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**Universal Mobile Telecommunications System (UMTS);
High Speed Packet Access (HSPA);
Requirements on User Equipments (UEs)
supporting a release-independent frequency band
and multi-carrier configuration
(3GPP TS 25.327 version 10.1.0 Release 10)**



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Foreword

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Version x.y.z

where:

- x the first digit:
 - 1 presented to TSG for information;
 - 2 presented to TSG for approval;
 - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

1 Scope

The present document specifies requirements on UEs supporting a DB-DC-HSDPA and 4C-HSDPA configuration that is independent of release. TSG-RAN has agreed that the standardisation of new configurations may be independent of a release. However, in order to implement a UE that conforms to a particular release but supports a configuration that is specified in a later release, it is necessary to specify some extra requirements.

For example, Band I-XI combination for DB-DC-HSDPA (referred to as DB-DC-HSDPA configuration 4 in [2]) is contained in the Release 10 specifications. In order to implement a UE conforming to Release 9 but supporting this configuration, it is necessary for the UE to additionally conform to some parts of the Release 10 specifications, such as the radio frequency and radio resource management requirements for the configuration.

Similarly, 4C-HSDPA configuration I-3 is contained in the Release 11 specification [3]. In order to implement a UE conforming to Release 10, but supporting this configuration, it is necessary for the UE to additionally conform to some parts of the Release 11 specifications.

2 References

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

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

- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 25.101 (Release 10): "User Equipment (UE) radio transmission and reception (FDD)".
- [3] 3GPP TS 25.101 (Release 11): "User Equipment (UE) radio transmission and reception (FDD)".
- [4] 3GPP TS 25.101 (Release 12): "User Equipment (UE) radio transmission and reception (FDD)".
- [5] 3GPP TS 25.331 (Release 12): "Radio Resource Control Protocol".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [1].

3.2 Abbreviations

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

DB-DC-HSDPA	Dual Band Dual Cell HSDPA
4C-HSDPA	Four-carrier HSDPA

4 DB-DC-HSDPA configurations independent of release

4.1 Void

4.2 Void

4.3 DB-DC-HSDPA configuration 6

DB-DC-HSDPA Configuration 6, i.e. Band I-XXXII combination, is specified in Release 12 in [4] but is defined as a release-independent frequency band combination. This approach aligns DB-DC-HSDPA configuration 6 with other DB-DC-HSDPA configurations when considering features that have to be supported in different releases.

UEs that conform to Release 10 and support DB-DC-HSDPA configuration 6 shall support the following requirements of Release 12.

4.3.1 RF requirements

The UE shall comply with the RF requirements for DB-DC-HSDPA configuration 6, as specified in [4]. These requirements are:

Table 4.3.1-1: RF Requirements for DB-DC-HSDPA Configuration 6 UE

Section / Clause	Description
5.2	Frequency bands
5.4	Channel arrangement
6.2.1	UE maximum output power
7.3	Reference sensitivity level
7.4	Maximum input level
7.5	Adjacent channel selectivity
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics
7.9	Spurious emissions
7.10	Reference input power adjustment for a dual band device
B.2.2	Multi-path fading propagation conditions

All the receiver core requirements, which are defined relative to reference sensitivity level, shall consider the reference sensitivity as specified in TS 25.101 REL-12 [4].

4.3.2 Signalling requirements

In order to signal its radio access capabilities, the UE shall support the DB-DC-HSDPA configuration index 6 for the IE "Band Combination" in the IE "Radio Access Capability Band Combination List".

In order to signal UE's measurement capabilities for band XXXII, the UE shall support the RRC extension for the parameter value "Band XXXII" for the IE "FDD frequency band 3" contained within the IE "Measurement capability extension" [5].

5 4C-HSDPA configurations independent of release

5.1 Single-band contiguous configurations

5.1.1 4C-HSDPA configuration II-3

4C-HSDPA configuration II-3, i.e. 3 adjacent carriers in Band II, is specified in Release 11 in [3] but is defined as a release-independent configuration. This approach aligns 4C-HSDPA configuration II-3 with other 4C-HSDPA configurations when considering features that have to be supported in different releases.

UEs that conform to Release 10 and support 4C-HSDPA configuration II-3 shall support the following requirements of Release 11.

5.1.1.1 RF requirements

The UE shall comply with the RF requirements for 4C-HSDPA configuration II-3, as specified in [3]. These requirements are:

Table 5.1.1.1-1: RF Requirements for 4C-HSDPA Configuration II-3 UE

Section / Clause	Description
5.2	Frequency bands
6.2.1	UE maximum transmit power
7.3	Reference sensitivity level
7.4	Maximum input level
7.5	Adjacent channel selectivity
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics

5.1.1.2 Signalling requirements

There are no additional signaling requirements of later releases.

5.1.2 4C-HSDPA configuration II-4

4C-HSDPA configuration II-4, i.e. 4 adjacent carriers in Band II, is specified in Release 11 in [3] but is defined as a release-independent configuration. This approach aligns 4C-HSDPA configuration II-4 with other 4C-HSDPA configurations when considering features that have to be supported in different releases.

UEs that conform to Release 10 and support 4C-HSDPA configuration II-4 shall support the following requirements of Release 11.

5.1.2.1 RF requirements

The UE shall comply with the RF requirements for 4C-HSDPA configuration II-4, as specified in [3]. These requirements are:

Table 5.1.2.1-1: RF Requirements for 4C-HSDPA Configuration II-4 UE

Section / Clause	Description
5.2	Frequency bands
6.2.1	UE maximum transmit power
7.3	Reference sensitivity level
7.4	Maximum input level
7.5	Adjacent channel selectivity
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics

5.1.2.2 Signalling requirements

There are no additional signaling requirements of later releases.

5.2 Dual-band configurations

5.2.1 4C-HSDPA configuration I-2-VIII-2

4C-HSDPA configuration I-2-VIII-2, i.e. 2+2 carriers in Band I-VIII combination, is specified in Release 11 in [3] but is defined as a release-independent configuration. This approach aligns 4C-HSDPA configuration I-2-VIII-2 with other 4C-HSDPA configurations when considering features that have to be supported in different releases.

UEs that conform to Release 10 and support 4C-HSDPA configuration I-2-VIII-2 shall support the following requirements of Release 11.

5.2.1.1 RF requirements

The UE shall comply with the RF requirements for 4C-HSDPA configuration I-2-VIII-2, as specified in [3]. These requirements are:

Table 5.2.1.1-1: RF Requirements for 4C-HSDPA Configuration I-2-VIII-2 UE

Section / Clause	Description
5.2	Frequency bands
6.2.1	UE maximum transmit power
7.3	Reference sensitivity level
7.4	Maximum input level
7.5	Adjacent channel selectivity
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics
7.10	Reference input power adjustment for a dual band device

5.2.1.2 Signalling requirements

There are no additional signaling requirements of later releases.

5.2.2 4C-HSDPA configuration I-1-VIII-2

4C-HSDPA configuration I-1-VIII-2, i.e. 1+2 carriers in Band I-VIII combination, is specified in Release 11 in [3] but is defined as a release-independent configuration. This approach aligns 4C-HSDPA configuration I-1-VIII-2 with other 4C-HSDPA configurations when considering features that have to be supported in different releases.

UEs that conform to Release 10 and support 4C-HSDPA configuration I-1-VIII-2 shall support the following requirements of Release 11.

5.2.2.1 RF requirements

The UE shall comply with the RF requirements for 4C-HSDPA configuration I-1-VIII-2, as specified in [3]. These requirements are:

Table 5.2.2.1-1: RF Requirements for 4C-HSDPA Configuration I-1-VIII-2 UE

Section / Clause	Description
5.2	Frequency bands
6.2.1	UE maximum transmit power
7.3	Reference sensitivity level
7.4	Maximum input level
7.5	Adjacent channel selectivity
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics
7.10	Reference input power adjustment for a dual band device

5.2.2.2 Signalling requirements

There are no additional signaling requirements of later releases.

5.2.3 4C-HSDPA configuration II-1-V-2

4C-HSDPA configuration II-1-V-2, i.e. 1+2 carriers in Band II-V combination, is specified in Release 11 in [3] but is defined as a release-independent configuration. This approach aligns 4C-HSDPA configuration II-1-V-2 with other 4C-HSDPA configurations when considering features that have to be supported in different releases.

UEs that conform to Release 10 and support 4C-HSDPA configuration II-1-V-2 shall support the following requirements of Release 11.

5.2.3.1 RF requirements

The UE shall comply with the RF requirements for 4C-HSDPA configuration II-1-V-2, as specified in [3]. These requirements are:

Table 5.2.3.1-1: RF Requirements for 4C-HSDPA Configuration II-1-V-2 UE

Section / Clause	Description
5.2	Frequency bands
6.2.1	UE maximum transmit power
7.3	Reference sensitivity level
7.4	Maximum input level
7.5	Adjacent channel selectivity
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics
7.10	Reference input power adjustment for a dual band device

5.2.3.2 Signalling requirements

There are no additional signaling requirements of later releases.

5.2.4 4C-HSDPA configuration I-1-XXXII-2

4C-HSDPA configuration I-1-XXXII-2, i.e. 1+2 carriers in Band I-XXXII combination, is specified in Release 12 in [4] but is defined as a release-independent configuration. This approach aligns 4C-HSDPA configuration I-1-XXXII-2 with other 4C-HSDPA configurations when considering features that have to be supported in different releases.

UEs that conform to Release 10 and support 4C-HSDPA configuration I-1-XXXII-2 shall support the following requirements of Release 12.

5.2.4.1 RF requirements

The UE shall comply with the RF requirements for 4C-HSDPA configuration I-1-XXXII-2, as specified in [4]. These requirements are:

Table 5.2.4.1-1: RF Requirements for 4C-HSDPA Configuration I-1-XXXII-2 UE

Section / Clause	Description
5.2	Frequency bands
5.4	Channel arrangement
6.2.1	UE maximum output power
7.3	Reference sensitivity level
7.4	Maximum input level
7.5	Adjacent channel selectivity
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics
7.9	Spurious emissions
7.10	Reference input power adjustment for a dual band device
B.2.2	Multi-path fading propagation conditions

5.2.4.2 Signalling requirements

In order to signal UE's measurement capabilities for band XXXII, the UE shall support the RRC extension for the parameter value "Band XXXII" for the IE "FDD frequency band 3" contained within the IE "Measurement capability extension" [5].

5.2.5 4C-HSDPA configuration I-2-XXXII-1

4C-HSDPA configuration I-2-XXXII-1, i.e. 2+1 carriers in Band I-XXXII combination, is specified in Release 12 in [4] but is defined as a release-independent configuration. This approach aligns 4C-HSDPA configuration I-2-XXXII-1 with other 4C-HSDPA configurations when considering features that have to be supported in different releases.

UEs that conform to Release 10 and support 4C-HSDPA configuration I-2-XXXII-1 shall support the following requirements of Release 12.

5.2.5.1 RF requirements

The UE shall comply with the RF requirements for 4C-HSDPA configuration I-2-XXXII-1, as specified in [4]. These requirements are:

Table 5.2.5.1-1: RF Requirements for 4C-HSDPA Configuration I-2-XXXII-1 UE

Section / Clause	Description
5.2	Frequency bands
5.4	Channel arrangement
6.2.1	UE maximum output power
7.3	Reference sensitivity level
7.4	Maximum input level
7.5	Adjacent channel selectivity
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics
7.9	Spurious emissions
7.10	Reference input power adjustment for a dual band device
B.2.2	Multi-path fading propagation conditions

5.2.1.2 Signalling requirements

In order to signal UE's measurement capabilities for band XXXII, the UE shall support the RRC extension for the parameter value "Band XXXII" for the IE "FDD frequency band 3" contained within the IE "Measurement capability extension" [5].

Annex A (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
2013-11					Skeleton report based on 25.317 contents	-	1.0.0
2013-12	RP-62	RP-131629			TS 25.327 approved by RAN #62	1.0.0	9.0.0
	RP-62	RP-131980	0001	1	Introduction of TS 25.327	9.0.0	10.0.0
2014-06	RP-64	RP-140872	0007	-	Introduction of the new Band combinations related to Band XXXII	10.0.0	10.1.0

History

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