4 Method of test....761
8.7.11.2.5 Test requirements....763
8.7.11.2A Inter frequency measurement requirement for 1,28 Mcps option....763
8.7.11.2B Inter frequency measurement requirement for 7,68 Mcps option....764
8.7.11.2B.1 Definition and applicability....764
8.7.11.2B.2 Minimum requirements....764
8.7.11.2B.3 Test purpose....764
8.7.11.2B.4 Method of test....764
8.7.11.2B.5 Test requirements....766
8.7.12 UE transmitted power....766
8.7.12.1 UE transmitted power for 3.84 Mcps TDD Option....766
8.7.12.1A UE transmitted power for 1.28 Mcps TDD Option....767
8.7.12.1A.1 Definition and applicability....767
8.7.12.1A.2 Minimum requirements....767
8.7.12.1A.3 Test purpose....767
8.7.12.1A.4 Method of test....767
8.7.13 UE Transmission Power Headroom....771
8.7.13.1 UPH for 3.84Mcps TDD Option....771
8.7.13.1A UPH for 1.28Mcps TDD Option....771
8.7.13.1A.1 Definition and applicability....771
8.7.13.1A.2 Minimum Requirements....771
8.7.13.1A.3 Test purpose....772
8.7.13.1A.4 Method of test....772
8.7.13.1B UPH for 7.68Mcps TDD Option....776
8.7.14 E-UTRAN FDD RSRP....776
8.7.14.1 Definition and applicability....776
8.7.14.2 Minimum Requirements....776
8.7.14.3 Test purpose....777
8.7.14.4 Method of test....777
8.7.14.5 Test requirements....781
8.7.15 E-UTRAN TDD RSRP....784
8.7.15.1 Definition and applicability....784
8.7.15.2 Minimum Requirements....784
8.7.15.3 Test purpose....785
8.7.15.4 Method of test....785
8.7.15.5 Test requirements....788
8.7.16 E-UTRAN FDD RSRQ....791
8.7.16.1 Definition and applicability....791
8.7.16.2 Minimum Requirements....791

8.7.16.3 Test purpose 791
8.7.16.4 Method of test 791
8.7.16.5 Test requirements 795
8.7.17 E-UTRAN TDD RSRQ 798
8.7.17.1 Definition and applicability 798
8.7.17.2 Minimum Requirements 798
8.7.17.3 Test purpose 799
8.7.17.4 Method of test 799
8.7.17.5 Test requirements 803

9 Performance requirements for HSDPA 806
9.1 General 806
9.2 Performance requirement for 3.84 Mcps TDD option 806
9.2.1 HS-DSCH throughput for Fixed Reference Channels 806
9.2.1.1 Definition and applicability 806
9.2.1.2 Minimum requirements 806
9.2.1.3 Test purpose 808
9.2.1.4 Method of test 808
9.2.1.5 Test Requirements 809
9.2.2 HS-DSCH throughput for Variable Reference Channels 809
9.2.2.1 Definition and applicability 809
9.2.2.2 Minimum requirements 809
9.2.2.3 Test purpose 810
9.2.2.4 Method of test 810
9.2.2.5 Test Requirements 811
9.2.3 Reporting of HS-DSCH Channel Quality Indicator 811
9.2.3.1 Definition and applicability 811
9.2.3.2 Minimum requirements 811
9.2.3.3 Test purpose 811
9.2.3.4 Method of test 812
9.2.3.5 Test Requirements 812
9.2.4 HS-SCCH Detection Performance 812
9.2.4A HS-SCCH Detection Performance 812
9.2.4.1 Definition and applicability 812
9.2.4.2 Minimum requirements 813
9.2.4.3 Test purpose 813
9.2.4.4 Method of test 813
9.2.4.5 Test Requirements 814
9.3 Performance requirements for 1.28 Mcps TDD option 814
9.3.1 HS-DSCH throughput for Fixed Reference Channels 814
9.3.1A HS-DSCH throughput for Fixed Reference Channels 0.5 Mbps UE class QPSK 814
9.3.1A.1 Definition and applicability 814
9.3.1A.2 Minimum requirements 814
9.3.1A.3 Test purpose 815
9.3.1A.4 Method of test 815
9.3.1A.4.1 Initial conditions 815
9.3.1A.4.2 Procedure 816
9.3.1A.5 Test Requirements 816
9.3.1B.1 Definition and applicability 816
9.3.1B.2 Minimum requirements 816
9.3.1B.3 Test purpose 817
9.3.1B.4 Method of test 817
9.3.1B.4.1 Initial conditions 817
9.3.1B.4.2 Procedure 818
9.3.1B.5 Test Requirements 818
9.3.1C HS-DSCH throughput for Fixed Reference Channels 1.6 Mbps UE class QPSK/16QAM 818
9.3.1C.1 Definition and applicability 818
9.3.1C.2 Minimum requirements 818
9.3.1C.3 Test purpose 819
9.3.1C.4 Method of test 819
9.3.1C.4.1 Initial conditions 819
9.3.1C.4.2 Procedure 820

9.3.1C.5 Test Requirements....820
9.3.1D HS-DSCH throughput for Fixed Reference Channels 2.2 Mbps UE class QPSK/16QAM....820
9.3.1D.1 Definition and applicability....820
9.3.1D.2 Minimum requirements....820
9.3.1D.3 Test purpose....821
9.3.1D.4 Method of test....821
9.3.1D.4.1 Initial conditions....821
9.3.1D.4.2 Procedure....822
9.3.1D.5 Test Requirements....822
9.3.1E HS-DSCH throughput for Fixed Reference Channels 2.8 Mbps UE class QPSK/16QAM....822
9.3.1E.1 Definition and applicability....822
9.3.1E.2 Minimum requirements....822
9.3.1E.3 Test purpose....823
9.3.1E.4 Method of test....823
9.3.1E.4.1 Initial conditions....823
9.3.1E.4.2 Procedure....824
9.3.1E.5 Test Requirements....824
9.3.1F HS-DSCH throughput for Fixed Reference Channels Categories 16-18- 64QAM....824
9.3.1F.1 Definition and applicability....824
9.3.1F.2 Minimum requirements....824
9.3.1F.3 Test purpose....825
9.3.1F.4 Method of test....825
9.3.1F.4.1 Initial conditions....825
9.3.1F.4.2 Procedure....825
9.3.1F.5 Test Requirements....826
9.3.1G HS-DSCH throughput for Fixed Reference Channels – Categories 19-21 64QAM....826
9.3.1G.1 Definition and applicability....826
9.3.1G.2 Minimum requirements....826
9.3.1G.3 Test purpose....827
9.3.1G.4 Method of test....827
9.3.1G.4.1 Initial conditions....827
9.3.1G.4.2 Procedure....827
9.3.1G.5 Test Requirements....828
9.3.1H HS-DSCH throughput for Fixed Reference Channels – Categories 22-24 64QAM....828
9.3.1H.1 Definition and applicability....828
9.3.1H.2 Minimum requirements....828
9.3.1H.3 Test purpose....829
9.3.1H.4 Method of test....829
9.3.1H.4.1 Initial conditions....829
9.3.1H.4.2 Procedure....829
9.3.1H.5 Test Requirements....830
9.3.1I HS-DSCH throughput for Fixed Reference Channels –MIMO UE Category 25....830
9.3.1I.1 Definition and applicability....830
9.3.1I.2 Minimum requirements....830
9.3.1I.3 Test purpose....831
9.3.1I.4 Method of test....831
9.3.1I.4.1 Initial conditions....831
9.3.1I.4.2 Procedure....832
9.3.1I.5 Test Requirements....832
9.3.1J HS-DSCH throughput for Fixed Reference Channels –MIMO UE Category 26....832
9.3.1J.1 Definition and applicability....832
9.3.1J.2 Minimum requirements....832
9.3.1J.3 Test purpose....833
9.3.1J.4 Method of test....833
9.3.1J.4.1 Initial conditions....833
9.3.1J.4.2 Procedure....834
9.3.1J.5 Test Requirements....834
9.3.1K HS-DSCH throughput for Fixed Reference Channels –MIMO UE Category 27....834
9.3.1K.1 Definition and applicability....834
9.3.1K.2 Minimum requirements....834
9.3.1K.3 Test purpose....835
9.3.1K.4 Method of test....835

9.3.1K.4.1 Initial conditions 835
9.3.1K.4.2 Procedure 836
9.3.1K.5 Test Requirements 836
9.3.1L HS-DSCH throughput for Fixed Reference Channels –MIMO UE Category 28 836
9.3.1L.1 Definition and applicability 836
9.3.1L.2 Minimum requirements 836
9.3.1L.3 Test purpose 837
9.3.1L.4 Method of test 837
9.3.1L.4.1 Initial conditions 837
9.3.1L.4.2 Procedure 838
9.3.1L.5 Test Requirements 838
9.3.1M HS-DSCH throughput for Fixed Reference Channels –MIMO UE CategoriesCategory 29 838
9.3.1M.1 Definition and applicability 838
9.3.1M.2 Minimum requirements 838
9.3.1M.3 Test purpose 839
9.3.1M.4 Method of test 839
9.3.1M.4.1 Initial conditions 839
9.3.1M.4.2 Procedure 840
9.3.1M.5 Test Requirements 840
9.3.1N HS-DSCH throughput for Fixed Reference Channels –MIMO UE CategoriesCategory 30 840
9.3.1N.1 Definition and applicability 840
9.3.1N.2 Minimum requirements 840
9.3.1N.3 Test purpose 841
9.3.1N.4 Method of test 841
9.3.1N.4.1 Initial conditions 841
9.3.1N.4.2 Procedure 842
9.3.1N.5 Test Requirements 842
9.3.2 HS-DSCH throughput for Variable Reference Channels 842
9.3.2A HS-DSCH throughput for Variable Reference Channels 0.5 Mbps UE class 842
9.3.2A.1 Definition and applicability 842
9.3.2A.2 Minimum requirements 842
9.3.2A.3 Test purpose 843
9.3.2A.4 Method of test 843
9.3.2A.4.1 Initial conditions 843
9.3.2A.4.2 Procedure 844
9.3.2A.5 Test Requirements 844
9.3.2B HS-DSCH throughput for Variable Reference Channels 1.1 Mbps UE class 844
9.3.2B.1 Definition and applicability 844
9.3.2B.2 Minimum requirements 844
9.3.2B.3 Test purpose 845
9.3.2B.4 Method of test 845
9.3.2B.4.1 Initial conditions 845
9.3.2B.4.2 Procedure 846
9.3.2B.5 Test Requirements 846
9.3.2C HS-DSCH throughput for Variable Reference Channels 1.6 Mbps UE class 846
9.3.2C.1 Definition and applicability 846
9.3.2C.2 Minimum requirements 846
9.3.2C.3 Test purpose 847
9.3.2C.4 Method of test 847
9.3.2C.4.1 Initial conditions 847
9.3.2C.4.2 Procedure 848
9.3.2C.5 Test Requirements 848
9.3.2D HS-DSCH throughput for Variable Reference Channels 2.2 Mbps UE class 848
9.3.2D.1 Definition and applicability 848
9.3.2D.2 Minimum requirements 848
9.3.2D.3 Test purpose 849
9.3.2D.4 Method of test 849
9.3.2D.4.1 Initial conditions 849
9.3.2D.4.2 Procedure 850
9.3.2D.5 Test Requirements 850
9.3.2E HS-DSCH throughput for Variable Reference Channels 2.8 Mbps UE class 850
9.3.2E.1 Definition and applicability 850

9.3.2E.2 Minimum requirements 850
9.3.2E.3 Test purpose 851
9.3.2E.4 Method of test 851
9.3.2E.4.1 Initial conditions 851
9.3.2E.4.2 Procedure 852
9.3.2E.5 Test Requirements 852
9.3.3 Reporting of HS-DSCH Channel Quality Indicator 852
9.3.3A Reporting of HS-DSCH Channel Quality Indicator-0.5Mbps UE class 852
9.3.3A.1 Definition and applicability 852
9.3.3A.2 Minimum requirements 852
9.3.3A.3 Test purpose 853
9.3.3A.4 Method of test 853
9.3.3A.4.1 Initial conditions 853
9.3.3A.4.2 Procedure 853
9.3.3A.5 Test Requirements 854
9.3.3B Reporting of HS-DSCH Channel Quality Indicator-1.1Mbps UE class 854
9.3.3B.1 Definition and applicability 854
9.3.3B.2 Minimum requirements 854
9.3.3B.3 Test purpose 854
9.3.3B.4 Method of test 855
9.3.3B.4.1 Initial conditions 855
9.3.3B.4.2 Procedure 855
9.3.3B.5 Test Requirements 855
9.3.3C Reporting of HS-DSCH Channel Quality Indicator-1.6Mbps UE class 855
9.3.3C.1 Definition and applicability 855
9.3.3C.2 Minimum requirements 856
9.3.3C.3 Test purpose 856
9.3.3C.4 Method of test 856
9.3.3C.4.1 Initial conditions 856
9.3.3C.4.2 Procedure 856
9.3.3C.5 Test Requirements 857
9.3.3D Reporting of HS-DSCH Channel Quality Indicator-2.2Mbps UE class 857
9.3.3D.1 Definition and applicability 857
9.3.3D.2 Minimum requirements 857
9.3.3D.3 Test purpose 858
9.3.3D.4 Method of test 858
9.3.3D.4.1 Initial conditions 858
9.3.3D.4.2 Procedure 858
9.3.3D.5 Test Requirements 858
9.3.3E Reporting of HS-DSCH Channel Quality Indicator-2.8Mbps UE class 859
9.3.3E.1 Definition and applicability 859
9.3.3E.2 Minimum requirements 859
9.3.3E.3 Test purpose 859
9.3.3E.4 Method of test 859
9.3.3E.4.1 Initial conditions 859
9.3.3E.4.2 Procedure 860
9.3.3E.5 Test Requirements 860
9.3.3F Reporting of HS-DSCH Channel Quality Indicator – 64QAM UE capability categories 16 - 18 860
9.3.3F.1 Definition and applicability 860
9.3.3F.2 Minimum requirements 860
9.3.3F.3 Test purpose 861
9.3.3F.4 Method of test 861
9.3.3F.4.1 Initial conditions 861
9.3.3F.4.2 Procedure 861
9.3.3F.5 Test Requirements 862
9.3.3G Reporting of HS-DSCH Channel Quality Indicator – 64QAM UE capability categories 19 - 21 862
9.3.3G.1 Definition and applicability 862
9.3.3G.2 Minimum requirements 862
9.3.3G.3 Test purpose 863
9.3.3G.4 Method of test 863
9.3.3G.4.1 Initial conditions 863
9.3.3G.4.2 Procedure 863

9.3.3G.5 Test Requirements 863
9.3.3H Reporting of HS-DSCH Channel Quality Indicator – 64QAM UE capability categories 22 - 24 864
9.3.3H.1 Definition and applicability 864
9.3.3H.2 Minimum requirements 864
9.3.3H.3 Test purpose 864
9.3.3H.4 Method of test 864
9.3.3H.4.1 Initial conditions 864
9.3.3H.4.2 Procedure 865
9.3.3H.5 Test Requirements 865
9.3.3I Reporting of HS-DSCH Channel Quality Indicator – category 25 MIMO 865
9.3.3I.1 Definition and applicability 865
9.3.3I.2 Minimum requirements 865
9.3.3I.3 Test purpose 866
9.3.3I.4 Method of test 866
9.3.3I.4.1 Initial conditions 866
9.3.3I.4.2 Procedure 866
9.3.3I.5 Test Requirements 867
9.3.3J Reporting of HS-DSCH Channel Quality Indicator – category 26 MIMO 867
9.3.3J.1 Definition and applicability 867
9.3.3J.2 Minimum requirements 867
9.3.3J.3 Test purpose 868
9.3.3J.4 Method of test 868
9.3.3J.4.1 Initial conditions 868
9.3.3J.4.2 Procedure 868
9.3.3J.5 Test Requirements 868
9.3.3K Reporting of HS-DSCH Channel Quality Indicator – category 27 MIMO 868
9.3.3K.1 Definition and applicability 868
9.3.3K.2 Minimum requirements 869
9.3.3K.3 Test purpose 869
9.3.3K.4 Method of test 869
9.3.3K.4.1 Initial conditions 869
9.3.3K.4.2 Procedure 869
9.3.3K.5 Test Requirements 870
9.3.3L Reporting of HS-DSCH Channel Quality Indicator – category 28 MIMO 870
9.3.3L.1 Definition and applicability 870
9.3.3L.2 Minimum requirements 870
9.3.3L.3 Test purpose 871
9.3.3L.4 Method of test 871
9.3.3L.4.1 Initial conditions 871
9.3.3L.4.2 Procedure 871
9.3.3L.5 Test Requirements 871
9.3.3M Reporting of HS-DSCH Channel Quality Indicator – category 29 MIMO 871
9.3.3M.1 Definition and applicability 871
9.3.3M.2 Minimum requirements 871
9.3.3M.3 Test purpose 872
9.3.3M.4 Method of test 872
9.3.3M.4.1 Initial conditions 872
9.3.3M.4.2 Procedure 872
9.3.3N Reporting of HS-DSCH Channel Quality Indicator – category 30 MIMO 872
9.3.3N.1 Definition and applicability 872
9.3.3N.2 Minimum requirements 873
9.3.3N.3 Test purpose 873
9.3.3N.4 Method of test 873
9.3.3N.4.1 Initial conditions 873
9.3.3N.4.2 Procedure 873
9.3.3N.5 Test Requirements 873
9.3.4 HS-SCCH Detection Performance 874
9.3.4.1 Definition and applicability 874
9.3.4.2 Minimum requirements 874
9.3.4.3 Test purpose 874
9.3.4.4 Method of test 875
9.3.4.4.1 Initial conditions 875

9.3.4.4.2 Procedure 875
9.3.4.5 Test Requirements 875
9.4 Performance requirement for 7.68 Mcps TDD option 876
9.4.1 HS-DSCH throughput for Fixed Reference Channels 876
9.4.1.1 Definition and applicability 876
9.4.1.2 Minimum requirements 876
9.4.1.3 Test purpose 878
9.4.1.4 Method of test 878
9.4.1.5 Test Requirements 879
9.4.2 HS-DSCH throughput for Variable Reference Channels 879
9.4.3 Reporting of HS-DSCH Channel Quality Indicator 879
9.4.4 HS-SCCH Detection Performance 879
9.4.4.1 Definition and applicability 879
9.4.4.2 Minimum requirements 879
9.4.4.3 Test purpose 880
9.4.4.4 Method of test 880
9.4.4.5 Test Requirements 880

10 Performance requirements (MBMS) 881
10.1 Demodulation of MCCH 881
10.1.1 Definition and applicability 881
10.1.1.1 3.84 Mcps TDD Option 881
10.1.1.2 7.68 Mcps TDD Option 881
10.1.2 Minimum requirement 881
10.1.2.1 3.84 Mcps TDD Option 881
10.1.2.2 7.68 Mcps TDD Option 881
10.1.3 Test Purpose 882
10.1.4 Method of test 882
10.1.4.1 Initial conditions 882
10.1.4.2 Procedure 882
10.1.5 Test Requirements 883
10.2 Demodulation of MTCH 883
10.2.1 Definition and applicability 883
10.2.1.1 3.84 Mcps TDD Option 883
10.2.1.2 1.28 Mcps TDD Option 883
10.2.1.3 7.68 Mcps TDD Option 883
10.2.2 Minimum requirement 883
10.2.2.1 3.84 Mcps TDD Option 883
10.2.2.2 1.28 Mcps TDD Option 884
10.2.2.3 7.68 Mcps TDD Option 884
10.2.3 Test Purpose 885
10.2.4 Method of test 885
10.2.4.1 Initial conditions 885
10.2.4.2 Procedure 885
10.2.5 Test Requirements 885
10.2A Demodulation of MTCH-for MBSFN capable UE 886
10.2A.1 Definition and applicability 886
10.2A.1.1 Void 886
10.2A.1.2 1.28 Mcps TDD Option 886
10.2A.1.3 Void 886
10.2A.2 Minimum requirement 886
10.2A.2.1 Void 886
10.2A.2.2 1.28 Mcps TDD Option 886
10.2A.2.3 Void 887
10.2A.3 Test Purpose 887
10.2A.4 Method of test 887
10.2A.4.1 Initial conditions 887
10.2A.4.2 Procedure 887
10.2A.5 Test Requirements 887
10.3 Demodulation of MTCH and cell identification 887
10.3.1 1.28Mcps TDD option 887
10.3.1.1 Definition and applicability 887

10.3.1.2 Minimum requirements 888
10.3.1.3 Test purpose 888
10.3.1.4 Method of test 888
10.3.1.5 Test requirements 889
10.4 Demodulation of MCCH for a MBSFN capable UE 890
10.4.1 Definition and applicability 890
10.4.1.1 3.84 Mcps TDD Option 890
10.4.1.2 7.68 Mcps TDD Option 890
10.1.2 Minimum requirement 890
10.1.4.1 3.84 Mcps TDD Option 890
10.4.2.2 7.68 Mcps TDD Option 891
10.4.3 Test Purpose 891
10.4.4 Method of test 891
10.4.4.1 Initial conditions 891
10.4.4.2 Procedure 892
10.4.5 Test Requirements 892
10.5 Demodulation of MTCH for a MBSFN capable UE 892
10.5.1 Definition and applicability 892
10.5.1.1 3.84 Mcps TDD Option 892
10.2.1.2 7.68 Mcps TDD Option 892
10.5.2 Minimum requirement 893
10.5.2.1 3.84 Mcps TDD Option 893
10.5.2.2 7.68 Mcps TDD Option 893
10.5.3 Test Purpose 893
10.5.4 Method of test 894
10.5.4.1 Initial conditions 894
10.2.4.2 Procedure 894
10.5.5 Test Requirements 894
10.5A Demodulation of MTCH for a IMB capable UE 894
10.5A.1 Definition and applicability 894
10.5A.2 Minimum requirement 894
10.5A.3 Test Purpose 895
10.5A.4 Method of test 895
10.5A.4.1 Initial conditions 895
10.5A.4.2 Procedure 895
10.5A.5 Test Requirements 896
10.6 MBSFN TDD and FDD same platform sharing 896
10.6.1 Definition and applicability 896
10.6.1.1 3.84 Mcps TDD Option 896
10.6.1.2 7.68 Mcps TDD Option 896
10.6.2 Minimum requirement 896
10.6.2.1 3.84 Mcps TDD Option 896
10.6.2.3 7.68 Mcps TDD Option 897
10.6.3 Test Purpose 898
10.6.4 Method of test 898
10.6.4.1 Initial conditions 898
10.6.4.2 Procedure 898
10.6.5 Test Requirements 898

11 Performance requirement (E-DCH) 899
11.1 Detection of E-DCH HARQ ACK Indicator Channel (E-HICH) 899
11.1.1 Definition and applicability 899
11.1.1.1 3.84 Mcps TDD Option 899
11.1.1.2 1.28 Mcps TDD Option 899
11.1.1.3 7.68 Mcps TDD Option 899
11.1.2 Minimum requirement 899
11.1.2.1 3.84 Mcps TDD Option 899
11.1.2.2 1.28 Mcps TDD Option 900
11.1.2.3 7.68 Mcps TDD Option 900
11.1.3 Test Purpose 900
11.1.4 Method of test 900
11.1.4.1 Initial conditions 900

11.1.4.1.1 3.84Mcps TDD Option....900
11.1.4.1.2 1.28Mcps TDD Option....901
11.1.4.1.3 7.68Mcps TDD Option....901
11.1.4.2 3.84Mcps TDD Option....902
11.1.4.2.2 1.28Mcps TDD Option....902
11.1.4.2.3 7.68Mcps TDD Option....903
11.1.5 Test Requirements....904
11.2 Demodulation of E-DCH Absolute Grant Channel (E-AGCH)....904
11.2.1 Definition and applicability....904
11.2.2.1 3.84 Mcps TDD Option....904
11.2.2.2 1.28 Mcps TDD Option....904
11.2.2.3 7.68 Mcps TDD Option....904
11.2.2 Minimum requirement....904
11.2.2.1 3.84 Mcps TDD Option....904
11.2.2.2 1.28Mcps TDD Option....905
11.2.2.3 7.68 Mcps TDD Option....905
11.2.3 Test Purpose....905
11.2.4 Method of test....906
11.2.4.1 Initial conditions....906
11.2.4.2 Procedure....907
11.2.5 Test Requirements....907
12 Performance requirement under multiple-cell scenario....908
12.1 General....908
12.1.2 Definition of Additive White Gaussian Noise (AWGN) Interferer....909
12.2 Demodulation of DCH in static propagation conditions....909
12.2.1 Definition and applicability....909
12.2.2 Minimum requirements....909
12.2.2.1 3.84 Mcps TDD Option....909
12.2.2.2 1.28 Mcps TDD Option....909
12.2.2.3 7.68 Mcps TDD Option....911
12.2.3 Test purpose....911
12.2.4 Method of test....912
12.2.4.1 Initial conditions....912
12.2.4.2 Procedure....912
12.2.5 Test requirements....912
12.2.5.1 3.84Mcps TDD Option....912
12.2.5.2 1.28Mcps TDD Option....912
12.2.5.3 7.68Mcps TDD Option....912
12.3 Demodulation of DCH in Multipath fading Case 1 conditions....912
12.3.1 Definition and applicability....912
12.3.2 Minimum requirements....913
12.3.2.1 3.84 Mcps TDD Option....913
12.3.2.2 1.28 Mcps TDD Option....913
12.3.2.3 7.68 Mcps TDD Option....914
12.3.3 Test purpose....914
12.3.4 Method of test....915
12.3.4.1 Initial conditions....915
12.3.4.2 Procedure....915
12.3.5 Test requirements....915
12.3.5.1 3.84Mcps TDD Option....915
12.3.5.2 1.28Mcps TDD Option....915
12.3.5.3 7.68Mcps TDD Option....915
12.4 Demodulation of DCH in Multipath fading Case 3 conditions....915
12.4.1 Definition and applicability....915
12.4.2 Minimum requirements....916
12.4.2.1 3.84 Mcps TDD Option....916
12.4.2.2 1.28 Mcps TDD Option....916
12.4.2.3 7.68 Mcps TDD Option....917
12.4.3 Test purpose....917
12.4.4 Method of test....918
12.4.4.1 Initial conditions....918

12.4.4.2 Procedure 918
12.4.5 Test requirements....918
12.4.5.1 3.84Mcps TDD Option....918
12.4.5.2 1.28Mcps TDD Option....918
12.4.5.3 7.68Mcps TDD Option....918

Annex A (informative): Connection Diagrams 919

Annex B (normative): Global In-Channel TX-Test 927

B.1 General 927

B.2 Definition of the process 927
B.2.1 Basic principle....927
B.2.2 Output signal of the TX under test 927
B.2.3 Reference signal 927
B.2.4 void....928
B.2.5 Classification of measurement results 928
B.2.6 Process definition to achieve results of type "deviation"....928
B.2.7 Process definition to achieve results of type "residual"....929
B.2.7.1 Error Vector Magnitude (EVM) 929
B.2.7.2 Peak Code Domain Error (PCDE) 930

B.3 Notes....930

Annex C (normative): Measurement channels 933

C.1 General 933

C.2 UL Reference measurement channels 933
C.2.1 UL reference measurement channel (12,2 kbps) 933
C.2.1.1 3,84 TDD Option 933
C.2.1.2 UL reference measurement channel (12,2 kbps) for 1,28 Mcps TDD Option 935
C.2.1.3 7,68 TDD Option 936
C.2.2 UL multi code reference measurement channel (12,2 kbps) 937
C.2.2.1 3,84 Mcps TDD Option 937
C.2.2.2 UL multi code reference measurement channel (12,2 kbps) for 1,28 Mcps TDD Option 939
C.2.2.2a UL multi code(HS-SICH and DPCH) reference measurement channel for 1,28 Mcps TDD Option 940
C.2.2.3 7,68 Mcps TDD Option 943
C.2.3 UL reference measurement channel (64 kbps) 944
C.2.3.1 3.84 Mcps TDD Option 944
C.2.3.2 1.28 Mcps TDD Option 946
C.2.3.3 7.68 Mcps TDD Option 947
C.2.4 UL reference measurement channel (144 kbps) 950
C.2.4.1 3.84 Mcps TDD Option 950
C.2.4.2 1.28 Mcps TDD Option 951
C.2.4.3 7.68 Mcps TDD Option 952
C.2.5 UL reference measurement channel (384 kbps) 955
C.2.5.1 3.84 Mcps TDD Option 955
C.2.5.2 1.28 Mcps TDD Option 957
C.2.5.3 7.68 Mcps TDD Option 958

C.3 DL Reference measurement channels 960
C.3.1 DL reference measurement channel (12,2 kbps) 960
C.3.1.1 3,84 Mcps TDD Option 960
C.3.1.2 DL reference measurement channel (12,2 kbps) for 1,28 Mcps TDD Option 961
C.3.1.3 7,68 Mcps TDD Option 962
C.3.2 DL reference measurement channel (64 kbps) 964
C.3.2.1 3,84 Mcps TDD Option 964
C.3.2.2 DL reference measurement channel (64 kbps) for 1,28 Mcps TDD Option 966
C.3.2.3 7,68 Mcps TDD Option 967
C.3.3 DL reference measurement channel (144 kbps) 969
C.3.3.1 3,84 Mcps TDD Option 969
C.3.3.2 DL reference measurement channel (144 kbps) for 1,28 Mcps TDD Option 972

C.3.3.3 7,68 Mcps TDD Option 973
C.3.4 DL reference measurement channel (384 kbps) 975
C.3.4.1 3,84 Mcps TDD Option 975
C.3.4.2 DL reference measurement channel (384 kbps) for 1,28 Mcps TDD Option 977
C.3.4.3 7,68 Mcps TDD Option 978
C.3.5 BCH reference measurement channel 980
C.3.5.1 3,84 Mcps TDD Option 980
C.3.5.2 BCH reference measurement channel (12.3 kbps) for 1,28 Mcps TDD Option 980
C.3.5.3 7,68 Mcps TDD Option 981
C.3.6 DL reference measurement channel (2 Mbps) for 3,84 Mcps TDD Option 982
C.3.7 DL reference measurement channel (2 Mbps) for 7,68 Mcps TDD Option 984
C.3.8 DL reference measurement channel for MBSFN only UEs (28kbps) 987
C.3.8.1 3,84 Mcps TDD IMB Option 987
C.4 HSDPA reference measurement channels 989
C.4.1 HSDPA reference measurement channels for 3,84 Mcps TDD option 989
C.4.1.1 Reference measurement channels for 7,3 Mbps – Category 8 - UE 989
C.4.1.1.1 QPSK modulation scheme for test 1, 2, 3 989
C.4.1.1.2 QPSK modulation scheme for test 4 990
C.4.1.1.3 16QAM modulation scheme for test 1, 2, 3 991
C.4.1.1.4 16QAM modulation scheme for test 4 992
C.4.2 HSDPA reference measurement channels for 1.28 Mcps TDD option 993
C.4.2.1 Reference measurement channels for 0.5Mbps UE class 993
C.4.2.1.1 QPSK modulation scheme 993
C.4.2.2 Reference measurement channels for 1.1Mbps UE class 993
C.4.2.2.1 QPSK modulation scheme 993
C.4.2.2.2 16QAM modulation scheme 994
C.4.2.3 Reference measurement channels for 1.6Mbps UE class 995
C.4.2.3.1 QPSK modulation scheme 995
C.4.2.3.2 16QAM modulation scheme 996
C.4.2.4 Reference measurement channels for 2.2Mbps UE class 996
C.4.2.4.1 QPSK modulation scheme 996
C.4.2.4.2 16QAM modulation scheme 997
C.4.2.5 Reference measurement channels for 2.8Mbps UE class 998
C.4.2.5.1 QPSK modulation scheme 998
C.4.2.5.2 16QAM modulation scheme 999
C.4.2.6 Reference measurement channels for Category 16-24 UE 1000
C.4.2.6.1 Reference measurement channel for category 16-18 UE 1000
C.4.2.6.2 Reference measurement channel for category 19-21 UE 1001
C.4.2.6.3 Reference measurement channel for category 22-24 UE 1002
C.4.2.7 Reference measurement channels for Category 25 UE 1003
C.4.2.7.1 QPSK modulation scheme 1003
C.4.2.7.2 16QAM modulation scheme 1005
C.4.2.8 Reference Measurement Channel for category 26 UE 1007
C.4.2.8.1 QPSK modulation scheme 1007
C.4.2.8.2 16QAM modulation scheme 1009
C.4.2.9 Reference Measurement Channel for category 27 UE 1011
C.4.2.9.1 QPSK modulation scheme 1011
C.4.2.9.2 16QAM modulation scheme 1013
C.4.2.10 Reference Measurement Channel for category 28 UE 1015
C.4.2.10.1 64QAM modulation scheme 1015
C.4.2.11 Reference Measurement Channel for category 29 UE 1017
C.4.2.11.1 64QAM modulation scheme 1017
C.4.2.12 Reference Measurement Channel for category 30 UE 1019
C.4.2.12.1 64QAM modulation scheme 1019
C.4.2A HSDPA reference measurement channels for 7,68 Mcps TDD option 1021
C.4.2A.1 Reference measurement channels for 5,3 Mbps - Category 8 - UE 1021
C.4.2A.1.1 QPSK modulation scheme for test 1, 2, 3 & 4 1021
C.4.2A.1.2 16QAM modulation scheme for test 1, 2, 3 & 4 1022
C.4.3 Variable Reference Channel definition for 3,84 Mcps and 1,28 Mcps TDD options 1023
C.5 Downlink reference parameters for MBMS tests 1023

C.5.1 MCCH 1023
C.5.1.1 3.84 Mcps TDD Option 1023
C.5.1.2 1.28 Mcps TDD Option 1024
C.5.1.3 7.68 Mcps TDD Option 1024
C.5.2 MTCH 1025
C.5.2.1 3.84 Mcps TDD Option (non-IMB) 1025
C.5.2.1A 3.84 Mcps TDD Option (IMB) 1025
C.5.2.2 1.28 Mcps TDD Option 1026
C.5.2.3 7.68 Mcps TDD Option 1027

C.6 E-DCH Reference measurement channels 1028
C.6.1 E-DCH Fixed Reference Channels 1028
C.6.1.1 3,84 Mcps TDD Option 1028
C.6.1.1.1 Fixed Reference Channel 1 (FRC1) 1028
C.6.1.1.2 Fixed Reference Channel 2 (FRC2) 1029
C.6.1.1.3 Fixed Reference Channel 3 (FRC3) 1030
C.6.1.2 1.28Mcps TDD Option 1031
C6.1.2.1 E-DCH Fixed reference channel 1(FRC1) 1031
C6.1.2.2 Fixed reference channel 2(FRC2) 1032
C6.1.2.3 Fixed reference channel 3(FRC3) 1033
C.6.1.3.1 Fixed Reference Channel 1 (FRC1) 1034
C.6.1.3.2 Fixed Reference Channel 2 (FRC2) 1035
C.6.1.3.3 Fixed Reference Channel 3 (FRC3) 1036

Annex D (normative): Propagation conditions 1038

D.1 Test Environments 1038

D.2 Propagation Conditions 1038
D.2.1 Static propagation condition 1038
D.2.2 Multi-path fading propagation conditions 1038
D.2.2.1 3,84 Mcps TDD Option 1038
D.2.2.2 1,28 Mcps TDD Option 1039
D.2.2.3 7,68 Mcps TDD Option 1041
D.2.3 Moving propagation conditions 1043
D.2.4 Birth-Death propagation conditions 1044
D.2.4A High speed train condition 1044
D.2.5 Multi-path fading propagation conditions 1045
D.2.5.1 3.84 Mcps TDD Option 1045
D.2.5.1 1.28 Mcps TDD Option 1045
D.2.5.1.1 MIMO Dual Stream Static Orthogonal Conditions 1046
D.2.5.1 7.68 Mcps TDD Option 1046

Annex E (normative): Common RF test conditions 1047

E.1 General 1047
E.2 Connection Set-up 1047

E.3 During connection 1047
E.3.1 Measurement of Tx Characteristics 1047
E.3.2 Measurement of Rx Characteristics 1048
E.3.3 Measurement of Performance requirements 1048

Annex F (normative): General test conditions and declarations 1049

F.1 Acceptable uncertainty of Test System 1049
F.1.1 Measurement of test environments 1049
F.1.2 Measurement of transmitter 1050
F.1.3 Measurement of receiver 1051
F.1.4 Performance requirement 1051
F.1.5 Requirements for support of RRM 1052
F.1.6 Performance requirement (HSDPA) 1056

F.2 Test Tolerances (This clause is informative) 1056
F.2.1 Transmitter 1057

F.2.2 Receiver....1057
F.2.3 Performance requirements....1058
F.2.4 Requirements for support of RRM....1058
F.2.4.1 TDD/TDD Cell Reselection on intra-frequency cells....1058
F.2.4.1.1 3,84 Mcps TDD Option....1058
F.2.4.1.2 1,28 Mcps Option....1058
F.2.4.1.3 7,68 Mcps TDD Option....1058
F.2.5 Performance requirements (HSDPA)....1059
F.2.6 Performance requirements (Multiple-cell)....1059

F.3 Interpretation of measurement results....1059

F.4 Derivation of Test Requirements (This clause is informative)....1059
F.4.1 3.84Mcps TDD Option....1060
F.4.2 1.28Mcps TDD Option....1064
F.4.2.1 Transmitter....1064
F.4.2.2 Receiver....1067
F.4.2.3 Performance requirement....1068
F.4.2.4 Performance of HSDPA....1069
F.4.2.5 Measurement of RRM requirements....1070
F.4.2.6 Performance requirements (Multiple-cell)....1075
F.4.3 7.68Mcps TDD Option....1076

F.5 Acceptable uncertainty of Test Equipment (This clause is informative)....1079
F.5.1 Transmitter measurements....1080
F.5.2 Receiver measurements....1080
F.5.3 Performance measurements....1080
F.5.5 Performance measurements (HSDPA)....1080

F.6 General rules for statistical testing....1081
F.6.1 Statistical testing of receiver BER/BLER performance....1081
F.6.1.1 Error Definition....1081
F.6.1.2 Test Method....1081
F.6.1.3 Test Criteria....1081
F.6.1.4 Calculation assumptions....1081
F.6.1.4.1 Statistical independence....1081
F.6.1.4.2 Applied formulas....1081
F.6.1.4.3 Test procedure....1082
F.6.1.5 Definition of good pass fail decision....1082
F.6.1.6 Good balance between testtime and statistical significance....1083
F.6.1.7 Pass fail decision rules....1084
F.6.1.8 Test conditions for BER,BLER tests....1085
F.6.1.9 Practical Use (informative)....1087
F.6.2 Statistical testing of RRM delay performance....1088
F.6.2.1 Test Method....1088
F.6.2.2 Bad Delay Ratio (ER)....1088
F.6.2.3 Test Criteria....1088
F.6.2.4 Calculation assumptions....1089
F.6.2.4.1 Statistical independence....1089
F.6.2.4.2 Applied formulas....1089
F.6.2.4.3 Approximation of the distribution....1089
F.6.2.5 Definition of good pass fail decision....1089
F.6.2.6 Good balance between test-time and statistical significance....1090
F.6.2.7 Pass fail decision rules....1090
F.6.2.8 Test conditions for RRM delay tests....1091
F.6.2.9 Practical Use (informative)....1093
F.6.3 Statistical Testing of HSDPA Receiver Performance....1094
F.6.3.1 Definition....1094
F.6.3.2 Mapping throughput to block error ratio....1094
F.6.3.3 Bad DUT factor....1095
F.6.3.3.1 Bad DUT factor, range of applicability....1096
F.6.3.4 Minimum Test time....1097
F.6.3.5 Pass fail decision rules....1097

Annex G (normative): Environmental conditions 1107

G.1 General 1107

G.2 Environmental requirements 1107
G.2.1 Temperature 1107
G.2.2 Voltage 1107
G.2.3 Vibration 1108
G.2.4 Specified frequency range 1108

Annex H (normative): Terminal Baseline and Service Implementation Capabilities (TDD) 1109

H.1 Baseline Implementation Capabilities of 3.84 Mcps TDD 1109

H.1A Baseline Implementation Capabilities of 1.28 Mcps TDD 1109

H.1B Baseline Implementation Capabilities of 7.68 Mcps TDD 1110

H.2 Service Implementation Capabilities: 1110

Annex I (normative): Default Message Contents 1111

Annex J (normative): Cell configuration mapping 1115

Annex K (informative): Change history 1116

History 1123

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

This present document specifies the measurement procedure for the conformance test of the mobile station that contain transmitting characteristics, receiving characteristics and performance requirements in addition to requirements for support of RRM (Radio Resource Management) in both UTRATDD modes. The two options are the 3,84 Mcps TDD Option and 1,28 Mcps TDD Option, respectively.

The requirements are listed in different clauses only if the corresponding parameters deviate. More generally, tests are only applicable to those mobiles that are intended to support the appropriate functionality. To indicate the circumstances in which tests apply, this is noted in the “definition and applicability” part of the test.

For example only release 5 and later UE declared to support HSDPA shall be tested for this functionality. In the event that for some tests different conditions apply for different releases, this is indicated within the text of the test itself.

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 25.102 (V4.0.0): "UTRA (UE) TDD; Radio Transmission and Reception (TDD)".

[2] 3GPP TS 25.123: "Requirements for Support of Radio Resource Management (TDD)".

[3] 3GPP TS 34.108 "Common Test Environments for User Equipment (UE) Conformance Testing"

[4] 3GPP TS 34.109: "Terminal logical test interface; Special conformance testing functions".

[5] 3GPP TS 25.224: "Physical Layer Procedures (TDD)".

[6] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[7] 3GPP TR 25.990: "Vocabulary".

[8] ITU-R Recommendation SM.328-9: "Spectra and bandwidth of emissions".

[9] 3GPP TS 25.331: "Radio Resource Control (RRC) Protocol Specification".

[10] 3GPP TS 25.433 "UTRAN Iub Interface NBAP Signalling".

[11] ITU-R Recommendation SM.329: "Spurious emissions".

[12] 3GPP TS 25.304: "UE Procedures in Idle Mode and Procedures for Cell Reselection in Connected Mode".

[13] 3GPP TS 25.303: "Interlayer Procedures in Connected Mode".

[14] 3GPP TS 25.321: "Medium Access Control (MAC) protocol specification".

[15] 3GPP TS 25.223: "Spreading and modulation (TDD)".

[16] ETSI ETR 273-1-2: "Improvement of radiated methods of measurement (using test sites) and evaluation of the corresponding measurement uncertainties; Part 1: Uncertainties in the measuremement of mobile radio equipment characteristics; Sub-part 2: Examples and annexes".

[17] 3GPP TR 25.926: "UE Radio Access Capabilities".