

# ETSI TS 134 121-2 V12.3.0 (2016-08)



**Universal Mobile Telecommunications System (UMTS);  
User Equipment (UE) conformance specification;  
Radio transmission and reception (FDD);  
Part 2: Implementation Conformance Statement (ICS)  
(3GPP TS 34.121-2 version 12.3.0 Release 12)**



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Reference

RTS/TSGR-0534121-2vc30

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Keywords

UMTS

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Version x.y.z

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- x the first digit:
  - 1 presented to TSG for information;
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- 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.

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# Introduction

The present document is part 2 of a multi-parts TS:

3GPP TS 34.121-1 [20]: User Equipment (UE) conformance specification; Radio transmission and reception (FDD); Part 1: Conformance specification.

**3GPP TS 34.121-2: User Equipment (UE) conformance specification; Radio transmission and reception (FDD); Part 2: Implementation Conformance Statement (ICS).**

NOTE: TS 34.121 has been converted to multipart TS with version 7.0.0. Previous versions are a single part standard 34.121.

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# 1 Scope

The present document provides the Implementation Conformance Statement (ICS) proforma for 3<sup>rd</sup> Generation User Equipment (UE), in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-7 [2] and ETS 300 406 [3].

The present document also specifies a recommended applicability statement for the test cases included in TS 34.121-1. These applicability statements are based on the features implemented in the UE.

Special conformance testing functions can be found in 3GPP TS 34.109 [19] and the common test environments are included in 3GPP TS 34.108 [18] and 3GPP TS 36.508 [29].

The present document is valid for UE implemented according to 3GPP releases starting from Release 99 up to the Release indicated on the cover page of the present document.

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# 2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document in the same Release as the present document unless the context in which the reference is made suggests a different Release is relevant (information on the applicable release in a particular context can be found in e.g. test case title, description or applicability, message description or content).
  - For a Release 1999 UE, references to 3GPP documents are to version 3.x.y, when available.
  - For a Release 4 UE, references to 3GPP documents are to version 4.x.y, when available.
  - For a Release 5 UE, references to 3GPP documents are to version 5.x.y, when available.
  - For a Release 6 UE, references to 3GPP documents are to version 6.x.y, when available.
  - For a Release 7 UE, references to 3GPP documents are to version 7.x.y, when available.
  - For a Release 8 UE, references to 3GPP documents are to version 8.x.y, when available.
  - For a Release 9 UE, references to 3GPP documents are to version 9.x.y, when available.

- [1] ISO/IEC 9646-1: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 1: General concepts".
- [2] ISO/IEC 9646-7: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".
- [3] ETSI ETS 300 406 (1995): "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".
- [4] 3GPP TR 21.904: "UE capability requirements".
- [5] 3GPP TS 22.002: "Circuit Bearer Services (BS) supported by Public Land Mobile Network (PLMN)".
- [6] 3GPP TS 22.060: "General Packet Radio Service (GPRS); Service description, Stage 1".

- [7] 3GPP TS 22.105: "Services and Service Capabilities".
- [8] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core Network Protocols - Stage 3".
- [9] 3GPP TS 25.101: "UE radio Transmission and Reception (FDD)".
- [10] 3GPP TS 25.102: "UTRA (UE) TDD; Radio Transmission and Reception".
- [11] 3GPP TS 25.201: "Physical layer - General Description".
- [12] 3GPP TS 25.306: "UE Radio Access Capabilities".
- [13] 3GPP TS 25.321: "Medium Access Control (MAC) protocol specification".
- [14] 3GPP TS 25.322: "Radio Link Control (RLC) protocol specification".
- [15] 3GPP TS 25.323: "Packet Data Convergence Protocol (PDCP) specification".
- [16] 3GPP TS 25.324: "Broadcast/Multicast Control BMC".
- [17] 3GPP TS 25.331: "Radio Resource Control (RRC) protocol specification".
- [18] 3GPP TS 34.108: "Common Test Environments for User Equipment (UE) Conformance Testing".
- [19] 3GPP TS 34.109: "Terminal logical test interface; Special conformance testing functions".
- [20] 3GPP TS 34.121-1: "User Equipment (UE) Conformance Specification, Radio transmission and reception (FDD); Part 1: Conformance specification".
- [21] 3GPP TS 34.122: "Terminal Conformance Specification, Radio Transmission and Reception (TDD)".
- [22] 3GPP TS 34.123-1: "User Equipment (UE) conformance specification; Part 1: Protocol conformance specification".
- [23] 3GPP TS 34.123-2: " User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification".
- [24] 3GPP TS 34.123-3: "User Equipment (UE) conformance specification; Part 3: Abstract Test Suites".
- [25] 3GPP TS 34.124: "Electromagnetic Compatibility (EMC) for Mobile terminals and ancillary equipment".
- [26] 3GPP TS 51.010-1: "Mobile Station (MS) conformance specification; Part 1: Conformance specification".
- [27] 3GPP TS 51.010-2: "Mobile Station (MS) conformance specification; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".
- [28] 3GPP TS 36.101: "E-UTRA UE radio transmission and reception".
- [29] 3GPP TS 36.508: "Common test environments for User Equipment (UE)".

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## 3 Definitions and abbreviations

### 3.1 Definitions

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

- terms defined in the relevant 3GPP core specifications (see normative references);
- terms defined in ISO/IEC 9646-1 [1] and in ISO/IEC 9646-7 [2].

In particular, the following terms defined in ISO/IEC 9646-1 [1] apply:

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

The ICS can take several forms: protocol ICS, profile ICS, profile specific ICS, information object ICS, etc.

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

## 3.2 Abbreviations

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

|      |                                      |
|------|--------------------------------------|
| ICS  | Implementation Conformance Statement |
| SCS  | System Conformance Statement         |
| UEUT | User Equipment Under Test            |

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## 4 Recommended test case applicability

The applicability of each individual test is identified in the table 1. This applicability can in some circumstances be changed to not recommended when so specified in table 2. This is just a recommendation based on the purpose for which the test case was written.

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

The columns in tables 1 and 2 have the following meaning:

### Clause

The clause column indicates the clause number in TS 34.121-1 [20] that contains the test body.

### Title

The title column describes the name of the test.

### Release

The release column indicates the earliest release from which each test case is applicable, except if otherwise stated of an individual test case.

### Applicability

The following notations are used for the applicability column:

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

### Comments

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



**Table 1: Applicability of tests**

| Clause               | Title  | Release    | Applicability | Comments   |
|----------------------|--|------------|---------------|--|
| <b>RF Test cases</b> |  |            |               |  |
| 5.2                  | Maximum Output Power   | R99        | R             | UEs supporting FDD   |
| 5.2A                 | Maximum Output Power with HS-DPCCH   | Rel-5 only | C_RF02        | UEs supporting FDD and HS-PDSCH  |
| 5.2AA                | Maximum Output Power with HS-DPCCH (Release 6 and later)   | Rel-6      | C_RF24        | UEs supporting FDD and HS-PDSCH and not E-DPDCH                                  |
| 5.2AB                | UE Maximum output power for UL OLTD  | Rel-11     | C_RF123       | UEs supporting FDD and UL OLTD and HS-PDSCH and not E-DPDCH                      |
| 5.2AC                | Maximum Output Power for UL CLTD activation state 1  | Rel-11     | C_RF129       | UEs supporting FDD and UL CLTD and HS-PDSCH and not E-DPDCH                      |
| 5.2AD                | Maximum Output Power for UL CLTD activation state 2 and 3  | Rel-11     | C_RF129       | UEs supporting FDD and UL CLTD and HS-PDSCH and not E-DPDCH                      |
| 5.2B                 | Maximum Output Power with HS-DPCCH and E-DCH   | Rel-6      | C_RF23        | UEs supporting FDD and HS-PDSCH and E-DPDCH                                      |
| 5.2BA                | UE Maximum Output Power for DC-HSUPA (QPSK)  | Rel-9      | C_RF86        | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 8 or 9)      |
| 5.2BB                | UE Maximum Output Power for DC-HSUPA (16QAM)   | Rel-9      | C_RF111       | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 9)           |
| 5.2BC                | UE maximum output power with HS-DPCCH and E-DCH for OLTD   | Rel-11     | C_RF124       | UEs supporting FDD and UL OLTD and HS-PDSCH and E-DPDCH                          |
| 5.2BD                | Maximum Output Power with HS-DPCCH and E-DCH for UL CLTD activation state 1                        | Rel-11     | C_RF130       | UEs supporting FDD and UL CLTD and HS-PDSCH and E-DPDCH                          |
| 5.2BE                | Maximum Output Power with HS-DPCCH and E-DCH for UL CLTD activation state 2 and 3.                 | Rel-11     | C_RF130       | UEs supporting FDD and UL CLTD and HS-PDSCH and E-DPDCH                          |
| 5.2C                 | UE relative code domain power accuracy   | Rel-6      | C_RF24        | UEs supporting FDD and HS-PDSCH and not E-DPDCH                                  |
| 5.2CA                | UE Relative code domain power accuracy for OLTD  | Rel-11     | C_RF123       | UEs supporting FDD and UL OLTD and HS-PDSCH and not E-DPDCH                      |
| 5.2CB                | UE relative code domain power accuracy for UL CLTD activation state 1                              | Rel-11     | C_RF129       | UEs supporting FDD and UL CLTD and HS-PDSCH and not E-DPDCH                      |
| 5.2CC                | UE relative code domain power accuracy for UL CLTD activation state 2 and 3                        | Rel-11     | C_RF129       | UEs supporting FDD and UL CLTD and HS-PDSCH and not E-DPDCH                      |
| 5.2D                 | UE relative code domain power accuracy for HS-DPCCH and E-DCH                                      | Rel-6      | C_RF23        | UEs supporting FDD and HS-PDSCH and E-DPDCH                                      |
| 5.2DA                | UE Relative Code Domain Power Accuracy for DC-HSUPA with QPSK                                      | Rel-9      | C_RF86        | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 8 or 9)      |
| 5.2DB                | UE Relative code domain power accuracy for HS-DPCCH and E-DCH for OLTD                             | Rel-11     | C_RF124       | UEs supporting FDD and UL OLTD and HS-PDSCH and E-DPDCH                          |
| 5.2DC                | UE Relative Code Domain Power Accuracy for HS-DPCCH and E-DCH for UL CLTD activation state 1       | Rel-11     | C_RF130       | UEs supporting FDD and UL CLTD and HS-PDSCH and E-DPDCH                          |
| 5.2DD                | UE Relative Code Domain Power Accuracy for HS-DPCCH and E-DCH for UL CLTD activation state 2 and 3 | Rel-11     | C_RF130       | UEs supporting FDD and UL CLTD and HS-PDSCH and E-DPDCH                          |
| 5.2E                 | UE Relative Code Domain Power Accuracy for HS-DPCCH and E-DCH with 16QAM                           | Rel-7      | C_RF43        | UEs supporting FDD and HS-PDSCH, E-DPDCH and supporting 16QAM (E-DCH Category 7) |

| Clause | Title  | Release | Applicability | Comments   |
|--------|--|---------|---------------|--|
| 5.2EA  | UE relative code domain power accuracy for DC-HSUPA using HS-DPCCH and E-DCH with 16QAM  | Rel-9   | C_RF111       | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 9)                       |
| 5.2EB  | UE Relative code domain power accuracy for HS-DPCCH and E-DCH with 16-QAM for OLTD   | Rel-11  | C_RF126       | UEs supporting FDD and UL OLTD and HS-PDSCH, E-DPDCH and supporting 16QAM (E-DCH Category 7) |
| 5.2EC  | UE Relative Code Domain Power Accuracy for HS-DPCCH and E-DCH with 16QAM for UL CLTD activation state 1                              | Rel-11  | C_RF127       | UEs supporting FDD and UL CLTD and HS-PDSCH and E-DPDCH and 16QAM                            |
| 5.2ED  | UE Relative Code Domain Power Accuracy for HS-DPCCH and E-DCH with 16QAM for UL CLTD activation state 2 and 3                        | Rel-11  | C_RF127       | UEs supporting FDD and UL CLTD and HS-PDSCH and E-DPDCH and 16QAM                            |
| 5.3    | Frequency Error  | R99     | R             | UEs supporting FDD   |
| 5.3A   | Frequency Error for DC-HSUPA   | Rel-9   | C_RF86        | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 8 or 9)                  |
| 5.3B   | Frequency error for UL OLTD  | Rel-11  | C_RF123       | UEs supporting FDD and UL OLTD and HS-PDSCH and not E-DPDCH                                  |
| 5.3C   | Frequency error for UL CLTD Activation state 1   | Rel-11  | C_RF129       | UEs supporting FDD and UL CLTD and HS-PDSCH and not E-DPDCH                                  |
| 5.3D   | Frequency error for UL CLTD Activation state 2 and 3   | Rel-11  | C_RF129       | UEs supporting FDD and UL CLTD and HS-PDSCH and not E-DPDCH                                  |
| 5.4.1  | Output Power Dynamics in the Uplink / Power control is used to limit the interference level / Open Loop Power Control in the Uplink  | R99     | R             | UEs supporting FDD   |
| 5.4.1A | Open Loop Power Control in the Uplink for DC-HSUPA   | Rel-9   | C_RF86        | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 8 or 9)                  |
| 5.4.2  | Output Power Dynamics in the Uplink / Power control is used to limit the interference level / Inner Loop Power Control in the Uplink | R99     | R             | UEs supporting FDD   |
| 5.4.2A | Inner Loop Power Control in the Uplink for DC-HSUPA  | Rel-9   | C_RF86        | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 8 or 9)                  |
| 5.4.2B | Inner loop power control in the uplink for OLTD  | Rel-11  | C_RF122       | UEs supporting FDD and UL OLTD   |
| 5.4.2C | Inner Loop Power Control in the Uplink for UL CLTD activation state 1  | Rel-11  | C_RF121       | UEs supporting FDD and UL CLTD   |
| 5.4.2D | Inner Loop Power Control in the Uplink for UL CLTD activation state 2 and 3  | Rel-11  | C_RF121       | UEs supporting FDD and UL CLTD   |
| 5.4.3  | Output Power Dynamics in the Uplink / Power control is used to limit the interference level / Minimum Output Power                   | R99     | R             | UEs supporting FDD   |
| 5.4.3A | Minimum Output Power for DC-HSUPA  | Rel-9   | C_RF86        | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 8 or 9)                  |
| 5.4.3B | Minimum Output Power for OLTD  | Rel-11  | C_RF122       | UEs supporting FDD and UL OLTD   |
| 5.4.3C | Minimum Output Power for UL CLTD activation state 1  | Rel-11  | C_RF121       | UEs supporting FDD and UL CLTD   |
| 5.4.3D | Minimum Output Power for UL CLTD activation state 2 and 3  | Rel-11  | C_RF121       | UEs supporting FDD and UL CLTD   |

| Clause | Title   | Release | Applicability | Comments  |
|--------|---|---------|---------------|---|
| 5.4.4  | Output Power Dynamics in the Uplink / Power control is used to limit the interference level / Out-of-synchronisation handling of output power | R99     | C_RF75        | UEs supporting FDD and not supporting type 1 for DCH                        |
| 5.4.4A | Out-of-synchronization handling of output power for a UE which supports the optional enhanced performance requirements type1 for DCH          | R7      | C_RF76        | UEs supporting FDD and type 1 for DCH                                       |
| 5.4.4B | Out-of-synchronization handling of output power for OLTD  | Rel-11  | C_RF122       | UEs supporting FDD and UL OLTD  |
| 5.4.4C | Out-of-synchronisation handling of output power for UL CLTD activation state 1  | Rel-11  | C_RF121       | UEs supporting FDD and UL CLTD  |
| 5.4.4D | Out-of-synchronisation handling of output power for UL CLTD activation state 2 and 3  | Rel-11  | C_RF121       | UEs supporting FDD and UL CLTD  |
| 5.4.5  | Out of quality handling of TPI for UL CLTD activation state 1   | Rel-11  | C_RF121       | UEs supporting FDD and UL CLTD  |
| 5.5.1  | Transmit ON/OFF Power / Transmit OFF Power  | R99     | R             | UEs supporting FDD  |
| 5.5.2  | Transmit ON/OFF Power / Transmit ON/OFF Time mask   | R99     | R             | UEs supporting FDD  |
| 5.6    | Change of TFC   | R99     | R             | UEs supporting FDD  |
| 5.6AA  | Change of TFC for OLTD  | Rel-11  | C_RF122       | UEs supporting FDD and UL OLTD  |
| 5.6AB  | Change of TFC for UL CLTD activation state 1  | Rel-11  | C_RF121       | UE supporting UL CLTD   |
| 5.6AC  | Change of TFC for UL CLTD activation state 2 and 3  | Rel-11  | C_RF121       | UE supporting UL CLTD   |
| 5.7    | Power setting in uplink compressed mode   | R99     | C_RF01        | UEs supporting FDD and uplink compressed mode.                              |
| 5.7A   | HS-DPCCH  | Rel-5   | C_RF02        | UEs supporting FDD and HS-PDSCH   |
| 5.7BA  | HS-DPCCH power control for UL OLTD  | Rel-11  | C_RF123       | UEs supporting FDD, UL OLTD and HS-PDSCH and not E-DPDCH                    |
| 5.7BB  | HS-DPCCH power control for UL CLTD activation state 1   | Rel-11  | C_RF128       | UEs supporting FDD, UL CLTD and HS-PDSCH                                    |
| 5.7BC  | HS-DPCCH power control for UL CLTD activation state 2 and 3   | Rel-11  | C_RF128       | UEs supporting FDD, UL CLTD and HS-PDSCH                                    |
| 5.8    | Occupied Bandwidth (OBW)  | R99     | R             | UEs supporting FDD  |
| 5.8A   | Occupied Bandwidth (OBW) for DC-HSUPA   | Rel-9   | C_RF86        | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 8 or 9) |
| 5.8B   | Occupied bandwidth (OBW) for OLTD   | Rel-11  | C_RF122       | UEs supporting FDD and UL OLTD  |
| 5.8C   | Occupied bandwidth (OBW) for UL CLTD Activation state 1   | Rel-11  | C_RF121       | UEs supporting FDD and UL CLTD  |
| 5.9    | Spectrum emission mask  | R99     | R             | UEs supporting FDD  |
| 5.9A   | Spectrum Emission Mask with HS-DPCCH  | Rel-5   | C_RF02        | UEs supporting FDD and HS-PDSCH   |
| 5.9AA  | Spectrum Emission Mask with HS-DPCCH for OLTD   | Rel-11  | C_RF125       | UEs supporting FDD and UL OLTD and HS-PDSCH                                 |
| 5.9AB  | Spectrum Emission Mask with HS-DPCCH for UL CLTD activation state 1   | Rel-11  | C_RF128       | UEs supporting FDD, UL CLTD and HS-PDSCH                                    |
| 5.9AC  | Spectrum Emission Mask with HS-DPCCH for UL CLTD activation state 2 and 3   | Rel-11  | C_RF128       | UEs supporting FDD, UL CLTD and HS-PDSCH                                    |

| Clause | Title  | Release | Applicability | Comments  |
|--------|--|---------|---------------|---|
| 5.9B   | Spectrum Emission Mask with E-DCH  | Rel-6   | C_RF23        | UEs supporting FDD and HS-PDSCH and E-DPDCH                                 |
| 5.9BA  | Spectrum Emission Mask with E-DCH for OLTD   | Rel-11  | C_RF124       | UEs supporting FDD and UL OLTD and HS-PDSCH and E-DPDCH                     |
| 5.9BB  | Spectrum Emission Mask with E-DCH for UL CLTD activation state 1                               | Rel-11  | C_RF130       | UEs supporting FDD, UL CLTD, HS-PDSCH and E-DPDCH                           |
| 5.9BC  | Spectrum Emission Mask with E-DCH for UL CLTD activation state 2 and 3                         | Rel-11  | C_RF130       | UEs supporting FDD, UL CLTD, HS-PDSCH and E-DPDCH                           |
| 5.9C   | Additional Spectrum Emission Mask for DC-HSUPA (QPSK)  | Rel-9   | C_RF86        | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 8 or 9) |
| 5.9D   | Additional Spectrum Emission Mask for DC-HSUPA (16QAM)   | Rel-9   | C_RF111       | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 9)      |
| 5.10   | Adjacent Channel Leakage Power Ratio (ACLR)  | R99     | R             | UEs supporting FDD  |
| 5.10A  | Adjacent Channel Leakage Power Ratio (ACLR) with HS-DPCCH                                      | Rel-5   | C_RF02        | UEs supporting FDD and HS-PDSCH   |
| 5.10AA | Adjacent Channel Leakage Power Ratio (ACLR) with HS-DPCCH for OLTD                             | Rel-11  | C_RF125       | UEs supporting FDD and UL OLTD and HS-PDSCH                                 |
| 5.10AB | Adjacent Channel Leakage Power Ratio (ACLR) with HS-DPCCH for UL CLTD Activation state 1       | Rel-11  | C_RF128       | UEs supporting FDD, UL CLTD and HS-PDSCH                                    |
| 5.10AC | Adjacent Channel Leakage Power Ratio (ACLR) with HS-DPCCH for UL CLTD Activation state 2 and 3 | Rel-11  | C_RF128       | UEs supporting FDD, UL CLTD and HS-PDSCH                                    |
| 5.10B  | Adjacent Channel Leakage Power Ratio (ACLR) with E-DCH   | Rel-6   | C_RF23        | UEs supporting FDD and HS-PDSCH and E-DPDCH                                 |
| 5.10BA | Adjacent Channel Leakage Power Ratio (ACLR) with E-DCH for OLTD                                | Rel-11  | C_RF124       | UEs supporting FDD and UL OLTD and HS-PDSCH and E-DPDCH                     |
| 5.10BB | Adjacent Channel Leakage Power Ratio (ACLR) with E-DCH for UL CLTD Activation state 1          | Rel-11  | C_RF130       | UEs supporting FDD, UL CLTD, HS-PDSCH and E-DPDCH                           |
| 5.10BC | Adjacent Channel Leakage Power Ratio (ACLR) with E-DCH for UL CLTD Activation state 2 and 3    | Rel-11  | C_RF130       | UEs supporting FDD, UL CLTD, HS-PDSCH and E-DPDCH                           |
| 5.10C  | Adjacent Channel Leakage Power Ratio (ACLR) with E-DCH for DC-HSUPA (QPSK)                     | Rel-9   | C_RF86        | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 8 or 9) |
| 5.10D  | Adjacent Channel Leakage Power Ratio (ACLR) with E-DCH for DC-HSUPA (16QAM)                    | Rel-9   | C_RF111       | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 9)      |
| 5.11   | Spurious Emissions   | R99     | R             | UEs supporting FDD  |
| 5.11A  | Spurious Emissions for DC-HSUPA  | Rel-9   | C_RF86        | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 8 or 9) |
| 5.11B  | Spurious Emissions for UL OLTD   | Rel-11  | C_RF122       | UEs supporting FDD and UL OLTD  |
| 5.11C  | Spurious Emissions for UL CLTD Activation state 1  | Rel-11  | C_RF121       | UEs supporting FDD and UL CLTD  |
| 5.11D  | Spurious Emissions for UL CLTD Activation state 2 and 3  | Rel-11  | C_RF121       | UEs supporting FDD and UL CLTD  |
| 5.12   | Transmit Intermodulation   | R99     | R             | UEs supporting FDD  |
| 5.12A  | Transmit Intermodulation for DC-HSUPA  | Rel-9   | C_RF86        | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 8 or 9) |
| 5.13.1 | Transmit Modulation / Error Vector Magnitude (EVM)   | R99     | R             | UEs supporting FDD  |

| Clause    | Title   | Release    | Applicability | Comments   |
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| 5.13.1A   | Error Vector Magnitude (EVM) with HS-DPCCH  | Rel-5 only | C_RF02        | UEs supporting FDD and HS-PDSCH  |
| 5.13.1AA  | Error Vector Magnitude (EVM) and phase discontinuity with HS-DPCCH                                      | Rel-6      | C_RF02        | UEs supporting FDD and HS-PDSCH  |
| 5.13.1AB  | Error Vector Magnitude (EVM) and phase discontinuity with HS-DPCCH for UL OLTD                          | Rel-11     | C_RF125       | UEs supporting FDD, UL OLTD and HS-PDSCH   |
| 5.13.1AC  | Error Vector Magnitude (EVM) and phase discontinuity with HS-DPCCH for UL CLTD Activation state 1       | Rel-11     | C_RF128       | UEs supporting FDD, UL CLTD and HS-PDSCH   |
| 5.13.1AD  | Error Vector Magnitude (EVM) and phase discontinuity with HS-DPCCH for UL CLTD Activation state 2 and 3 | Rel-11     | C_RF128       | UEs supporting FDD, UL CLTD and HS-PDSCH   |
| 5.13.1AAA | EVM and IQ origin offset for HS-DPCCH and E-DCH with 16 QAM   | Rel-7      | C_RF43        | UEs supporting FDD and HS-PDSCH, E-DPDCH and supporting 16QAM (E-DCH Category 7) |
| 5.13.2    | Transmit Modulation / Peak code domain error  | R99        | C_RF11        | UEs supporting FDD and uplink RMC 768 kbps                                       |
| 5.13.2A   | Relative Code Domain Error with HS-DPCCH  | Rel-6      | C_RF24        | UEs supporting FDD and HS-PDSCH and not E-DPDCH                                  |
| 5.13.2B   | Relative Code Domain Error with HS-DPCCH and E-DCH  | Rel-6      | C_RF23        | UEs supporting FDD and HS-PDSCH and E-DPDCH                                      |
| 5.13.2BA  | Relative Code Domain Error with HS-DPCCH and E-DCH for DC-HSUPA   | Rel-9      | C_RF86        | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 8 or 9)      |
| 5.13.2C   | Relative Code Domain Error for HS-DPCCH and E-DCH with 16QAM  | Rel-7      | C_RF43        | UEs supporting FDD and HS-PDSCH, E-DPDCH and supporting 16QAM (E-DCH Category 7) |
| 5.13.2CA  | Relative Code Domain Error for HS-DPCCH and E-DCH with 16QAM for DC-HSUPA                               | Rel-9      | C_RF111       | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 9)           |
| 5.13.3    | Transmit Modulation / UE phase discontinuity  | Rel-5      | R             | UEs supporting FDD   |
| 5.13.4    | Transmit Modulation PRACH preamble quality  | Rel-5      | R             | UEs supporting FDD   |
| 5.13.5    | In-band emission for DC-HSUPA   | Rel-9      | C_RF86        | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 8 or 9)      |
| 6.2       | Receiver Characteristics / Reference Sensitivity Level  | R99        | R             | UEs supporting FDD   |
| 6.2A      | Reference sensitivity level for DC-HSDPA  | Rel-8      | C_RF66        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-24         |
|           |   | Rel-9      | C_RF80        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 25-28         |
| 6.2B      | Reference Sensitivity Level for DB-DC-HSDPA   | Rel-9      | C_RF84        | UEs supporting FDD and dual band operation                                       |
| 6.2C      | Reference sensitivity level for single band 4C-HSDPA  | Rel-10     | C_RF118       | UEs supporting HS-PDSCH and HS-DSCH categories 29-32                             |
| 6.2D      | Reference sensitivity level for Dual band 4C-HSDPA  | Rel-10     | C_RF120       | UEs supporting HS-PDSCH and HS-DSCH categories 31-32                             |
| 6.2DA     | Reference sensitivity level for Dual band 4C-HSDPA(3 carrier)   | Rel-10     | C_RF118       | UEs supporting HS-PDSCH and HS-DSCH categories 29-32                             |
| 6.3       | Receiver Characteristics / Maximum Input Level  | R99        | R             | UEs supporting FDD   |
| 6.3A      | Maximum Input Level for HS-PDSCH Reception (16QAM)  | Rel-5      | C_RF26        | UEs supporting FDD and HS-PDSCH and supporting 16QAM (HS-DSCH Categories 1-10)   |

| Clause | Title  | Release            | Applicability | Comments  |
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|        |  | Rel-7              | C_RF89        | UEs supporting FDD and HS-PDSCH and supporting 16QAM (HS-DSCH Categories 13-18)   |
|        |  | Rel-8              | C_RF45        | UEs supporting FDD and HS-PDSCH and supporting 16QAM (HS-DSCH Categories 19-20)   |
| 6.3B   | Maximum Input Level for HS-PDSCH Reception (64QAM)                                     | Rel-7              | C_RF35        | UEs supporting FDD and HS-PDSCH and supporting 64QAM (HS-DSCH Categories 13, 14, 17, 18)                                    |
|        |  | Rel-8              | C_RF45        | UEs supporting FDD and HS-PDSCH and supporting 64QAM (HS-DSCH Categories 19-20)   |
| 6.3C   | Maximum Input Level for DC-HSDPA Reception (16QAM)                                     | Rel-8              | C_RF66        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-24  |
|        |  | Rel-9              | C_RF80        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 25-28  |
| 6.3D   | Maximum Input Level for DC-HSDPA Reception (64QAM)                                     | Rel-8              | C_RF67        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 23-24  |
|        |  | Rel-9              | C_RF78        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 27-28  |
| 6.3E   | Maximum Input Level for DB-DC-HSDPA Reception (16QAM)                                  | Rel-9              | C_RF84        | UEs supporting FDD and dual band operation  |
| 6.3F   | Maximum Input Level for DB-DC-HSDPA Reception (64QAM)                                  | Rel-9              | C_RF85        | UEs supporting FDD and HSDPA UE capability categories 23-24 and dual band operation   |
| 6.3G   | Maximum Input Level for 4C-HSDPA Reception (16QAM)                                     | Rel-10             | C_RF120       | UEs supporting HS-PDSCH and HS-DSCH categories 31-32  |
| 6.3GA  | Maximum Input Level for 4C-HSDPA Reception (16QAM) (3 carrier)                         | Rel-10             | C_RF118       | UEs supporting HS-PDSCH and HS-DSCH categories 29-32  |
| 6.3H   | Maximum Input Level for 4C-HSDPA Reception (64QAM)                                     | Rel-10             | C_RF120       | UEs supporting HS-PDSCH and HS-DSCH categories 31-32  |
| 6.3HA  | Maximum Input Level for 4C-HSDPA Reception (64QAM) (3 carrier)                         | Rel-10             | C_RF118       | UEs supporting HS-PDSCH and HS-DSCH categories 29-32  |
| 6.4    | Receiver Characteristics Adjacent Channel Selectivity (ACS) (Rel-99 and Rel-4)         | R99 and Rel-4 only | R             | UEs supporting FDD  |
| 6.4A   | Receiver Characteristics Adjacent Channel Selectivity (ACS) (Rel-5 and later releases) | Rel-5              | R             | UEs supporting FDD  |
| 6.4B   | Adjacent channel selectivity (ACS) for DC-HSDPA  | Rel-8              | C_RF66        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-24  |
|        |  | Rel-9              | C_RF80        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 25-28  |
| 6.4C   | Adjacent Channel Selectivity (ACS) for DB-DC-HSDPA                                     | Rel-9              | C_RF84        | UEs supporting FDD and dual band operation  |
| 6.5    | Blocking Characteristics / In-band blocking  | R99                | R             | UEs supporting FDD  |
|        | Blocking Characteristics / Out-of-band blocking  |                    |               |   |
|        | Blocking Characteristics / Narrow band blocking  |                    | C_RF03        | UEs supporting FDD and Band II or Band III or Band IV or Band V or Band VIII or Band X or Band XII or Band XIII or Band XIV |

| Clause | Title  | Release | Applicability | Comments  |
|--------|--|---------|---------------|---|
| 6.5A   | Blocking characteristics for DC-HSDPA                                    | Rel-8   | C_RF66        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-24  |
|        |  | Rel-9   | C_RF80        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 25-28  |
| 6.5B   | Blocking Characteristics for DB-DC-HSDPA                                 | Rel-9   | C_RF84        | UEs supporting FDD and dual band operation  |
| 6.5C   | Blocking characteristics for DC-HSUPA                                    | Rel-9   | C_RF86        | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 8 or 9)   |
| 6.5D   | Blocking Characteristics for single Uplink Single band 4C-HSDPA          | Rel-10  | C_RF118       | UEs supporting HS-PDSCH and HS-DSCH categories 29-32  |
| 6.5E   | Blocking Characteristics for dual Uplink Single band 4C-HSDPA            | Rel-10  | C_RF118       | UEs supporting HS-PDSCH and HS-DSCH categories 29-32  |
| 6.5F   | Blocking Characteristics for single Uplink Dual band 4C-HSDPA            | Rel-10  | C_RF120       | UEs supporting HS-PDSCH and HS-DSCH categories 31-32  |
| 6.5FA  | Blocking Characteristics for single Uplink Dual band 4C-HSDPA(3 carrier) | Rel-10  | C_RF118       | UEs supporting HS-PDSCH and HS-DSCH categories 29-32  |
| 6.5G   | Blocking Characteristics for dual Uplink Dual band 4C-HSDPA              | Rel-10  | C_RF120       | UEs supporting HS-PDSCH and HS-DSCH categories 31-32  |
| 6.5GA  | Blocking Characteristics for dual Uplink Dual band 4C-HSDPA(3 carrier)   | Rel-10  | C_RF118       | UEs supporting HS-PDSCH and HS-DSCH categories 29-32  |
| 6.6    | Spurious Response  | R99     | R             | UEs supporting FDD  |
| 6.6A   | Spurious Response for DC-HSDPA   | Rel-8   | C_RF66        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-24  |
|        |  | Rel-9   | C_RF80        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 25-28  |
| 6.6B   | Spurious Response for DB-DC-HSDPA  | Rel-9   | C_RF84        | UEs supporting FDD and dual band operation  |
| 6.6C   | Spurious Response for single band 4C-HSDPA                               | Rel-10  | C_RF118       | UEs supporting HS-PDSCH and HS-DSCH categories 29-32  |
| 6.6D   | Spurious Response for dual band 4C-HSDPA                                 | Rel-10  | C_RF120       | UEs supporting HS-PDSCH and HS-DSCH categories 31-32  |
| 6.6DA  | Spurious Response for dual band 4C-HSDPA(3 carrier)                      | Rel-10  | C_RF118       | UEs supporting HS-PDSCH and HS-DSCH categories 29-32  |
| 6.7    | Intermodulation Characteristics / Intermodulation                        | R99     | R             | UEs supporting FDD  |
|        | Intermodulation Characteristics / Narrow band intermodulation            |         | C_RF03        | UEs supporting FDD and Band II or Band III or Band IV or Band V or Band VIII or Band X or Band XII or Band XIII or Band XIV |
| 6.7A   | Intermodulation Characteristics for DC-HSDPA                             | Rel-8   | C_RF66        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-24  |
|        |  | Rel-9   | C_RF80        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 25-28  |
| 6.7B   | Intermodulation Characteristics for DB-DC-HSDPA                          | Rel-9   | C_RF84        | UEs supporting FDD and dual band operation  |
| 6.7C   | Intermodulation Characteristics for DC-HSUPA                             | Rel-9   | C_RF86        | UEs supporting FDD and HS-PDSCH and Dual Cell E-DCH (E-DCH Category 8 or 9)   |
| 6.7D   | Intermodulation Characteristics for single uplink single band 4C-HSDPA   | Rel-10  | C_RF118       | UEs supporting HS-PDSCH and HS-DSCH categories 29-32  |
| 6.7E   | Intermodulation Characteristics for single uplink dual band 4C-HSDPA     | Rel-10  | C_RF120       | UEs supporting HS-PDSCH and HS-DSCH categories 31-32  |



| Clause | Title  | Release | Applicability | Comments  |
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| 6.7EA  | Intermodulation Characteristics for single uplink dual band 4C-HSDPA(3 carrier)  | Rel-10  | C_RF118       | UEs supporting HS-PDSCH and HS-DSCH categories 29-32                        |
| 6.8    | Spurious Emissions   | R99     | R             | UEs supporting FDD  |
| 6.8A   | Spurious Emissions for DB-DC-HSDPA   | Rel-9   | C_RF144       | UEs supporting FDD and dual band operation with DB-DC-HSDPA Configuration 6 |
| 7.2.1  | Demodulation in Static Propagation conditions / Demodulation of Dedicated Channel (DCH) / Test 1   | R99     | R             | UEs supporting FDD  |
|        | Demodulation in Static Propagation conditions / Demodulation of Dedicated Channel (DCH) / Test 2   |         | C_RF08        | UEs supporting FDD and downlink RMC 64 kbps                                 |
|        | Demodulation in Static Propagation conditions / Demodulation of Dedicated Channel (DCH) / Test 3   |         | C_RF09        | UEs supporting FDD and downlink RMC 144 kbps                                |
|        | Demodulation in Static Propagation conditions / Demodulation of Dedicated Channel (DCH) / Test 4   |         | C_RF10        | UEs supporting FDD and downlink RMC 384 kbps                                |
| 7.2.2  | Demodulation in Static Propagation conditions / Demodulation of Dedicated Channel (DCH) when (DL_DCH_FET_Config) is configured by higher layers / Test 1 | Rel-12  | C_RF145       | UEs supporting FDD and DCH Enhancements                                     |
| 7.3.1  | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 1   | R99     | R             | UEs supporting FDD  |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 2   |         | C_RF08        | UEs supporting FDD and downlink RMC 64 kbps                                 |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 3   |         | C_RF09        | UEs supporting FDD and downlink RMC 144 kbps                                |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 4   |         | C_RF10        | UEs supporting FDD and downlink RMC 384 kbps                                |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 5   |         | R             | UEs supporting FDD  |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 6   |         | C_RF08        | UEs supporting FDD and downlink RMC 64 kbps                                 |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 7   |         | C_RF09        | UEs supporting FDD and downlink RMC 144 kbps                                |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 8   |         | C_RF10        | UEs supporting FDD and downlink RMC 384 kbps                                |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 9   |         | R             | UEs supporting FDD  |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 10  |         | C_RF08        | UEs supporting FDD and downlink RMC 64 kbps                                 |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 11  |         | C_RF09        | UEs supporting FDD and downlink RMC 144 kbps                                |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 12  |         | C_RF10        | UEs supporting FDD and downlink RMC 384 kbps                                |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 13  |         | R             | UEs supporting FDD  |

| Clause | Title  | Release            | Applicability      | Comments                                     |
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|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 14  |                    | C_RF08             | UEs supporting FDD and downlink RMC 64 kbps  |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 15  |                    | C_RF09             | UEs supporting FDD and downlink RMC 144 kbps |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 16  |                    | C_RF10             | UEs supporting FDD and downlink RMC 384 kbps |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 17  |                    | R                  | UEs supporting FDD                           |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 18  |                    | C_RF08             | UEs supporting FDD and downlink RMC 64 kbps  |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 19  |                    | C_RF09             | UEs supporting FDD and downlink RMC 144 kbps |
|        | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance / Test 20  |                    | C_RF10             | UEs supporting FDD and downlink RMC 384 kbps |
| 7.3.2  | Demodulation of DCH in Multi-path Fading Propagation conditions / Single Link Performance when (DL_DCH_FET_Config) is configured by higher layers / Test 1 | Rel-12             | C_RF145            | UEs supporting FDD and DCH Enhancements      |
| 7.4.1  | Demodulation of DCH in Moving Propagation conditions / Single Link Performance / Test 1  | R99                | R                  | UEs supporting FDD                           |
|        | Demodulation of DCH in Moving Propagation conditions / Single Link Performance / Test 2  |                    | C_RF08             | UEs supporting FDD and downlink RMC 64 kbps  |
| 7.5.1  | Demodulation of DCH in Birth-Death Propagation conditions / Single Link Performance / Test 1   | R99                | R                  | UEs supporting FDD                           |
|        | Demodulation of DCH in Birth-Death Propagation conditions / Single Link Performance / Test 2   |                    | C_RF08             | UEs supporting FDD and downlink RMC 64 kbps  |
| 7.5A.1 | Demodulation of DCH in high speed train condition/ Single Link Performance/ Test1  | Rel-7              | R                  | UEs supporting FDD                           |
| 7.6.1  | Demodulation of DCH in downlink Transmit diversity modes / Demodulation of DCH in open-loop transmit diversity mode / Test 1                               | R99                | R                  | UEs supporting FDD                           |
| 7.6.2  | Demodulation of DCH in downlink Transmit diversity modes / Demodulation of DCH in closed loop transmit diversity mode / Test 1                             | R99                | R                  | UEs supporting FDD                           |
|        | Demodulation of DCH in downlink Transmit diversity modes / Demodulation of DCH in closed loop transmit diversity mode / Test 2                             |                    | R99 and Rel-4 only | R  |
| 7.6.3  | Demodulation of DCH in downlink Transmit diversity modes / Demodulation of DCH in site selection diversity transmission power control mode / Test 1        | R99 and Rel-4 only | R                  | UEs supporting FDD                           |
|        | Demodulation of DCH in downlink Transmit diversity modes / Demodulation of DCH in site selection diversity transmission power control mode / Test 2        |                    |                    |  |

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|        | Demodulation of DCH in downlink Transmit diversity modes / Demodulation of DCH in site selection diversity transmission power control mode / Test 3 |                           |               |  |
|        | Demodulation of DCH in downlink Transmit diversity modes / Demodulation of DCH in site selection diversity transmission power control mode / Test 4 |                           |               |  |
| 7.7.1  | Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell Soft Handover / Test 1 (Release 5 and earlier)                              | R99, Rel-4 and Rel-5 only | R             | UEs supporting FDD                           |
|        | Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell Soft Handover / Test 2 (Release 5 and earlier)                              |                           | C_RF08        | UEs supporting FDD and downlink RMC 64 kbps  |
|        | Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell Soft Handover / Test 3 (Release 5 and earlier)                              |                           | C_RF09        | UEs supporting FDD and downlink RMC 144 kbps |
|        | Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell Soft Handover / Test 4 (Release 5 and earlier)                              |                           | C_RF10        | UEs supporting FDD and downlink RMC 384 kbps |
| 7.7.1A | Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell Soft Handover / Test 1 (Release 6 and later)                                | Rel-6                     | R             | UEs supporting FDD                           |
|        | Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell Soft Handover / Test 2 (Release 6 and later)                                |                           | C_RF08        | UEs supporting FDD and downlink RMC 64 kbps  |
|        | Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell Soft Handover / Test 3 (Release 6 and later)                                |                           | C_RF09        | UEs supporting FDD and downlink RMC 144 kbps |
|        | Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell Soft Handover / Test 4 (Release 6 and later)                                |                           | C_RF10        | UEs supporting FDD and downlink RMC 384 kbps |
| 7.7.1B | Demodulation in Handover conditions / Demodulation of DCH in Inter-Cell soft handover (DL_DCH_FET_Config) / Test1                                   | Rel-12                    | C_RF145       | UEs supporting FDD and DCH Enhancements      |
| 7.7.2  | Demodulation in Handover conditions / Combining of TPC commands from radio links of different radio link sets / Test 1                              | R99                       | R             | UEs supporting FDD                           |
|        | Demodulation in Handover conditions / Combining of TPC commands from radio links of different radio link sets / Test 2                              |                           |               |  |
| 7.7.2A | Demodulation in Handover conditions / Combining of TPC commands from radio links of different radio link sets (DL_DCH_FET_Config) / Test1           | Rel-12                    | C_RF145       | UEs supporting FDD and DCH Enhancements      |
| 7.7.3  | Demodulation in Handover conditions / Combining of reliable TPC commands from radio links of different radio link sets / Test 1                     | R99                       | R             | UEs supporting FDD                           |

| Clause | Title   | Release                   | Applicability | Comments                                     |
|--------|---|---------------------------|---------------|--|
|        | Demodulation in Handover conditions / Combining of reliable TPC commands from radio links of different radio link sets / Test 2             |                           |               |  |
| 7.7.3A | Combining of reliable TPC commands from radio links of different radio link sets when DL_DCH_FET_Config [10] is configured by higher layers | Rel-12                    | C_RF145       | UEs supporting FDD and DCH Enhancements      |
| 7.8.1  | Power control in downlink / Power control in the downlink, constant BLER target (Release 5 and earlier)                                     | R99, Rel-4 and Rel-5 only | R             | UEs supporting FDD                           |
| 7.8.1A | Power control in downlink / Power control in the downlink, constant BLER target / Test 1 (Release 6 and later)                              | Rel-6                     | R             | UEs supporting FDD                           |
|        | Power control in downlink / Power control in the downlink, constant BLER target / Test 2 (Release 6 and later)                              | Rel-6                     | R             | UEs supporting FDD                           |
|        | Power control in downlink / Power control in the downlink, constant BLER target / Test 3 (Release 6 and later)                              | Rel-6                     | C_RF34        | UEs supporting FDD and downlink RMC2 64 kbps |
|        | Power control in downlink / Power control in the downlink, constant BLER target / Test 4 (Release 6 and later)                              | Rel-6                     | C_RF34        | UEs supporting FDD and downlink RMC2 64 kbps |
| 7.8.1B | Power control in the downlink, constant BLER target when DL_DCH_FET_Config is configured by higher layers                                   | Rel-12                    | C_RF145       | UEs supporting FDD and DCH Enhancements      |
| 7.8.2  | Power control in downlink / Power control in the downlink, initial convergence / Test 1   | R99                       | R             | UEs supporting FDD                           |
|        | Power control in downlink / Power control in the downlink, initial convergence / Test 2   |                           |               |  |
|        | Power control in downlink / Power control in the downlink, initial convergence / Test 3   |                           | C_RF08        | UEs supporting FDD and downlink RMC 64 kbps  |
|        | Power control in downlink / Power control in the downlink, initial convergence / Test 4   |                           |               |  |
| 7.8.2A | Power control in the downlink, initial convergence when DL_DCH_FET_Config is configured by higher layers                                    | Rel-12                    | C_RF145       | UEs supporting FDD and DCH Enhancements      |
| 7.8.3  | Power control in downlink Power control in the downlink, wind up effects / Test 1 (Release 5 and earlier)                                   | R99, Rel-4 and Rel-5 only | R             | UEs supporting FDD                           |
| 7.8.3A | Power control in downlink Power control in the downlink, wind up effects / Test 1 (Release 6 and later)                                     | Rel-6                     | R             | UEs supporting FDD                           |
| 7.8.3B | Power control in the downlink, wind up effects (Release 6 and later) when DL_DCH_FET_Config is configured by higher layers                  | Rel-12                    | C_RF145       | UEs supporting FDD and DCH Enhancements      |
| 7.8.4  | Power control in the downlink, different transport formats  | Rel-5                     | R             | UEs supporting FDD                           |
| 7.8.4A | Power control in the downlink, different transport formats when DL_DCH_FET_Config is configured by higher layers                            | Rel-12                    | C_RF145       | UEs supporting FDD and DCH Enhancements      |

| Clause  | Title   | Release                   | Applicability | Comments   |
|---------|---|---------------------------|---------------|--|
| 7.8.5   | Power control in the downlink for F-DPCH  | Rel-6                     | C_RF39        | UEs supporting FDD and HS-PDSCH and F-DPCH             |
| 7.9.1   | Downlink compressed mode / Single link performance / Test 1 (Release 5 and earlier) | R99, Rel-4 and Rel-5 only | C_RF04        | UEs supporting FDD and downlink compressed mode        |
|         | Downlink compressed mode / Single link performance / Test 2 (Release 5 and earlier) |                           |               |  |
|         | Downlink compressed mode / Single link performance / Test 3 (Release 4 and earlier) | R99 and Rel-4 only        | C_RF04        | UEs supporting FDD and downlink compressed mode        |
|         | Downlink compressed mode / Single link performance / Test 4 (Release 4 and earlier) |                           |               |  |
| 7.9.1A  | Downlink compressed mode / Single link performance / Test 1 (Release 6 and later)   | Rel-6                     | C_RF04        | UEs supporting FDD and downlink compressed mode        |
|         | Downlink compressed mode / Single link performance / Test 2 (Release 6 and later)   |                           |               |  |
| 7.10    | Blind transport format detection / Test 1   | R99                       | R             | UEs supporting FDD                                     |
|         | Blind transport format detection / Test 2   |                           |               |  |
|         | Blind transport format detection / Test 3   |                           |               |  |
|         | Blind transport format detection / Test 4   |                           |               |  |
|         | Blind transport format detection / Test 5   |                           |               |  |
|         | Blind transport format detection / Test 6   |                           |               |  |
| 7.11    | Demodulation of Paging Channel (PCH)  | Rel-4                     | C_RF12        | UEs supporting FDD Packet Switched Data                |
| 7.12    | Detection of Acquisition Indicator (AI)   | Rel-4                     | R             | UEs supporting FDD                                     |
| 7.12A   | Detection of E-DCH Acquisition Indicator (E-AI)                                     | Rel-8                     | C_RF71        | UEs supporting Enhanced Uplink on CELL_FACH state      |
| 7.13    | UE UL power control operation with discontinuous UL DPCCH transmission operation    | Rel-7                     | C_RF54        | UE supporting FDD and DPCCH Discontinuous Transmission |
| 8.2.2.1 | Cell Re-Selection - Scenario 1: Single carrier case                                 | R99                       | R             | UEs supporting FDD                                     |
| 8.2.2.2 | Cell Re-Selection - Scenario 2: Multi carrier case                                  | R99                       | R             | UEs supporting FDD                                     |
| 8.2.3.1 | UTRAN to GSM Cell Re-Selection - Scenario 1: Both UTRA and GSM level changed        | R99                       | C_RF05        | UEs supporting FDD and GSM                             |
| 8.2.3.2 | UTRAN to GSM Cell Re-Selection - Scenario 2: Only UTRA level changed                | R99                       | C_RF05        | UEs supporting FDD and GSM                             |
| 8.2.3.3 | UTRAN to GSM Cell Re-Selection - Scenario 3: HCS with only UTRA level changed       | Rel-6                     | C_RF05        | UEs supporting FDD and GSM                             |
| 8.2.4   | FDD/TDD Cell Re-selection   | R99                       | C_RF06        | UE supporting FDD and TDD                              |
| 8.2.5.1 | UTRAN to E-UTRA Cell Re-Selection / E-UTRA is of higher priority                    | Rel-8                     | C_RF73        | UE supporting FDD and E-UTRAN FDD                      |
| 8.2.5.2 | UTRAN to E-UTRA Cell Re-Selection / E-UTRA is of lower priority                     | Rel-8                     | C_RF73        | UE supporting FDD and E-UTRAN FDD                      |
| 8.2.5.3 | RSRQ based reselection when E-UTRA FDD is of higher priority                        | Rel-11                    | C_RF73        | UE supporting FDD and E-UTRAN FDD                      |
| 8.3.1   | UTRAN Connected Mode Mobility FDD/FDD Soft Handover                                 | R99                       | R             | UEs supporting FDD                                     |

| Clause   | Title   | Release            | Applicability | Comments   |
|----------|---|--------------------|---------------|--|
| 8.3.2.1  | UTRAN Connected Mode Mobility - FDD/FDD Hard Handover to intra-frequency cell   | R99                | R             | UEs supporting FDD   |
| 8.3.2.2  | FDD/FDD Hard Handover to inter-frequency cell   | R99                | R             | UEs supporting FDD   |
| 8.3.3    | FDD/TDD Handover  | R99 and Rel-4 only | C_RF06        | UEs supporting FDD and TDD   |
| 8.3.4    | Inter-system Handover from UTRAN FDD to GSM   | R99                | C_RF27        | UEs supporting FDD and GSM and supporting speech.  |
| 8.3.4a   | Inter-system Handover from UTRAN FDD to E-UTRAN FDD   | Rel-8              | C_RF107       | UE supporting FDD and E-UTRAN FDD and inter-RAT PS handover to E-UTRA(FDD) from UTRA and EUTRA Feature Group Indicator 2 |
| 8.3.4b   | Inter-system Handover from UTRAN FDD to E-UTRAN TDD   | Rel-8              | C_RF108       | UE supporting FDD and E-UTRAN TDD and inter-RAT PS handover to E-UTRA(TDD) from UTRA and UTRA Feature Group Indicator 2  |
| 8.3.4c   | Inter-system Handover from UTRAN FDD to E-UTRAN FDD: Unknown Target Cell  | Rel-8              | C_RF107       | UE supporting FDD and E-UTRAN FDD and inter-RAT PS handover to E-UTRA(FDD) from UTRA and EUTRA Feature Group Indicator 2 |
| 8.3.4d   | Inter-system Handover from UTRAN FDD to E-UTRAN TDD; Unknown Target Cell  | Rel-8              | C_RF108       | UE supporting FDD and E-UTRAN TDD and inter-RAT PS handover to E-UTRA(TDD) from UTRA and EUTRA Feature Group Indicator 2 |
| 8.3.5.1  | Cell Re-selection in CELL_FACH - One frequency present in neighbour list and FACH measurement occasions configured  | R99                | R             | UEs supporting FDD   |
| 8.3.5.1a | Cell Re-selection in CELL_FACH - One frequency present in neighbour list and HS-DSCH DRX configured   | Rel-11             | C_RF131       | UEs supporting FDD and HS-DSCH DRX operation in CELL_FACH state  |
| 8.3.5.2  | Cell Re-selection in CELL_FACH - Two frequencies present in the neighbour list and FACH measurement occasions configured  | R99                | R             | UEs supporting FDD   |
| 8.3.5.2a | Cell Re-selection in CELL_FACH - Two frequencies present in the neighbour list and HS-DSCH DRX configured (Absolute priority levels not configured)                 | Rel-11             | C_RF131       | UEs supporting FDD and HS-DSCH DRX operation in CELL_FACH state  |
| 8.3.5.2b | Cell Re-selection in CELL_FACH - Two frequencies present in the neighbour list and HS-DSCH DRX configured (Absolute priority levels configured)                     | Rel-11             | C_RF131       | UEs supporting FDD and HS-DSCH DRX operation in CELL_FACH state  |
| 8.3.5.2c | Cell Re-selection in CELL_FACH - Two frequencies present in the neighbour list and HS-DSCH 2 <sup>nd</sup> DRX configured (Absolute priority levels not configured) | Rel-11             | C_RF132       | UEs supporting FDD and HS-DSCH DRX operation with second DRX cycle in CELL_FACH state                                    |
| 8.3.5.2d | Cell Re-selection in CELL_FACH - Two frequencies present in the neighbour list and HS-DSCH 2 <sup>nd</sup> DRX configured (Absolute priority levels configured)     | Rel-11             | C_RF132       | UEs supporting FDD and HS-DSCH DRX operation with second DRX cycle in CELL_FACH state                                    |
| 8.3.5.3  | Cell Re-selection in CELL_FACH - Cell Reselection to GSM  | R99                | C_RF07        | UEs supporting FDD Packet Switched Data and GPRS   |
| 8.3.5.4  | Cell Reselection during an MBMS session, two frequencies present in neighbour list  | Rel-6              | C_RF29        | UEs supporting FDD and MBMS  |

| Clause    | Title   | Release                   | Applicability | Comments  |
|-----------|---|---------------------------|---------------|---|
| 8.3.5.5.1 | UTRAN to E-UTRA Cell Reselection<br>- Reselection to E-UTRA FDD when HS-DSCH DRX is configured (E-UTRA has higher priority)                 | Rel-11                    | C_RF133       | UEs supporting FDD and E-UTRAN FDD and HS-DSCH DRX operation in CELL_FACH state                       |
| 8.3.5.5.2 | UTRAN to E-UTRA Cell Reselection<br>- Reselection to E-UTRA FDD when HS-DSCH DRX is configured (E-UTRA has lower priority)                  | Rel-11                    | C_RF133       | UEs supporting FDD and E-UTRAN FDD and HS-DSCH DRX operation in CELL_FACH state                       |
| 8.3.5.5.3 | UTRAN to E-UTRA Cell Reselection<br>- Reselection to E-UTRA FDD when HS-DSCH 2 <sup>nd</sup> DRX is configured (E-UTRA has higher priority) | Rel-11                    | C_RF134       | UEs supporting FDD and E-UTRAN FDD and HS-DSCH DRX operation with second DRX cycle in CELL_FACH state |
| 8.3.5.5.4 | UTRAN to E-UTRA Cell Reselection<br>- Reselection to E-UTRA TDD when HS-DSCH DRX is configured (E-UTRA has higher priority)                 | Rel-11                    | C_RF135       | UEs supporting FDD and E-UTRAN TDD and HS-DSCH DRX operation in CELL_FACH state                       |
| 8.3.5.5.5 | UTRAN to E-UTRA Cell Reselection<br>- Reselection to E-UTRA TDD when HS-DSCH DRX is configured (E-UTRA has lower priority)                  | Rel-11                    | C_RF135       | UEs supporting FDD and E-UTRAN TDD and HS-DSCH DRX operation in CELL_FACH state                       |
| 8.3.5.5.6 | UTRAN to E-UTRA Cell Reselection<br>- Reselection to E-UTRA TDD when HS-DSCH 2 <sup>nd</sup> DRX is configured (E-UTRA has higher priority) | Rel-11                    | C_RF136       | UEs supporting FDD and E-UTRAN TDD and HS-DSCH DRX operation with second DRX cycle in CELL_FACH state |
| 8.3.6.1   | Cell Re-selection in CELL_PCH -<br>One frequency present in the neighbour list  | R99                       | C_RF12        | UEs supporting FDD Packet Switched Data   |
| 8.3.6.2   | Cell Re-selection in CELL_PCH -<br>Two frequencies present in the neighbour list  | R99                       | C_RF12        | UEs supporting FDD Packet Switched Data   |
| 8.3.6.3   | Cell re-selection during an MBMS session, one UTRAN inter-frequency and 2 GSM cells present in the neighbour list                           | Rel-6                     | C_RF30        | UEs supporting FDD and MBMS and GSM   |
| 8.3.7.1   | Cell Re-selection in URA_PCH -<br>One frequency present in the neighbour list   | R99                       | C_RF12        | UEs supporting FDD Packet Switched Data   |
| 8.3.7.2   | Cell Re-selection in URA_PCH -<br>Two frequencies present in the neighbour list   | R99                       | C_RF12        | UEs supporting FDD Packet Switched Data   |
| 8.3.8     | Serving HS-DSCH cell change   | Rel-6                     | C_RF02        | UEs supporting FDD and HS-PDSCH   |
| 8.3.9     | Enhanced Serving HS-DSCH cell change  | Rel-8                     | C_RF68        | UEs supporting FDD and HS-PDSCH and additionally supporting Target Cell Pre-Configuration             |
| 8.3.10.1  | Intrafrequency System Information Acquisition for CSG cell  | Rel-9                     | C_RF87        | UEs supporting FDD, CSG and intra-frequency SI acquisition for HO.                                    |
| 8.3.10.2  | Interfrequency System Information Acquisition for CSG cell  | Rel-9                     | C_RF88        | UEs supporting FDD, CSG and inter-frequency SI acquisition for HO.                                    |
| 8.4.1.1   | RRC Connection Control / RRC Re-establishment delay - Test 1  | R99                       | R             | UEs supporting FDD  |
| 8.4.1.2   | RRC Connection Control / RRC Re-establishment delay - Test 2  | R99                       | R             | UEs supporting FDD  |
| 8.4.2.1   | Random Access - Correct behaviour when receiving an ACK   | R99, Rel-4 and Rel-5 only | R             | UEs supporting FDD  |
| 8.4.2.1A  | Random Access - Correct behaviour when receiving an ACK - Release 6   | Rel-6                     | R             | UEs supporting FDD  |
| 8.4.2.2   | Random Access - Correct behaviour when receiving an NACK  | R99                       | R             | UEs supporting FDD  |
| 8.4.2.3   | Random Access - Correct behaviour at Time-out   | R99                       | R             | UEs supporting FDD  |

| Clause   | Title  | Release                   | Applicability | Comments   |
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| 8.4.2.4  | Random Access - Correct behaviour when reaching maximum transmit power   | R99                       | R             | UEs supporting FDD   |
| 8.4.3.1  | Transport format combination selection in UE - Interactive or Background, PS, UL: 64 kbps  | R99                       | C_RF13        | UEs supporting FDD and downlink RMC 64 kbps and uplink RMC 64 kbps |
| 8.4.3.1A | Transport format combination selection in UE-Interactive or Background, PS, UL: 64 kbps + Conversational / speech, CS, UL: 12.2kbps                  | Rel-10                    | C_RF13        | UEs supporting FDD and downlink RMC 64 kbps and uplink RMC 64 kbps |
| 8.4.4.1  | E-TFC restriction in UE - 10ms TTI E-DCH E-TFC restriction   | Rel-6                     | C_RF23        | UEs supporting FDD and HS-PDSCH and E-DPDCH                        |
| 8.4.4.2  | E-TFC restriction in UE - 2ms TTI E-DCH E-TFC restriction  | Rel-6                     | C_RF28        | UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI          |
| 8.5.1    | Timing and Signalling Characteristics - UE Transmit Timing   | R99                       | R             | UEs supporting FDD   |
| 8.6.1.1  | UE Measurements Procedures / FDD intra frequency measurements - Event triggered reporting in AWGN propagation conditions                             | R99 only                  | R             | UEs supporting FDD   |
| 8.6.1.1A | UE Measurements Procedures / FDD intra frequency measurements - Event triggered reporting in AWGN propagation conditions                             | Rel-4                     | R             | UEs supporting FDD   |
| 8.6.1.2  | UE Measurements Procedures / FDD intra frequency measurements - Event triggered reporting of multiple neighbours in AWGN propagation condition       | R99 only                  | R             | UEs supporting FDD   |
| 8.6.1.2A | UE Measurements Procedures / FDD intra frequency measurements - Event triggered reporting of multiple neighbours in AWGN propagation condition       | Rel-4                     | R             | UEs supporting FDD   |
| 8.6.1.3  | UE Measurements Procedures / FDD intra frequency measurements - Event triggered reporting of two detectable neighbours in AWGN propagation condition | R99 only                  | R             | UEs supporting FDD   |
| 8.6.1.3A | UE Measurements Procedures / FDD intra frequency measurements - Event triggered reporting of two detectable neighbours in AWGN propagation condition | Rel-4                     | R             | UEs supporting FDD   |
| 8.6.1.4  | Void   |                           |               |  |
| 8.6.1.4A | UE Measurements Procedures / FDD intra frequency measurements - Correct reporting of neighbours in fading propagation condition                      | Rel-4                     | R             | UEs supporting FDD   |
| 8.6.1.5  | UE Measurements Procedures / FDD intra frequency measurements - Event triggered reporting of multiple neighbour cells in Case 1 fading condition     | Rel-5                     | R             | UEs supporting FDD   |
| 8.6.1.6  | UE Measurements Procedures / FDD intra frequency measurements - Event triggered reporting of multiple neighbour cells in Case 3 fading condition     | Rel-5                     | R             | UEs supporting FDD   |
| 8.6.2.1  | FDD inter frequency measurements - Correct reporting of neighbours in AWGN propagation condition (Release 5 and earlier)                             | R99, Rel-4 and Rel-5 only | R             | UEs supporting FDD   |



| Clause    | Title  | Release            | Applicability | Comments  |
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| 8.6.2.1A  | FDD inter frequency measurements - Correct reporting of neighbours in AWGN propagation condition (Release 6 and later)     | Rel-6              | R             | UEs supporting FDD  |
| 8.6.2.2   | FDD inter frequency measurements - Correct reporting of neighbours in fading propagation condition (Release 5 only)        | Rel-5 only         | R             | UEs supporting FDD  |
| 8.6.2.2A  | FDD inter frequency measurements - Correct reporting of neighbours in fading propagation condition (Release 6 and later)   | Rel-6              | R             | UEs supporting FDD  |
| 8.6.2.3   | FDD inter frequency measurements - Correct reporting of neighbours in fading propagation condition using TGL1= 14          | Rel-6              | R             | UEs supporting FDD  |
| 8.6.3.1   | TDD measurements - Correct reporting of TDD neighbours in AWGN propagation condition                                       | R99 and Rel-4 only | C_RF06        | UEs supporting FDD and TDD  |
| 8.6.4.1   | GSM measurements - Correct reporting of GSM neighbours in AWGN propagation condition                                       | R99                | C_RF05        | UEs supporting FDD and GSM  |
| 8.6.5.1   | Combined Interfrequency and GSM measurements - Correct reporting of neighbours in AWGN propagation condition               | Rel-6              | C_RF05        | UEs supporting FDD and GSM  |
| 8.6.6.1   | Correct reporting of E-UTRAN FDD neighbour in fading propagation condition in CELL_DCH                                     | Rel-8              | C_RF109       | UE supporting FDD and E-UTRAN FDD and EUTRA Feature Group Indicator 2 |
| 8.6.6.2   | Correct reporting of E-UTRAN TDD neighbour in fading propagation condition in CELL_DCH                                     | Rel-8              | C_RF110       | UE supporting FDD and E-UTRAN TDD and EUTRA Feature Group Indicator 2 |
| 8.6.7.1   | Correct reporting of E-UTRA FDD neighbours in fading propagation condition   | Rel-8              | C_RF109       | UE supporting FDD and E-UTRAN FDD and EUTRA Feature Group Indicator 2 |
| 8.6.7.2   | Correct reporting of E-UTRA TDD neighbours in Fading propagation condition   | Rel-8              | C_RF110       | UE supporting FDD and E-UTRAN TDD and EUTRA Feature Group Indicator 2 |
| 8.7.1.1.1 | Measurements Performance Requirements / CPICH RSCP / Intra frequency measurements accuracy - Absolute accuracy requirement | R99                | R             | UEs supporting FDD  |
| 8.7.1.1.2 | Measurements Performance Requirements / CPICH RSCP / Intra frequency measurements accuracy - Relative accuracy requirement | R99                | R             | UEs supporting FDD  |
| 8.7.1.2.1 | Inter frequency measurement accuracy - Relative accuracy requirement   | R99                | R             | UEs supporting FDD  |
| 8.7.2.1.1 | CPICH Ec/Io / Intra frequency measurements accuracy - Absolute accuracy requirement  | R99                | R             | UEs supporting FDD  |
| 8.7.2.1.2 | CPICH Ec/Io / Intra frequency measurements accuracy - Relative accuracy requirement  | R99                | R             | UEs supporting FDD  |
| 8.7.2.2.1 | Inter frequency measurement accuracy / Absolute accuracy requirement   |                    | Void          |   |
| 8.7.2.2.2 | Inter frequency measurement accuracy / Relative accuracy requirement   | R99                | R             | UEs supporting FDD  |
| 8.7.3.1   | UTRA Carrier RSSI - Absolute measurement accuracy requirement  | R99                | R             | UEs supporting FDD  |
| 8.7.3.2   | UTRA Carrier RSSI - Relative measurement accuracy requirement  | Rel-6              | R             | UEs supporting FDD  |
| 8.7.3A    | GSM Carrier RSSI   | R99                | C_RF05        | UE supporting FDD and GSM   |

| Clause   | Title  | Release                   | Applicability | Comments  |
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| 8.7.3B   | Transport channel BLER   |                           | Void          |   |
| 8.7.3C   | UE transmitted power (R99 and Rel-4 only)  | R99 and Rel-4 only        | R             | UEs supporting FDD  |
| 8.7.3D   | UE transmitted power (Rel-5 and later)   | Rel-5                     | R             | UEs supporting FDD  |
| 8.7.4.1  | SFN-CFN observed time difference - Intra frequency measurement requirement   | R99                       | R             | UEs supporting FDD  |
| 8.7.4.2  | SFN-CFN observed time difference - Inter frequency measurement requirement   | R99                       | R             | UEs supporting FDD  |
| 8.7.5.1  | SFN-SFN observed time difference type 1  | R99                       | R             | UEs supporting FDD  |
| 8.7.5.2  | SFN-SFN observed time difference type 2  |                           | Void          |   |
| 8.7.6.1  | UE Rx-Tx time difference type 1 (Release 5 and earlier)  | R99, Rel-4 and Rel-5 only | R             | UEs supporting FDD  |
| 8.7.6.1A | UE Rx-Tx time difference type 1 (Release 6 and later)  | Rel-6                     | R             | UEs supporting FDD  |
| 8.7.6.2  | UE Rx-Tx time difference type 2  |                           | Void          |   |
| 8.7.7    | Observed time difference to GSM cell   | R99 and Rel-4 only        | Void          |   |
| 8.7.8.1  | P-CCPCH RSCP Absolute measurement accuracy   | R99 and Rel-4 only        | C_RF06        | UEs supporting FDD and TDD  |
| 8.7.9    | UE Transmission Power Headroom   | Rel-6                     | C_RF23        | UEs supporting FDD and HS-PDSCH and E-DPDCH   |
| 8.7.10   | E-UTRAN FDD RSRP absolute accuracy (CELL_DCH)  | Rel-9                     | C_RF73        | UE supporting FDD and E-UTRAN FDD   |
| 8.7.11   | E-UTRAN TDD RSRP absolute accuracy (CELL_DCH)  | Rel-9                     | C_RF74        | UE supporting FDD and E-UTRAN TDD   |
| 8.7.12   | E-UTRAN FDD RSRQ absolute accuracy (CELL_DCH)  | Rel-9                     | C_RF73        | UE supporting FDD and E-UTRAN FDD   |
| 8.7.13   | E-UTRAN TDD RSRQ absolute accuracy (CELL_DCH)  | Rel-9                     | C_RF74        | UE supporting FDD and E-UTRAN TDD   |
| 9.2.1A   | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3  | Rel-5                     | C_RF14        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 1-6  |
| 9.2.1B   | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - QPSK, Fixed Reference Channel (FRC) H-Set 4/5  | Rel-5                     | C_RF15        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 11-12  |
| 9.2.1C   | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6/3  | Rel-6                     | C_RF16        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-10, but not supporting the optional enhanced performance requirements types 1, 2, 3 or 3i. |
| 9.2.1D   | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 1 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3 | Rel-6                     | C_RF17        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 1-6 and Enhanced performance requirements type 1.  |
| 9.2.1E   | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 1 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6/3   | Rel-6                     | C_RF18        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-10 and Enhanced performance requirements type 1.   |

| Clause  | Title  | Release | Applicability | Comments   |
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| 9.2.1F  | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6/3                   | Rel-6   | C_RF112       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-10 and Enhanced performance requirements type 2 or Enhanced performance requirements type 3 or Enhanced performance requirements type 3i (Note 4) |
|         |  | Rel-7   | C_RF41        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 13-14.(Note 4)  |
| 9.2.1FA | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6A/3A                 | Rel-8   | C_RF62        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-24 but not supporting dual band operation  |
| 9.2.1FB | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6A/3A for DB-DC-HSDPA | Rel-9   | C_RF92        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-24 and dual band operation   |
| 9.2.1FC | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6B/3B                 | Rel-10  | C_RF95        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability category 29  |
| 9.2.1FD | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6C/3C                 | Rel-10  | C_RF96        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability category 31  |
| 9.2.1G  | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6/3                   | Rel-7   | C_RF47        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-10, 13-14 and Enhanced performance requirements type 3. (Note 4)  |
|         |  | Rel-7   | C_RF38        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15-18. (Note 4)   |
|         |  | Rel-8   | C_RF59        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-10, 13-14 and Enhanced performance requirements type 3i (Note 4)  |
|         |  | Rel-8   | C_RF45        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 19-20. (Note 4)   |
| 9.2.1GA | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6A/3A                 | Rel-8   | C_RF63        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-24 and Enhanced performance requirements type 3 or Enhanced performance requirements type 3i but not supporting dual band operation              |

| Clause  | Title  | Release | Applicability | Comments  |
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|         |  | Rel-9   | C_RF81        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 25-28 and Enhanced performance requirements type 3 or Enhanced performance requirements type 3i but not supporting dual band operation |
| 9.2.1GB | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6A/3A for DB-DC-HSDPA | Rel-9   | C_RF139       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-28 and Enhanced performance requirements type 3 or Enhanced performance requirements type 3i and dual band operation                |
| 9.2.1GC | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6C/3C                 | Rel-10  | C_RF105       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 29-30 and Enhanced performance requirements type 3 or Enhanced performance requirements type 3i  |
| 9.2.1GD | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6D/3D                 | Rel-10  | C_RF106       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 31-32 and Enhanced performance requirements type 3 or Enhanced performance requirements type 3i  |
| 9.2.1H  | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 2 - 64QAM, Fixed Reference Channel (FRC) H-Set 8                          | Rel-7   | C_RF113       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 13, 14 and not supporting the optional enhanced performance requirements Type 3 or Type 3i. (Note 4)                                   |
| 9.2.1HA | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 2 - 64QAM, Fixed Reference Channel (FRC) H-Set 8 A                        | Rel-8   | C_RF64        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 23-24 and not supporting the optional enhanced performance requirements Type 3 or Type 3i and not supporting dual band operation       |
| 9.2.1HB | Demodulation of HS-DSCH (Fixed Reference Channel) Single Link Performance - Enhanced Performance Requirements Type 2 - 64QAM, Fixed Reference Channel (FRC) H-Set 8 A for DB-DC-HSDPA          | Rel-9   | C_RF141       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 23-24 and not supporting the optional enhanced performance requirements Type 3 or Type 3i and supporting dual band operation           |
| 9.2.1HC | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 8B                    | Rel-10  | C_RF114       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability category 29 and not supporting the optional enhanced performance requirements Type 3 or Type 3i.  |
| 9.2.1HD | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 8C                    | Rel-10  | C_RF115       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability category 31 and not supporting the optional enhanced performance requirements Type 3 or Type 3i.  |
| 9.2.1I  |  | Rel-7   | C_RF42        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 13, 14 and Enhanced performance requirements type 3 (Note 4)   |

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|         | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 3 - 64QAM, Fixed Reference Channel (FRC) H-Set 8                | Rel-7   | C_RF44        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 17, 18. (Note 4)  |
|         |  | Rel-8   | C_RF58        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 13, 14 and Enhanced performance requirements type 3i (Note 4)   |
|         |  | Rel-8   | C_RF45        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 19-20. (Note 4)   |
| 9.2.1IA | Demodulation of HS-DSCH (Fixed Reference Channel) Single Link Performance - Enhanced Performance Requirements Type 3 - 64QAM, Fixed Reference Channel (FRC) H-Set 8A                 | Rel-8   | C_RF65        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 23-24 and Enhanced performance requirements type 3 or Enhanced performance requirements type 3i but not supporting dual band operation        |
|         |  | Rel-9   | C_RF81        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 27-28 and Enhanced performance requirements type 3 or Enhanced performance requirements type 3i but not supporting dual band operation        |
| 9.2.1IB | Demodulation of HS-DSCH (Fixed Reference Channel) Single Link Performance - Enhanced Performance Requirements Type 3 - 64QAM, Fixed Reference Channel (FRC) H-Set 8A for DB-DC-HSDPA | Rel-9   | C_RF140       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 23, 24, 27 or 28 and Enhanced performance requirements type 3 or Enhanced performance requirements type 3i and dual band operation            |
| 9.2.1IC | Demodulation of HS-DSCH (Fixed Reference Channel) Single Link Performance - Enhanced Performance Requirements Type 3 - 64QAM, Fixed Reference Channel (FRC) H-Set 8B                 | Rel-10  | C_RF105       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 29-30 and Enhanced performance requirements type 3 or Enhanced performance requirements type 3i.  |
| 9.2.1ID | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 3 - 64QAM, Fixed Reference Channel (FRC) H-Set 8C               | Rel-10  | C_RF106       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 31-32 and Enhanced performance requirements type 3 or Enhanced performance requirements type 3i.  |
| 9.2.1J  | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10          | Rel-8   | C_RF77        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 9-10 and Enhanced performance requirements type 2 and not supporting the optional enhanced performance requirements Type3 or Type 3i (Note 4) |
|         |  | Rel-8   | C_RF113       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 13-14 and not supporting the optional enhanced performance requirements Type 3 or Type 3i. (Note 4)   |

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| 9.2.1JA | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10A                 | Rel-8   | C_RF116       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-24 and not supporting the optional enhanced performance requirements Type 3 or Type 3i and not supporting dual band operation       |
| 9.2.1JB | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10A for DB-DC-HSDPA | Rel-9   | C_RF143       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-24 and not supporting the optional enhanced performance requirements Type 3 or Type 3i and supporting Dual band operation           |
| 9.2.1JC | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10B                 | Rel-10  | C_RF95        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability category 29 and not supporting the optional enhanced performance requirements Type 3 or Type 3i.  |
| 9.2.1JD | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10C                 | Rel-10  | C_RF96        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability category 31 and not supporting the optional enhanced performance requirements Type 3 or Type 3i.  |
| 9.2.1K  | Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10  | Rel-8   | C_RF50        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 9-10, 13-14 and Enhanced performance requirements type 3 or Enhanced performance requirements type 3i (Note 4)                         |
|         |  | Rel-8   | C_RF38        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15-18. (Note 4)  |
|         |  | Rel-8   | C_RF45        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 19-20. (Note 4)  |
| 9.2.1KA | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10A                 | Rel-8   | C_RF63        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-24 and Enhanced performance requirements type 3 or Enhanced performance requirements type 3i but not supporting dual band operation |
|         |  | Rel-9   | C_RF81        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 25-28 and Enhanced performance requirements type 3 or Enhanced performance requirements type 3i but not supporting dual band operation |
| 9.2.1KB | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10A for DB-DC-HSDPA | Rel-9   | C_RF139       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-28 and Enhanced performance requirements type 3 or Enhanced performance requirements type 3i and dual band operation                |

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| 9.2.1KC | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10B | Rel-10  | C_RF105       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 29-30 and Enhanced performance requirements type 3 or Enhanced performance requirements type 3i. |
| 9.2.1KD | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10C | Rel-10  | C_RF106       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 31-32 and Enhanced performance requirements type 3 or Enhanced performance requirements type 3i. |
| 9.2.1L  | Single Link Performance - Enhanced Performance Requirements Type 3i - QPSK, Fixed Reference Channel (FRC) H-Set 6  | Rel-8   | C_RF57        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-10, 13-20 and Enhanced performance requirements type 3i (Note 4)                               |
| 9.2.1LA | Enhanced Performance Requirements Type 3i - QPSK, Fixed Reference Channel (FRC) H-Set 6A   | Rel-8   | C_RF69        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-24 and Enhanced performance requirements type 3i  |
|         |  | Rel-9   | C_RF79        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 25-28 and Enhanced performance requirements type 3i  |
| 9.2.1LB | Enhanced Performance Requirements Type 3i - QPSK, Fixed Reference Channel (FRC) H-Set 6A for DB-DC-HSDPA   | Rel-9   | C_RF142       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-28 and Enhanced performance requirements type 3i and dual band operation                      |
| 9.2.1LC | Single Link Performance - Enhanced Performance Requirements Type 3i - QPSK, Fixed Reference Channel (FRC) H-Set 6B   | Rel-10  | C_RF103       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability category 29-30 and Enhanced performance requirements type 3i  |
| 9.2.1LD | Single Link Performance - Enhanced Performance Requirements Type 3i - QPSK, Fixed Reference Channel (FRC) H-Set 6C   | Rel-10  | C_RF104       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability category 31-32 and Enhanced performance requirements type 3i  |
| 9.2.1M  | Single Link Performance - Enhanced Performance Requirements Type 3i - 16QAM/QPSK, Fixed Reference Channel (FRC) H-Set 6 for Multiflow HSDPA (2 cells)                        | Rel-11  | C_RF137       | UEs supporting FDD and support Multi flow and with HS DSCH categories 21-38.  |
| 9.2.1MA | Single Link Performance - Enhanced Performance Requirements Type 3i - 16QAM/QPSK, Fixed Reference Channel (FRC) H-Set 6 for Multiflow HSDPA (3 cells)                        | Rel-11  | C_RF138       | UEs supporting FDD and support Multi flow and with HS DSCH categories 29-36 or 38.  |
| 9.2.2A  | Demodulation of HS-DSCH (Fixed Reference Channel) - Open Loop Diversity Performance - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3                                  | Rel-5   | C_RF14a       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 1-6, but not supporting the optional enhanced performance requirements types 1, 2, 3 or 3i.      |
|         |  | Rel-6   | C_RF16        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-10, but not supporting the optional enhanced performance requirements types 1, 2, 3 or 3i.     |

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| 9.2.2B | Demodulation of HS-DSCH (Fixed Reference Channel) - Open Loop Diversity Performance - QPSK, Fixed Reference Channel (FRC) H-Set 4/5  | Rel-5   | C_RF15        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 11-12  |
| 9.2.2C | Demodulation of HS-DSCH (Fixed Reference Channel) - Open Loop Diversity Performance - Enhanced Performance Requirements Type 1 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3   | Rel-6   | C_RF19        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 1-10 and Enhanced performance requirements type 1  |
| 9.2.2D | Demodulation of HS-DSCH (Fixed Reference Channel) - Open Loop Diversity Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 3       | Rel-6   | C_RF20        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-10 and Enhanced performance requirements type 2 and not supporting the optional enhanced performance requirements Type 3 or Type 3i. |
|        |  | Rel-7   | C_RF113       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 13-14 and not supporting the optional enhanced performance requirements Type 3 or Type 3i.   |
| 9.2.2E | Demodulation of HS-DSCH (Fixed Reference Channel) - Open Loop Diversity Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 3       | Rel-7   | C_RF47        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-10, 13-14 and Enhanced performance requirements type 3   |
|        |  | Rel-7   | C_RF38        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15-18  |
|        |  | Rel-8   | C_RF59        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-10, 13-14 and Enhanced performance requirements type 3i  |
|        |  | Rel-8   | C_RF45        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 19-20.   |
| 9.2.3A | Demodulation of HS-DSCH (Fixed Reference Channel) - Closed Loop Diversity Performance - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3  | Rel-5   | C_RF14a       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 1-6, but not supporting the optional enhanced performance requirements types 1, 2, 3 or 3i.  |
|        |  | Rel-6   | C_RF16        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-10, but not supporting the optional enhanced performance requirements types 1, 2, 3 or 3i.   |
| 9.2.3B | Demodulation of HS-DSCH (Fixed Reference Channel) - Closed Loop Diversity Performance - QPSK, Fixed Reference Channel (FRC) H-Set 4/5  | Rel-5   | C_RF15        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 11-12  |
| 9.2.3C | Demodulation of HS-DSCH (Fixed Reference Channel) - Closed Loop Diversity Performance - Enhanced Performance Requirements Type 1 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 1/2/3 | Rel-6   | C_RF19        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 1-10 and Enhanced performance requirements type 1  |



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| 9.2.3D  | Demodulation of HS-DSCH (Fixed Reference Channel) - Closed Loop Diversity Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6/3 | Rel-6          | C_RF20        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-10 and Enhanced performance requirements type 2 and not supporting the optional enhanced performance requirements Type 3 or Type 3i. |
|         |  | Rel-7          | C_RF113       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 13-14 and not supporting the optional enhanced performance requirements Type 3 or Type 3i.   |
| 9.2.3E  | Demodulation of HS-DSCH (Fixed Reference Channel) - Closed Loop Diversity Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 3   | Rel-7          | C_RF47        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-10, 13-14 and Enhanced performance requirements type 3   |
|         |  | Rel-7          | C_RF38        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15-18.   |
|         |  | Rel-8          | C_RF59        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 7-10, 13-14 and Enhanced performance requirements type 3i  |
|         |  | Rel-8          | C_RF45        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 19-20.   |
| 9.2.4A  | MIMO Performance - Fixed Reference Channel (FRC) H-Set 9   | Rel-7          | C_RF38        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15-18 (Note 4)   |
| 9.2.4B  | MIMO Performance - Fixed Reference Channel (FRC) H-Set 11  | Rel-8          | C_RF45        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 19-20 (Note 4)   |
| 9.2.4C  | MIMO Performance - Fixed Reference Channel (FRC) H-Set 9A  | Rel-9          | C_RF80a       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 25-28 but not supporting dual band operation   |
| 9.2.4CA | MIMO Performance - Fixed Reference Channel (FRC) H-Set 9A for DB-DC-HSDPA  | Rel-10         | C_RF80b       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 25-28 and supporting dual band operation   |
| 9.2.4D  | MIMO Performance - Fixed Reference Channel (FRC) H-Set 11A   | Rel-9          | C_RF78a       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 27-28 but not supporting dual band operation   |
| 9.2.4DA | MIMO Performance - Fixed Reference Channel (FRC) H-Set 11A for DB-DC-HSDPA   | Rel-10         | C_RF78b       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 27-28 and supporting dual band operation   |
| 9.2.4E  | MIMO Performance - Fixed Reference Channel (FRC) H-Set 9 Asymmetric CPICHS   | Rel-10 (Note1) | C_RF38        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15-18 (Note 4)   |
| 9.2.4F  | MIMO Performance - Fixed Reference Channel (FRC) H-Set 11 Asymmetric CPICHS  | Rel-10 (Note2) | C_RF45        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 19-20 (Note 4)   |
| 9.2.4G  | MIMO Performance - Fixed Reference Channel (FRC) H-Set 9A Asymmetric CPICHS  | Rel-10 (Note3) | C_RF80        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 25-28  |

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| 9.2.4H  | MIMO Performance - Fixed Reference Channel (FRC) H-Set 11A Asymmetric CPICs                           | Rel-10 (Note3) | C_RF78        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 27-28                         |
| 9.3.1   | Reporting of Channel Quality Indicator - Single Link Performance - AWGN Propagation Conditions        | Rel-5 only     | C_RF40        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 1 - 8, 11 and 12                         |
|         |   | Rel-6          | C_RF82        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 1 - 12                                   |
|         |   | Rel-7          | C_RF83        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 13 - 20                                  |
| 9.3.1A  | Reporting of Channel Quality Indicator - Single Link Performance - AWGN Propagation Conditions, 64QAM | Rel-7          | C_RF35        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 13, 14 17 and 18                         |
|         |   | Rel-8          | C_RF72        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 13, 14, 17, 18, 19 and 20                |
| 9.3.1B  | Single Link Performance - AWGN Propagation Conditions, DC-HSDPA requirements                          | Rel-8          | C_RF66        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-24                         |
|         |   | Rel-9          | C_RF80        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 25-28                         |
| 9.3.1BA | Single Link Performance - AWGN Propagation Conditions, DB-DC-HSDPA requirements                       | Rel-9          | C_RF94        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-28 and dual band operation |
| 9.3.1BB | Single Link Performance - AWGN Propagation Conditions, 4C-HSDPA requirements (3 Carriers)             | Rel-10         | C_RF119       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 29-30                         |
| 9.3.1BC | Single Link Performance - AWGN Propagation Conditions, 4C-HSDPA requirements                          | Rel-10         | C_RF120       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 31-32                         |
| 9.3.2   | Reporting of Channel Quality Indicator - Single Link Performance - Fading Propagation Conditions      | Rel-5 only     | C_RF40        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 1 - 8, 11 and 12                         |
|         |   | Rel-6          | C_RF82        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 1 -12                                    |
|         |   | Rel-7          | C_RF83        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 13 - 20                                  |
| 9.3.2A  | Single Link Performance - Fading Propagation Conditions, DC-HSDPA requirements                        | Rel-8          | C_RF66        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-24                         |
|         |   | Rel-9          | C_RF80        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 25-28                         |
| 9.3.2AA | Single Link Performance - Fading Propagation Conditions, DB-DC-HSDPA requirements                     | Rel-9          | C_RF94        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 21-28 and dual band operation |
| 9.3.2AB | Single Link Performance - Fading Propagation Conditions, 4C-HSDPA requirements(3 Carriers)            | Rel-10         | C_RF119       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 29-30                         |
| 9.3.2AC | Single Link Performance - Fading Propagation Conditions, 4C-HSDPA requirements                        | Rel-10         | C_RF120       | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 31-32                         |
| 9.3.2B  |   | Rel-7 only     | C_RF35        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 13, 14 17 and 18                         |

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|---------|--|----------------|---------------|--|
|         | Reporting of Channel Quality Indicator - Single Link Performance - Fading Propagation Conditions, 64QAM      | Rel-8          | C_RF72        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 13, 14 ,17, 18, 19 and 20  |
| 9.3.2C  | Single Link Performance– Fading propagation conditions, Multiflow HSDPA requirements (2 Cells)               | Rel-11         | C_RF137       | UEs supporting FDD and support Multi flow and with HS DSCH categories 21-38.       |
| 9.3.2CA | Single Link Performance – Fading propagation conditions, Multiflow HSDPA requirements (3 cells)              | Rel-11         | C_RF138       | UEs supporting FDD and support Multi flow and with HS DSCH categories 29-36 or 38. |
| 9.3.3   | Reporting of Channel Quality Indicator - Open Loop Diversity Performance - AWGN Propagation Conditions       | Rel-6          | C_RF82        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 1 -12                      |
|         |  | Rel-7          | C_RF83        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 13 - 20                    |
| 9.3.4   | Reporting of Channel Quality Indicator - Open Loop Diversity Performance - Fading Propagation Conditions     | Rel-6          | C_RF82        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 1 -12                      |
|         |  | Rel-7          | C_RF83        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 13 - 20                    |
| 9.3.5   | Reporting of Channel Quality Indicator - Closed Loop Diversity Performance - AWGN Propagation Conditions     | Rel-6          | C_RF82        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 1 -12                      |
|         |  | Rel-7          | C_RF83        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 13 - 20                    |
| 9.3.6   | Reporting of Channel Quality Indicator - Closed Loop Diversity Performance - Fading Propagation Conditions   | Rel-6          | C_RF82        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 1 -12                      |
|         |  | Rel-7          | C_RF83        | UEs supporting FDD and HS-PDSCH and HSDPA UE categories 13 - 20                    |
| 9.3.7A  | Reporting of Channel Quality Indicator - MIMO Single Stream Fading Conditions                                | Rel-7          | C_RF38        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15-18           |
|         |  | Rel-8          | C_RF56        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 19 and 20       |
| 9.3.7B  | Reporting of Channel Quality Indicator - MIMO Dual Stream Fading Conditions                                  | Rel-7          | C_RF38        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15-18           |
|         |  | Rel-8          | C_RF56        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 19 and 20       |
| 9.3.7C  | Reporting of Channel Quality Indicator - MIMO Dual Stream Fading Conditions – UE categories 19-20            | Rel-8          | C_RF56        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 19 and 20       |
| 9.3.7D  | Reporting of Channel Quality Indicator - MIMO Dual Stream Static Orthogonal Conditions - UE categories 15-20 | Rel-8          | C_RF55        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15 to 20        |
| 9.3.7E  | Reporting of Channel Quality Indicator - MIMO Dual Stream Static Orthogonal Conditions - UE categories 19-20 | Rel-8          | C_RF56        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 19 and 20       |
| 9.3.7F  | Reporting of Channel Quality Indicator - MIMO Single Stream Fading Conditions-Asymmetric CPICHS              | Rel-10 (Note1) | C_RF55        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15 to 20        |
| 9.3.7G  | Reporting of Channel Quality Indicator - MIMO Dual Stream Fading Conditions-Asymmetric CPICHS                | Rel-10 (Note1) | C_RF55        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15 to 20        |

| Clause | Title  | Release        | Applicability | Comments   |
|--------|--|----------------|---------------|--|
| 9.3.7H | Reporting of Channel Quality Indicator - MIMO Dual Stream Fading Conditions – UE categories 19-20 -Asymmetric CPICHs                             | Rel-10 (Note2) | C_RF56        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 19 and 20   |
| 9.3.7I | Reporting of Channel Quality Indicator - MIMO Dual Stream Static Orthogonal Conditions - UE categories 15-20 -Asymmetric CPICHs                  | Rel-10 (Note2) | C_RF55        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15 to 20  |
| 9.3.7J | Reporting of Channel Quality Indicator - MIMO Dual Stream Static Orthogonal Conditions - UE categories 19-20 -20 -Asymmetric CPICHs              | Rel-10 (Note2) | C_RF56        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 19 and 20   |
| 9.4.1  | HS-SCCH Detection Performance - Single Link Performance  | Rel-5          | C_RF02        | UEs supporting FDD and HS-PDSCH  |
| 9.4.1A | HS-SCCH Detection Performance - Single Link Performance - Enhanced Performance Requirements Type 1   | Rel-6          | C_RF21        | UEs supporting FDD and HS-PDSCH and Enhanced performance requirements type 1.  |
|        |  | Rel-7          | C_RF61        | UEs supporting FDD and HS-PDSCH and Enhanced performance requirements type 3   |
|        |  | Rel-8          | C_RF60        | UEs supporting FDD and HS-PDSCH and Enhanced performance requirements type 3i  |
| 9.4.2  | HS-SCCH Detection Performance - Open Loop Diversity Performance  | Rel-6          | C_RF02        | UEs supporting FDD and HS-PDSCH  |
| 9.4.2A | HS-SCCH Detection Performance - Open Loop Diversity Performance - Enhanced Performance Requirements Type 1                                       | Rel-6          | C_RF21        | UEs supporting FDD and HS-PDSCH and Enhanced performance requirements type 1 or type 3   |
|        |  | Rel-7          | C_RF61        | UEs supporting FDD and HS-PDSCH and Enhanced performance requirements type 3   |
|        |  | Rel-8          | C_RF60        | UEs supporting FDD and HS-PDSCH and Enhanced performance requirements type 3i  |
| 9.4.3  | HS-SCCH Detection Performance - HS-SCCH Type 3 Performance   | Rel-7          | C_RF38        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15-18   |
| 9.4.3A | HS-SCCH Type 3 Performance - STTD disabled- Asymmetric CPICHs  | Rel-10         | C_RF55        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15-20   |
| 9.4.3B | HS-SCCH Type 3 Performance - STTD enabled- Asymmetric CPICHs   | Rel-10         | C_RF99        | UEs supporting FDD and HS-PDSCH and HSDPA UE capability categories 15-20 and supporting Tx Diversity on DL control channels  |
| 9.4.4  | HS-SCCH Detection Performance - HS-SCCH Type 3 Performance for MIMO only with single-stream restriction  | Rel-10         | C_RF100       | UEs supporting FDD and HS-PDSCH and MIMO only with single-stream restriction and supporting Tx Diversity on DL control channels  |
| 9.4.4A | HS-SCCH Detection Performance - HS-SCCH Type 3 Performance for MIMO only with single-stream restriction-Enhanced Performance Requirements Type 1 | Rel-10         | C_RF101       | UEs supporting FDD and HS-PDSCH and MIMO only with single-stream restriction and supporting Tx Diversity on DL control channels and Enhanced performance requirements type 1 |
| 9.4.4B | HS-SCCH Detection Performance - HS-SCCH Type 3 Performance for MIMO only with single-stream restriction-STTD disabled-asymmetric CPICHs          | Rel-10         | C_RF97        | UEs supporting FDD and HS-PDSCH and MIMO only with single-stream restriction   |

| Clause       | Title  | Release | Applicability | Comments   |
|--------------|--|---------|---------------|--|
| 9.4.4C       | HS-SCCH Detection Performance - HS-SCCH Type 3 Performance for MIMO only with single-stream restriction-STTD disabled-asymmetric CPICHs-Enhanced Performance Requirements Type 1 | Rel-10  | C_RF98        | UEs supporting FDD and HS-PDSCH and MIMO only with single-stream restriction and Enhanced performance requirements type 1  |
| 9.4.4D       | HS-SCCH Detection Performance - HS-SCCH Type 3 Performance for MIMO only with single-stream restriction-STTD enabled-asymmetric CPICHs   | Rel-10  | C_RF100       | UEs supporting FDD and HS-PDSCH and MIMO only with single-stream restriction and supporting Tx Diversity on DL control channels  |
| 9.4.4E       | HS-SCCH Detection Performance - HS-SCCH Type 3 Performance for MIMO only with single-stream restriction-STTD enabled-asymmetric CPICHs-Enhanced Performance Requirements Type 1  | Rel-10  | C_RF101       | UEs supporting FDD and HS-PDSCH and MIMO only with single-stream restriction-and supporting Tx Diversity on DL control channels and Enhanced performance requirements type 1 |
| 9.5.1        | HS-SCCH-less demodulation of HS-DSCH   | Rel-7   | C_RF36        | UEs supporting FDD and HS-SCCH-less HS-DSCH  |
| 9.5.1A       | HS-SCCH-less demodulation of HS-DSCH - Enhanced Performance Requirements Type 1  | Rel-7   | C_RF37        | UEs supporting FDD and HS-SCCH-less HS-DSCH and Enhanced performance requirements type 1   |
| 9.6.1        | Single link HS-DSCH Demodulation performance in CELL_FACH state  | Rel-7   | C_RF70        | UEs supporting FDD and HS-PDSCH in CELL_FACH   |
| 9.6.2        | Single link HS-SCCH Detection performance in CELL_FACH state   | Rel-7   | C_RF70        | UEs supporting FDD and HS-PDSCH in CELL_FACH   |
| 10.2.1.1     | Detection of E-DCH HARQ ACK Indicator Channel (E-HICH) - Single link performance (10 ms TTI)   | Rel-6   | C_RF23        | UEs supporting FDD and HS-PDSCH and E-DPDCH  |
| 10.2.1.1A    | Single link performance (10ms TTI, Type 1)   | Rel-7   | C_RF32        | UEs supporting FDD and HS-PDSCH and E-DPDCH and Enhanced performance requirements type 1   |
| 10.2.1.2     | Detection of E-DCH HARQ ACK Indicator Channel (E-HICH) - Single link performance (2 ms TTI)  | Rel-6   | C_RF28        | UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI  |
| 10.2.1.2A    | Single link performance (2ms TTI, Type 1)  | Rel-7   | C_RF33        | UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI and Enhanced performance requirements type 1   |
| 10.2.2.1.1   | Detection in Inter-Cell Handover conditions - RLS not containing the Serving E-DCH cell (10 ms TTI)  | Rel-6   | C_RF23        | UEs supporting FDD and HS-PDSCH and E-DPDCH  |
| 10.2.2.1.1 A | RLS not containing the Serving E-DCH cell (10ms TTI, Type 1)   | Rel-7   | C_RF32        | UEs supporting FDD and HS-PDSCH and E-DPDCH and Enhanced performance requirements type 1   |
| 10.2.2.1.2   | Detection in Inter-Cell Handover conditions - RLS not containing the Serving E-DCH cell (2 ms TTI)   | Rel-6   | C_RF28        | UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI  |
| 10.2.2.1.2 A | RLS not containing the Serving E-DCH cell (2ms TTI, Type 1)  | Rel-7   | C_RF33        | UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI and Enhanced performance requirements type 1   |
| 10.2.2.2.1   | Detection in Inter-Cell Handover conditions - RLS containing the Serving E-DCH cell (10 ms TTI)  | Rel-6   | C_RF23        | UEs supporting FDD and HS-PDSCH and E-DPDCH  |
| 10.2.2.2.1 A | RLS containing the Serving E-DCH cell (10ms TTI, Type 1)   | Rel-7   | C_RF32        | UEs supporting FDD and HS-PDSCH and E-DPDCH and Enhanced performance requirements type 1   |
| 10.2.2.2.2   | Detection in Inter-Cell Handover conditions - RLS containing the Serving E-DCH cell (2 ms TTI)   | Rel-6   | C_RF28        | UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI  |

| Clause          | Title  | Release | Applicability | Comments  |
|-----------------|--|---------|---------------|---|
| 10.2.2.2.2<br>A | RLS containing the Serving E-DCH cell (2ms TTI, Type 1)  | Rel-7   | C_RF33        | UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI and Enhanced performance requirements type 1              |
| 10.3.1.1        | Detection of E-DCH Relative Grant Channel (E-RGCH) - Single link performance (10 ms TTI)         | Rel-6   | C_RF23        | UEs supporting FDD and HS-PDSCH and E-DPDCH   |
| 10.3.1.1A       | Single link performance (10ms TTI, Type 1)   | Rel-7   | C_RF32        | UEs supporting FDD and HS-PDSCH and E-DPDCH and Enhanced performance requirements type 1                            |
| 10.3.1.2        | Detection of E-DCH Relative Grant Channel (E-RGCH) - Single link performance (2 ms TTI)          | Rel-6   | C_RF28        | UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI   |
| 10.3.1.2A       | Single link performance (2ms TTI, Type 1)  | Rel-7   | C_RF33        | UEs supporting FDD and HS-PDSCH and E-DPDCH with 2 ms TTI and Enhanced performance requirements type 1              |
| 10.3.2          | Detection of E-DCH Relative Grant Channel (E-RGCH) - Detection in Inter-Cell Handover conditions | Rel-6   | C_RF23        | UEs supporting FDD and HS-PDSCH and E-DPDCH   |
| 10.3.2A         | Detection in Inter-Cell Handover conditions (Type 1)   | Rel-7   | C_RF32        | UEs supporting FDD and HS-PDSCH and E-DPDCH and Enhanced performance requirements type 1                            |
| 10.4.1          | Demodulation of E-DCH Absolute Grant Channel (E-AGCH) - Single Link Performance                  | Rel-6   | C_RF23        | UEs supporting FDD and HS-PDSCH and E-DPDCH   |
| 10.4.1A         | Single link performance (Type 1)   | Rel-7   | C_RF32        | UEs supporting FDD and HS-PDSCH and E-DPDCH and Enhanced performance requirements type 1                            |
| 11.2            | Demodulation of MTCH   | Rel-6   | C_RF29a       | UEs supporting FDD and MBMS. Note: For UEs for which test case 11.2A is applicable then test case 11.2 is optional. |
| 11.2A           | Demodulation of MTCH - Enhanced Performance Requirements Type 1                                  | Rel-7   | C_RF31        | UEs supporting FDD and Enhanced performance requirements type 1 for MBMS  |
| 11.3            | Demodulation of MTCH and cell identification   | Rel-6   | C_RF29        | UEs supporting FDD and MBMS   |

NOTE 1: This test case can be optionally tested for Rel 7 and onward UE's supporting MIMO feature

NOTE 2: This test case can be optionally tested for Rel 8 and onward UE's supporting MIMO feature

NOTE 3: This test case can be optionally tested for Rel 9 and onward UE's supporting MIMO feature

NOTE 4: This test case may be identified as redundant according to table 2

|         |  |
|---------|--|
| C_RF01  | IF A.7/8 OR A.7/10 THEN R ELSE N/A   |
| C_RF02  | IF A.7/14 THEN R ELSE N/A  |
| C_RF03  | IF A.6/3 OR A.6/14 OR A.6/15 OR A.6/16 OR A.6/19 OR A.6/21 OR A.6/23 OR A.6/24 OR A.6/25 THEN R ELSE N/A   |
| C_RF04  | IF A.7/9 OR A.7/10 THEN R ELSE N/A   |
| C_RF05  | IF A.1/1 AND A.1/4 THEN R ELSE N/A   |
| C_RF06  | IF A.1/1 AND (A.1/2 OR A.1/3) THEN R ELSE N/A  |
| C_RF07  | IF A.1/1 AND A.1/5 AND A.2/2 THEN R ELSE N/A   |
| C_RF08  | IF A.10/4 THEN R ELSE N/A  |
| C_RF09  | IF A.10/6 THEN R ELSE N/A  |
| C_RF10  | IF A.10/8 THEN R ELSE N/A  |
| C_RF11  | IF A.10/9 THEN R ELSE N/A  |
| C_RF12  | IF A.2/2 THEN R ELSE N/A   |
| C_RF13  | IF A.10/3 AND A.10/4 THEN R ELSE N/A   |
| C_RF14  | IF A.7/14 AND (A.8/1 OR A.8/2 OR A.8/3 OR A.8/4 OR A.8/5 OR A.8/6) THEN R ELSE N/A   |
| C_RF14a | IF A.7/14 AND (A.8/1 OR A.8/2 OR A.8/3 OR A.8/4 OR A.8/5 OR A.8/6) AND NOT(A.11/1 OR A.11/2 OR A.11/3 OR A.11/6) THEN R ELSE N/A                                       |
| C_RF15  | IF A.7/14 AND (A.8/11 OR A.8/12) THEN R ELSE N/A   |
| C_RF16  | IF A.7/14 AND (A.8/7 OR A.8/8 OR A.8/9 OR A.8/10) AND NOT(A.11/1 OR A.11/2 OR A.11/3 OR A.11/6) THEN R ELSE N/A  |
| C_RF17  | IF A.7/14 AND ((A.11/1 AND (A.8/1 OR A.8/2 OR A.8/3 OR A.8/4 OR A.8/5 OR A.8/6))) THEN R ELSE N/A  |
| C_RF18  | IF A.7/14 AND A.11/1 AND (A.8/7 OR A.8/8 OR A.8/9 OR A.8/10) THEN R ELSE N/A   |
| C_RF19  | IF A.7/14 AND ((A.11/1 AND (A.8/1 OR A.8/2 OR A.8/3 OR A.8/4 OR A.8/5 OR A.8/6 OR A.8/7 OR A.8/8 OR A.8/9 OR A.8/10))) THEN R ELSE N/A                                 |
| C_RF20  | IF A.7/14 AND A.11/2 AND (A.8/7 OR A.8/8 OR A.8/9 OR A.8/10) AND NOT (A.11/3 OR A.11/6) THEN R ELSE N/A  |
| C_RF21  | IF A.7/14 AND A.11/1 THEN R ELSE N/A   |
| C_RF23  | IF A.7/14 AND A.7/15 THEN R ELSE N/A   |
| C_RF24  | IF A.7/14 AND (NOT A.7/15) THEN R ELSE N/A   |
| C_RF25  | Void   |
| C_RF26  | IF A.1/1 AND A.7/14 AND (A.8/1 OR A.8/2 OR A.8/3 OR A.8/4 OR A.8/5 OR A.8/6 OR A.8/7 OR A.8/8 OR A.8/9 OR A.8/10) THEN R ELSE N/A                                      |
| C_RF27  | IF A.1/1 AND A.1/4 AND A.2/1 AND (A.2a/1 OR A.2a/2) THEN R ELSE N/A  |
| C_RF28  | IF A.7/14 AND A.7/15 AND (A.9/2 OR A.9/4 OR A.9/6 OR A.9/7) THEN R ELSE N/A  |
| C_RF29  | IF A.7/16 THEN R ELSE N/A  |
| C_RF29a | IF C_RF31 THEN O ELSE (IF A.7/16 THEN R ELSE N/A)  |
| C_RF30  | IF A.7/16 AND A.1/4 THEN R ELSE N/A  |
| C_RF31  | IF A.1/1 AND A.11/5 THEN R ELSE N/A  |
| C_RF32  | IF A.7/14 AND A.7/15 AND A.11/4 THEN R ELSE N/A  |
| C_RF33  | IF A.7/14 AND A.7/15 AND A.11/4 AND (A.9/2 OR A.9/4 OR A.9/6 OR A.9/7) THEN R ELSE N/A   |
| C_RF34  | IF A.10/10 THEN R ELSE N/A   |
| C_RF35  | IF A.1/1 AND A.7/14 AND (A.8/13 OR A.8/14 OR A.8/17 OR A.8/18) THEN R ELSE N/A   |
| C_RF36  | IF A.7/17 THEN R ELSE N/A  |
| C_RF37  | IF A.7/17 AND A.11/1 THEN R ELSE N/A   |
| C_RF38  | IF A.1/1 AND A.7/14 AND (A.8/15 OR A.8/16 OR A.8/17 OR A.8/18) THEN R ELSE N/A   |
| C_RF39  | IF A.7/14 AND A.7/18 THEN R ELSE N/A   |
| C_RF40  | IF A.1/1 AND A.7/14 AND (A.8/1 OR A.8/2 OR A.8/3 OR A.8/4 OR A.8/5 OR A.8/6 OR A.8/7 OR A.8/8 OR A.8/11 OR A.8/12) THEN R ELSE N/A                                     |
| C_RF41  | IF A.1/1 AND A.7/14 AND (A.8/13 OR A.8/14) THEN R ELSE N/A   |
| C_RF42  | IF A.1/1 AND A.7/14 AND (A.8/13 OR A.8/14) AND A.11/3 THEN R ELSE N/A  |
| C_RF43  | IF A.7/14 AND A.7/15 AND A.9/7 THEN R ELSE N/A   |
| C_RF44  | IF A.1/1 AND A.7/14 AND (A.8/17 OR A.8/18) THEN R ELSE N/A   |
| C_RF45  | IF A.1/1 AND A.7/14 AND (A.8/19 OR A.8/20) THEN R ELSE N/A   |
| C_RF47  | IF A.7/14 AND A.11/3 AND (A.8/7 OR A.8/8 OR A.8/9 OR A.8/10 OR A.8/13 OR A.8/14) THEN R ELSE N/A   |
| C_RF49  | Void   |
| C_RF50  | IF A.7/14 AND (A.11/3 OR A.11/6) AND (A.8/9 OR A.8/10 OR A.8/13 OR A.8/14) THEN R ELSE N/A   |
| C_RF51  | oid  |
| C_RF53  | Void   |
| C_RF54  | IF A.1/1 AND A.7/19 THEN R ELSE N/A  |
| C_RF55  | IF A.1/1 AND A.7/14 AND (A.8/15 OR A.8/16 OR A.8/17 OR A.8/18 OR A.8/19 OR A.8/20) THEN R ELSE N/A   |
| C_RF56  | IF A.1/1 AND A.7/14 AND (A.8/19 OR A.8/20) THEN R ELSE N/A   |
| C_RF57  | IF A.1/1 AND A.7/14 AND A.11/6 AND (A.8/7 OR A.8/8 OR A.8/9 OR A.8/10 OR A.8/13 OR A.8/14 OR A.8/15 OR A.8/16 OR A.8/17 OR A.8/18 OR A.8/19 OR A.8/20) THEN R ELSE N/A |
| C_RF58  | IF A.1/1 AND A.7/14 AND (A.8/13 OR A.8/14) AND A.11/6 THEN R ELSE N/A  |
| C_RF59  | IF A.7/14 AND A.11/6 AND (A.8/7 OR A.8/8 OR A.8/9 OR A.8/10 OR A.8/13 OR A.8/14) THEN R ELSE N/A   |
| C_RF60  | IF A.7/14 AND A.11/6 THEN R ELSE N/A   |

|         |   |
|---------|---|
| C_RF61  | IF A.7/14 AND A.11/3 THEN R ELSE N/A  |
| C_RF62  | IF A.7/14 AND (A.8/21 OR A.8/22 OR A.8/23 OR A.8/24) AND NOT A.7/23 THEN R ELSE N/A   |
| C_RF63  | IF A.7/14 AND (A.11/3 OR A.11/6) AND (A.8/21 OR A.8/22 OR A.8/23 OR A.8/24) AND NOT A.7/23 THEN R ELSE N/A  |
| C_RF64  | IF A.7/14 AND (A.8/23 OR A.8/24) AND NOT (A.11/3 OR A.11/6) AND NOT A.7/23 THEN R ELSE N/A  |
| C_RF65  | IF A.7/14 AND (A.11/3 OR A.11/6) AND (A.8/23 OR A.8/24) AND NOT A.7/23 THEN R ELSE N/A  |
| C_RF66  | IF A.7/14 AND (A.8/21 OR A.8/22 OR A.8/23 OR A.8/24) THEN R ELSE N/A  |
| C_RF67  | IF A.7/14 AND (A.8/23 OR A.8/24) THEN R ELSE N/A  |
| C_RF68  | IF A.7/14 AND A.7/20 THEN R ELSE N/A  |
| C_RF69  | IF A.7/14 AND A.11/6 AND (A.8/21 OR A.8/22 OR A.8/23 OR A.8/24) THEN R ELSE N/A   |
| C_RF70  | IF A.7/21 THEN R ELSE N/A   |
| C_RF71  | IF A.1/1 AND A.7/22 THEN R ELSE N/A   |
| C_RF72  | IF A.1/1 AND A.7/14 AND (A.8/13 OR A.8/14 OR A.8/17 OR A.8/18 OR A.8/19 OR A.8/20) THEN R ELSE N/A  |
| C_RF73  | IF A.1/1 AND A.1/6 THEN R ELSE N/A  |
| C_RF74  | IF A.1/1 AND A.1/7 THEN R ELSE N/A  |
| C_RF75  | IF NOT A.11/7 THEN R ELSE N/A   |
| C_RF76  | IF A.11/7 THEN R ELSE N/A   |
| C_RF77  | IF A.1/1 AND A.7/14 AND A.11/2 AND (A.8/9 OR A.8/10) AND NOT (A.11/3 OR A.11/6) THEN R ELSE N/A   |
| C_RF78  | IF A.7/14 AND (A.8/27 OR A.8/28) THEN R ELSE N/A  |
| C_RF78a | IF A.7/14 AND (A.8/27 OR A.8/28) AND NOT A.7/23 THEN R ELSE N/A   |
| C_RF78b | IF A.7/14 AND (A.8/27 OR A.8/28) AND A.7/23 THEN R ELSE N/A   |
| C_RF79  | IF A.7/14 AND A.11/6 AND (A.8/25 OR A.8/26 OR A.8/27 OR A.8/28) THEN R ELSE N/A   |
| C_RF80  | IF A.7/14 AND (A.8/25 OR A.8/26 OR A.8/27 OR A.8/28) THEN R ELSE N/A  |
| C_RF80a | IF A.7/14 AND (A.8/25 OR A.8/26 OR A.8/27 OR A.8/28) AND NOT A.7/23 THEN R ELSE N/A   |
| C_RF80b | IF A.7/14 AND (A.8/25 OR A.8/26 OR A.8/27 OR A.8/28) AND A.7/23 THEN R ELSE N/A   |
| C_RF81  | IF A.7/14 AND (A.11/3 OR A.11/6) AND (A.8/25 OR A.8/26 OR A.8/27 OR A.8/28) AND NOT A.7/23 THEN R ELSE N/A  |
| C_RF82  | IF A.1/1 AND A.7/14 AND (A.8/1 OR A.8/2 OR A.8/3 OR A.8/4 OR A.8/5 OR A.8/6 OR A.8/7 OR A.8/8 OR A.8/9 OR A.8/10 OR A.8/11 OR A.8/12) THEN R ELSE N/A |
| C_RF83  | IF A.1/1 AND A.7/14 AND (A.8/13 OR A.8/14 OR A.8/15 OR A.8/16 OR A.8/17 OR A.8/18 OR A.8/19 OR A.8/20) THEN R ELSE N/A                                |
| C_RF84  | IF A.1/1 AND A.7/23 THEN R ELSE N/A   |
| C_RF85  | IF A.1/1 AND A.7/23 AND (A.8/23 OR A.8/24) THEN R ELSE N/A  |
| C_RF86  | IF A.1/1 AND A.7/14 AND A.7/27 AND (A.9/8 OR A.9/9) THEN R ELSE N/A   |
| C_RF87  | IF A.1/1 AND (A.7/24 AND A.7/25) THEN R ELSE N/A  |
| C_RF88  | IF A.1/1 AND (A.7/24 AND A.7/26) THEN R ELSE N/A  |
| C_RF89  | IF A.1/1 AND A.7/14 AND (A.8/13 OR A.8/14 OR A.8/15 OR A.8/16 OR A.8/17 OR A.8/18) THEN R ELSE N/A  |
| C_RF90  | IF A.7/14 AND (A.11/3 OR A.11/6) AND (A.8/21 OR A.8/22 OR A.8/23 OR A.8/24 OR A.8/25 OR A.8/26 OR A.8/27 OR A.8/28) AND A.7/23 THEN R ELSE N/A        |
| C_RF91  | IF A.7/14 AND (A.11/3 OR A.11/6) AND (A.8/23 OR A.8/24 OR A.8/27 OR A.8/28) AND A.7/23 THEN R ELSE N/A  |
| C_RF92  | IF A.7/14 AND (A.8/21 OR A.8/22 OR A.8/23 OR A.8/24) AND A.7/23 THEN R ELSE N/A   |
| C_RF93  | IF A.7/14 AND (A.8/23 OR A.8/24) AND NOT (A.11/3 OR A.11/6) AND A.7/23 THEN R ELSE N/A  |
| C_RF94  | IF A.7/14 AND (A.8/21 OR A.8/22 OR A.8/23 OR A.8/24 OR A.8/25 OR A.8/26 OR A.8/27 OR A.8/28) AND A.7/23 THEN R ELSE N/A                               |
| C_RF95  | IF A.7/14 AND A.8/29 THEN R ELSE N/A  |
| C_RF96  | IF A.7/14 AND A.8/31 THEN R ELSE N/A  |
| C_RF97  | IF A.1/1 AND A.7/14 AND A.7/28 THEN R ELSE N/A  |
| C_RF98  | IF A.1/1 AND A.7/14 AND A.7/28 AND A.11/1 THEN R ELSE N/A   |
| C_RF99  | IF A.1/1 AND A.7/14 AND A.7/29 AND (A.8/15 OR A.8/16 OR A.8/17 OR A.8/18 OR A.8/19 OR A.8/20) THEN R ELSE N/A   |
| C_RF100 | IF A.1/1 AND A.7/14 AND A.7/28 AND A.7/29 THEN R ELSE N/A   |
| C_RF101 | IF A.1/1 AND A.7/14 AND A.7/28 AND A.11/1 AND A.7/29 THEN R ELSE N/A  |
| C_RF102 | IF A.7/14 AND A.11/6 AND (A.8/21 OR A.8/22 OR A.8/23 OR A.8/24 OR A.8/25 OR A.8/26 OR A.8/27 OR A.8/28) AND A.7/23 THEN R ELSE N/A                    |
| C_RF103 | IF A.7/14 AND A.11/6 AND (A.8/29 OR A.8/30) THEN R ELSE N/A   |
| C_RF104 | IF A.7/14 AND A.11/6 AND (A.8/31 OR A.8/32) THEN R ELSE N/A   |
| C_RF105 | IF A.7/14 AND (A.11/3 OR A.11/6) AND (A.8/29 OR A.8/30) THEN R ELSE N/A   |
| C_RF106 | IF A.7/14 AND (A.11/3 OR A.11/6) AND (A.8/31 OR A.8/32) THEN R ELSE N/A   |
| C_RF107 | IF A.1/1 AND A.1/6 AND A.12/2 AND A.13/2 THEN R ELSE N/A  |
| C_RF108 | IF A.1/1 AND A.1/7 AND A.12/3 AND A.13/2 THEN R ELSE N/A  |
| C_RF109 | IF A.1/1 AND A.1/6 AND A.13/2 THEN R ELSE N/A   |
| C_RF110 | IF A.1/1 AND A.1/7 AND A.13/2 THEN R ELSE N/A   |
| C_RF111 | IF A.1/1 AND A.7/14 AND A.7/27 AND A.9/9 THEN R ELSE N/A  |
| C_RF112 | IF A.7/14 AND (A.11/2 OR A.11/3 OR A.11/6) AND (A.8/7 OR A.8/8 OR A.8/9 OR A.8/10) THEN R ELSE N/A  |
| C_RF113 | IF A.1/1 AND A.7/14 AND (A.8/13 OR A.8/14) AND NOT (A.11/3 OR A.11/6) THEN R ELSE N/A   |



|  |
|--|
| C_RF114 IF A.7/14 AND A.8/29 AND NOT (A.11/3 OR A.11/6) THEN R ELSE N/A  |
| C_RF115 IF A.7/14 AND A.8/31 AND NOT (A.11/3 OR A.11/6) THEN R ELSE N/A  |
| C_RF116 IF A.7/14 AND (A.8/21 OR A.8/22 OR A.8/23 OR A.8/24) AND NOT (A.11/3 OR A.11/6) AND NOT A.7/23 THEN R ELSE N/A   |
| C_RF117 IF A.7/14 AND (A.8/21 OR A.8/22 OR A.8/23 OR A.8/24) AND NOT (A.11/3 OR A.11/6) AND A.7/23 THEN R ELSE N/A   |
| C_RF118 IF A.7/14 AND (A.8/29 OR A.8/30 OR A.8/31 OR A.8/32) THEN R ELSE N/A   |
| C_RF119 IF A.7/14 AND (A.8/29 OR A.8/30) THEN R ELSE N/A   |
| C_RF120 IF A.7/14 AND (A.8/31 OR A.8/32) THEN R ELSE N/A   |
| C_RF121 IF A.7/30 THEN R ELSE N/A  |
| C_RF122 IF A.7/31 THEN R ELSE N/A  |
| C_RF123 IF A.7/31 AND A.7/14 AND (NOT A.7/15) THEN R ELSE N/A  |
| C_RF124 IF A.7/31 AND A.7/14 AND A.7/15 THEN R ELSE N/A  |
| C_RF125 IF A.7/31 AND A.7/14 THEN R ELSE N/A   |
| C_RF126 IF A.7/31 AND A.7/14 AND A.7/15 AND A.9/7 THEN R ELSE N/A  |
| C_RF127 IF A.7/30 AND A.7/14 AND A.7/15 AND A.9/7 THEN R ELSE N/A  |
| C_RF128 IF A.7/30 AND A.7/14 THEN R ELSE N/A   |
| C_RF129 IF A.7/30 AND A.7/14 AND (NOT A.7/15) THEN R ELSE N/A  |
| C_RF130 IF A.7/30 AND A.7/15 THEN R ELSE N/A   |
| C_RF131 IF A.1/1 AND A.7/32 THEN R ELSE N/A  |
| C_RF132 IF A.1/1 AND A.7/33 THEN R ELSE N/A  |
| C_RF133 IF A.1/1 AND A.1/6 AND A.7/32 THEN R ELSE N/A  |
| C_RF134 IF A.1/1 AND A.1/6 AND A.7/33 THEN R ELSE N/A  |
| C_RF135 IF A.1/1 AND A.1/7 AND A.7/32 THEN R ELSE N/A  |
| C_RF136 IF A.1/1 AND A.1/7 AND A.7/33 THEN R ELSE N/A  |
| C_RF137 IF A.7/34 AND (A.8/21 OR A.8/22 OR A.8/23 OR A.8/24 OR A.8/25 OR A.8/26 OR A.8/27 OR A.8/28 OR A.8/29 OR A.8/30 OR A.8/31 OR A.8/32 OR A.8/33 OR A.8/34 OR A.8/35 OR A.8/36 OR A.8/37 OR A.8/38) THEN R ELSE N/A |
| C_RF138 IF A.7/34 AND (A.8/29 OR A.8/30 OR A.8/31 OR A.8/32 OR A.8/35 OR A.8/36 OR A.8/38) THEN R ELSE N/A   |
| C_RF139 IF A.7/14 AND (A.11a/3 OR A.11a/4) AND (A.8/21 OR A.8/22 OR A.8/23 OR A.8/24 OR A.8/25 OR A.8/26 OR A.8/27 OR A.8/28) AND A.7/23 THEN R ELSE N/A   |
| C_RF140 IF A.7/14 AND (A.11a/3 OR A.11a/4) AND (A.8/23 OR A.8/24 OR A.8/27 OR A.8/28) AND A.7/23 THEN R ELSE N/A   |
| C_RF141 IF A.7/14 AND (A.8/23 OR A.8/24) AND NOT (A.11a/3 OR A.11a/4) AND A.7/23 THEN R ELSE N/A   |
| C_RF142 IF A.7/14 AND A.11a/4 AND (A.8/21 OR A.8/22 OR A.8/23 OR A.8/24 OR A.8/25 OR A.8/26 OR A.8/27 OR A.8/28) AND A.7/23 THEN R ELSE N/A  |
| C_RF143 IF A.7/14 AND (A.8/21 OR A.8/22 OR A.8/23 OR A.8/24) AND NOT (A.11a/3 OR A.11a/4) AND A.7/23 THEN R ELSE N/A   |
| C_RF144 IF A.1/1 AND A.7/23 AND A.6/38 THEN R ELSE N/A   |
| C_RF145 IF A.1/1 AND A.7/35 THEN R ELSE N/A  |

**Table 2: Identification of redundant tests**

| Clause  | Title  | Condition   | Comments   |
|---------|--|-------------|--|
| 9.2.1F  | Demodulation of HS-DSCH (Fixed Reference Channel) – Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6/3   | C_RF_NA_01  | UEs for which test case 9.2.1FA or 9.2.1FC or 9.2.1FD is executed, not need to be tested against test case 9.2.1F (considered implicitly covered).                   |
| 9.2.1FA | Demodulation of HS-DSCH (Fixed Reference Channel) – Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6A/3A | C_RF_NA_01a | UEs for which test case 9.2.1FC or 9.2.1FD is executed, not need to be tested against test case 9.2.1FA (considered implicitly covered).                             |
| 9.2.1FC | Demodulation of HS-DSCH (Fixed Reference Channel) – Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6B/3B | C_RF_NA_01b | UEs for which test case 9.2.1FD is executed, not need to be tested against test case 9.2.1FC (considered implicitly covered).  |
| 9.2.1G  | Demodulation of HS-DSCH (Fixed Reference Channel) – Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6/3   | C_RF_NA_02  | UEs for which test case 9.2.1GA or 9.2.1GC or 9.2.1GD is executed, not need to be tested against test case 9.2.1G (9.2.1G considered implicitly covered by 9.2.1GA). |
| 9.2.1GA | Demodulation of HS-DSCH (Fixed Reference Channel) – Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6A/3A | C_RF_NA_02a | UEs for which test case 9.2.1GC or 9.2.1GD is executed, not need to be tested against test case 9.2.1GA (9.2.1GA considered implicitly covered by 9.2.1GC).          |
| 9.2.1GC | Demodulation of HS-DSCH (Fixed Reference Channel) – Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 6C/3C | C_RF_NA_02b | UEs for which test case 9.2.1GD is executed, not need to be tested against test case 9.2.1GC (9.2.1GC considered implicitly covered by 9.2.1GD).                     |
| 9.2.1H  | Demodulation of HS-DSCH (Fixed Reference Channel) – Single Link Performance - Enhanced Performance Requirements Type 2 - 64QAM, Fixed Reference Channel (FRC) H-Set 8          | C_RF_NA_03  | For UEs for which test case 9.2.1HA is executed not need to be tested against test case 9.2.1H (9.2.1H considered implicitly covered by 9.2.1HA).                    |
| 9.2.1I  | Demodulation of HS-DSCH (Fixed Reference Channel) – Single Link Performance - Enhanced Performance Requirements Type 3 - 64QAM, Fixed Reference Channel (FRC) H-Set 8          | C_RF_NA_04  | UEs for which test case 9.2.1IA or 9.2.1IC or 9.2.1ID is executed, not need to be tested against test case 9.2.1I (considered implicitly covered).                   |
| 9.2.1IA | Demodulation of HS-DSCH (Fixed Reference Channel) – Single Link Performance - Enhanced Performance Requirements Type 3 - 64QAM, Fixed Reference Channel (FRC) H-Set 8A         | C_RF_NA_04a | UEs for which test case 9.2.1IC or 9.2.1ID is executed, not need to be tested against test case 9.2.1IA (considered implicitly covered).                             |
| 9.2.1IC | Demodulation of HS-DSCH (Fixed Reference Channel) – Single Link Performance - Enhanced Performance Requirements Type 3 - 64QAM, Fixed Reference Channel (FRC) H-Set 8B         | C_RF_NA_04b | UEs for which test case 9.2.1ID is executed, not need to be tested against test case 9.2.1IC (considered implicitly covered).  |

| Clause      | Title  | Condition   | Comments  |
|-------------|--|-------------|---|
| 9.2.1J      | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10  | C_RF_NA_05  | UEs for which test case 9.2.1JA or 9.2.1JC or 9.2.1JD is executed, not need to be tested against test case 9.2.1J (9.2.1J considered implicitly covered). |
| 9.2.1JA     | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10A   | C_RF_NA_05a | UEs for which test case 9.2.1JC or 9.2.1JD is executed, not need to be tested against test case 9.2.1JA (considered implicitly covered).                  |
| 9.2.1JC     | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 2 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10B   | C_RF_NA_05b | UEs for which test case 9.2.1JD is executed, not need to be tested against test case 9.2.1JC (considered implicitly covered).                             |
| 9.2.1K      | Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10  | C_RF_NA_06  | UEs for which test case 9.2.1KA or 9.2.1KC or 9.2.1KD is executed, not need to be tested against test case 9.2.1K (9.2.1K considered implicitly covered). |
| 9.2.1KA     | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10A   | C_RF_NA_06a | UEs for which test case 9.2.1KC or 9.2.1KD is executed, not need to be tested against test case 9.2.1KA (considered implicitly covered).                  |
| 9.2.1KC     | Demodulation of HS-DSCH (Fixed Reference Channel) - Single Link Performance - Enhanced Performance Requirements Type 3 - QPSK/16QAM, Fixed Reference Channel (FRC) H-Set 10B   | C_RF_NA_06b | UEs for which test case 9.2.1KD is executed, not need to be tested against test case 9.2.1KC (considered implicitly covered).                             |
| 9.2.1L      | Single Link Performance - Enhanced Performance Requirements Type 3i - QPSK, Fixed Reference Channel (FRC) H-Set 6  | C_RF_NA_07  | UEs for which test case 9.2.1LA is executed, not need to be tested against test case 9.2.1L (considered implicitly covered).                              |
| 9.2.4A      | MIMO Performance - Fixed Reference Channel (FRC) H-Set 9   | C_RF_NA_08  | UEs for which test case 9.2.4C is executed, not need to be tested against test case 9.2.4A (considered implicitly covered).                               |
| 9.2.4B      | MIMO Performance - Fixed Reference Channel (FRC) H-Set 11  | C_RF_NA_09  | UEs for which test case 9.2.4D is executed, not need to be tested against test case 9.2.4B (considered implicitly covered).                               |
| 9.2.4E      | MIMO Performance - Fixed Reference Channel (FRC) H-Set 9 Asymmetric CPICHS   | C_RF_NA_10  | UEs for which test case 9.2.4G is executed, not need to be tested against test case 9.2.1E (considered implicitly covered).                               |
| 9.2.4F      | MIMO Performance - Fixed Reference Channel (FRC) H-Set 11 Asymmetric CPICHS  | C_RF_NA_11  | UEs for which test case 9.2.4H is executed, not need to be tested against test case 9.2.1F (considered implicitly covered).                               |
| C_RF_NA_01  | IF (table 1/9.2.1FA Applicability = R AND test case 9.2.1FA available) OR (table 1/9.2.1FC Applicability = R AND test case 9.2.1FC available) OR (table 1/9.2.1FD Applicability = R AND test case 9.2.1FD available) THEN N/A ELSE R |             |   |
| C_RF_NA_01a | IF (table 1/9.2.1FC Applicability = R AND test case 9.2.1FC available) OR (table 1/9.2.1FD Applicability = R AND test case 9.2.1FD available) THEN N/A ELSE R  |             |   |
| C_RF_NA_01b | IF (table 1/9.2.1FD Applicability = R AND test case 9.2.1FD available) THEN N/A ELSE R   |             |   |
| C_RF_NA_02  | IF (table 1/9.2.1GA Applicability = R and test case 9.2.1GA available) OR (table 1/9.2.1GC Applicability = R and test case 9.2.1GC available) OR (table 1/9.2.1GD Applicability = R and test case 9.2.1GD available) THEN N/A ELSE R |             |   |
| C_RF_NA_02a | IF (table 1/9.2.1GC Applicability = R and test case 9.2.1GC available) OR (table 1/9.2.1GD Applicability = R and test case 9.2.1GD available) THEN N/A ELSE R  |             |   |
| C_RF_NA_02b | IF table 1/9.2.1GD Applicability = R and test case 9.2.1GD available THEN N/A ELSE R   |             |   |
| C_RF_NA_03  | IF table 1/9.2.1HA Applicability = R and test case 9.2.1HA available THEN N/A ELSE R   |             |   |

| Clause      | Title | Condition  | Comments |
|-------------|-------|--|----------|
| C_RF_NA_04  |       | IF (table 1/9.2.11A Applicability = R and test case 9.2.11A available) OR<br>(table 1/9.2.11C Applicability = R AND test case 9.2.11C available) OR<br>(table 1/9.2.11D Applicability = R AND test case 9.2.11D available) THEN N/A ELSE R       |          |
| C_RF_NA_04a |       | IF (table 1/9.2.11C Applicability = R AND test case 9.2.11C available) OR<br>(table 1/9.2.11D Applicability = R AND test case 9.2.11D available) THEN N/A ELSE R   |          |
| C_RF_NA_04b |       | IF (table 1/9.2.11D Applicability = R AND test case 9.2.11D available) THEN N/A ELSE R   |          |
| C_RF_NA_05  |       | IF (table 1/9.2.11JA Applicability = R and test case 9.2.11JA available THEN) OR<br>(table 1/9.2.11JC Applicability = R AND test case 9.2.11JC available) OR<br>(table 1/9.2.11JD Applicability = R AND test case 9.2.11JD available) N/A ELSE R |          |
| C_RF_NA_05a |       | IF (table 1/9.2.11JC Applicability = R AND test case 9.2.11JC available) OR<br>(table 1/9.2.11JD Applicability = R AND test case 9.2.11JD available) THEN N/A ELSE R   |          |
| C_RF_NA_05b |       | IF (table 1/9.2.11JD Applicability = R AND test case 9.2.11JD available) THEN N/A ELSE R   |          |
| C_RF_NA_06  |       | IF (table 1/9.2.11KA Applicability = R and test case 9.2.11KA available) OR<br>(table 1/9.2.11KC Applicability = R AND test case 9.2.11KC available) OR<br>(table 1/9.2.11KD Applicability = R AND test case 9.2.11KD available) THEN N/A ELSE R |          |
| C_RF_NA_06a |       | IF (table 1/9.2.11KC Applicability = R AND test case 9.2.11KC available) OR<br>(table 1/9.2.11KD Applicability = R AND test case 9.2.11KD available) THEN N/A ELSE R   |          |
| C_RF_NA_06b |       | IF (table 1/9.2.11KD Applicability = R AND test case 9.2.11KD available) THEN N/A ELSE R   |          |
| C_RF_NA_07  |       | IF table 1/9.2.11LA Applicability = R and test case 9.2.11LA available THEN N/A ELSE R   |          |
| C_RF_NA_08  |       | IF table 1/9.2.4C Applicability = R and test case 9.2.4C available THEN N/A ELSE R   |          |
| C_RF_NA_09  |       | IF table 1/9.2.4D Applicability = R and test case 9.2.4D available THEN N/A ELSE R   |          |
| C_RF_NA_10  |       | IF table 1/9.2.4G Applicability = R and test case 9.2.4G available THEN N/A ELSE R   |          |
| C_RF_NA_11  |       | IF table 1/9.2.4H Applicability = R and test case 9.2.4H available THEN N/A ELSE R   |          |

NOTE: The expression “test case x available” means that test case x in the test system is validated and could therefore be run.

---

# Annex A (normative): ICS proforma for 3<sup>rd</sup> Generation User Equipment

Notwithstanding the provisions of the copyright related to the text of the present document, The Organizational Partners of 3GPP grant that users of the present document may freely reproduce the ICS proforma in this annex so that it can be used for its intended purposes and may further publish the completed ICS.

---

## A.1 Guidance for completing the ICS proforma

### A.1.1 Purposes and structure

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

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

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

### A.1.2 Abbreviations and conventions

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

#### Item column

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

#### Item description column

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

#### Reference column

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

#### Release column

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

#### Comments column

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

References to items

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

EXAMPLE 1: A.7/14 is the reference to the answer of item 14 in table A.7.

### A.1.3 Instructions for completing the ICS proforma

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

---

## A.2 Identification of the User Equipment

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

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

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

### A.2.1 Date of the statement

.....

### A.2.2 User Equipment Under Test (UEUT) identification

UEUT name:

.....  
.....

Hardware configuration:

.....  
.....  
.....

Software configuration:

.....  
.....  
.....

### A.2.3 Product supplier

Name:

.....

Address:

.....

.....

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

.....

### A.2.4 Client

Name:

.....

Address:

.....

.....

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....



Additional information:

.....

.....

.....

## A.2.5 ICS contact person

Name:

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

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## A.3 Identification of the protocol

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

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## A.4 ICS proforma tables

Note: Capability Tables A.1-A.9 are based on TS 34.123-2 [23].

### A.4.1 UE Implementation Types

**Table A.1: UE Radio Technologies**

| Item | UE Radio Technologies | Ref.      | Release | Comments |
|------|-----------------------|-----------|---------|----------|
| 1    | FDD (DS)              | 25.101    | R99     |          |
| 2    | TDD 3.84 Mcps         | 25.102    | R99     |          |
| 3    | TDD 1.28 Mcps (LCR)   | 25.102    | Rel-4   |          |
| 4    | GSM                   | 21.904, 5 | R99     |          |
| 5    | GPRS                  | 23.060    | R99     |          |
| 6    | E-UTRAN FDD           | 36.101    | Rel-8   |          |
| 7    | E-UTRAN TDD           | 36.101    | Rel-8   |          |

## A.4.2 UE Service Capabilities

**Table A.2: Definition of Bearer Services**

| Item  | Definition of Bearer Services                             | Ref.                  | Release | Comments |
|---|---|-----------------------|---------|----------|
| 1   | Circuit Switched  | 22.105, 5.1<br>22.002 | R99     |          |
| 2   | Packet Switched   | 22.105, 5.1<br>22.060 | R99     |          |
| 3   | UE supports UE operation mode A: PS and CS simultaneously |                       | R99     |          |
| Note: Needed for CS only terminals which would not support Cell_PCH/URA_PCH test cases. |   |                       |         |          |

**Table A.2a: Teleservices**

| Item | Teleservices             | Ref.          | Release | Comments  |
|------|--------------------------|---------------|---------|-----------|
| 1    | Narrow band speech (AMR) | 22.105, 6.4.1 | R99     | Telephony |
| 2    | Emergency call           | 22.105, 6.4.2 | R99     |           |

**Table A.3: Void**

## A.4.3 Baseline Implementation Capabilities

**Table A.4: Supported protocols**

| Item | Supported protocols              | Ref.        | Release | Comments |
|------|----------------------------------|-------------|---------|----------|
| 1    | Call Control                     | 24.008, 5   | R99     |          |
| 2    | Mobility Management              | 24.008, 4   | R99     |          |
| 3    | Session Management               | 24.008, 6.1 | R99     |          |
| 4    | GPRS Mobility Management         | 24.008, 4   | R99     |          |
| 5    | Radio Resource Control           | 25.331      | R99     |          |
| 6    | Packet Data Convergence Protocol | 25.323      | R99     |          |
| 7    | Broadcast/Multicast Control      | 25.324      | R99     |          |
| 8    | Radio Link Control               | 25.322      | R99     |          |
| 9    | Medium Access Control            | 25.321      | R99     |          |
| 10   | Physical Layer                   | 25.201      | R99     |          |

**Table A.5: Special Conformance Testing Functions**

| Item | Special Conformance Testing Functions  | Ref.                               | Release | Comments |
|------|--|------------------------------------|---------|----------|
| 1    | UE test loop   | 34.109, 5.3                        | R99     |          |
| 2    | Support of UE test loop mode 1 with UL RLC SDU size bigger than 12160 bits (1520 octets) | 34.109, 6.2<br>24.108,<br>10.5.6.5 | R99     |          |

Note: TL1 and TL2 support should be added.

Table A.6: FDD (DS) RF Baseline Implementation Capabilities

| Item | FDD (DS) RF Baseline Implementation Capabilities     | Ref.          | Release | Comments         |
|------|--|---------------|---------|------------------|
| 1    | Chip rate 3,84 Mcps                                  | 25.101, 5.1   | R99     |                  |
| 2    | Frequency band: 1 920-1 980, 2 110-2 170 MHz         | 25.101, 5.2   | R99     | Band I           |
| 3    | Frequency band: 1 850-1 910, 1 930-1 990 MHz         | 25.101, 5.2   | R99     | Band II          |
| 4    | Frequency band: Other spectrum                       | 25.101, 5.2   | R99     |                  |
| 5    | TX-RX Freq. Sep: 190 MHz                             | 25.101, 5.3   | R99     |                  |
| 6    | TX-RX Freq. Sep: 80 MHz                              | 25.101, 5.3   | R99     |                  |
| 7    | TX-RX Freq. Sep: Variable                            | 25.101, 5.3   | R99     |                  |
| 8    | Carrier raster: 200 kHz                              | 25.101, 5.4   | R99     |                  |
| 9    | UE Power Class 1 for Operation Band I (+33 dBm)      | 25.101, 6.2.1 | R99     |                  |
| 10   | UE Power Class 2 for Operation Band I (+27 dBm)      | 25.101, 6.2.1 | R99     |                  |
| 11   | UE Power Class 3 for Operation Band I (+24 dBm)      | 25.101, 6.2.1 | R99     |                  |
| 12   | UE Power Class 4 for Operation Band I (+21 dBm)      | 25.101, 6.2.1 | R99     |                  |
| 13   | Output RF spectrum emissions                         | 25.101, 6.6   | R99     | Not needed!      |
| 14   | Frequency band: 1710-1785, 1805-1880 MHz             | 25.101, 5.2   | R99     | Band III         |
| 15   | Frequency band: 1710-1755, 2110-2155 MHz             | 25.101, 5.2   | R99     | Band IV          |
| 16   | Frequency band: 824 – 849, 869-894 MHz               | 25.101, 5.2   | R99     | Band V           |
| 17   | Frequency band: 830-840, 875-885 MHz                 | 25.101, 5.2   | R99     | Band VI          |
| 18   | Frequency band: 2500-2570, 2620-2690 MHz             | 25.101, 5.2   | R99     | Band VII         |
| 19   | Frequency band: 880-915, 925-960 MHz                 | 25.101, 5.2   | R99     | Band VIII        |
| 20   | Frequency band: 1749.9-1784.9, 1844.9-1879.9 MHz     | 25.101, 5.2   | R99     | Band IX          |
| 21   | Frequency band: 1710 - 1770, 2110 - 2170 MHz         | 25.101, 5.2   | R99     | Band X           |
| 22   | Frequency band: 1427.9 -1447.9, 1475.9 -1495.9 MHz   | 25.101, 5.2   | R99     | Band XI          |
| 23   | Frequency band: 699 – 716, 729 – 746 MHz             | 25.101, 5.2   | R99     | Band XII         |
| 24   | Frequency band: 777 – 787, 746 – 756 MHz             | 25.101, 5.2   | R99     | Band XIII        |
| 25   | Frequency band: 788 – 798, 758 – 768 MHz             | 25.101, 5.2   | R99     | Band XIV         |
| 26   | Frequency band: 830 – 845, 875 – 890 MHz             | 25.101, 5.2   | R99     | Band XIX         |
| 27   | Frequency band: 832 – 862, 791 – 821 MHz             | 25.101, 5.2   | R99     | Band XX          |
| 28   | Frequency band: 1447.9 – 1462.9, 1495.9 – 1510.9 MHz | 25.101, 5.2   | R99     | Band XXI         |
| 29   | DB-DC-HSDPA Configuration 1                          | 25.101, 5.2   | Rel-9   | Band I and VIII  |
| 30   | DB-DC-HSDPA Configuration 2                          | 25.101, 5.2   | Rel-9   | Band II and IV   |
| 31   | DB-DC-HSDPA Configuration 3                          | 25.101, 5.2   | Rel-9   | Band I and V     |
| 32   | Frequency band: 3410 – 3490, 3510 – 3590 MHz         | 25.101, 5.2   | Rel-10  | Band XXII        |
| 33   | Frequency band: 1850 – 1915, 1930 – 1995 MHz         | 25.101, 5.2   | Rel-10  | Band XXV         |
| 34   | Frequency band: 814 – 849, 859-894 MHz               | 25.101, 5.2   | R99     | Band XXVI        |
| 35   | Frequency band: N/A, 1452 – 1496 MHz                 | 25.101,5.2    | Rel-12  | Band XXXII       |
| 36   | DB-DC-HSDPA Configuration 4                          | 25.101,5.2    | Rel-10  | Band I and XI    |
| 37   | DB-DC-HSDPA Configuration 5                          | 25.101,5.2    | Rel-10  | Band II and V    |
| 38   | DB-DC-HSDPA Configuration 6                          | 25.101,5.2    | Rel-12  | Band I and XXXII |

**Table A.6a: FDD (DS) UE Power Classes**

| Item | FDD (DS) RF Baseline Implementation Capabilities      | Ref.                         | Release | Comments |
|------|---|------------------------------|---------|----------|
| 1    | UE Power Class 3 for Operation Band II (+24 dBm)      | 25.307, 5;<br>25.101, 6.2.1  | R99     |          |
| 2    | UE Power Class 3bis for Operation Band II (+23 dBm)   | 25.307, 5;<br>25.101, 6.2.1  | R99     |          |
| 3    | UE Power Class 4 for Operation Band II (+21 dBm)      | 25.307, 5;<br>25.101, 6.2.1  | R99     |          |
| 4    | UE Power Class 3 for Operation Band III (+24 dBm)     | 25.307, 4;<br>25.101, 6.2.1  | R99     |          |
| 5    | UE Power Class 3bis for Operation Band III (+23 dBm)  | 25.307, 4;<br>25.101, 6.2.1  | R99     |          |
| 6    | UE Power Class 4 for Operation Band III (+21 dBm)     | 25.307, 4;<br>25.101, 6.2.1  | R99     |          |
| 7    | UE Power Class 3 for Operation Band IV (+24 dBm)      | 25.307, 7;<br>25.101, 6.2.1  | R99     |          |
| 8    | UE Power Class 3bis for Operation Band IV (+23 dBm)   | 25.307, 7;<br>25.101, 6.2.1  | R99     |          |
| 9    | UE Power Class 4 for Operation Band IV (+21 dBm)      | 25.307, 7;<br>25.101, 6.2.1  | R99     |          |
| 10   | UE Power Class 3 for Operation Band V (+24 dBm)       | 25.307, 8;<br>25.101, 6.2.1  | R99     |          |
| 11   | UE Power Class 3bis for Operation Band V (+23 dBm)    | 25.307, 8;<br>25.101, 6.2.1  | R99     |          |
| 12   | UE Power Class 4 for Operation Band V (+21 dBm)       | 25.307, 8;<br>25.101, 6.2.1  | R99     |          |
| 13   | UE Power Class 3 for Operation Band VI (+24 dBm)      | 25.307, 6;<br>25.101, 6.2.1  | R99     |          |
| 14   | UE Power Class 3bis for Operation Band VI (+23 dBm)   | 25.307, 6;<br>25.101, 6.2.1  | R99     |          |
| 15   | UE Power Class 4 for Operation Band VI (+21 dBm)      | 25.307, 6;<br>25.101, 6.2.1  | R99     |          |
| 16   | UE Power Class 3 for Operation Band VII (+24 dBm)     | 25.307, 9;<br>25.101, 6.2.1  | R99     |          |
| 17   | UE Power Class 3bis for Operation Band VII (+23 dBm)  | 25.307, 9;<br>25.101, 6.2.1  | R99     |          |
| 18   | UE Power Class 4 for Operation Band VII (+21 dBm)     | 25.307, 9;<br>25.101, 6.2.1  | R99     |          |
| 19   | UE Power Class 3 for Operation Band VIII (+24 dBm)    | 25.307, 10;<br>25.101, 6.2.1 | R99     |          |
| 20   | UE Power Class 3bis for Operation Band VIII (+23 dBm) | 25.307, 10;<br>25.101, 6.2.1 | R99     |          |
| 21   | UE Power Class 4 for Operation Band VIII (+21 dBm)    | 25.307, 10;<br>25.101, 6.2.1 | R99     |          |
| 22   | UE Power Class 3 for Operation Band IX (+24 dBm)      | 25.307, 11;<br>25.101, 6.2.1 | R99     |          |
| 23   | UE Power Class 3bis for Operation Band IX (+23 dBm)   | 25.307, 11;<br>25.101, 6.2.1 | R99     |          |
| 24   | UE Power Class 4 for Operation Band IX (+21 dBm)      | 25.307, 11;<br>25.101, 6.2.1 | R99     |          |
| 25   | UE Power Class 3 for Operation Band X (+24 dBm)       | 25.307, 12;<br>25.101, 6.2.1 | R99     |          |
| 26   | UE Power Class 3bis for Operation Band X (+23 dBm)    | 25.307, 12;<br>25.101, 6.2.1 | R99     |          |
| 27   | UE Power Class 4 for Operation Band X (+21 dBm)       | 25.307, 12;<br>25.101, 6.2.1 | R99     |          |
| 28   | UE Power Class 3 for Operation Band XI (+24 dBm)      | 25.307, 13;<br>25.101, 6.2.1 | R99     |          |
| 29   | UE Power Class 3bis for Operation Band XI (+23 dBm)   | 25.307, 13;<br>25.101, 6.2.1 | R99     |          |
| 30   | UE Power Class 4 for Operation Band XI (+21 dBm)      | 25.307, 13;<br>25.101, 6.2.1 | R99     |          |
| 31   | UE Power Class 3 for Operation Band XII (+24 dBm)     | 25.307, 14;<br>25.101, 6.2.1 | R99     |          |
| 32   | UE Power Class 3bis for Operation Band XII (+23 dBm)  | 25.307, 14;<br>25.101, 6.2.1 | R99     |          |

|    |   |                              |     |  |
|----|---|------------------------------|-----|--|
| 33 | UE Power Class 4 for Operation Band XII (+21 dBm)     | 25.307, 14;<br>25.101, 6.2.1 | R99 |  |
| 34 | UE Power Class 3 for Operation Band XIII (+24 dBm)    | 25.307, 15;<br>25.101, 6.2.1 | R99 |  |
| 35 | UE Power Class 3bis for Operation Band XIII (+23 dBm) | 25.307, 15;<br>25.101, 6.2.1 | R99 |  |
| 36 | UE Power Class 4 for Operation Band XIII (+21 dBm)    | 25.307, 15;<br>25.101, 6.2.1 | R99 |  |
| 37 | UE Power Class 3 for Operation Band XIV (+24 dBm)     | 25.307, 16;<br>25.101, 6.2.1 | R99 |  |
| 38 | UE Power Class 3bis for Operation Band XIV (+23 dBm)  | 25.307, 16;<br>25.101, 6.2.1 | R99 |  |
| 39 | UE Power Class 4 for Operation Band XIV (+21 dBm)     | 25.307, 16;<br>25.101, 6.2.1 | R99 |  |
| 40 | UE Power Class 3 for Operation Band XIX (+24 dBm)     | 25.307, 20;<br>25.101, 6.2.1 | R99 |  |
| 41 | UE Power Class 3bis for Operation Band XIX (+23 dBm)  | 25.307, 20;<br>25.101, 6.2.1 | R99 |  |
| 42 | UE Power Class 4 for Operation Band XIX (+21 dBm)     | 25.307, 20;<br>25.101, 6.2.1 | R99 |  |
| 43 | UE Power Class 3 for Operation Band XXI (+24 dBm)     | 25.307, 21;<br>25.101, 6.2.1 | R99 |  |
| 44 | UE Power Class 3bis for Operation Band XXI (+23 dBm)  | 25.307, 21;<br>25.101, 6.2.1 | R99 |  |
| 45 | UE Power Class 4 for Operation Band XXI (+21 dBm)     | 25.307, 21;<br>25.101, 6.2.1 | R99 |  |
| 46 | UE Power Class 3 for Operation Band XX (+24 dBm)      | 25.307, 22;<br>25.101, 6.2.1 | R99 |  |
| 47 | UE Power Class 3bis for Operation Band XX (+23 dBm)   | 25.307, 22;<br>25.101, 6.2.1 | R99 |  |
| 48 | UE Power Class 4 for Operation Band XX (+21 dBm)      | 25.307, 22;<br>25.101, 6.2.1 | R99 |  |
| 49 | UE Power Class 3 for Operation Band XXII (+24 dBm)    | 25.307, 24;<br>25.101, 6.2.1 | R99 |  |
| 50 | UE Power Class 3bis for Operation Band XXII (+23 dBm) | 25.307, 24;<br>25.101, 6.2.1 | R99 |  |
| 51 | UE Power Class 4 for Operation Band XXII (+21 dBm)    | 25.307, 24;<br>25.101, 6.2.1 | R99 |  |
| 52 | UE Power Class 3 for Operation Band XXV (+24 dBm)     | 25.307, 24;<br>25.101, 6.2.1 | R99 |  |
| 53 | UE Power Class 3bis for Operation Band XXV (+23 dBm)  | 25.307, 24;<br>25.101, 6.2.1 | R99 |  |
| 54 | UE Power Class 4 for Operation Band XXV (+21 dBm)     | 25.307, 24;<br>25.101, 6.2.1 | R99 |  |
| 55 | UE Power Class 3 for Operation Band XXVI (+24 dBm)    | 25.307, 24;<br>25.101, 6.2.1 | R99 |  |
| 56 | UE Power Class 3bis for Operation Band XXVI (+23 dBm) | 25.307, 24;<br>25.101, 6.2.1 | R99 |  |
| 57 | UE Power Class 4 for Operation Band XXVI (+21 dBm)    | 25.307, 24;<br>25.101, 6.2.1 | R99 |  |

**Table A.7: FDD Layer 1 UE Radio Access Capabilities**

| Item | FDD Layer 1 UE Radio Access Capabilities  | Ref.   | Release            | Comments |
|------|---|--|--------------------|----------|
| 1    | Support of turbo decoding   | 25.306, 4.5.1  | R99                |          |
| 2    | Support of turbo encoding   | 25.306, 4.5.2  | R99                |          |
| 3    | Support for SF 512 (downlink)   | 25.306, 4.5.3  | R99                |          |
| 4    | Support of PDSCH  | 25.306, 4.5.3  | R99 and Rel-4 only |          |
| 5    | Simultaneous reception of SCCPCH and DPCH   | 25.306, 4.5.3  | R99                |          |
| 6    | Simultaneous reception of SCCPCH, DPCH and PDSCH  | 25.306, 4.5.3  | R99 and Rel-4 only |          |
| 7    | Support of PCPCH  | 25.306, 4.5.4  | R99 and Rel-4 only |          |
| 8    | Support of uplink compressed mode only  | 25.306, 4.9  | R99                |          |
| 9    | Support of downlink compressed mode only  | 25.306, 4.9  | R99                |          |
| 10   | Support of uplink and downlink compressed mode  | 25.306, 4.9  | R99                |          |
| 11   | void  |  |                    |          |
| 12   | void  |  |                    |          |
| 13   | void  |  |                    |          |
| 14   | Support of HS-PDSCH   | 25.306, 4.5.3  | Rel-5              |          |
| 15   | Support of E-DPDCH  | 25.306, 4.5.4  | Rel-6              |          |
| 16   | Support of MBMS   | 25.306, 4.13   | Rel-6              |          |
| 17   | Support of HS-SCCHless HS-DSCH  | 25.306, 4.5.3  | Rel-7              |          |
| 18   | Full support of F-DPCH  | 25.331, 10.2.3.9<br>10.3.3.42,<br>10.3.3.42oa,<br>11.2, 11.3 | Rel-6              |          |
| 19   | Support of DPCH Discontinuous Transmission  | 25.306, 4.5.4  | Rel-7              |          |
| 20   | Support of Target Cell Pre-Configuration  | 25.306 4.5.3   | Rel-8              |          |
| 21   | Support of HS-PDSCH in CELL_FACH  | 25.306, 4.5.3  | Rel-7              |          |
| 22   | Support of Common E-DCH   | 25.306, 4.5.4  | Rel-8              |          |
| 23   | Support of dual band operation  | 25.306 4.5.3   | Rel-9              |          |
| 24   | Support of CSG  | 25.331<br>10.2.16c,<br>10.3.3.42                             | Rel-8              |          |
| 25   | Support of intra-frequency SI acquisition for HO  | 25.306 4.14.2  | Rel-9              |          |
| 26   | Support of inter-frequency SI acquisition for HO  | 25.306 4.14.2  | Rel-9              |          |
| 27   | Support of dual cell E-DCH operation  | 25.306 4.5.4   | Rel-9              |          |
| 28   | Support of MIMO only with single-stream restriction   | 25.306 4.5.3   | Rel-9              |          |
| 29   | Support of TX Diversity on DL Control Channels by MIMO Capable UE when MIMO operation is active | 25.331<br>10.3.3.42  | Rel-7              |          |
| 30   | Support of uplink closed loop transmit diversity  | 25.306 4.5.4   | Rel-11             |          |
| 31   | Support of uplink open loop transmit diversity  | 25.306 4.5.4   | Rel-11             |          |
| 32   | Support of HS-DSCH DRX operation  | 25.306 4.5.3   | Rel-11             |          |
| 33   | Support of HS-DSCH DRX operation with second DRX cycle  | 25.306 4.5.3   | Rel-11             |          |
| 34   | Support for Multiflow operation   | 25.306 4.5.3   | Rel- 11            |          |
| 35   | Support of DCH Enhancements   | 25.331, 8.5.84   | Rel-12             |          |



**Table A.8: FDD HS-DSCH physical layer categories**

| Item | FDD HS-DSCH physical layer categories | Ref.        | Release | Comments |
|------|---------------------------------------|-------------|---------|----------|
| 1    | Category 1                            | 25.306, 5.1 | Rel-5   |          |
| 2    | Category 2                            | 25.306, 5.1 | Rel-5   |          |
| 3    | Category 3                            | 25.306, 5.1 | Rel-5   |          |
| 4    | Category 4                            | 25.306, 5.1 | Rel-5   |          |
| 5    | Category 5                            | 25.306, 5.1 | Rel-5   |          |
| 6    | Category 6                            | 25.306, 5.1 | Rel-5   |          |
| 7    | Category 7                            | 25.306, 5.1 | Rel-5   |          |
| 8    | Category 8                            | 25.306, 5.1 | Rel-5   |          |
| 9    | Category 9                            | 25.306, 5.1 | Rel-5   |          |
| 10   | Category 10                           | 25.306, 5.1 | Rel-5   |          |
| 11   | Category 11                           | 25.306, 5.1 | Rel-5   |          |
| 12   | Category 12                           | 25.306, 5.1 | Rel-5   |          |
| 13   | Category 13                           | 25.306, 5.1 | Rel-7   |          |
| 14   | Category 14                           | 25.306, 5.1 | Rel-7   |          |
| 15   | Category 15                           | 25.306, 5.1 | Rel-7   |          |
| 16   | Category 16                           | 25.306, 5.1 | Rel-7   |          |
| 17   | Category 17                           | 25.306, 5.1 | Rel-7   |          |
| 18   | Category 18                           | 25.306, 5.1 | Rel-7   |          |
| 19   | Category 19                           | 25.306, 5.1 | Rel-8   |          |
| 20   | Category 20                           | 25.306, 5.1 | Rel-8   |          |
| 21   | Category 21                           | 25.306, 5.1 | Rel-8   |          |
| 22   | Category 22                           | 25.306, 5.1 | Rel-8   |          |
| 23   | Category 23                           | 25.306, 5.1 | Rel-8   |          |
| 24   | Category 24                           | 25.306, 5.1 | Rel-8   |          |
| 25   | Category 25                           | 25.306, 5.1 | Rel-9   |          |
| 26   | Category 26                           | 25.306, 5.1 | Rel-9   |          |
| 27   | Category 27                           | 25.306, 5.1 | Rel-9   |          |
| 28   | Category 28                           | 25.306, 5.1 | Rel-9   |          |
| 29   | Category 29                           | 25.306, 5.1 | Rel-10  |          |
| 30   | Category 30                           | 25.306, 5.1 | Rel-10  |          |
| 31   | Category 31                           | 25.306, 5.1 | Rel-10  |          |
| 32   | Category 32                           | 25.306, 5.1 | Rel-10  |          |
| 33   | Category 33                           | 25.306, 5.1 | Rel-11  |          |
| 34   | Category 34                           | 25.306, 5.1 | Rel-11  |          |
| 35   | Category 35                           | 25.306, 5.1 | Rel-11  |          |
| 36   | Category 36                           | 25.306, 5.1 | Rel-11  |          |
| 37   | Category 37                           | 25.306, 5.1 | Rel-11  |          |
| 38   | Category 38                           | 25.306, 5.1 | Rel-11  |          |

**Table A.9: FDD E-DCH physical layer categories**

| Item | FDD E-DCH physical layer categories | Ref.        | Release | Comments |
|------|-------------------------------------|-------------|---------|----------|
| 1    | Category 1                          | 25.306, 5.1 | Rel-6   |          |
| 2    | Category 2                          | 25.306, 5.1 | Rel-6   |          |
| 3    | Category 3                          | 25.306, 5.1 | Rel-6   |          |
| 4    | Category 4                          | 25.306, 5.1 | Rel-6   |          |
| 5    | Category 5                          | 25.306, 5.1 | Rel-6   |          |
| 6    | Category 6                          | 25.306, 5.1 | Rel-6   |          |
| 7    | Category 7                          | 25.306, 5.1 | Rel-7   |          |
| 8    | Category 8                          | 25.306, 5.1 | Rel-9   |          |
| 9    | Category 9                          | 25.306, 5.1 | Rel-9   |          |

## A.4.4 Additional information

**Table A.10: Reference Measurement Channels**

| Item | Reference Measurement Channels                             | Ref.          | Release | Comments                    |
|------|--|---------------|---------|-----------------------------|
| 1    | Up-link reference measurement channel<br>12.2 kbps (FDD)   | 25.101, A.2.1 | R99     | Mandatory for all terminals |
| 2    | Down-link reference measurement channel<br>12.2 kbps (FDD) | 25.101, A.3.1 | R99     | Mandatory for all terminals |
| 3    | Up-link reference measurement channel<br>64 kbps (FDD)     | 25.101, A.2.2 | R99     |                             |
| 4    | Down-link reference measurement channel<br>64 kbps (FDD)   | 25.101, A.3.2 | R99     |                             |
| 5    | Up-link reference measurement channel<br>144 kbps (FDD)    | 25.101, A.2.3 | R99     |                             |
| 6    | Down-link reference measurement channel<br>144 kbps (FDD)  | 25.101, A.3.3 | R99     |                             |
| 7    | Up-link reference measurement channel<br>384 kbps (FDD)    | 25.101, A.2.4 | R99     |                             |
| 8    | Down-link reference measurement channel<br>384 kbps (FDD)  | 25.101, A.3.4 | R99     |                             |
| 9    | Up-link reference measurement channel<br>768 kbps (FDD)    | 25.101, A.2.5 | R99     |                             |
| 10   | Down-link reference measurement channel<br>2 64 kbps (FDD) | 25.101, A.3.5 | Rel-6   |                             |

**Table A.11: Additional capabilities**

| Item      | Capability   | Ref.      | Release | Allowed     | Band      | Supported | Comments |
|-----------|--|-----------|---------|-------------|-----------|-----------|----------|
| 1         | Enhanced performance requirements type 1 for HSDPA | 25.101, 9 | Rel-6   | 34.121-1, 4 | Band I    |           |          |
|           |  |           |         |             | Band II   |           |          |
|           |  |           |         |             | Band III  |           |          |
|           |  |           |         |             | Band IV   |           |          |
|           |  |           |         |             | Band V    |           |          |
|           |  |           |         |             | Band VI   |           |          |
|           |  |           |         |             | Band VII  |           |          |
|           |  |           |         |             | Band VIII |           |          |
|           |  |           |         |             | Band IX   |           |          |
|           |  |           |         |             | Band X    |           |          |
|           |  |           |         |             | Band XI   |           |          |
|           |  |           |         |             | Band XII  |           |          |
|           |  |           |         |             | Band XIII |           |          |
|           |  |           |         |             | Band XIV  |           |          |
|           |  |           |         |             | Band XIX  |           |          |
|           |  |           |         |             | Band XX   |           |          |
|           |  |           |         |             | Band XXI  |           |          |
| Band XXII |  |           |         |             |           |           |          |
| Band XXV  |  |           |         |             |           |           |          |
| Band XXVI |  |           |         |             |           |           |          |
| 2         | Enhanced performance requirements type 2           | 25.101, 9 | Rel-6   | 34.121-1, 4 | Band I    |           |          |
|           |  |           |         |             | Band II   |           |          |
|           |  |           |         |             | Band III  |           |          |
|           |  |           |         |             | Band IV   |           |          |
|           |  |           |         |             | Band V    |           |          |
|           |  |           |         |             | Band VI   |           |          |
|           |  |           |         |             | Band VII  |           |          |
|           |  |           |         |             | Band VIII |           |          |
|           |  |           |         |             | Band IX   |           |          |
|           |  |           |         |             | Band X    |           |          |
|           |  |           |         |             | Band XI   |           |          |
|           |  |           |         |             | Band XII  |           |          |
|           |  |           |         |             | Band XIII |           |          |
|           |  |           |         |             | Band XIV  |           |          |
|           |  |           |         |             | Band XIX  |           |          |
|           |  |           |         |             | Band XX   |           |          |
|           |  |           |         |             | Band XXI  |           |          |
| Band XXII |  |           |         |             |           |           |          |
| Band XXV  |  |           |         |             |           |           |          |
| Band XXVI |  |           |         |             |           |           |          |
| 3         | Enhanced performance requirements type 3           | 25.101, 9 | Rel-7   | 34.121-1, 4 | Band I    |           |          |
|           |  |           |         |             | Band II   |           |          |
|           |  |           |         |             | Band III  |           |          |
|           |  |           |         |             | Band IV   |           |          |
|           |  |           |         |             | Band V    |           |          |
|           |  |           |         |             | Band VI   |           |          |
|           |  |           |         |             | Band VII  |           |          |
|           |  |           |         |             | Band VIII |           |          |
| Band IX   |  |           |         |             |           |           |          |

|   |  |           |       |             |           |  |
|---|--|-----------|-------|-------------|-----------|--|
|   |  |           |       |             | Band X    |  |
|   |  |           |       |             | Band XI   |  |
|   |  |           |       |             | Band XII  |  |
|   |  |           |       |             | Band XIII |  |
|   |  |           |       |             | Band XIV  |  |
|   |  |           |       |             | Band XIX  |  |
|   |  |           |       |             | Band XX   |  |
|   |  |           |       |             | Band XXI  |  |
|   |  |           |       |             | Band XXII |  |
|   |  |           |       |             | Band XXV  |  |
|   |  |           |       |             | Band XXVI |  |
| 4 | Enhanced performance requirements type 1 for E-DCH | 25.101, 9 | Rel-7 | 34.121-1, 4 | Band I    |  |
|   |  |           |       |             | Band II   |  |
|   |  |           |       |             | Band III  |  |
|   |  |           |       |             | Band IV   |  |
|   |  |           |       |             | Band V    |  |
|   |  |           |       |             | Band VI   |  |
|   |  |           |       |             | Band VII  |  |
|   |  |           |       |             | Band VIII |  |
|   |  |           |       |             | Band IX   |  |
|   |  |           |       |             | Band X    |  |
|   |  |           |       |             | Band XI   |  |
|   |  |           |       |             | Band XII  |  |
|   |  |           |       |             | Band XIII |  |
|   |  |           |       |             | Band XIV  |  |
|   |  |           |       |             | Band XIX  |  |
|   |  |           |       |             | Band XX   |  |
|   |  |           |       |             | Band XXI  |  |
|   |  |           |       |             | Band XXII |  |
|   |  |           |       |             | Band XXV  |  |
|   |  |           |       |             | Band XXVI |  |
| 5 | Enhanced performance requirements type 1 for MBMS  | 25.101, 9 | Rel-7 | 34.121-1, 4 | Band I    |  |
|   |  |           |       |             | Band II   |  |
|   |  |           |       |             | Band III  |  |
|   |  |           |       |             | Band IV   |  |
|   |  |           |       |             | Band V    |  |
|   |  |           |       |             | Band VI   |  |
|   |  |           |       |             | Band VII  |  |
|   |  |           |       |             | Band VIII |  |
|   |  |           |       |             | Band IX   |  |
|   |  |           |       |             | Band X    |  |
|   |  |           |       |             | Band XI   |  |
|   |  |           |       |             | Band XII  |  |
|   |  |           |       |             | Band XIII |  |
|   |  |           |       |             | Band XIV  |  |
|   |  |           |       |             | Band XIX  |  |
|   |  |           |       |             | Band XX   |  |
|   |  |           |       |             | Band XXI  |  |
|   |  |           |       |             | Band XXII |  |
|   |  |           |       |             | Band XXV  |  |

|           |   |           |       |             |           |  |  |
|-----------|---|-----------|-------|-------------|-----------|--|--|
|           |   |           |       |             | Band XXVI |  |  |
| 6         | Enhanced performance requirements Type 3i       | 25.101, 9 | Rel-8 | 34.121-1, 4 | Band I    |  |  |
|           |   |           |       |             | Band II   |  |  |
|           |   |           |       |             | Band III  |  |  |
|           |   |           |       |             | Band IV   |  |  |
|           |   |           |       |             | Band V    |  |  |
|           |   |           |       |             | Band VI   |  |  |
|           |   |           |       |             | Band VII  |  |  |
|           |   |           |       |             | Band VIII |  |  |
|           |   |           |       |             | Band IX   |  |  |
|           |   |           |       |             | Band X    |  |  |
|           |   |           |       |             | Band XI   |  |  |
|           |   |           |       |             | Band XII  |  |  |
|           |   |           |       |             | Band XIII |  |  |
|           |   |           |       |             | Band XIV  |  |  |
|           |   |           |       |             | Band XIX  |  |  |
|           |   |           |       |             | Band XX   |  |  |
|           |   |           |       |             | Band XXI  |  |  |
| Band XXII |   |           |       |             |           |  |  |
| Band XXV  |   |           |       |             |           |  |  |
| Band XXVI |   |           |       |             |           |  |  |
| 7         | Enhanced performance requirements Type1 for DCH | 25.101, 9 | Rel-8 | 34.121-1, 4 | Band I    |  |  |
|           |   |           |       |             | Band II   |  |  |
|           |   |           |       |             | Band III  |  |  |
|           |   |           |       |             | Band IV   |  |  |
|           |   |           |       |             | Band V    |  |  |
|           |   |           |       |             | Band VI   |  |  |
|           |   |           |       |             | Band VII  |  |  |
|           |   |           |       |             | Band VIII |  |  |
|           |   |           |       |             | Band IX   |  |  |
|           |   |           |       |             | Band X    |  |  |
|           |   |           |       |             | Band XI   |  |  |
|           |   |           |       |             | Band XII  |  |  |
|           |   |           |       |             | Band XIII |  |  |
|           |   |           |       |             | Band XIV  |  |  |
|           |   |           |       |             | Band XIX  |  |  |
|           |   |           |       |             | Band XX   |  |  |
|           |   |           |       |             | Band XXI  |  |  |
| Band XXII |   |           |       |             |           |  |  |
| Band XXV  |   |           |       |             |           |  |  |
| Band XXVI |   |           |       |             |           |  |  |

**Table A.11a: Additional capabilities for DB-DC-HSDPA**

| Item | Capability   | Ref.      | Release | Allowed     | Band       | Supported | Comments |
|------|--|-----------|---------|-------------|------------|-----------|----------|
| 1    | Enhanced performance requirements type 1 for HSDPA | 25.101, 9 | Rel-6   | 34.121-1, 4 | I and VIII |           |          |
|      |  |           |         |             | II and IV  |           |          |
|      |  |           |         |             | I and V    |           |          |
|      |  |           |         |             | I and XI   |           |          |
|      |  |           |         |             | II and V   |           |          |
| 2    | Enhanced performance requirements type 2           | 25.101, 9 | Rel-6   | 34.121-1, 4 | I and VIII |           |          |
|      |  |           |         |             | II and IV  |           |          |
|      |  |           |         |             | I and V    |           |          |
|      |  |           |         |             | I and XI   |           |          |
|      |  |           |         |             | II and V   |           |          |
| 3    | Enhanced performance requirements type 3           | 25.101, 9 | Rel-7   | 34.121-1, 4 | I and VIII |           |          |
|      |  |           |         |             | II and IV  |           |          |
|      |  |           |         |             | I and V    |           |          |
|      |  |           |         |             | I and XI   |           |          |
|      |  |           |         |             | II and V   |           |          |
| 4    | Enhanced performance requirements Type 3i          | 25.101, 9 | Rel-8   | 34.121-1, 4 | I and VIII |           |          |
|      |  |           |         |             | II and IV  |           |          |
|      |  |           |         |             | I and V    |           |          |
|      |  |           |         |             | I and XI   |           |          |
|      |  |           |         |             | II and V   |           |          |

**Table A.12: Additional information**

| Item | Additional Information                                     | Ref.          | Release | Comments |
|------|--|---------------|---------|----------|
| 1    | UE without vibration sensitive components                  | 25.101, D.2.3 | R99     |          |
| 2    | Support of inter-RAT PS handover to E-UTRA (FDD) from UTRA | 25.306, 4.7   | Rel-8   |          |
| 3    | Support of inter-RAT PS handover to E-UTRA (TDD) from UTRA | 25.306, 4.7   | Rel-8   |          |

## A.4.5 Feature group indicators

**Table A.13: EUTRA Feature group indicators**

| Item | Additional information  | Notes | Ref.               | Release | Comments   |
|------|---|-------|--------------------|---------|--|
| 1    | Support of<br>- UTRA CELL_PCH to EUTRA RRC_IDLE cell<br>reselection<br>- UTRA URA_PCH to EUTRA RRC_IDLE cell<br>reselection |       | 25.331,<br>Annex E | Rel-8   | Corresponding to<br>the Index of<br>Indicator, the<br>leftmost binary bit<br>1<br>For Rel-8:<br>Set to true if<br>supporting all<br>functionalities in<br>the feature group<br>For Rel-9 or later<br>releases:<br>this FGI bit is set<br>to TRUE s |
| 2    | Support of<br>- EUTRAN measurements and reporting in<br>connected mode  |       | 25.331,<br>Annex E | Rel-8   | Corresponding to<br>the Index of<br>Indicator, the<br>leftmost binary bit<br>2<br>Set to true if<br>supporting all<br>functionalities in<br>the feature group  |



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## Annex B (informative): Labelling of Inter-RAT RRM test cases

This Annex provides a labelling guideline for the FDD/GSM inter-RAT RRM test cases. The purpose of this Annex is to aid clear and traceable test case identification, both for the purposes of validation reporting in the certification organisations as well as for test houses to unambiguously identify the tested frequency bands. Note that actual band combinations to be tested shall be specified by the certification organisations.

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### B.1 FDD/GSM band combinations for inter-RAT RRM tests

It is recommended the following labelling convention should be used for the inter-RAT RRM derivative test cases covering different FDD/GSM band combinations:

"Test Case number"("FDD band"-"GSM Frequency band")

FDD bands are listed using Roman numerals.

For example: 8.2.3.1(I-900) for inter-RAT RRM test covering FDD band I and GSM 900.

The above mentioned labelling convention shall apply to the following inter-RAT RRM tests defined in TS 34.121-1:

| Test Type | Test Case Number   |
|-----------|--|
| RRM       | 8.2.3.1, 8.2.3.2, 8.2.3.3, 8.3.4, 8.3.5.3, 8.3.6.3, 8.6.4.1, 8.6.5.1, 8.7.3A |

## Annex C (informative): Change history

| Meeting<br>-1st-<br>Level | Doc-1st-Level | CR   | Rev | Subject  | Cat | Version<br>-<br>Current | Version<br>-New | Doc-2nd-<br>Level |
|---------------------------|---------------|------|-----|--|-----|-------------------------|-----------------|-------------------|
| -                         | -             | -    | -   | Draft version 0.0.1 based on iWD-004_v005 and TS 34.123-2 v6.1.0.  | -   | N/A                     | 0.0.1           |                   |
| RP-31                     | RP-060055     | -    | -   | For approval as Rel-7 version at RAN plenary   | -   | 2.0.0                   | 7.0.0           | R5-060444         |
| RP-32                     | RP-060329     | 0001 | -   | Addition of new test cases from RAN5#30 and correction to applicability  | F   | 7.0.0                   | 7.1.0           | R5-061425         |
| RP-32                     | RP-060332     | 0002 | -   | Addition of new Rel-6 test cases introduced in RAN5#31   | F   | 7.0.0                   | 7.1.0           | R5-061446         |
| RP-33                     | RP-060549     | 0003 | -   | Correction of applicability for RF test case 6.5 (narrow band blocking requirement)  | F   | 7.1.0                   | 7.2.0           | R5-062127         |
| RP-33                     | RP-060549     | 0004 | -   | Addition of applicability for new test cases   | F   | 7.1.0                   | 7.2.0           | R5-062453         |
| RP-33                     | RP-060567     | 0005 | -   | New Rel-6 RRM test case: 8.3.8 Serving HS-DSCH cell change   | F   | 7.1.0                   | 7.2.0           | R5-062232         |
| RP-33                     | RP-060549     | 0006 | -   | Correction of applicability for RF test case 6.7   | F   | 7.1.0                   | 7.2.0           | R5-062416         |
| RP-34                     | RP-060735     | 0007 | -   | Addition of new condition for TC 6.3A in section 4   | F   | 7.2.0                   | 7.3.0           | R5-063459         |
| RP-34                     | RP-060732     | 0008 | -   | Addition of PICS parameter 'speech' and new condition for TC 8.3.4 in section 4 and Annex A.4.2  | F   | 7.2.0                   | 7.3.0           | R5-063460         |
| RP-34                     | RP-060735     | 0009 | -   | Addition of new test case 5.13.1AA   | F   | 7.2.0                   | 7.3.0           | R5-063424         |
| RP-34                     | RP-060743     | 0010 | -   | Applicability of new UE Transmission Power Headroom test case  | F   | 7.2.0                   | 7.3.0           | R5-063442         |
| RP-35                     | RP-070097     | 0011 | -   | Correction to 34.121-2: Introduction of applicability for 2ms TTI E-DCH E-TFC restriction test case                                    | F   | 7.3.0                   | 7.4.0           | R5-070571         |
| RP-35                     | RP-070090     | 0012 | -   | Applicability of new MBMS RF and RRM test cases  | F   | 7.3.0                   | 7.4.0           | R5-070554         |
| RP-35                     | RP-070094     | 0013 | -   | Correction to 34.121-2: Introduction of FDD Band X (Extended UMTS 1.7/2.1 GHz) for transmitter and receiver characteristics test cases | F   | 7.3.0                   | 7.4.0           | R5-070167         |
| RP-36                     | RP-070344     | 0014 | -   | Addition of vibration condition to 34.121-2  | F   | 7.4.0                   | 7.5.0           | R5-071158         |
| RP-36                     | RP-070363     | 0015 | -   | Correction to title for MBMS RRM TC 8.3.6.3  | F   | 7.4.0                   | 7.5.0           | R5-071248         |
| RP-36                     | RP-070363     | 0016 | -   | Applicability of MBMS New test case: Cell Reselection during an MBMS session, one frequency present in neighbour list                  | F   | 7.4.0                   | 7.5.0           | R5-071301         |
| RP-36                     | RP-070350     | 0017 | -   | CR to 34.121-2:Introduction of test cases for multi-path fading intra-frequency cell identification                                    | F   | 7.4.0                   | 7.5.0           | R5-071348         |
| RP-36                     | RP-070350     | 0018 | -   | CR to 34.121-2:Introduction of test case UE Transmitted Power (Rel-5 and later)  | F   | 7.4.0                   | 7.5.0           | R5-071368         |
| RP-36                     | RP-070344     | 0019 | -   | Addition of informative Annex for FDD/GSM band combinations for Inter-RAT RRM test cases   | F   | 7.4.0                   | 7.5.0           | R5-071495         |
| RP-37                     | RP-070596     | 0020 | -   | Correction to TC 9.4.2A applicability  | F   | 7.5.0                   | 7.6.0           | R5-072178         |
| RP-37                     | RP-070593     | 0021 | -   | Corrections to the applicability for some HSDPA tests  | F   | 7.5.0                   | 7.6.0           | R5-072225         |
| RP-37                     | RP-070600     | 0022 | -   | UE performance requirements for high speed train   | F   | 7.5.0                   | 7.6.0           | R5-072282         |
| RP-37                     | RP-070597     | 0023 | -   | CR to 34.121-2:Addition of test cases for Inter Frequency Cell identification  | F   | 7.5.0                   | 7.6.0           | R5-072407         |
| RP-37                     | RP-070593     | 0024 | -   | CR to 34.121-2:Correction of test cases for UE Transmitted Power   | F   | 7.5.0                   | 7.6.0           | R5-072367         |
| RP-37                     | RP-070617     | 0025 | -   | Applicability of new test case for demodulation of MTCH and enhanced performance requirement 1   | F   | 7.5.0                   | 7.6.0           | R5-072411         |
| RP-37                     | RP-070593     | 0027 | -   | CR to 34.121-2:Addition of test cases missing from applicability   | F   | 7.5.0                   | 7.6.0           | R5-072412         |
| RP-37                     | RP-070600     | 0028 | -   | Production of 34.121-2 Rel-7 pointer version to point to Rel-8 of the spec   | F   | 7.5.0                   | 7.6.0           | R5-072592         |
| RP-37                     | RP-070599     | 0026 | -   | Introduction of FDD Mode Test frequencies for Operating Band XI (UMTS1500)   | F   | 7.5.0                   | 8.0.0           | R5-072398         |
| RP-38                     | RP-070876     | 0029 | -   | Correction of applicability of HSDPA tests testing UE supporting enhanced performance type 3.  | F   | 8.0.0                   | 8.1.0           | R5-073121         |
| RP-38                     | RP-070876     | 0030 | -   | Applicability of new test cases: EDCH tests with enhanced performance requirements type 1  | F   | 8.0.0                   | 8.1.0           | R5-073330         |
| RP-38                     | RP-070872     | 0031 | -   | CR to 34.121-2: Introduction of new Downlink Compressed Mode Layer 1 (Release 6 and later) Applicability                               | F   | 8.0.0                   | 8.1.0           | R5-073358         |
| RP-38                     | RP-070872     | 0032 | -   | CR to 34.121-2: Introduction of new UE Rx-Tx Time Difference type 1 (Release 6 and later) Applicability                                | F   | 8.0.0                   | 8.1.0           | R5-073359         |
| RP-38                     | RP-070872     | 0033 | -   | CR to 34.121-2: Introduction of new Constant BLER Target Requirements using DL Reference Measurement Channel 2 (64 kbps) Applicability | F   | 8.0.0                   | 8.1.0           | R5-073075         |
| RP-38                     | RP-070872     | 0034 | -   | CR to 34.121-2: Introduction of new Power Control in the Downlink, Wind Up Effects (Release 6 and later) Requirements Applicability    | F   | 8.0.0                   | 8.1.0           | R5-073371         |
| RP-38                     | RP-070884     | 0035 | -   | Applicability of new 64QAM Test Case: Maximum Input Level for HS-PDSCH Reception (64QAM)   | F   | 8.0.0                   | 8.1.0           | R5-073350         |
| RP-38                     | RP-070885     | 0036 | -   | Addition of HS-SCCH-less demodulation of HS-DSCH test case   | F   | 8.0.0                   | 8.1.0           | R5-073153         |
| RP-38                     | RP-070881     | 0037 | -   | Applicability of new MIMO Test Case: Demodulation of HS-DSCH (Fixed Reference Channel): MIMO Performance                               | F   | 8.0.0                   | 8.1.0           | R5-073376         |

| Meeting -1st-Level | Doc-1st-Level | CR   | Rev | Subject  | Cat | Version - Current | Version -New | Doc-2nd-Level             |
|--------------------|---------------|------|-----|--|-----|-------------------|--------------|---------------------------|
| RP-39              | RP-080095     | 0038 |     | CR to 34.121-2: Introduction of power control in the downlink for F-DPCH Applicability   | F   | 8.1.0             | 8.2.0        | R5-080388                 |
| RP-39              | RP-080095     | 0039 |     | Correction to 34.121-2 HSDPA tests' applicabilities for Enhanced Performance type 1 and type 3 terminals.  | F   | 8.1.0             | 8.2.0        | R5-080246                 |
| RP-39              | RP-080093     | 0040 |     | Corrections to applicability of CQI test cases 9.3.1 to 9.3.6  | F   | 8.1.0             | 8.2.0        | R5-080251                 |
| RP-39              | RP-080107     | 0041 |     | Addition of new test cases for 64QAM Single Link Performance   | F   | 8.1.0             | 8.2.0        | R5-080264                 |
| RP-39              | RP-080108     | 0042 |     | CR to 34.121-2: Introduction of UE Transmitter 16-QAM Applicability  | F   | 8.1.0             | 8.2.0        | R5-080396                 |
| RP-39              | RP-080105     | 0043 |     | Applicability of new MIMO Test case: HS-SCCH Detection Performance: HS-SCCH Type M Performance   | F   | 8.1.0             | 8.2.0        | R5-080171                 |
|                    |               |      |     | Completion of history table  |     | 8.2.0             | 8.2.1        |                           |
| RP-40              | RP-080370     | 0044 | -   | CR to 34.121-2: Introduction of Bands XII XIII and XIV (UMTS700 MHz) Applicability   | F   | 8.2.1             | 8.3.0        | R5-081434                 |
| RP-40              | RP-080427     | 0045 | -   | CR to 34.121-2: Correction to test case 8.7.3C: UE Transmitted Power Applicability   | F   | 8.2.1             | 8.3.0        | R5-81438                  |
| RP-40              | RP-080364     | 0046 | -   | Correction to 34.121-2 HSDPA tests' applicabilities for Enhanced Performance type 1 type 2 and type 3 terminals.                                   | F   | 8.2.1             | 8.3.0        | <a href="#">R5-081222</a> |
| RP-40              | RP-080365     | 0047 | -   | Correction to applicability of MBMS RF performance test case 11.2A   | F   | 8.2.1             | 8.3.0        | <a href="#">R5-081448</a> |
| RP-40              | RP-080363     | 0048 | -   | Deletion of PICS 'Support of UE assisted Network Assisted GPS' from 34.121-2   | F   | 8.2.1             | 8.3.0        | R5-081439                 |
| RP-41              | RP-080740     | 0049 | -   | ICS for TC5.13.1AAA (EVM and IQ offset)  | F   | 8.3.1             | 8.4.0        | R5-083386                 |
| RP-41              | RP-080554     | 0050 | -   | Multi_RAT Capability condition removal   | F   | 8.3.1             | 8.4.0        | R5-083396                 |
| RP-41              | RP-080554     | 0051 | -   | Multi_RAT Capability condition removal   | F   | 8.3.1             | 8.4.0        | R5-083831                 |
| RP-42              | RP-080955     | 0052 | -   | Clarification of titles for MIMO test cases 9.3.7A and 9.3.7B  | F   | 8.4.0             | 8.5.0        | R5-085172                 |
| RP-42              | RP-080956     | 0053 | -   | Applicability changes for Demodulation of HS-DSCH in 34.121-2.   | F   | 8.4.0             | 8.5.0        | R5-085734                 |
| RP-43              | RP-090204     | 0054 | -   | Correction to titles of test cases 3 and 4 in TC 7.9.1   | F   | 8.5.0             | 8.6.0        | R5-090092                 |
| RP-43              | RP-090203     | 0058 | -   | Introduction of requirements for UE UL power control operation with discontinuous UL DPCH transmission operation                                   | F   | 8.5.0             | 8.6.0        | R5-090098                 |
| RP-43              | RP-090204     | 0055 | -   | Applicability changes to CQI test cases  | F   | 8.5.0             | 8.6.0        | R5-091072                 |
| RP-43              | RP-090218     | 0056 | -   | Add applicability for the new test cases in Section 9.3.7  | F   | 8.5.0             | 8.6.0        | R5-091096                 |
| RP-43              | RP-090218     | 0057 | -   | Applicability changes in 34.121-2 for HSDPA demodulation tests   | F   | 8.5.0             | 8.6.0        | R5-091107                 |
| RP-44              | RP-090433     | 0059 | -   | Adding test 9.2.3E applicability   | F   | 8.6.0             | 8.7.0        | R5-092173                 |
| RP-44              | RP-090444     | 0060 | -   | New HSDPA demodulation test for MIMO + 64QAM into 34.121-2   | F   | 8.6.0             | 8.7.0        | R5-092632                 |
| RP-44              | RP-090442     | 0061 | -   | Applicability of New TC9.2.1L -- Single Link Performance - Enhanced Performance Requirements Type 3i - QPSK, Fixed Reference Channel (FRC) H-Set 6 | F   | 8.6.0             | 8.7.0        | R5-092655                 |
| RP-45              | RP-090791     | 0062 | -   | Correction of ICS proforma tables for test loop mode 1 (UL RLC SDU block size)   | F   | 8.7.0             | 8.8.0        | R5-094820                 |
| RP-45              | RP-090807     | 0063 | -   | Update to 34.121-2   | F   | 8.7.0             | 8.8.0        | R5-094975                 |
| RP-45              | RP-090791     | 0064 | -   | Correction to the condition of C_RF55 of 34.121-2  | F   | 8.7.0             | 8.8.0        | R5-094312                 |
| RP-45              | RP-090791     | 0065 | -   | Removing Table A.3 in TS 34.121-2  | F   | 8.7.0             | 8.8.0        | R5-094590                 |
| RP-45              | RP-090791     | 0066 | -   | Correction of applicability of test case 7.8.1   | F   | 8.7.0             | 8.8.0        | R5-094825                 |
| RP-45              | RP-090791     | 0067 | -   | Change C_RF51 to void of 34.121-2  | F   | 8.7.0             | 8.8.0        | R5-094963                 |
| RP-45              | RP-090793     | 1170 | -   | Changes to applicabilities of CQI test cases in TS 34.121-2  | F   | 8.7.0             | 8.8.0        | R5-094242                 |
| RP-46              | RP-091124     | 0068 | -   | Updates to Applicability table corresponding to DC-HSDPA tests   | F   | 8.8.0             | 8.9.0        | R5-096285                 |
| RP-46              | RP-091124     | 0069 | 1   | Addition of DC-HSDPA receiver tests into TS 34.121-2   | F   | 8.8.0             | 8.9.0        | R5-095930                 |
| RP-47              | RP-100159     | 0070 | -   | Introduction of enhanced serving HS-DSCH cell change test case into TS 34.121-2  | F   | 8.9.0             | 8.10.0       | R5-100142                 |
| RP-47              | RP-100139     | 0071 | -   | Title change for test case in TC 8.3.5.4 in TS 34.121-2  | F   | 8.9.0             | 8.10.0       | R5-100150                 |
| RP-47              | RP-100149     | 0072 | -   | Updates to test applicability section of 34.121-2 related to DC-HSDPA type3i requirement   | F   | 8.9.0             | 8.10.0       | R5-100212                 |
| RP-47              | RP-100154     | 0073 | -   | CR to 34.121-2: Update baseline implementation capabilities with extended UMTS1500 operating bands   | F   | 8.9.0             | 8.10.0       | R5-100558                 |
| RP-47              | RP-100140     | 0074 | -   | Applicability corrections and additions for HSDPA test cases   | F   | 8.9.0             | 8.10.0       | R5-100904                 |
| RP-47              | -             | -    | -   | Updated to v9.0.0 with no change   | -   | 8.10.0            | 9.0.0        | -                         |
| RP-48              | RP-100519     | 0075 | -   | Introduction of E-AI detection performance test case into TS 34.121-2  | F   | 9.0.0             | 9.1.0        | R5-103504                 |
| RP-48              | RP-100507     | 0076 | -   | Including test cases 5.2C and 5.2D into TS 34.121-2  | F   | 9.0.0             | 9.1.0        | R5-103508                 |
| RP-48              | RP-100521     | 0078 | -   | Support for UMTS/LTE 800 MHz for Europe in 34.121-2  | F   | 9.0.0             | 9.1.0        | R5-103768                 |
| RP-49              | RP-100808     | 0079 | -   | Correction 34.121-2 Table 1 TC 7.8.1A_add test 1   | F   | 9.1.0             | 9.2.0        | R5-104189                 |
| RP-49              | RP-100810     | 0080 | -   | Addition of TC 5.13.2A and TC 5.13.2B into TS 34.121-2   | F   | 9.1.0             | 9.2.0        | R5-104374                 |

| Meeting<br>-1st-<br>Level | Doc-1st-Level | CR   | Rev | Subject  | Cat | Version<br>-<br>Current | Version<br>-New | Doc-2nd-<br>Level |
|---------------------------|---------------|------|-----|--|-----|-------------------------|-----------------|-------------------|
| RP-49                     | RP-100811     | 0081 | -   | Addition of CQI fading test case for 64QAM UEs into TS 34.121-2  | F   | 9.1.0                   | 9.2.0           | R5-104381         |
| RP-49                     | RP-100811     | 0082 | -   | Modification of MIMO CQI fading test case names  | F   | 9.1.0                   | 9.2.0           | R5-104385         |
| RP-49                     | RP-100812     | 0083 | -   | 34121-2 General update to add-E-UTRA TCs applicability and editorials  | F   | 9.1.0                   | 9.2.0           | R5-104838         |
| RP-49                     | RP-100808     | 0084 | -   | Correction 34.121-2 TC7.8.1 add test 2   | F   | 9.1.0                   | 9.2.0           | R5-104841         |
| RP-49                     | RP-100811     | 0085 | -   | Applicability for TC 5.4.4A (out of synch handling / RX diversity)   | F   | 9.1.0                   | 9.2.0           | R5-104842         |
| RP-49                     | RP-100808     | 0086 | -   | 34.121-2 Correction to the applicability of test case 9.2.1F, 9.2.1J,9.2.2D, and 9.2.3D                                    | F   | 9.1.0                   | 9.2.0           | R5-104858         |
| RP-50                     | RP-101146     | 0087 | -   | Applicability change to TC 9.3.7A and 9.3.7B in TS 34.121-2  | F   | 9.2.0                   | 9.3.0           | R5-106415         |
| RP-50                     | RP-101160     | 0088 | -   | Update of applicability of legacy HSDPA performance test cases for UE HS-DSCH Physical Layer category 25 to 28             | F   | 9.2.0                   | 9.3.0           | R5-106838         |
| RP-51                     | RP-110155     | 0089 | -   | Correction to the conditions on C_RF28 and C_RF33 to include category 7 of HSUPA   | F   | 9.3.0                   | 9.4.0           | R5-110135         |
| RP-51                     | RP-110155     | 0090 | -   | Clarification of CQI reporting requirement applicability   | F   | 9.3.0                   | 9.4.0           | R5-110465         |
| RP-51                     | RP-110177     | 0091 | -   | Update to 34.121-2   | F   | 9.3.0                   | 9.4.0           | R5-110659         |
| RP-51                     | RP-110155     | 0093 | -   | Change the reference document of item A.7/18 for "Support of F-DPCH".  | F   | 9.3.0                   | 9.4.0           | R5-110857         |
| RP-51                     | RP-110155     | 0092 | -   | Applicability for features not supported in all supporter bands  | F   | 9.3.0                   | 9.4.0           | R5-110922         |
| RP-52                     | RP-110652     | 0094 | -   | Correction to Band XII frequency range in 34.121-2   | F   | 9.4.0                   | 9.5.0           | R5-112134         |
| RP-52                     | RP-110643     | 0095 | -   | Applicability changes to TC 8.7.10 - 8.7.13  | F   | 9.4.0                   | 9.5.0           | R5-112201         |
| RP-52                     | RP-110667     | 0096 | -   | Addition of DB-DC-HSDPA into 34.121-2  | F   | 9.4.0                   | 9.5.0           | R5-112848         |
| RP-52                     | RP-110638     | 0097 | -   | Reduction of duplicated tests for DC-HSDPA capable UE's in 34.121-2  | F   | 9.4.0                   | 9.5.0           | R5-112869         |
| RP-53                     | RP-111134     | 0098 | -   | Modification of the table A.11 in 34.121   | F   | 9.5.0                   | 9.6.0           | R5-113149         |
| RP-53                     | RP-111149     | 0099 | -   | Correction to the DB-DC test cases applicability of 34.121-2   | F   | 9.5.0                   | 9.6.0           | R5-114030         |
| RP-53                     | RP-111150     | 0100 | -   | Adding recommended test case applicability for DC-HSUPA test cases into 34.121-2   | F   | 9.5.0                   | 9.6.0           | R5-114083         |
| RP-53                     | RP-111154     | 0101 | -   | Introduction of applicability of HS-SCCH Type 3 Performance Single Stream restriction test                                 | F   | 9.5.0                   | 9.6.0           | R5-114090         |
| RP-53                     | RP-111146     | 0102 | -   | Addition of applicability for new test case of system information acquisition for CSG cell                                 | F   | 9.5.0                   | 9.6.0           | R5-114107         |
| RP-53                     | RP-111154     | 0103 | -   | Update to 34.121-2   | F   | 9.6.0                   | 10.0.0          | R5-114108         |
| RP-53                     | RP-111132     | 0104 | -   | Correction to test case applicability for 6.3A and 6.3B  | F   | 9.6.0                   | 10.0.0          | R5-114114         |
| RP-54                     | RP-111595     | 0106 | -   | Introduction of new ACLR test case for DC-HSUPA  | F   | 10.0.0                  | 10.1.0          | R5-115153         |
| RP-54                     | RP-111594     | 0107 | -   | Introduction of new DB-DC-HSDPA test cases 9.2.1GB, 9.2.1IB and 9.2.1KB  | F   | 10.0.0                  | 10.1.0          | R5-115156         |
| RP-54                     | RP-111598     | 0108 | -   | Update to 34.121-2   | F   | 10.0.0                  | 10.1.0          | R5-115410         |
| RP-54                     | RP-111594     | 0109 | -   | Update to 34.121-2   | F   | 10.0.0                  | 10.1.0          | R5-115412         |
| RP-54                     | RP-111597     | 0110 | -   | Adding band XXII (3500MHz) to 34.121-2   | F   | 10.0.0                  | 10.1.0          | R5-115811         |
| RP-54                     | RP-111598     | 0111 | -   | Introduction of applicability of HS-SCCH Type 3 performance single stream restriction-STTD disabled-asymmetric CPICHS test | F   | 10.0.0                  | 10.1.0          | R5-115861         |
| RP-54                     | RP-111598     | 0112 | -   | Introduction of applicability of HS-SCCH Type 3 performance single stream restriction-STTD enabled-asymmetric CPICHS test  | F   | 10.0.0                  | 10.1.0          | R5-115862         |
| RP-54                     | RP-111594     | 0113 | -   | Modification for the deficiency explanation of the duplicated tests for DC-HSDPA capable UE's in 34.121-2                  | F   | 10.0.0                  | 10.1.0          | R5-115864         |
| RP-54                     | RP-111595     | 0114 | -   | Transmit Intermodulation for DC-HSUPA (applicability)  | F   | 10.0.0                  | 10.1.0          | R5-115872         |
| RP-54                     | RP-111571     | 0115 | -   | Modification of Applicability tests conditions according to comments column of applicability table in TS 34.121-2          | F   | 10.0.0                  | 10.1.0          | R5-115873         |
| RP-55                     | RP-120193     | 0116 | -   | CR Update TCs 9.3.1BA & 9.3.2AA for DB-DC-HSDPA CQI reporting  | F   | 10.1.0                  | 10.2.0          | R5-120298         |
| RP-55                     | RP-120174     | 0117 | -   | Correction to TC 9.2.1J title and the name and release for 9.2.1JA in TS 34.121-2  | F   | 10.1.0                  | 10.2.0          | R5-120309         |
| RP-55                     | RP-120194     | 0118 | -   | Introduction of new spurious emissions test case for DC-HSUPA  | F   | 10.1.0                  | 10.2.0          | R5-120350         |
| RP-55                     | RP-120194     | 0119 | -   | Addition of DC-HSUPA test cases in 34.121-2  | F   | 10.1.0                  | 10.2.0          | R5-120862         |
| RP-55                     | RP-120201     | 0120 | -   | Applicability changes for TC 9.2.1FC and 9.2.1FD   | F   | 10.1.0                  | 10.2.0          | R5-120864         |
| RP-55                     | RP-120198     | 0121 | -   | Corrections to the applicability of HS-SCCH Type 3 Performance for MIMO only with single-stream restriction                | F   | 10.1.0                  | 10.2.0          | R5-120889         |
| RP-55                     | RP-120193     | 0122 | -   | Addition of test case 9.2.1LB (HSDPA, type 3i, Dual Band Dual Cell) to 34.121-2  | F   | 10.1.0                  | 10.2.0          | R5-120898         |
| RP-56                     | RP-120635     | 0123 | -   | Change the content of C_RF53 to 'Void'   | F   | 10.2.0                  | 10.3.0          | R5-121153         |
| RP-56                     | RP-120660     | 0124 | -   | Adding band XXV into ICS proforma tables   | F   | 10.2.0                  | 10.3.0          | R5-121643         |
| RP-56                     | RP-120664     | 0125 | -   | Applicability changes for TC 9.2.1HC and 9.2.1HD   | F   | 10.2.0                  | 10.3.0          | R5-121915         |

| Meeting -1st-Level | Doc-1st-Level | CR   | Rev | Subject  | Cat | Version - Current | Version -New | Doc-2nd-Level |
|--------------------|---------------|------|-----|--|-----|-------------------|--------------|---------------|
| RP-56              | RP-120649     | 0126 | -   | Update to 34.121-2 for TCs 9.3.1BA & 9.3.2AA for DB-DC-HSDPA CQI reporting   | F   | 10.2.0            | 10.3.0       | R5-121917     |
| RP-57              | RP-121120     | 0127 | -   | Adding band XXVI into ICS proforma tables  | F   | 10.3.0            | 10.4.0       | R5-123578     |
| RP-57              | RP-121115     | 0128 | -   | Applicability changes for test case 9.2.1LC and 9.2.1LD  | F   | 10.3.0            | 10.4.0       | R5-123968     |
| RP-57              | RP-121089     | 0129 | -   | Specifying redundant test cases in 34.121-2  | F   | 10.3.0            | 10.4.0       | R5-123976     |
| RP-58              | RP-121680     | 0130 | -   | Adding applicability for many 4C-HSDPA tests into TS 34.121-2  | F   | 10.4.0            | 10.5.0       | R5-125259     |
| RP-58              | RP-121655     | 0131 | -   | Correction to applicability of inter-RAT measurement related TCs(TS34.121-2)   | F   | 10.4.0            | 10.5.0       | R5-125863     |
| RP-58              | RP-121673     | 0133 | -   | Adding missing DC-HSUPA test cases to 34.121-2   | F   | 10.4.0            | 10.5.0       | R5-125913     |
| RP-58              | RP-121665     | 0134 | -   | Addition of Test Case applicability for new RRM Test Case 8.4.3.1A   | F   | 10.4.0            | 10.5.0       | R5-125915     |
| RP-58              | RP-121680     | 0135 | -   | Applicability changes for test case 9.2.1GC and 9.2.1GD  | F   | 10.4.0            | 10.5.0       | R5-125919     |
| RP-58              | RP-121654     | 0136 | -   | Removing redundant testing for Type3/Type3i UEs (34.121-2)   | F   | 10.4.0            | 10.5.0       | R5-125928     |
| RP-59              | RP-130155     | 0137 | -   | Applicability update to Chapter 6 and 9 test cases for 4C-HSDPA  | F   | 10.5.0            | 10.6.0       | R5-130976     |
| RP-60              | RP-130621     | 0138 | -   | Applicability update to Chapter 6 test cases for 4C-HSDPA  | F   | 10.6.0            | 10.7.0       | R5-132109     |
| RP-61              | RP-131124     | 0139 | -   | Addition of applicabilities for RSRQ based reselection TC  | F   | 10.7.0            | 10.8.0       | R5-133216     |
| RP-61              | RP-131097     | 0140 | -   | 34.121-2 specification clean up  | F   | 10.7.0            | 10.8.0       | R5-133719     |
| RP-61              | RP-131121     | 0141 | -   | Updating applicability for Chapter 5 UL CLTD test cases.   | F   | 10.8.0            | 11.0.0       | R5-133881     |
| RP-62              | RP-131881     | 0143 | -   | Addition of new UL OLTD test cases   | F   | 11.0.0            | 11.1.0       | R5-134335     |
| RP-62              | RP-131885     | 0144 | -   | Update of titles in applicability table for legacy RRM test cases due to introduction of Further Enhancement to CELL_FACH RRM test cases | F   | 11.0.0            | 11.1.0       | R5-134974     |
| RP-63              | RP-140324     | 0145 | -   | Adding test cases 5.4.3C and 5.4.3D into TS 34.121-2   | F   | 11.1.0            | 11.2.0       | R5-140387     |
| RP-63              | RP-140324     | 0146 | -   | Addition of applicability for new UL OLTD test cases   | F   | 11.1.0            | 11.2.0       | R5-140860     |
| RP-63              | R5-140328     | 0147 | -   | Introduction of enh CELL_FACH test cases to TS34.121-2   | F   | 11.1.0            | 11.2.0       | R5-140862     |
| RP-63              | RP-140324     | 0148 | -   | Correction to applicability of UL CLTD test cases  | F   | 11.1.0            | 11.2.0       | R5-141002     |
| RP-64              | RP-140817     | 0149 | -   | Update of applicability for 4C-HSDPA in the Table 1.   | F   | 11.2.0            | 11.3.0       | R5-142163     |
| RP-64              | RP-140831     | 0150 | -   | Introduction of new EVM test cases for uplink CLTD in TS 34.121-2  | F   | 11.2.0            | 11.3.0       | R5-142221     |
| RP-64              | RP-140835     | 0151 | -   | Adding Applicability statements to several enh CELL_FACH test cases  | F   | 11.2.0            | 11.3.0       | R5-142453     |
| RP-64              | RP-140837     | 0152 | -   | Reinsertion of accidentally deleted applicabilities 5.9C and 5.9D  | F   | 11.2.0            | 11.3.0       | R5-142585     |
| RP-64              | RP-140831     | 0153 | -   | Introduction of new test cases for uplink OLTD in TS 34.121-2  | F   | 11.2.0            | 11.3.0       | R5-143125     |
| RP-64              | RP-140831     | 0154 | -   | Applicability update to newly added chapter-5 test cases with UL-CLTD  | F   | 11.2.0            | 11.3.0       | R5-143126     |
| RP-64              | RP-140831     | 0155 | -   | Update for 34.121-2 UL-OLTD and CLTD   | F   | 11.2.0            | 11.3.0       | R5-143127     |
| RP-65              | RP-141593     | 0156 | -   | Addition of test case applicability for Occupeid Bandwith for OLTD / CLTD  | F   | 11.3.0            | 11.4.0       | R5-144516     |
| RP-65              | RP-141592     | 0158 | -   | Applicability update for Multiflow HSDPA test cases  | F   | 11.3.0            | 11.4.0       | R5-144863     |
| RP-66              | RP-142051     | 0159 | -   | Update of ICS table for Enhanced Receiver type declaration   | F   | 11.4.0            | 11.5.0       | R5-145538     |
| RP-66              | RP-142056     | 0160 | -   | Add a new table for DB-DC-HSDPA enhance performance test cases   | F   | 11.4.0            | 11.5.0       | R5-145914     |
| RP-67              | RP-150905     | 0161 | 1   | Addition of frequency UTRA band 32   | F   | 11.5.0            | 12.0.0       | R5-151890     |
| RP-69              | RP-151426     | 0162 | -   | Applicability for Receiver Spurious emissions test case for DB-DC-HSDPA in DL-only bands   | F   | 12.0.0            | 12.1.0       | R5-153616     |
| RP-69              | -             | -    | -   | update of the "non-specific references" in section 2 according to the approved R5-153582 and an action point on ETSI MCC                 | -   | 12.0.0            | 12.1.0       | -             |
| RP-71              | RP-160100     | 0165 | 1   | Applicability update for Enhanced UTRA DCH test cases  | F   | 12.1.0            | 12.2.0       | R5-160897     |
| RP-72              | RP-160832     | 0168 | 1   | Applicability update for Enhanced UTRA DCH test cases  | F   | 12.2.0            | 12.3.0       | R5-162876     |

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# History

| <b>Document history</b> |              |             |
|-------------------------|--------------|-------------|
| V12.0.0                 | July 2015    | Publication |
| V12.1.0                 | October 2015 | Publication |
| V12.2.0                 | May 2016     | Publication |
| V12.3.0                 | August 2016  | Publication |
|                         |              |             |