**3GPP TSG-RAN4 Meeting #98-e *DRAFT* R4-2103783**

**Online, , 25th Jan 2021 - 5th Feb 2021**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **37.145-1** | **CR** | **0246** | **rev** | **1** | **Current version:** | **16.5.0** |  |
|  |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **x** | Core Network |  |

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|  |
| ***Title:***  | CR to TS 37.145-1: Introduction of new BS capability set for NR+EUTRA+UTRA, Rel-16 |
|  |  |
| ***Source to WG:*** | Huawei, China Unicom |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | AASenh\_BS\_LTE\_UTRA-Perf, TEI16, MSR\_GSM\_UTRA\_LTE\_NR-Perf |  | ***Date:*** | 2021-01-15 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-16 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | Referring to the Rel-16 WI on MSR\_GSM\_UTRA\_LTE\_NR, the MSR BS specification was extended with additional CS configuration (e.g. UTRA+EUTRA+NR). WID in RP-190642 captured that only MSR BS specifications are to be affected, i.e. TS 37.104, TS 37.141. Realted MSR BS CRs are listed below:* TS 37.104: R4-1908049 Introduction of requirements for NR + UTRA/GSM combinations
* TS 37.141: R4-1910476 Introduction of requirements for NR + UTRA/GSM combinations

Still, the referred WI has also impacted OBUE and blocking requirements, which also impacts the AAS BS specifications, as well as the Capability Sets and test configurations were extended.Therefore, this CR provides modifications to the AAS BS test specification TS 37.145-1, to reflect modification from the MSR\_GSM\_UTRA\_LTE\_NR WI which were introduced to Rel-16 MSR BS TS 37.141.  |
|  |  |
| ***Summary of change:*** | * 4.9: introduction of CSA3B for UTRA, EUTRA, NR multi-RAT case.
* 4.11.2.8.1.2 (ATC5a): applicabiltiy table updated with new CS
* 4.11.2.8.2 (ATC5b): MSR changes reflected. Applicabiltiy table updated with new CS
* 4.11.2.9, 4.11.2.10 (ATC6, ANTC6): MSR changes reflected. Power allocation section updated.
* 4.11.2.13, 4.11.2.14 (ATC8, ANTC8): new section for UTRA, E-UTRA and NR multi-RAT operation
* 5.2: Test configuration applicability table updated with nes CSA3B test case
* 6.6.5.5.2, 6.6.5.5.3: updates to the OBUE applicability table and related OBUE tables headers corrections
* 7.4.5.1.1: general blocking table updated

7.7.5.1.1: Tx IMD table updated |
|  |  |
| ***Consequences if not approved:*** | AAS BS specification would be misaligned with the MSR BS specification. |
|  |  |
| ***Clauses affected:*** | 4.9, 4.11.2.8.1.2, 4.11.2.8.2, 4.11.2.9, 4.11.2.10, 4.11.2.13, 4.11.2.14, 5.2, 6.6.5.5.2, 6.6.5.5.3, 7.4.5.1.1, 7.7.5.1.1 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** | **x** |  |  Other core specifications  | TS 37.104 CR#0222 |
| ***affected:*** | **x** |  |  Test specifications | TS 37.145-2 CR#0286 |
| ***(show related CRs)*** |  | **x** |  O&M Specifications |  |
|  |  |
| ***Other comments:*** | In order to make the implementation process transparent, the CR was implemented using separate Track Change ID for the content taken from the source CR to TS 37.141, and separate Track Change ID was used to implement AAS-specific modifiacations on top of it. |
|  |  |
| ***This CR's revision history:*** | Content of this CR is updated based on R4-2015968. Furthermore, the list of co-sourcing companies was updated.OBUE table headings were drafted based on related Rel-15 CR in R4-2103886, with additional modifications introduced to reflect content of the original CR in R4-2102565 (e.g. introduction of Rel-16 band n65, options 1 and 2 for OBUE limits). |

*------------------------------ Modified section ------------------------------*

## 4.9 Capability sets

Capability set is defined as the *TAB connectors* capability to support certain RAT combinations in an operating band.

The manufacturer shall declare (D6.12) the supported capability set(s) according to table 4.9-1 for each supported *TAB connector(s)* and supported operating band(s).

Table 4.9-1 Capability sets

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Capability set supported by the AAS BS | CSA1 | CSA2 | CSA3 | CSA3A | CSA3B | CSA4 | CSA5 |
| Supported RATs | *TAB connector* supports MSR operation of UTRA only in the band | *TAB connector* supports MSR operation of E-UTRA only in the band | *TAB connector* supports UTRA and E-UTRA MSR in the band | *TAB connector* supports NR and E-UTRA MSR in the band | *TAB connector* supports UTRA, E-UTRA, NR MSR in the band | *TAB connector* supports single-RAT UTRA in the band | *TAB connector* supports single-RAT E‑UTRA in the band  |
| Supported configurations | SR UTRA (SC, MC) | SR E-UTRA (SC, MC, CA) | MR UTRA + E‑UTRASR UTRA (SC, MC)SR E-UTRA (SC, MC, CA) | MR E-UTRA + NRSR NR (SC, MC, CA)SR E-UTRA (SC, MC, CA) | SR UTRA (SC, MC) SR E-UTRA (SC, MC, CA) SR NR (SC, MC, CA) MR UTRA + E-UTRA MR UTRA + NR MR E-UTRA + NR MR UTRA + E-UTRA + NR | SR UTRA (SC, MC) | SR E-UTRA (SC, MC, CA) |
| Applicable BC | BC1, BC2 or BC3 | BC1, BC2 or BC3 | BC1, BC2 or BC3 | BC1, BC2 or BC3 | BC1, BC2 | BC1, BC2 or BC3 | BC1, BC2 or BC3 |

The applicable test configurations for each RF requirement are defined in subclauses 5.1, 5.2 and 5.3 for the declared capability set(s). For a *multi-band TAB connector* the applicable test configurations for each RF requirement are defined in subclause 5.4 for the declared capability set(s).

NOTE: Not every supported configuration within a capability set is tested, but the tables in subclauses 5.2, 5.3 and 5.4 provide a judicious choice among the supported configurations and test configurations to ensure proper test coverage.

*------------------------------ Next modified section ------------------------------*

#### 4.11.2.8 ATC5: MB-MSR operation

##### 4.11.2.8.1 ATC5a: MB-MSR test configuration for full carrier allocation

4.11.2.8.1.1 General

The purpose of ATC5a is to test *multi-band TAB connectors*, considering maximum supported number of carriers.

4.11.2.8.1.2 ATC5a generation

ATC5a is based on re-using the existing test configurations applicable per band on *multi-band TAB connectors.* ATC5a is constructed using the following method:

- The *Base Station RF Bandwidth* of each supported operating band shall be the declared maximum *Base Station RF Bandwidth* (see table 4.10-1, D6.17) of the *multi-band TAB connector.*

- The number of carriers of each supported operating band shall be the declared maximum number of supported carriers by the *multi-band TAB connector* in each band (see table 4.10-1, D6.25)*.* Carriers shall first be placed at the outermost edges of the declared maximum *Radio Bandwidth* (see table 4.10-1, D6.16) Additional carriers shall next be placed at the edges of the *Base Station RF Bandwidths,* if possible.

- The allocated *Base Station RF Bandwidth* of the outermost bands shall be located at the outermost edges of the declared maximum *Radio Bandwidth* (see table 4.10-1, D6.16).

- Each concerned band shall be considered as an independent band and the carrier placement in each band shall be according to the test configuration referenced in Table 4.11.2.8.1.2-1, where the declared parameters for multi-band operation shall apply. The mirror image of the single band test configuration shall be used in the highest band being tested for the *TAB connector.*

- If a *multi‑band TAB connector* supports three carriers only, two carriers shall be placed in one band according to the relevant test configuration while the remaining carrier shall be placed at the edge of the maximum *Radio Bandwidth* (see table 4.10-1, D6.16) in the other band.

- If the sum of the maximum *Base Station RF bandwidths* of each of the supported operating bands is greater than the declared *Total RF Bandwidth* BWtot (D6.76) of transmitter/receiver for the declared band combinations (see table 4.10-1, D6.41) of the *TAB connector* then repeat the steps above for test configurations where the *Base Station RF Bandwidth* of one of the operating band shall be reduced so that the declared *Total RF Bandwidth* of the *TAB connector* is not exceeded and vice versa.

- If the sum of the maximum number of supported carrier of each supported operating bands for the *multi-band TAB connector* is larger than the declared total number of supported carriers for the declared band combinations (see table 4.10-1, D6.42) of the AAS BS, repeat the steps above for test configurations where in each test configuration the number of carriers of one of the operating band shall be reduced so that the total number of supported carriers is not be exceeded and vice versa.

Table 4.11.2.8.1.2-1: The applicability of test configuration for carrier placement in each band

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| BC | CSA1 | CSA2 | CSA3 | CSA3A | CSA3B | CSA4 | CSA5 |
| BC1 | ATC1a | ATC2a | ATC3a | ATC6 | ATC8 | ATC1a | ATC2a |
| BC2 | ATC1a | ATC2a | ATC3a | ATC6 | ATC8 | ATC1a | ATC2a |
| BC3 | ATC1b | ATC2a | ATC3b | ATC6 | N/A | ATC1b | ATC2a |

4.11.2.8.1.3 ATC5a power allocation

Unless otherwise stated, set the power of each carrier (PRated,c,TABC) in all supported operating bands to the same power so that the sum of the carrier powers equals the rated total output power (PRated,MB,TABC) according to the manufacturer's declaration.

If the allocated power of a supported operating band(s) exceeds the declared rated total output power of the operating band(s) (PRated,MB,TABC ) in multi-band operation, the exceeded part shall, if possible, be reallocated into the other band(s). If the power allocated for a carrier exceeds the rated carrier output power declared for that carrier (PRated,c,TABC), the exceeded power shall, if possible, be reallocated into the other carriers.

##### 4.11.2.8.2 ATC5b: MB-MSR test configuration with high PSD per carrier

4.11.2.8.2.1 General

The purpose of ATC5b is to test multi-band operation aspects considering higher PSD cases with reduced number of carriers and non-contiguous operation (if supported) in multi-band mode.

Unless otherwise stated, for all test configurations in this section, the narrowest supported NR channel bandwidth and lowest SCS for that bandwidth and the narrowest supported E-UTRA channel bandwidth for each operating band shall be used in the test configuration.

4.11.2.8.2.2 ATC5b generation

ATC5b is based on re-using the existing test configurations applicable per band on *multi-band TAB connectors.* ATC5b is constructed using the following method:

- The *Base Station RF Bandwidth* of each supported operating band shall be the declared maximum *Base Station RF Bandwidth* (see table 4.10-1, D6.16) of the *multi-band TAB connector.*

- The allocated *Radio Bandwidth* of the outermost bands shall be located at the outermost edges of the declared maximum *Radio Bandwidth* (see table 4.10-1, D6.16).

- The maximum number of carriers is limited to two per band. Carriers shall be placed at the outermost edges of the declared maximum *Radio Bandwidth* (see table 4.10-1, D6.16).

- Each concerned band shall be considered as an independent band and the carrier placement in each band shall be according to the test configuration referenced in Table 4.11.2.8.2.2-1, where the declared parameters for multi-band operation shall apply. The mirror image of the single band test configuration shall be used in the highest band being tested for the *TAB connector.*

- For AAS BS supporting CSA4 in the band, if a *multi-band TAB connector* supports three carriers only, two carriers shall be placed in one band according to ATC2 while the remaining carrier shall be placed at the edge of the Maximum *Base Station RF Bandwidth* in the other band.

- If the sum of the maximum *Base Station RF bandwidths* of each of the supported operating bands is greater than the declared *Total RF Bandwidth* BWtot (D6.76) of transmitter/receiver for the declared band combinations (see table 4.10-1, D6.41) of the *TAB connector* then repeat the steps above for test configurations where the *Base Station RF Bandwidth* of one of the operating band shall be reduced so that the declared *Total RF Bandwidth* of the *TAB connector* is not exceeded and vice versa.

Table 4.11.2.8.2.2-1: The applicability of test configuration for carrier placement in each band

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| BC | CSA1 | CSA2 | CSA3 | CSA3A | CSA3B | CSA4 | CSA5 |
| BC1 | ANTC1a | ANTC2 | ANTC3a | ANTC6 | ANTC8 | ANTC1 | ANTC2 |
| BC2 | ANTC1a | ANTC2 | ANTC3a | ANTC6 | ANTC8 | ANTC1 | ANTC2 |
| BC3 | ATC1b  | ANTC2 | ANTC3a | ANTC6 | N/A | N/A | ANTC2 |

4.11.2.8.2.3 ATC5b power allocation

Unless otherwise stated, set the power of each carrier (PRated,c,TABC) in all supported operating bands to the same power so that the sum of the carrier powers equals the rated total output power (PRated,MB,TABC) according to the manufacturer's declaration.

If the allocated power of a supported operating band(s) exceeds the declared rated total output power of the operating band(s) (PRated,t,TABC) in multi-band operation, the exceeded part shall, if possible, be reallocated into the other band(s). If the power allocated for a carrier exceeds the rated carrier output power declared for that carrier (PRated,c,TABC), the exceeded power shall, if possible, be reallocated into the other carriers.

*------------------------------ Next modified section ------------------------------*

#### 4.11.2.9 ATC6: E-UTRA and NR multi RAT operation

##### 4.11.2.9.1 General

The purpose of ATC6 is to test E-UTRA and NR multi-RAT aspects.

If the rated total output power and total number of supported carriers are not simultaneously supported in Multi-RAT operations, two instances of ATC6 shall be generated using the following values for rated total output power and the total number of supported carriers:

1) The rated total output power and the reduced number of supported carriers at the rated total output power in Multi-RAT operations.

2) The reduced total output power at the total number of supported carriers in Multi-RAT operations and the total number of supported carriers.

Tests that use ATC6 shall be performed using both instances 1) and 2) of ATC6.

Unless otherwise stated, for all test configurations in this section, the narrowest supported NR channel bandwidth and lowest SCS for that bandwidth for the operating band shall be used in the test configuration.

Unless otherwise stated, the E-UTRA bandwidth shall be 5 MHz unless the BS does not support 5 MHz E-UTRA, in which case the E-UTRA bandwidth shall be the lowest supported bandwidth for the operating band.

##### 4.11.2.9.2 ATC6 generation

ATC6 is only applicable for a BS that supports E-UTRA and NR. ATC6 is constructed using the following method:

- The *Base Station RF Bandwidth* of each supported operating band shall be the declared maximum *Base Station RF Bandwidth* (D6.17) of the *TAB connector*.

- Select a NR carrier as specified in subclause 4.11.1a to be placed at the lower *Base Station RF Bandwidth edge*. The specified Foffset, RAT shall apply.

- Place an E-UTRA carrier at the upper *Base Station RF Bandwidth edge*. The specified Foffset, RAT shall apply.

- For transmitter tests, alternately add NR carriers as specified in subclause 4.11.1a at the low end and E-UTRA carriers at the high end adjacent to the already placed carriers until the *Base Station RF Bandwidth* is filled or the total number of supported carriers (see table 4.10-1, D9.14) is reached. The nominal carrier spacing defined in subclause 4.6 shall apply.

##### 4.11.2.9.3 ATC6 power allocation

a) Unless otherwise stated, set each carrier to the same power so that the sum of the carrier powers equals the rated total output power as appropriate for the test configuration according to manufacturer’s declarations in subclause 4.10.

b) In case that ATC6 is configured for testing modulation quality, the power allocated per carrier for the RAT on which modulation quality is measured shall be the highest possible for the given modulation configuration according to the manufacturer’s declarations in subclause 4.10, unless that power is higher than the level defined by case a). The power of the remaining carriers from other RAT(s) shall be set to the same level as in case a).

If in the case of b) the power of one RAT needs to be reduced in order to meet the manufacture’s declaration the power in the other RAT(s) does not need to be increased.

*------------------------------ Next modified section ------------------------------*

#### 4.11.2.10 ANTC6: E-UTRA and NR multi RAT non-contiguous operation

##### 4.11.2.10.1 General

The purpose of ANTC6 is to test E-UTRA and NR multi RAT non-contiguous aspects.

If PRated,t,TABC and total number of supported carriers are not simultaneously supported in Multi-RAT operations, two instances of ANTC6 shall be generated using the following values for PRated,t,TABC and the total number of supported carriers:

1) PRated,t,TAB and the reduced number of supported carriers ( DUID26) at the rated total output power in Multi-RAT operations.

2) The reduced total output power at the total number of supported carriers in Multi-RAT operations (DUID27) at the total number of supported carriers (DUID25).

If the reduced number of supported carriers is 4 or more, only instance 1) of ANTC6 shall be used in the tests, otherwise both instances 1) and 2) of ANTC6 shall be used in the tests.

Unless otherwise stated, for all test configurations in this section, the narrowest supported NR channel bandwidth and lowest SCS for that bandwidth shall be used in the test configuration.

Unless otherwise stated, the E-UTRA bandwidth shall be 5 MHz unless the BS does not support 5 MHz E-UTRA, in which case the E-UTRA bandwidth shall be the lowest supported bandwidth.

##### 4.11.2.10.2 ANTC6 generation

ANTC6 is only applicable for a BS that supports E-UTRA and NR. ANTC6 is constructed using the following method:

- The *Base Station RF Bandwidth* of each supported operating band shall be the declared maximum *Base Station RF Bandwidth* for non-contiguous operation (D6.19) of the *TAB connector*. The *Base Station RF Bandwidth* consists of one *sub-block gap* and two sub-blocks located at the edges of the declared maximum *Base Station RF Bandwidth* for non-contiguous operation (D6.19).

- For transmitter tests, place an NR carrier as specified in subclause 4.11.1a at the lower *Base Station RF Bandwidth edge* and an E-UTRA carrier at the upper *Base Station RF Bandwidth edge*. The specified Foffset, RAT shall apply.

- For receiver tests, place a NR carrier as specified in subclause 4.11.1a at the lower *Base Station RF Bandwidth edge* and an E-UTRA carrier at the upper *Base Station RF Bandwidth edge*. The specified Foffset, RAT shall apply.

- The sub-block edges adjacent to the sub-block gap shall be determined using the specified Foffset, RAT for the carrier adjacent to the sub-block gap.

##### 4.11.2.10.3 ANTC6 power allocation

a) Unless otherwise stated, set each carrier to the same power so that the sum of the carrier powers equals the rated total output power appropriate for the test configuration according to manufacturer’s declarations in subclause 4.10.

b) In case that ANTC6 is configured for testing modulation quality, the power allocated per carrier for the RAT on which modulation quality is measured shall be the highest possible for the given modulation configuration according to the manufacturer’s declarations in subclause 4.10, unless that power is higher than the level defined by case a). The power of the remaining carriers from other RAT(s) shall be set to the same level as in case a).

If in the case of b) the power of one RAT needs to be reduced in order to meet the manufacture’s declaration the power in the other RAT(s) does not need to be increased.

*------------------------------ Next modified section ------------------------------*

#### 4.11.2.13 ATC8: UTRA, E-UTRA and NR multi-RAT operation

##### 4.11.2.13.1 General

The purpose of ATC8 is to test UTRA, E-UTRA and NR multi-RAT aspects.

Unless otherwise stated, for all test configurations in this section, the narrowest supported NR channel bandwidth and lowest SCS for that bandwidth for the operating band shall be used in the test configuration.

##### Unless otherwise stated, the E-UTRA bandwidth shall be 5 MHz unless the BS does not support 5 MHz E-UTRA, in which case the E-UTRA bandwidth shall be the lowest supported bandwidth for the operating band.4.11.2.13.2 ATC8 generation

ATC8 is only applicable for a BS that supports UTRA, E-UTRA and NR. ATC8 is constructed using the following method:

For transmitter tests, if the rated total output power and total number of supported carriers are not simultaneously supported in Multi-RAT operations, two instances of ATC8 shall be generated using the following values for rated total output power and the total number of supported carriers:

1) The rated total output power and the reduced number of supported carriers at the rated total output power in multi-RAT operations

2) The reduced rated total output power at the total number of supported carriers in multi-RAT operations and the total number of supported carriers.

If the rated total output power and total number of supported carriers are not simultaneously supported in multi-RAT operations, tests that use ATC8 shall be performed using both instances 1) and 2) of ATC8.

- The Base Station RF Bandwidth shall be the declared maximum Base Station RF Bandwidth.

- Adjacent to the lower Base Station RF Bandwidth edge:

* Place an NR carrier. The specified FOffset-RAT shall apply.

- Adjacent to the upper Base Station RF Bandwidth edge: Place a E-UTRA carrier. The specified FOffset-RAT shall apply.

- Place UTRA carrier adjacent to the already placed E-UTRA carrier.

- The UTRA FDD may be shifted maximum 100 kHz towards lower frequencies to align with the channel raster.

- For transmitter tests, alternately add NR carriers at the low end and E-UTRA carriers at the high end adjacent to the already placed carriers until the Base Station RF Bandwidth is filled or the total number of supported carriers is reached. The nominal carrier spacing defined in subclause 4.6 shall apply.

##### 4.11.2.13.3 ATC8 power allocation

a) Unless otherwise stated, set each carrier to the same power so that the sum of the carrier powers equals the rated total output power as appropriate for the test configuration according to manufacturer’s declarations in subclause 4.10.

b) In case that ATC8 is configured for testing modulation quality, the power allocated per carrier for the RAT on which modulation quality is measured shall be the highest possible for the given modulation configuration according to the manufacturer’s declarations in subclause 4.10, unless that power is higher than the level defined by case a). The power of the remaining carriers from other RAT(s) shall be set to the same level as in case a).

If in the case of b) the power of one RAT needs to be reduced in order to meet the manufacture’s declaration the power in the other RAT(s) does not need to be increased.

*------------------------------ Next modified section ------------------------------*

#### 4.11.2.14 ANTC8: UTRA, E-UTRA and NR multi-RAT non-contiguous operation

The purpose of ANTC8 is to test UTRA, E-UTRA and NR multi RAT non-contiguous aspects.

Unless otherwise stated, for all test configurations in this section, the narrowest supported NR channel bandwidth and lowest SCS for that bandwidth shall be used in the test configuration.

Unless otherwise stated, the E-UTRA bandwidth shall be 5MHz unless the BS does not support 5MHz E-UTRA, in which case the E-UTRA bandwidth shall be the lowest supported bandwidth.

##### 4.11.2.14.1 ANTC8 generation

ANTC8 is only applicable for a BS that supports UTRA, E-UTRA and NR. ANTC8 is constructed using the following method:

If the rated total output power and total number of supported carriers are not simultaneously supported in multi-RAT operations, two instances of ANTC8 shall be generated using the following values for rated total output power and the total number of supported carriers:

1) The rated total output power and the reduced number of supported carriers at the rated total output power in multi-RAT operations

2) The reduced rated total output power at the total number of supported carriers in multi-RAT operations and the total number of supported carriers.

If the rated total output power and total number of supported carriers are not simultaneously supported in multi-RAT operations, tests that use ANTC8 shall be performed using both instances 1) and 2) of ANTC8 except if the reduced number of supported carriers is 4 or more, only instance 1) of ANTC8 shall be used.

- The Base Station RF Bandwidth shall be the declared maximum Base Station RF Bandwidth for non-contiguous operation. The Base Station RF Bandwidth consists of one sub-block gap and two sub-blocks located at the edges of the declared maximum Base Station RF Bandwidth.

- Adjacent to the lower Base Station RF Bandwidth edge:

- Place an NR carrier. The specified FOffset-RAT shall apply.

- Adjacent to the upper Base Station RF Bandwidth edge:

- Place an E-UTRA carrier. The specified FOffset-RAT shall apply.

- Place a UTRA carrier adjacent to the lower sub-block edge of the upper sub-block.

- For transmitter tests, place one UTRA adjacent to the upper sub-block edge of the lower sub-block. The nominal carrier spacing defined in subclause 4.6 shall apply.

- The sub-block edges adjacent to the sub-block gap shall be determined using the specified FOffset-RAT for the carrier adjacent to the sub-block gap. The carrier(s) may be shifted maximum 100 kHz towards higher frequencies to align with the channel raster.

##### 4.11.2.14.2 ANTC8 power allocation

a) Unless otherwise stated, set each carrier to the same power so that the sum of the carrier powers equals the rated total output power appropriate for the test configuration according to manufacturer’s declarations in subclause 4.10.

b) In case that ANTC8 is configured for testing modulation quality, the power allocated per carrier for the RAT on which modulation quality is measured shall be the highest possible for the given modulation configuration according to the manufacturer’s declarations in subclause 4.10, unless that power is higher than the level defined by case a). The power of the remaining carriers from other RAT(s) shall be set to the same level as in case a).

If in the case of b) the power of one RAT needs to be reduced in order to meet the manufacture’s declaration the power in the other RAT(s) does not need to be increased.

*------------------------------ Next modified section ------------------------------*

# 5 Applicability of Requirements

## 5.1 General

The present clause defines for each conducted test requirement the set of mandatory test configurations which shall be used for demonstrating conformance for each *TAB connector*.

Test configurations for *TAB connectors* supporting multiple RAT in the tested operating band are specified in subclause 5.2.

Test configurations for *TAB connectors* declared to support single RAT requirements (see table 4.10-1, D6.13) by either MSR requirements for UTRA only or E-UTRA only or with a single-RAT UTRA requirements or single RAT E-UTRA requirements are specified in subclause 5.3.

Test configurations for *Multi-band TAB connectors* are specified in subclause 5.4.

Requirements apply to *TAB connectors* according to the declared RAT Capability Set (see table 4.10-1, D6.12) within each supported operating band and capability set of the *TAB connector* and the Band Category of the declared operating band (see table 4.10-1, D6.1), as listed in the heading of each table. Some RF requirements listed in the tables may not be mandatory or they may apply only regionally. This is further specified for each requirement in subclauses 6 and 7, and in table 4.4-1.

For a declared RAT Capability Set (see table 4.10-1, D6.12) in tables 5.2-1, 5.3.2-1, 5.3.3-1, 5.3.4-1, 5.4.1-1 or 5.4.2.1 only the requirements listed in the column for that Capability Set apply. Requirements listed under CSA other than the declared CSA(s) need not be tested. In case the BS is declared to support more than one CS, the tests that are common between different supported CSs are not repeated.

*------------------------------ Next modified section ------------------------------*

## 5.2 Test configurations for TAB connectors for operating bands where MSR is supported

Table 5.2-1: Test configuration applicability to requirements and
capability sets for *TAB connectors* supporting MSR operation

| TAB connector test case  | UTRA + E-UTRA (CSA3) | E-UTRA + NR (CSA3A) | UTRA + E-UTRA + NR (CSA3B) |
| --- | --- | --- | --- |
| BC1 | BC2 | BC3 | BC1 | BC2 | BC3 | BC1, BC2 |
| 6.2 | Base Station output power | - | - | - | - | - | - | - |
|  6.2.2 | Base Station maximum output power | C: ATC3a CNC: ATC3a C/NC: ATC3a, ANTC3a  | C: ATC3a CNC: ATC3a C/NC: ATC3a, ANTC3a | C: ATC3b | C: ATC6 CNC: ATC6 C/NC: ATC6, ANTC6  | C: ATC6 CNC: ATC6 C/NC: ATC6, ANTC6 | C: ATC6CNC: ATC6 C/NC: ATC6, ANTC6 | C: ATC8CNC: ANTC8C/NC: ANTC8, ATC8 |
|   | Additional regional requirement (only for band 34) | N/A | N/A | (Note 1) | N/A | N/A | (Note 1) | N/A |
|  6.2.3 | UTRA FDD primary CPICH power | Subclause 5.3.3 | Subclause 5.3.3 | N/A | N/A | N/A | N/A | Clause 5.3.3 |
|  6.2.3A | UTRA FDD secondary CPICH power | Subclause 5.3.3 | Subclause 5.3.3 | N/A | N/A | N/A | N/A | Clause 5.3.3 |
|  6.2.4 | UTRA TDD primary CCPCH power | N/A | N/A | Subclause 5.3.3 | N/A | N/A | N/A | N/A |
|  6.2.6 | E-UTRA DL RS power | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Clause 5.3.4 |
| 6.3 | Output power dynamics | - | - | - | - | - | - | - |
|   | E-UTRA | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Clause 5.3.4 |
|   | UTRA FDD | Subclause 5.3.3 | Subclause 5.3.3 | N/A | N/A | N/A | N/A | Clause 5.3.3 |
|   | UTRA TDD | N/A | N/A | Subclause 5.3.3 | N/A | N/A | N/A | N/A |
|  | NR | N/A | N/A | N/A | SC | SC | SC | SC |
| 6.4 | Transmit ON/OFF power | - | - | - | - | - | - | - |
|  6.4.1 | Transmitter OFF power | N/A | N/A | C: ATC3b | N/A | N/A | C: ATC6CNC: ATC6 C/NC: ATC6, ANTC6 | N/A |
|  6.4.2 | Transmitter transient period | N/A | N/A | C: ATC3b | N/A | N/A | C: ATC6CNC: ATC6 C/NC: ATC6, ANTC6 | N/A |
| 6.5 | Transmitted signal quality | - | - | - | - | - | - | - |
|  6.5.2 | Frequency error | - | - | - | - | - | - | - |
|   | E-UTRA | Same TC as used in subclause 6.5.4 | Same TC as used in subclause 6.5.4 | Same TC as used in subclause 6.5.4 | Same TC as used in subclause 6.5.4 | Same TC as used in subclause 6.5.4 | Same TC as used in subclause 6.5.4 | Same TC as used in subclause 6.5.4 |
|   | UTRA FDD | Same TC as used in subclause 6.5.4 | Same TC as used in subclause 6.5.4 | N/A | N/A | N/A | N/A | Same TC as used in subclause 6.5.4 |
|   | UTRA TDD | N/A | N/A | Same TC as used in subclause 6.5.4 | N/A | N/A | N/A | N/A |
|  | NR | N/A | N/A | N/A | Same TC as used in subclause 6.5.4 | Same TC as used in subclause 6.5.4 | Same TC as used in subclause 6.5.4 | Same TC as used in subclause 6.5.4 |
|  6.5.3 | Time alignment error | - | - | - | - | - | - | - |
|   | E-UTRA | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Clause 5.3.4 |
|   | UTRA FDD | Subclause 5.3.3 | Subclause 5.3.3 | N/A | N/A | N/A | N/A | Clause 5.3.3 |
|   | UTRA TDD | N/A | N/A | Subclause 5.3.3 | N/A | N/A | N/A | N/A |
|  | NR | N/A | N/A | N/A | ATC7 | ATC7 | ATC7, ANTC7 | ATC7 |
|  6.5.4 | Modulation quality - EVM | - | - | - | - | - | - | - |
|   | E-UTRA | C: ATC3a CNC: ATC3a C/NC: ATC3a, ANTC3a | C: ATC3a CNC: ATC3a C/NC: ATC3a, ANTC3a | C: ATC3b | C: ATC6CNC: ATC6 C/NC: ATC6, ANTC6 | C: ATC6 CNC: ATC6 C/NC: ATC6, ANTC6 | C: ATC6CNC: ATC6 C/NC: ATC6, ANTC6 | C: ATC8CNC: ATC8C/NC: ANTC8, ATC8  |
|   | UTRA FDD | C: ATC3a CNC: ATC3a C/NC: ATC3a, ANTC3a | C: ATC3a CNC: ATC3a C/NC: ATC3a, ANTC3a | N/A | N/A | N/A | N/A | C: CNC: ATC8C/NC: ANTC8, ATC8 |
|   | UTRA TDD | N/A | N/A | C: ATC3b | N/A | N/A | N/A | N/A |
|  | NR | N/A | N/A | N/A | C: ATC6CNC: ATC6 C/NC: ATC6, ANTC6 | C: ATC6 CNC: ATC6 C/NC: ATC6, ANTC6 | C: ATC6CNC: ATC6 C/NC: ATC6, ANTC6 | C: ANTC8CNC: C/NC: ANTC8, ANTC8 |
|  6.5.5 | Transmit pulse shape filter | Not tested | Not tested | Not tested | Not tested | Not tested | Not tested | Not tested |
| 6.6 | Unwanted Emissions | - | - | - | - | - | - | - |
|  6.6.2 | Occupied bandwidth | - | - | - | - | - | - | - |
|   | Minimum requirement | Subclause 5.3.3 Subclause 5.3.4 | Subclause 5.3.3 Subclause 5.3.4 | Subclause 5.3.3 Subclause 5.3.4 | Subclause 5.3.3 Subclause 5.3.4 | Subclause 5.3.3 Subclause 5.3.4 | Subclause 5.3.3 Subclause 5.3.4 | Clause 5.3.3 Clause 5.3.4 |
|  6.6.3 | Adjacent Channel Leakage power Ratio | - | - | - | - | - | - | - |
|   | E-UTRA | C: ATC2a CNC: ANTC2 C/NC:ATC2a, ANTC2 | C: ATC2a CNC: ANTC2 C/NC:ATC2a, ANTC2 | C: ATC2a CNC: ANTC2 C/NC:ATC2a, ANTC2 | C: ATC2a CNC: ANTC2 C/NC:ATC2a, ANTC2 | C: ATC2a CNC: ANTC2 C/NC:ATC2a, ANTC2 | C: ATC2a CNC: ANTC2 C/NC:ATC2a, ANTC2 | C: ATC8CNC: ANTC8C/NC: ANTC8, ATC6a |
|   | UTRA FDD | Subclause 5.3.3 | Subclause 5.3.3 | N/A | N/A | N/A | N/A | C: ATC6aCNC: ANTC8C/NC: ANTC8, ATC6a |
|   | UTRA TDD | N/A | N/A | Subclause 5.3.3 | N/A | N/A | N/A | N/A |
|  | NR | N/A | N/A | N/A | C: ATC7CNC: ANTC7C/NC: ATC7, ANTC7 | C: ATC7CNC: ANTC7C/NC: ATC7, ANTC7 | C: ATC7CNC: ANTC7C/NC: ATC7, ANTC7 | C: ATC6aCNC: ANTC8C/NC: ANTC8, ANTC8 |
|   | Cumulative ACLR | CNC: ANTC3a C/NC:ANTC3a | CNC: ANTC3a C/NC:ANTC3a |  | CNC: ANTC6 C/NC:ANTC6 | CNC: ANTC6 C/NC:ANTC6 | CNC: ANTC6 C/NC:ANTC6 | CNC: ANTC8C/NC: ANTC8 |
|  6.6.5 | Operating band unwanted emission | - | - | - | - | - | - | - |
|   | General requirement for Band Categories 1 and 3 | Subclause 5.3.3 Subclause 5.3.4 C: ATC3a CNC: ATC3a, ANTC3a C/NC: ATC3a, ANTC3a | N/A | Subclause 5.3.3 Subclause 5.3.4 C: ATC3b | Subclause 5.3.3 Subclause 5.3.4C: ATC6CNC: ATC6, ANTC6C/NC: ATC6, ANTC6 | N/A | Subclause 5.3.3 Subclause 5.3.4C: ATC6CNC: ATC6, ANTC6C/NC: ATC6, ANTC6 | C: ATC8CNC,: ATC8, ANTC8C/NC, : ANTC8, ATC8SC: (Note 2) |
|   | General requirement for Band Category 2 | N/A | Subclause 5.3.3 Subclause 5.3.4 C: ATC3a CNC: ATC3a, ANTC3a C/NC: ATC3a, ANTC3a | N/A | N/A | Subclause 5.3.3 Subclause 5.3.4 C: ATC6 CNC: ATC6, ANTC6C/NC: ATC6, ANTC6 | N/A | C: ATC8CNC: ANTC8C/NC, : ANTC8, ATC8SC: (Note 2) |
|   | Additional requirements  | (Note 1) | (Note 1) | (Note 1) | (Note 1) | (Note 1) | (Note 1) | (Note 1) |
|  6.6.6 | Spurious emission | - | - | - | - | - | - | - |
|   | (Category A) | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3b | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC6 CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC8CNC: ANTC8C/NC: ANTC8, ATC8 |
|   | (Category B) | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3b | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC6 CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC8CNC: ANTC8C/NC: ANTC8, ATC8 |
|   | Additional requirement for BC2 (Category B) | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
|   | Protection of the BS receiver of own or different BS | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3b | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC6 CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC8CNC: ANTC8C/NC: ANTC8, ATC8 |
|   | Additional spurious emissions requirements | C: ATC3a, CNC: ANTC3a, C/NC: ATC3a, ATC3a | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3b | C: ATC6, CNC: ANTC6, C/NC: ATC6, ATC6 | C: ATC6 CNC: ANTC6C/NC: ATC6, ANTC6 | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC8CNC: ANTC8C/NC: ANTC8, ATC8 |
|   | Co-location with other Base Stations | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3b | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC6 CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC8CNC: ANTC8C/NC: ANTC8, ATC8 |
| 6.7 | Transmitter intermodulation | - | - | - | - | - | - | - |
|   | General requirement | Same TC as used in subclause 6.6 | Same TC as used in subclause 6.6 | Same TC as used in subclause 6.6 | Same TC as used in subclause 6.6 | Same TC as used in subclause 6.6 | Same TC as used in subclause 6.6 | Same TC as used in 6.6 |
|   | Additional requirement (BC1 and BC2) | CNC: ANTC3a C/NC:ANTC3a | Same TC as used in subclause 6.6 | N/A | CNC: ANTC6 C/NC:ANTC6 | Same TC as used in subclause 6.6 | N/A | CNC: ANTC8C/NC: ANTC8 |
|   | Additional requirement (BC3) | N/A | N/A | Same TC as used in subclause 6.6 | N/A | N/A | N/A | N/A |
| 7.2 | Reference sensitivity level | - | - | - | - | - | - | - |
|   | E-UTRA requirement | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Clause 5.3.4 |
|   | UTRA FDD requirement | Subclause 5.3.3 | Subclause 5.3.3 | N/A | N/A | N/A | N/A | Clause 5.3.3 |
|   | UTRA TDD requirement | N/A | N/A | Subclause 5.3.3 | N/A | N/A | N/A | N/A |
|  | NR | N/A | N/A | N/A | SC | SC | SC | SC |
| 7.3 | Dynamic range | - | - | - | - | - | - | - |
|   | E-UTRA | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Clause 5.3.4 |
|   | UTRA FDD | Subclause 5.3.3 | Subclause 5.3.3 | N/A | N/A | N/A | N/A | Clause 5.3.3 |
|   | UTRA TDD | N/A | N/A | Subclause 5.3.3 | N/A | N/A | N/A | N/A |
|  | NR | N/A | N/A | N/A | SC | SC | SC | SC |
| 7.4 | Adjacent channel selectivity and narrowband blocking | - | - | - | - | - | - | - |
|   | General blocking requirement | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3b | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC6 CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC8CNC: ANTC8C/NC: ANTC8, ATC8 |
|   | General narrowband blocking requirement | C: ATC3a, ATC4b CNC:ANTC3a, ATC4b C/NC: ATC3a, ANTC3a,ATC4b | C: ATC3a, ATC4b CNC:ANTC3a, ATC4b C/NC: ATC3a, ANTC3a,ATC4b | C: ATC3b, ATC4b | C: ATC6, ATC4b, ATC4d CNC:ANTC6, ATC4b, ATC4dC/NC: ATC6, ANTC6,ATC4b, ATC4d | C: ATC6, ATC4b, ATC4d CNC:ANTC6, ATC4b, ATC4dC/NC: ATC6, ANTC6,ATC4b, ATC4d | C: ATC6, ATC4b, ATC4dCNC: ANTC6, ATC4b, ATC4dC/NC: ATC6, ANTC6, ATC4b, ATC4d | C: ATC8CNC: ANTC8C/NC: ANTC8, ATC8 |
|   | Additional BC3 blocking minimum requirement | N/A | N/A | C: ATC3b | N/A | N/A | N/A | N/A |
| 7.5 | Blocking | - | - | - | - | - | - | - |
|   | General requirement | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3b | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC6 CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC8CNC: ANTC8C/NC: ANTC8, ATC8 |
|   | Co-location requirement | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3b | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC6 CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC8CNC: ANTC8C/NC: ANTC8, ATC8 |
| 7.6 | Receiver spurious emissions | - | - | - | - | - | - | - |
|   | General requirement | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3b | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC6 CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC8CNC: ANTC8C/NC: ANTC8, ATC8 |
|   | Additional requirement for BC2 (Category B) | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 7.7 | Receiver intermodulation | - | - | - | - | - | - | - |
|   | General intermodulation requirement | C: ATC3a CNC: ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3a CNC ANTC3a C/NC: ATC3a, ANTC3a | C: ATC3b | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC6CNC ANTC6 C/NC: ATC6, ANTC6 | C: ATC6CNC: ANTC6 C/NC: ATC6, ANTC6 | C: ATC8CNC: ANTC8C/NC: ANTC8, ATC8 |
|   | General narrowband intermodulation requirement | C: ATC3a, ATC4b CNC:ANTC3a, ATC4b C/NC: ATC3a, ANTC3a, ATC4b | C: ATC3a ATC4b CNC:ANTC3a,ATC4b C/NC: ATC3a, ANTC3a; ATC4b | C: ATC3b, ATC4b | C: ATC6, ATC4b, ATC4d CNC:ANTC6, ATC4b, ATC4dC/NC: ATC6, ANTC6, ATC4b, ATC4d | C: ATC6 ATC4b, ATC4d CNC:ANTC6,ATC4b, ATC4dC/NC: ATC6, ANTC6; ATC4b, ATC4d | C: ATC6, ATC4b, ATC4dCNC: ANTC6 , ATC4b, ATC4dC/NC: ATC6, ANTC6, ATC4b, ATC4d | C: ATC8CNC: ANTC8C/NC: ANTC8, ATC8 |
| 7.8 | In-channel selectivity | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | - | - | - | - |
|  | E-UTRA requirement | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Subclause 5.3.4 | Clause 5.3.4 |
|  | NR requirement | N/A | N/A | N/A | SC | SC | SC | SC |
| NOTE 1: Compliance stated by manufacturer declaration.NOTE 2: For Operating band unwanted emissions, NR shall also be tested with SC with widest supported channel bandwidth and highest supported sub-carrier spacing. |

*------------------------------ Unchanged part omitted ------------------------------*

*------------------------------ Next modified section ------------------------------*

##### 6.6.5.5.2 Basic Limits for MSR Band Categories 1 and 3

For an AAS BS of Wide Area BS class operating in Band Category 1 or Band Category 3, the requirement applies outside the *Base Station RF Bandwidth edges*. In addition, for a Wide Area BS operating in non-contiguous spectrum, it applies inside any sub-block gap. In addition, for an AAS BS of Wide Area BS class operating in multiple bands, it applies inside any *Inter RF Bandwidth gap*.

For an AAS BS of Medium Range BS class operating in Band Category 1 the requirement applies outside the *Base Station RF Bandwidth edges*. In addition, for a Medium Range BS operating in non-contiguous spectrum, it applies inside any sub-block gap. In addition, for an AAS BS of Medium Range BS class operating in multiple bands, it applies inside any *Inter RF Bandwidth gap*.

For an AAS BS of Local Area BS class operating in Band Category 1 the requirement applies outside the *Base Station RF Bandwidth edges*. In addition, for a Local Area BS operating in non-contiguous spectrum, it applies inside any sub-block gap. In addition, for an AAS BS of Local Area BS class operating in multiple bands, it applies inside any *Inter RF Bandwidth gap*.

Outside the *Base Station RF Bandwidth edges*, emissions *basic limits* are specified in tables 6.6.2.5.1-1 to 6.6.2.5.1-4 below, where:

- Δf is the separation between the *Base Station RF Bandwidth edge* frequency and the nominal -3 dB point of the measuring filter closest to the carrier frequency.

- f\_offset is the separation between the *Base Station RF Bandwidth edge* frequency and the centre of the measuring filter.

- f\_offsetmax is the offset to the frequency ΔfOBUE outside the downlink operating band.

- Δfmax is equal to f\_offsetmax minus half of the bandwidth of the measuring filter.

For a *multi-band TAB connector*, inside any *Inter RF Bandwidth gap*s with Wgap < 2\* ΔfOBUE, a combined *basic* limit shall be applied which is the cumulative sum of the test requirements specified at the *Base Station RF Bandwidth edges* on each side of the *Inter RF Bandwidth gap*. The *basic limit* for *Base Station RF Bandwidth edge* is specified in tables 6.6.5.5.2-1 to 6.6.5.5.2-8, where in this case:

- Δf is the separation between the *Base Station RF Bandwidth edge* frequency and the nominal -3 dB point of the measuring filter closest to the carrier frequency.

- f\_offset is the separation between the *Base Station RF Bandwidth edge* frequency and the centre of the measuring filter.

- f\_offsetmax is equal to the *Inter RF Bandwidth gap* divided by two.

- Δfmax is equal to f\_offsetmax minus half of the bandwidth of the measuring filter.

For a *multi-band TAB connector*, the operating band unwanted emission limits apply also in a supported operating band without any carriers transmitted, in the case where there are carriers transmitted in another operating band. In this case where there is no carrier transmitted in an operating band, no cumulative *basic limits* are applied in the *inter-band gap* between a supported downlink band with carrier(s) transmitted and a supported downlink band without any carrier transmitted and

- In case the *Inter RF Bandwidth gap* between a supported downlink band with carrier(s) transmitted and a supported downlink band without any carrier transmitted is less than 2\*ΔfOBUE MHz, f\_offsetmax shall be the offset to the frequency ΔfOBUE outside the outermost edges of the two supported downlink operating bands and the operating band unwanted emission limit of the band where there are carriers transmitted, as defined in the tables of the present clause, shall apply across both supported downlink bands.

- In other cases, the operating band unwanted emission limit of the band where there are carriers transmitted, as defined in the tables of the present clause for the largest frequency offset (Δfmax), shall apply from ΔfOBUE below the lowest frequency, up to ΔfOBUE above the highest frequency of the supported downlink operating band without any carrier transmitted.

Inside any sub-block gap for a *TAB connector* operating in non-contiguous spectrum, a combined *basic limit* shall be applied which is the cumulative sum of the test requirements specified for the adjacent sub blocks on each side of the sub block gap. The *basic limit* for each sub block is specified in tables 6.6.5.5.2-1 to 6.6.5.5.2-8, where in this case:

- Δf is the separation between the sub block edge frequency and the nominal -3 dB point of the measuring filter closest to the sub block edge frequency.

- f\_offset is the separation between the sub block edge frequency and the centre of the measuring filter.

- f\_offsetmax is equal to the sub block gap bandwidth divided by two.

- Δfmax is equal to f\_offsetmax minus half of the bandwidth of the measuring filter.

Applicability of Wide Area operating band unwanted emission requirements in tables 6.6.5.5.2-1/2, 6.6.5.5.2-2a and 6.5.5.2-2b is specified in table 6.6.5.5.2-0.

Note: Option 1 and Option 2 correspond to the Category B option 1/2 operating band unwanted emissions defined in the E-UTRA and NR specifications TS 36.104 [4] and TS 38.104 [36]. Option 2 also corresponds to the UTRA spectrum emission mask as defined in TS 25.104 [2].

Table 6.6.5.5.2-0: Applicability of operating band unwanted emission requirements for BC1 and BC3 Wide Area BS

|  |  |  |
| --- | --- | --- |
| NR band operation | UTRA supported (NOTE 1) | Applicable requirement table |
| None | Y/N | 6.6.5.5.2-1/2 (option 2) |
| In certain regions (NOTE 2), band 1, 65 | N | 6.6.5.5.2-1/2 (option 2) |
| Any below 1 GHz | N | 6.6.5.5.2-2a (option 1) |
| Any above 1 GHz except for certain regions (NOTE 2), band 1, 65 | N | 6.5.5.2-2b (option 1) |
| NOTE 1: VoidNOTE 2: Applicable only for operation in regions where Category B limits as defined in ITU-R Recommendation SM.329 [35] are used for which category B option 2 operating band unwanted emissions requirements as defined in TS 36.104 [4] and TS 38.104 [36] are applied. |

Table 6.6.5.5.2-1: WA BS OBUE in BC1 and BC3 bands ≤ 3 GHz applicable for: BS not supporting NR; or BS supporting NR in Band n1 or n65 – option 2

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* (Notes 1 and 2) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 0.2 MHz | 0.015 MHz ≤ f\_offset < 0.215 MHz  | -12.5 dBm | 30 kHz  |
| 0.2 MHz ≤ Δf < 1 MHz | 0.215 MHz ≤ f\_offset < 1.015 MHz | (Note 6) | 30 kHz  |
| (Note 3) | 1.015 MHz ≤ f\_offset < 1.5 MHz  | -24.5 dBm (Note 6) | 30 kHz  |
| 1 MHz ≤ Δf ≤min(Δfmax, 10 MHz)  | 1.5 MHz ≤ f\_offset < min(f\_offsetmax, 10.5 MHz) | -11.5 dBm (Note 6) | 1 MHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.5 MHz ≤ f\_offset < f\_offsetmax  | -15 dBm (Note 5, 6) | 1 MHz  |
| NOTE 1: For MSR *TAB connector* supporting non-contiguous spectrum operation within any operating band the *basic limit* within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10 MHz from both adjacent sub blocks on each side of the sub-block gap, where the *basic limit* within sub-block gaps shall be -15 dBm/MHz (for MSR *multi-band TAB connector* supporting multi-band operation, either this limit or -16dBm/100kHz with correspondingly adjusted f\_offset shall apply for this frequency offset range for operating bands < 1 GHz).NOTE 2: For MSR *multi-band TAB connector* with *Inter RF Bandwidth gap* < 2×ΔfOBUE MHz the *basic limit* within the *Inter RF Bandwidth gap*s is calculated as a cumulative sum of contributions from adjacent sub-blocks on each side of the *Inter RF Bandwidth gap*.NOTE 3: This frequency range ensures that the range of values of f\_offset is continuous.NOTE 5: The requirement is not applicable when Δfmax < 10 MHz.NOTE 6: For MSR *multi-band TAB connector* supporting multi-band operation, either this limit or -16dBm/100kHz with correspondingly adjusted f\_offset shall apply for this frequency offset range for operating bands < 1 GHz. |

Table 6.6.5.5.2-2: WA BS OBUE in BC1 and BC3 bands > 3 GHz applicable for: BS not supporting NR; or BS supporting NR in Band n1 or n65 - option 2

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* (Notes 1 and 2) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 0.2 MHz | 0.015 MHz ≤ f\_offset < 0.215 MHz  | -12.2 dBm | 30 kHz  |
| 0.2 MHz ≤ Δf < 1 MHz | 0.215 MHz ≤ f\_offset < 1.015 MHz |  | 30 kHz  |
| (Note 3) | 1.015 MHz ≤ f\_offset < 1.5 MHz  | -24.2 dBm | 30 kHz  |
| 1 MHz ≤ Δf ≤min(Δfmax, 10 MHz)  | 1.5 MHz ≤ f\_offset < min(f\_offsetmax, 10.5 MHz) | -11.2 dBm | 1 MHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.5 MHz ≤ f\_offset < f\_offsetmax  | -15 dBm (Note 5) | 1 MHz  |
| NOTE 1: For MSR *TAB connector* supporting non-contiguous spectrum operation within any operating band the *basic limit* within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10 MHz from both adjacent sub blocks on each side of the sub-block gap, where the *basic limit* within sub-block gaps shall be -15 dBm/MHz.NOTE 2: For MSR *multi-band TAB connector* with *Inter RF Bandwidth gap* < 2\* ΔfOBUE MHz the *basic limit* within the *Inter RF Bandwidth gap*s is calculated as a cumulative sum of contributions from adjacent sub-blocks on each side of the *Inter RF Bandwidth gap*.NOTE 3: This frequency range ensures that the range of values of f\_offset is continuous.NOTE 5: The requirement is not applicable when Δfmax < 10 MHz. |

Table 6.6.5.5.2-2a: WA BS OBUE in BC1 and BC3 bands ≤ 1 GHz applicable for: BS supporting NR and not supporting UTRA - option 1

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *Basic limit* (Note 1, 2) | Measurement bandwidth |
| 0 MHz ≤ Δf < 5 MHz | 0.05 MHz ≤ f\_offset < 5.05 MHz |  |  |
| 5 MHz ≤ Δf <min(10 MHz, Δfmax) | 5.05 MHz ≤ f\_offset <min(10.05 MHz, f\_offsetmax) | -12.5 dBm | 100 kHz |
| 10 MHz ≤ Δf ≤ Δfmax | 10.05 MHz ≤ f\_offset < f\_offsetmax  | -16 dBm (Note 3) |  |
| NOTE 1: For a BS supporting non-contiguous spectrum operation within any *operating band*, the emission limits within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap, where the contribution from the far-end sub-block shall be scaled according to the measurement bandwidth of the near-end sub-block. Exception is f ≥ 10MHz from both adjacent sub blocks on each side of the sub-block gap, where the emission limits within sub-block gaps shall be ‑16 dBm/100 kHz.NOTE 2: For a *multi-band connector* with Inter RF Bandwidth gap < 2\*ΔfOBUE the emission limits within the Inter RF Bandwidth gaps is calculated as a cumulative sum of contributions from adjacent sub-blocks or RF Bandwidth on each side of the Inter RF Bandwidth gap, where the contribution from the far-end sub-block or RF Bandwidth shall be scaled according to the measurement bandwidth of the near-end sub-block or RF Bandwidth.NOTE 3: The requirement is not applicable when Δfmax < 10 MHz. |

Table 6.6.5.5.2-2b: WA BS OBUE in BC1 and BC3 bands > 1 GHz and ≤ 3GHz applicable for: BS supporting NR, not operating NR in band n1 or n65, and not supporting UTRA - option 1

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *Basic limit* (Note 1, 2) | Measurement bandwidth |
| 0 MHz ≤ Δf < 5 MHz | 0.05 MHz ≤ f\_offset < 5.05 MHz |  | 100 kHz  |
| 5 MHz ≤ Δf <min(10 MHz, Δfmax) | 5.05 MHz ≤ f\_offset <min(10.05 MHz, f\_offsetmax) | -12.5 dBm | 100 kHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.5 MHz ≤ f\_offset < f\_offsetmax  | -15 dBm (Note 3) | 1MHz  |
| NOTE 1: For a BS supporting non-contiguous spectrum operation within any *operating band*, the emission limits within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap, where the contribution from the far-end sub-block shall be scaled according to the measurement bandwidth of the near-end sub-block. Exception is f ≥ 10MHz from both adjacent sub blocks on each side of the sub-block gap, where the emission limits within sub-block gaps shall be ‑15 dBm/1 MHz.NOTE 2: For a *multi-band connector* with Inter RF Bandwidth gap < 2\*ΔfOBUE the emission limits within the Inter RF Bandwidth gaps is calculated as a cumulative sum of contributions from adjacent sub-blocks or RF Bandwidth on each side of the Inter RF Bandwidth gap, where the contribution from the far-end sub-block or RF Bandwidth shall be scaled according to the measurement bandwidth of the near-end sub-block or RF Bandwidth.NOTE 3: The requirement is not applicable when Δfmax < 10 MHz. |

Table 6.6.5.5.2-3: MR BS OBUE in BC1 bands ≤ 3 GHz applicable for: BS with maximum output power 31 < Prated,c,cell-10\*log10(NTXU,countedpercell) ≤ 38 dBm and not supporting NR; or BS with maximum output power 31 < Prated,c,cell-10\*log10(NTXU,countedpercell) ≤ 38 dBm supporting NR, and supporting UTRA

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* (Notes 1 and 2) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 0.6 MHz | 0.015 MHz ≤ f\_offset < 0.615 MHz  |  | 30 kHz  |
| 0.6 MHz ≤ Δf < 1 MHz | 0.615 MHz ≤ f\_offset < 1.015 MHz |  | 30 kHz  |
| (Note 3) | 1.015 MHz ≤ f\_offset < 1.5 MHz  | Prated,c,cell - 10\*log10(NTXU,countedpercell)- 63.5 dB | 30 kHz  |
| 1 MHz ≤ Δf ≤ 2.6 MHz | 1.5 MHz ≤ f\_offset < 3.1 MHz | Prated,c,cell - 10\*log10(NTXU,countedpercell)- 50.5 dB | 1 MHz  |
| 2.6 MHz ≤ Δf ≤ 5 MHz | 3.1 MHz ≤ f\_offset < 5.5 MHz | min(Prated,c,cell - 10\*log10(NTXU,countedpercell)- 50.5 dB, -13.5 dBm) | 1 MHz |
| 5 MHz ≤ Δf ≤ min(Δfmax, 10 MHz) | 5.5 MHz ≤ f\_offset < min (f\_offsetmax, 10.5 MHz) | Prated,c,cell - 10\*log10(NTXU,countedpercell)- 54.5 dB | 1 MHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.5 MHz ≤ f\_offset < f\_offsetmax | Prated,c,cell - 10\*log10(NTXU,countedpercell)-56 dB (Note 5) | 1 MHz |
| NOTE 1: For MSR *TAB connector* supporting non-contiguous spectrum operation within any operating band the *basic limit* within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10 MHz from both adjacent sub blocks on each side of the sub-block gap, where the *basic limit* within sub-block gaps shall be (Prated,c,cell - 10\*log10(NTXU,countedpercell) - 56 dB)/MHz.NOTE 2: For MSR *multi-band TAB connector* with *Inter RF Bandwidth gap* < 2\* ΔfOBUE MHz the *basic limit* within the *Inter RF Bandwidth gap*s is calculated as a cumulative sum of contributions from adjacent sub-blocks on each side of the *Inter RF Bandwidth gap*.NOTE 3: This frequency range ensures that the range of values of f\_offset is continuous.NOTE 5: The requirement is not applicable when Δfmax < 10 MHz. |

Table 6.6.5.5.2-3a: MR BS OBUE in BC1 bands ≤ 3 GHz applicable for: BS with maximum output power 31 < Prated,c,cell-10\*log10(NTXU,countedpercell) ≤ 38 dBm, supporting NR, and not supporting UTRA

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *Basic limit* (Note 1, 2) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 5 MHz | 0.05 MHz ≤ f\_offset < 5.05 MHz | Prated,c,cell - 10\*log10(NTXU,countedpercell)-51.5 dB – 7/5(f\_offset - 0.05) dB | 100 kHz  |
| 5 MHz ≤ Δf < min(10 MHz, Δfmax) | 5.05 MHz ≤ f\_offset < min(10.05 MHz, f\_offsetmax) | Prated,c,cell - 10\*log10(NTXU,countedpercell)- 58.5 dB | 100 kHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.05 MHz ≤ f\_offset < f\_offsetmax | Min(Prated,c,cell - 10\*log10(NTXU,countedpercell)- 60 dB, -25 dBm) (Note 3) | 100 kHz |
| NOTE 1: For a BS supporting non-contiguous spectrum operation within any *operating band* the emission limits within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10MHz from both adjacent sub blocks on each side of the sub-block gap, where the emission limits within sub-block gaps shall be Min(Prated,c,cell - 10\*log10(NTXU,countedpercell)- 60 dB, -25 dBm) / 100 kHz.NOTE 2: For a *multi-band connector* with Inter RF Bandwidth gap < 2\*ΔfOBUE the emission limits within the Inter RF Bandwidth gaps is calculated as a cumulative sum of contributions from adjacent sub-blocks or RF Bandwidth on each side of the Inter RF Bandwidth gap.NOTE 3: The requirement is not applicable when Δfmax < 10 MHz. |

Table 6.6.5.5.2-4: MR BS OBUE in BC1 bands > 3 GHz applicable for: BS with maximum output power 31 < Prated,c,cell-10\*log10(NTXU,countedpercell) ≤ 38 dBm and not supporting NR; or BS with maximum output power 31 < Prated,c,cell-10\*log10(NTXU,countedpercell) ≤ 38 dBm supporting NR, and supporting UTRA

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* (Notes 1 and 2) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 0.6 MHz | 0.015 MHz ≤ f\_offset < 0.615 MHz  |  | 30 kHz  |
| 0.6 MHz ≤ Δf < 1 MHz | 0.615 MHz ≤ f\_offset < 1.015 MHz |  | 30 kHz  |
| (Note 3) | 1.015 MHz ≤ f\_offset < 1.5 MHz  | Prated,c,cell - 10\*log10(NTXU,countedpercell)- 63.2 dB | 30 kHz  |
| 1 MHz ≤ Δf ≤ 2.6 MHz | 1.5 MHz ≤ f\_offset < 3.1 MHz | Prated,c,cell - 10\*log10(NTXU,countedpercell)- 50.2 dB | 1 MHz  |
| 2.6 MHz ≤ Δf ≤ 5 MHz | 3.1 MHz ≤ f\_offset < 5.5 MHz | min(Prated,c,cell - 10\*log10(NTXU,countedpercell)- 50.2 dB, -13.2dBm) | 1 MHz |
| 5 MHz ≤ Δf ≤ min(Δfmax, 10 MHz) | 5.5 MHz ≤ f\_offset < min(f\_offsetmax ,10.5 MHz) | Prated,c,cell - 10\*log10(NTXU,countedpercell)- 54.2 dB | 1 MHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.5 MHz ≤ f\_offset < f\_offsetmax | Prated,c,cell - 10\*log10(NTXU,countedpercell)-56 dB (Note 5) | 1 MHz |
| NOTE 1: For MSR *TAB connector* supporting non-contiguous spectrum operation within any operating band the *basic limit* within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10 MHz from both adjacent sub blocks on each side of the sub-block gap, where the *basic limit* within sub-block gaps shall be (Prated,c,cell - 10\*log10(NTXU,countedpercell) - 56 dB)/MHz.NOTE 2: For MSR multi-band *TAB connector* with *Inter RF Bandwidth gap* < 2\* ΔfOBUE MHz the *basic limit* within the *Inter RF Bandwidth gap*s is calculated as a cumulative sum of contributions from adjacent sub-blocks on each side of the *Inter RF Bandwidth gap*.NOTE 3: This frequency range ensures that the range of values of f\_offset is continuous.NOTE 5: The requirement is not applicable when Δfmax < 10 MHz. |

Table 6.6.5.5.2-4a: MR BS OBUE in BC1 bands > 3 GHz applicable for: BS with maximum output power 31 < Prated,c,cell-10\*log10(NTXU,countedpercell) ≤ 38 dBm, supporting NR, and not supporting UTRA

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *Basic limit* (Note 1, 2) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 5 MHz | 0.05 MHz ≤ f\_offset < 5.05 MHz | Prated,c,cell - 10\*log10(NTXU,countedpercell) -51.2 dB – 7/5(f\_offset-0.05)  | 100 kHz  |
| 5 MHz ≤ Δf < min(10 MHz, Δfmax) | 5.05 MHz ≤ f\_offset < min(10.05 MHz, f\_offsetmax) | Prated,c,cell - 10\*log10(NTXU,countedpercell) - 58.2 dB | 100 kHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.05 MHz ≤ f\_offset < f\_offsetmax | Min(Prated,c,cell - 60dB, -25dBm)Min(Prated,c,cell - 10\*log10(NTXU,countedpercell)– 60 dB, -25 dBm) (Note 3) | 100 kHz |
| NOTE 1: For a BS supporting non-contiguous spectrum operation within any *operating band* the emission limits within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10MHz from both adjacent sub blocks on each side of the sub-block gap, where the emission limits within sub-block gaps shall be Min(Prated,c,cell - 10\*log10(NTXU,countedpercell)– 60 dB, -25 dBm) / 100 kHz.NOTE 2: For a *multi-band connector* with Inter RF Bandwidth gap < 2\*ΔfOBUE the emission limits within the Inter RF Bandwidth gaps is calculated as a cumulative sum of contributions from adjacent sub-blocks or RF Bandwidth on each side of the Inter RF Bandwidth gap.NOTE 3: The requirement is not applicable when Δfmax < 10 MHz. |

Table 6.6.5.5.2-5: MR BS OBUE in BC1 bands ≤ 3 GHz applicable for: BS with maximum output power Prated,c,cell-10\*log10(NTXU,countedpercell) ≤ 31 dBm and not supporting NR; or BS with maximum output power Prated,c,cell-10\*log10(NTXU,countedpercell) ≤ 31 dBm supporting NR, and supporting UTRA

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* (Notes 1 and 2) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 0.6 MHz | 0.015 MHz ≤ f\_offset < 0.615 MHz  |  | 30 kHz  |
| 0.6 MHz ≤ Δf < 1 MHz | 0.615 MHz ≤ f\_offset < 1.015 MHz |  | 30 kHz  |
| (Note 3) | 1.015 MHz ≤ f\_offset < 1.5 MHz  | -32.5 dBm | 30 kHz  |
| 1 MHz ≤ Δf ≤ 5 MHz | 1.5 MHz ≤ f\_offset < 5.5 MHz | -19.5 dBm | 1 MHz  |
| 5 MHz ≤ Δf ≤ min(Δfmax,10 MHz) | 5.5 MHz ≤ f\_offset < min(f\_offsetmax,10.5 MHz)  | -23.5 dBm | 1 MHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.5 MHz ≤ f\_offset < f\_offsetmax | -25 dBm (Note 5) | 1 MHz |
| NOTE 1: For MSR *TAB connector* supporting non-contiguous spectrum operation within any operating band the *basic limit* within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10 MHz from both adjacent sub blocks on each side of the sub-block gap, where the *basic limit* within sub-block gaps shall be -25 dBm/MHz.NOTE 2: For MSR *multi-band TAB connector* with *Inter RF Bandwidth gap* < 2\*ΔfOBUE MHz the *basic limit* within the *Inter RF Bandwidth gap*s is calculated as a cumulative sum of contributions from adjacent sub-blocks on each side of the *Inter RF Bandwidth gap*.NOTE 3: This frequency range ensures that the range of values of f\_offset is continuous.NOTE 5: The requirement is not applicable when Δfmax < 10 MHz. |

Table 6.6.5.5.2-5a: MR BS OBUE in BC1 bands ≤ 3 GHz applicable for: BS with maximum output power Prated,c,cell-10\*log10(NTXU,countedpercell) ≤ 31 dBm, supporting NR, and not supporting UTRA

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *Basic limit* (Note 1, 2) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 5 MHz | 0.05 MHz ≤ f\_offset < 5.05 MHz | $$-20.5 dBm-\frac{7}{5}\left(\frac{f\\_offset}{MHz}-0.05\right)dB$$ | 100 kHz  |
| 5 MHz ≤ Δf < min(10 MHz, Δfmax) | 5.05 MHz ≤ f\_offset < min(10.05 MHz, f\_offsetmax) | -27.5 dBm | 100 kHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.05 MHz ≤ f\_offset < f\_offsetmax | -29 dBm (Note 3) | 100 kHz |
| NOTE 1: For a BS supporting non-contiguous spectrum operation within any *operating band* the emission limits within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10MHz from both adjacent sub blocks on each side of the sub-block gap, where the emission limits within sub-block gaps shall be -29dBm/100kHz.NOTE 2: For a *multi-band connector* with Inter RF Bandwidth gap < 2\*ΔfOBUE the emission limits within the Inter RF Bandwidth gaps is calculated as a cumulative sum of contributions from adjacent sub-blocks or RF Bandwidth on each side of the Inter RF Bandwidth gap.NOTE 3: The requirement is not applicable when Δfmax < 10 MHz. |

Table 6.6.5.5.2-6: MR BS OBUE in BC1 bands > 3 GHz applicable for: BS with maximum output power Prated,c,cell - 10\*log10(NTXU,countedpercell) ≤ 31 dBm and not supporting NR; or BS with maximum output power Prated,c,cell - 10\*log10(NTXU,countedpercell) ≤ 31 dBm supporting NR, and supporting UTRA

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* (Notes 1 and 2) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 0.6 MHz | 0.015 MHz ≤ f\_offset < 0.615 MHz  |  | 30 kHz  |
| 0.6 MHz ≤ Δf < 1 MHz | 0.615 MHz ≤ f\_offset < 1.015 MHz |  | 30 kHz  |
| (Note 3) | 1.015 MHz ≤ f\_offset < 1.5 MHz  | -32.2 dBm | 30 kHz  |
| 1 MHz ≤ Δf ≤ 5 MHz | 1.5 MHz ≤ f\_offset < 5.5 MHz | -19.2 dBm | 1 MHz  |
| 5 MHz ≤ Δf ≤ min(Δfmax,10 MHz) | 5.5 MHz ≤ f\_offset < min(f\_offsetmax,10.5 MHz)  | -23.2 dBm | 1 MHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.5 MHz ≤ f\_offset < f\_offsetmax | -25 dBm (Note 5) | 1 MHz |
| NOTE 1: For MSR *TAB connector* supporting non-contiguous spectrum operation within any operating band the *basic limit* within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10 MHz from both adjacent sub blocks on each side of the sub-block gap, where the *basic limit* within sub-block gaps shall be -25 dBm/MHz.NOTE 2: For MSR *multi-band TAB connector* with *Inter RF Bandwidth gap* < 2\*ΔfOBUE MHz the *basic limit* within the *Inter RF Bandwidth gap*s is calculated as a cumulative sum of contributions from adjacent sub-blocks on each side of the *Inter RF Bandwidth gap*.NOTE 3: This frequency range ensures that the range of values of f\_offset is continuous.NOTE 5: The requirement is not applicable when Δfmax < 10 MHz. |

Table 6.6.5.5.2-6a: MR BS OBUE in BC1 bands > 3 GHz applicable for: BS with maximum output power Prated,c,cell-10\*log10(NTXU,countedpercell) ≤ 31 dBm, supporting NR, and not supporting UTRA

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *Basic limit* (Note 1, 2) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 5 MHz | 0.05 MHz ≤ f\_offset < 5.05 MHz | $$-20.2 dBm-\frac{7}{5}\left(\frac{f\\_offset}{MHz}-0.05\right)dB$$ | 100 kHz  |
| 5 MHz ≤ Δf < min(10 MHz, Δfmax) | 5.05 MHz ≤ f\_offset < min(10.05 MHz, f\_offsetmax) | -27.2 dBm | 100 kHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.05 MHz ≤ f\_offset < f\_offsetmax | -29 dBm (Note 3) | 100 kHz |
| NOTE 1: For a BS supporting non-contiguous spectrum operation within any *operating band* the emission limits within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10MHz from both adjacent sub blocks on each side of the sub-block gap, where the emission limits within sub-block gaps shall be -29dBm/100kHz.NOTE 2: For a *multi-band connector* with Inter RF Bandwidth gap < 2\*ΔfOBUE the emission limits within the Inter RF Bandwidth gaps is calculated as a cumulative sum of contributions from adjacent sub-blocks or RF Bandwidth on each side of the Inter RF Bandwidth gap.NOTE 3: The requirement is not applicable when Δfmax < 10 MHz. |

Table 6.6.5.5.2-7: LA BS OBUE in BC1 bands ≤ 3 GHz

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* (Notes 1 and 2) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 5 MHz | 0.05 MHz ≤ f\_offset < 5.05 MHz |  | 100 kHz  |
| 5 MHz ≤ Δf < min(10 MHz, Δfmax) | 5.05 MHz ≤ f\_offset < min(10.05 MHz, f\_offsetmax) | -35.5 dBm | 100 kHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.05 MHz ≤ f\_offset < f\_offsetmax  | -37 dBm (Note 5) | 100 kHz  |
| NOTE 1: For MSR *TAB connector* supporting non-contiguous spectrum operation within any operating band the *basic limit* within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10 MHz from both adjacent sub blocks on each side of the sub-block gap, where the *basic limit* within sub-block gaps shall be -37 dBm/100 kHz.NOTE 2: For MSR *multi-band TAB connector* with *Inter RF Bandwidth gap* < 2\* ΔfOBUE MHz the *basic limit* within the *Inter RF Bandwidth gap*s is calculated as a cumulative sum of contributions from adjacent sub-blocks on each side of the *Inter RF Bandwidth gap*.NOTE 3: Void.NOTE 5: The requirement is not applicable when Δfmax < 10 MHz. |

Table 6.6.5.5.2-8: LA BS OBUE in BC1 bands > 3 GHz

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* (Note 1, 2) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 5 MHz | 0.05 MHz ≤ f\_offset < 5.05 MHz |  | 100 kHz  |
| 5 MHz ≤ Δf < min(10 MHz, Δfmax) | 5.05 MHz ≤ f\_offset < min(10.05 MHz, f\_offsetmax) | -35.2 dBm | 100 kHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.05 MHz ≤ f\_offset < f\_offsetmax  | -37 dBm (Note 5) | 100 kHz  |
| NOTE 1: For MSR *TAB connector* supporting non-contiguous spectrum operation within any operating band the *basic limit* within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10 MHz from both adjacent sub blocks on each side of the sub-block gap, where the *basic limit* within sub-block gaps shall be -37 dBm/100 kHz.NOTE 2: For MSR *multi-band TAB connector* with *Inter RF Bandwidth gap* < 2\* ΔfOBUE MHz the *basic limit* within the *Inter RF Bandwidth gap*s is calculated as a cumulative sum of contributions from adjacent sub-blocks on each side of the *Inter RF Bandwidth gap*.NOTE 3: Void.NOTE 5: The requirement is not applicable when Δfmax < 10 MHz. |

*------------------------------ Next modified section ------------------------------*

##### 6.6.5.5.3 Basic Limits for MSR Band Category 2

For a *TAB connector* operating in Band Category 2 the requirement applies outside the *Base Station RF Bandwidth edges*. In addition, for a *TAB connector* operating in non-contiguous spectrum, it applies inside any sub-block gap.

Outside the *Base Station RF Bandwidth edges*, *basic limits* are specified in tables 6.6.5.5.3-1 to 6.6.5.5.3-8, where:

- Δf is the separation between the *Base Station RF Bandwidth edge* frequency and the nominal -3dB point of the measuring filter closest to the carrier frequency.

- f\_offset is the separation between the *Base Station RF Bandwidth edge* frequency and the centre of the measuring filter.

- f\_offsetmax is the offset to the frequency ΔfOBUE MHz outside the downlink operating band.

- Δfmax is equal to f\_offsetmax minus half of the bandwidth of the measuring filter.

For a *multi-band TAB connector*, inside any *Inter RF Bandwidth gap*s with Wgap < 2×ΔfOBUE MHz, a combined *basic* limit shall be applied which is the cumulative sum of the test requirements specified at the *Base Station RF Bandwidth edges* on each side of the *Inter RF Bandwidth gap*. The *basic limit* for *Base Station RF Bandwidth edge* is specified in tables 6.6.5.5.3-1 to 6.6.5.5.3-8, where in this case:

- Δf is the separation between the *Base Station RF Bandwidth edge* frequency and the nominal -3 dB point of the measuring filter closest to the carrier frequency.

- f\_offset is the separation between the *Base Station RF Bandwidth edge* frequency and the centre of the measuring filter.

- f\_offsetmax is equal to the *Inter RF Bandwidth gap* divided by two.

- Δfmax is equal to f\_offsetmax minus half of the bandwidth of the measuring filter.

For a *multi-band TAB connector* and where there is no carrier transmitted in an operating band, no cumulative *basic limits* are applied in the *inter-band gap* between a supported downlink band with carrier(s) transmitted and a supported downlink band without any carrier transmitted and

- In case the *inter-band gap* between a supported downlink band with carrier(s) transmitted and a supported downlink band without any carrier transmitted less than is 2×ΔfOBUE MHz, f\_offsetmax shall be the offset to the frequency ΔfOBUE MHz outside the outermost edges of the two supported downlink operating bands and the operating band unwanted emission limit of the band where there are carriers transmitted, as defined in the tables of the present clause, shall apply across both supported downlink bands.

- In other cases, the operating band unwanted emission limit of the band where there are carriers transmitted, as defined in the tables of the present clause for the largest frequency offset (Δfmax), shall apply from ΔfOBUE MHz below the lowest frequency, up to ΔfOBUE MHz above the highest frequency of the supported downlink operating band without any carrier transmitted.

Inside any sub-block gap for a *TAB connector* operating in non-contiguous spectrum, a combined *basic* limit shall be applied which is the cumulative sum of the test requirement specified for the adjacent sub blocks on each side of the sub block gap. The *basic limit* for each sub block is specified in tables 6.6.5.5.3-1 to 6.6.5.5.3-8, where in this case:

- Δf is the separation between the sub block edge frequency and the nominal -3 dB point of the measuring filter closest to the sub block edge.

- f\_offset is the separation between the sub block edge frequency and the centre of the measuring filter.

- f\_offsetmax is equal to the sub block gap bandwidth divided by two.

- Δfmax is equal to f\_offsetmax minus half of the bandwidth of the measuring filter.

Applicability of Wide Area operating band unwanted emission requirements in tables 6.6.5.5.3-1, 6.6.5.5.3-1a and 6.6.5.5.3-1b is specified in table 6.6.5.5.3-0.

Note: Option 1 and option 2 correspond to the Category B option 1/2 operating band unwanted emissions defined in the E-UTRA and NR specifications TS 36.104 [4] and TS 38.104 [36]. Option 2 also corresponds to the UTRA spectrum emission mask as defined in TS 25.104 [2].

Table 6.6.5.5.3-0: Applicability of operating band unwanted emission requirements for BC2 Wide Area BS

|  |  |  |
| --- | --- | --- |
| NR band operation | UTRA supported | Applicable requirement table |
| None | Y/N | 6.6.5.5.3-1 (option 2) |
| In certain regions (NOTE 2), band 3, 8 | N | 6.6.5.5.3-1 (option 2) |
| Any below 1 GHz except for, in certain regions (NOTE 2), band 8 | N | 6.6.5.5.3-1a (option 1) |
| Any above 1 GHz except for certain regions (NOTE 2), band 3 | N | 6.6.5.5.3-1b (option 1) |
| NOTE 1: VoidNOTE 2: Applicable only for operation in regions where Category B limits as defined in ITU-R Recommendation SM.329 [35] are used for which category B option 2 operating band unwanted emissions requirements as defined in TS 36.104 [4] and TS 38.104 [36] are applied. |

Table 6.6.5.5.3-1: WA BS OBUE in BC2 bands applicable for: BS not supporting NR; or BS supporting NR in Band n3 or n8 – option 2

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* (Notes 2 and 3) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 0.2 MHz(Note 1) | 0.015 MHz ≤ f\_offset < 0.215 MHz  | -12.5 dBm | 30 kHz  |
| 0.2 MHz ≤ Δf < 1 MHz | 0.215 MHz ≤ f\_offset < 1.015 MHz | (Note 11) | 30 kHz  |
| (Note 8) | 1.015 MHz ≤ f\_offset < 1.5 MHz  | -24.5 dBm (Note 11) | 30 kHz  |
| 1 MHz ≤ Δf ≤min(Δfmax, 10 MHz)  | 1.5 MHz ≤ f\_offset < min(f\_offsetmax, 10.5 MHz) | -11.5 dBm (Note 11) | 1 MHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.5 MHz ≤ f\_offset < f\_offsetmax  | -15 dBm (Note 10, 11) | 1 MHz  |
| NOTE 1: For operation with an E-UTRA 1.4 or 3 MHz carrier adjacent to the *Base Station RF Bandwidth edge*, the limits in table 6.6.5.5.3-2 apply for 0 MHz ≤ Δf < 0.15 MHz.NOTE 2: For MSR *TAB connector* supporting non-contiguous spectrum operation within any operating band the *basic limit* within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10 MHz from both adjacent sub blocks on each side of the sub-block gap, where the *basic limit* within sub-block gaps shall be -15 dBm/MHz (for MSR *multi-band TAB connector*, either this limit or -16dBm/100kHz with correspondingly adjusted f\_offset shall apply for this frequency offset range for operating bands <1GHz).NOTE 3: For MSR *multi-band TAB connector* with *Inter RF Bandwidth gap* < 2×ΔfOBUE MHz operation the *basic limit* within the *Inter RF Bandwidth gap*s is calculated as a cumulative sum of contributions from adjacent sub-blocks on each side of the *Inter RF Bandwidth gap*.NOTE 8: This frequency range ensures that the range of values of f\_offset is continuous.NOTE 10: The requirement is not applicable when Δfmax < 10 MHz.NOTE 11: For MSR *multi-band TAB connector*, either this limit or -16dBm/100kHz with correspondingly adjusted f\_offset shall apply for this frequency offset range for operating bands < 1 GHz. |

Table 6.6.5.5.3-1a: WA BS OBUE in BC2 bands ≤ 1 GHz applicable for: BS supporting NR, not operating NR in band n8, and not supporting UTRA – option 1

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *Basic limit* (Note 1, 2) | Measurement bandwidth (Note 10) |
| 0 MHz ≤ Δf < 5 MHz | 0.05 MHz ≤ f\_offset < 5.05 MHz | -5.5 – 7/5(f\_offset/MHz – 0.05) dB | 100 kHz  |
| 5 MHz ≤ Δf <min(10 MHz, Δfmax) | 5.05 MHz ≤ f\_offset <min(10.05 MHz, f\_offsetmax) | -12.5 dBm | 100 kHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.05 MHz ≤ f\_offset < f\_offsetmax  | -16 dBm (Note 11) | 100 kHz  |
| NOTE 1: For MSR *TAB connector* supporting non-contiguous spectrum operation within any operating band, the *basic limit* within *sub-block gaps* is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap, where the contribution from the far-end sub-block or *RF Bandwidth* shall be scaled according to the measurement bandwidth of the near-end sub-block or *RF Bandwidth*. Exception is f ≥ 10MHz from both adjacent sub blocks on each side of the *sub-block gap*, where the *basic limit* within sub-block gaps shall be -16dBm/100kHz.NOTE 2: For MSR *multi band TAB connector* with *Inter RF Bandwidth gap* < 2×ΔfOBUEthe *basic limit* within the *Inter RF Bandwidth gaps* is calculated as a cumulative sum of contributions from adjacent sub-blocks or RF Bandwidth on each side of the *Inter RF Bandwidth gap*, where the contribution from the far-end sub-block or *RF Bandwidth* shall be scaled according to the measurement bandwidth of the near-end sub-block or *RF Bandwidth.*NOTE 3: For operation with an E-UTRA 1.4 or 3 MHz carrier adjacent to the *Base Station RF Bandwidth edge*, the limits in table 6.6.5.2.3-2 apply for 0 MHz ≤ Δf < 0.15 MHz. |

Table 6.6.5.5.3-1b: WA BS OBUE in BC2 bands > 1 GHz applicable for: BS supporting NR, not operating NR in band n3, and not supporting UTRA – option 1

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *Basic limit* (Note 1, 2) | Measurement bandwidth (Note 10) |
| 0 MHz ≤ Δf < 5 MHz | 0.05 MHz ≤ f\_offset < 5.05 MHz | -5.5 – 7/5(f\_offset/MHz – 0.05) dB | 100 kHz  |
| 5 MHz ≤ Δf <min(10 MHz, Δfmax) | 5.05 MHz ≤ f\_offset <min(10.05 MHz, f\_offsetmax) | -12.5 dBm | 100 kHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.5 MHz ≤ f\_offset < f\_offsetmax  | -15 dBm (Note 11) | 1MHz  |
| NOTE 1: For MSR *TAB connectors* supporting non-contiguous spectrum operation within any operating band, the *basic limit* within *sub-block gaps* is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the *sub block gap*, where the contribution from the far-end sub-block shall be scaled according to the measurement bandwidth of the near-end sub-block. Exception is f ≥ 10MHz from both adjacent sub blocks on each side of the *sub-block gap*, where the *basic limit* within sub-block gaps shall be -15dBm/1MHz.NOTE 2: For MSR *multi band TAB connector* with *Inter RF Bandwidth gap* < 2×ΔfOBUEthe *basic limit* within the *Inter RF Bandwidth gaps* is calculated as a cumulative sum of contributions from adjacent sub-blocks or *RF Bandwidth* on each side of the *Inter RF Bandwidth gap*, where the contribution from the far-end sub-block or *RF Bandwidth* shall be scaled according to the measurement bandwidth of the near-end sub-block or *RF Bandwidth.*NOTE 3: For operation with an E-UTRA 1.4 or 3 MHz carrier adjacent to the *Base Station RF Bandwidth edge*, the limits in table 6.6.5.5.3-2 apply for 0 MHz ≤ Δf < 0.15 MHz. |

Table 6.6.5.5.3-2: WA BS OBUE in BC2 bands applicable for: BS operating with E-UTRA 1.4 or 3 MHz carriers adjacent to the *Base Station RF Bandwidth edge*

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* (Note 2, 3 and 4) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 0.05 MHz | 0.015 MHz ≤ f\_offset < 0.065 MHz  |  | 30 kHz  |
| 0.05 MHz ≤ Δf < 0.15 MHz | 0.065 MHz ≤ f\_offset < 0.165 MHz  |  | 30 kHz  |
| NOTE 1: The limits in this table only apply for operation with an E-UTRA 1.4 or 3 MHz carrier adjacent to the *Base Station RF Bandwidth edge*.NOTE 2: For MSR *TAB connector* supporting non-contiguous spectrum operation within any operating band the *basic limit* within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap.NOTE 3: For MSR *multi-band TAB connector* with *Inter RF Bandwidth gap* < 2×ΔfOBUE MHz the *basic limit* within the *Inter RF Bandwidth gap*s is calculated as a cumulative sum of contributions from adjacent sub-blocks on each side of the *Inter RF Bandwidth gap*.NOTE 4: Void.NOTE 8: Void.NOTE 10: The requirement is not applicable when Δfmax < 10 MHz |

Table 6.6.5.5.3-3: MR BS OBUE in BC2 bands applicable for: BS with maximum output power 31 < Prated,c,cell-10\*log10(NTXU,countedpercell) ≤ 38 dBm and not supporting NR; or BS with maximum output power 31 < Prated,c,cell-10\*log10(NTXU,countedpercell) ≤ 38 dBm supporting NR, and supporting UTRA

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* (Notes 2 and 3) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 0.6 MHz(Note 1) | 0.015 MHz ≤ f\_offset < 0.615 MHz  |  | 30 kHz |
| 0.6 MHz ≤ Δf < 1 MHz | 0.615 MHz ≤ f\_offset < 1.015 MHz |  | 30 kHz |
| (Note 8) | 1.015 MHz ≤ f\_offset < 1.5 MHz  | Prated,c,cell - 10\*log10(NTXU,countedpercell)- 63.5 dB | 30 kHz |
| 1 MHz ≤ Δf ≤ 2.8 MHz | 1.5 MHz ≤ f\_offset < 3.3 MHz | Prated,c,cell - 10\*log10(NTXU,countedpercell)- 50.5 dB | 1 MHz |
| 2.8 MHz ≤ Δf ≤ 5 MHz | 3.3 MHz ≤ f\_offset < 5.5 MHz | min(Prated,c,cell - 10\*log10(NTXU,countedpercell)- 50.5 dB, -13.5 dBm) | 1 MHz |
| 5 MHz ≤ Δf ≤ min(Δfmax, 10 MHz) | 5.5 MHz ≤ f\_offset < min(f\_offsetmax,10.5 MHz) | Prated,c,cell - 10\*log10(NTXU,countedpercell)- 54.5 dB | 1 MHz |
| 10 MHz ≤ Δf ≤ Δfmax | 10.5 MHz ≤ f\_offset < f\_offsetmax | Prated,c,cell - 10\*log10(NTXU,countedpercell)-56 dB (Note 10) | 1 MHz |
| NOTE 1: For operation with an E-UTRA 1.4 or 3 MHz carrier adjacent to the *Base Station RF Bandwidth edge*, the limits in table 6.6.5.3-5 apply for 0 MHz ≤ Δf < 0.15 MHz.NOTE 2: For MSR *TAB connector* supporting non-contiguous spectrum operation within any operating band the *basic limit* within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10 MHz from both adjacent sub blocks on each side of the sub-block gap, where the *basic limit* within sub-block gaps shall be (Prated,c,cell - 10\*log10(NTXU,countedpercell) - 56 dB)/MHz.NOTE 3: For MSR *multi-band TAB connector* with *Inter RF Bandwidth gap* < 2×ΔfOBUE MHz the *basic limit* within the *Inter RF Bandwidth gap*s is calculated as a cumulative sum of contributions from adjacent sub-blocks on each side of the *Inter RF Bandwidth gap*.NOTE 8: This frequency range ensures that the range of values of f\_offset is continuous.NOTE 10: The requirement is not applicable when Δfmax < 10 MHz |

Table 6.6.5.5.3-3a: MR BS OBUE in BC2 bands applicable for: BS with maximum output power 31 < Prated,c,cell-10\*log10(NTXU,countedpercell) ≤ 38 dBm, supporting NR, and not supporting UTRA

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *Basic limit* (Note 1, 2) | Measurement bandwidth (Note 10) |
| 0 MHz ≤ Δf < 5 MHz | 0.05 MHz ≤ f\_offset < 5.05 MHz | Prated,c,cell - 10\*log10(NTXU,countedpercell)-51.5 dB - (7/5)\*(f\_offset/MHz-0,05) dB | 100 kHz  |
| 5 MHz ≤ Δf < min(10 MHz, Δfmax) | 5.05 MHz ≤ f\_offset < min(10.05 MHz, f\_offsetmax) | Prated,c,cell - 10\*log10(NTXU,countedpercell)-61.5 dB | 100 kHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.05 MHz ≤ f\_offset < f\_offsetmax | Min(Prated,c,cell - 10\*log10(NTXU,countedpercell) – 60 dB, -25 dBm) (Note 11) | 100 kHz |
| NOTE 1: For MSR *TAB connectors* supporting non-contiguous spectrum operation within any operating band the *basic limit* within *sub-block gaps* is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the *sub block gap*, where the contribution from the far-end sub-block shall be scaled according to the measurement bandwidth of the near-end sub-block. Exception is f ≥ 10MHz from both adjacent sub blocks on each side of the *sub-block gap*, where the *basic limit* within sub-block gaps shall be Min(Prated,c,cell - 10\*log10(NTXU,countedpercell) – 60 dB, -25 dBm) / 100 kHz.NOTE 2: For MSR *multi band TAB connector* with *Inter RF Bandwidth gap* < 2×ΔfOBUE the *basic limit* within the *Inter RF Bandwidth gaps* is calculated as a cumulative sum of contributions from adjacent sub-blocks or *RF Bandwidth* on each side of *the Inter RF Bandwidth gap*, where the contribution from the far-end sub-block shall be scaled according to the measurement bandwidth of the near-end sub-block.NOTE 3: For operation with an E-UTRA 1.4 or 3 MHz carrier adjacent to the *Base Station RF Bandwidth edge*, the limits in table 6.6.5.5.3-5 apply for 0 MHz ≤ Δf < 0.15 MHz. |

Table 6.6.5.5.3-4: MR BS OBUE in BC2 bands applicable for: BS with maximum output power Prated,c,cell-10\*log10(NTXU,countedpercell ≤ 31 dBm and not supporting NR; or BS with maximum output power Prated,c,cell-10\*log10(NTXU,countedpercell ≤ 31 dBm supporting NR, and supporting UTRA

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* (Notes 2 and 3) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 0.6 MHz(Note 1) | 0.015 MHz ≤ f\_offset < 0.615 MHz  |  | 30 kHz |
| 0.6 MHz ≤ Δf < 1 MHz | 0.615 MHz ≤ f\_offset < 1.015 MHz |  | 30 kHz |
| (Note 8) | 1.015 MHz ≤ f\_offset < 1.5 MHz  | -32.5 dBm | 30 kHz |
| 1 MHz ≤ Δf ≤ 5 MHz | 1.5 MHz ≤ f\_offset < 5.5 MHz | -19.5 dBm | 1 MHz |
| 5 MHz ≤ Δf ≤ min(Δfmax,10 MHz) | 5.5 MHz ≤ f\_offset < min(f\_offsetmax,10.5 MHz) | -23.5 dBm | 1 MHz |
| 10 MHz ≤ Δf ≤ Δfmax | 10.5 MHz ≤ f\_offset < f\_offsetmax | -25 dBm (Note 10) | 1 MHz |
| NOTE 1: For operation with an E-UTRA 1.4 or 3 MHz carrier adjacent to the *Base Station RF Bandwidth edge*, the limits in table 6.6.5.5.3-6 apply for 0 MHz ≤ Δf < 0.15 MHz.NOTE 2: For MSR *TAB connector* supporting non-contiguous spectrum operation within any operating band the *basic limit* within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10 MHz from both adjacent sub blocks on each side of the sub-block gap, where the *basic limit* within sub-block gaps shall be -25 dBm/MHz.NOTE 3: For MSR *multi-band TAB connector* with *Inter RF Bandwidth gap* < 2×ΔfOBUE MHz the *basic limit* within the *Inter RF Bandwidth gap*s is calculated as a cumulative sum of contributions from adjacent sub-blocks on each side of the *Inter RF Bandwidth gap*.NOTE 8: This frequency range ensures that the range of values of f\_offset is continuous.NOTE 10: The requirement is not applicable when Δfmax < 10 MHz |

Table 6.6.5.5.3-4a: MR BS OBUE in BC2 bands applicable for: BS with maximum output power Prated,c,cell-10\*log10(NTXU,countedpercell) ≤ 31 dBm, supporting NR, and not supporting UTRA

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *Basic limit* (Note 1, 2) | Measurement bandwidth (Note 10) |
| 0 MHz ≤ Δf < 5 MHz | 0.05 MHz ≤ f\_offset < 5.05 MHz | -20.5 dBm – 7/5(f\_offset/MHz-0.05) dB | 100 kHz  |
| 5 MHz ≤ Δf < min(10 MHz, Δfmax) | 5.05 MHz ≤ f\_offset < min(10.05 MHz, f\_offsetmax) | -27.5 dBm | 100 kHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.05 MHz ≤ f\_offset < f\_offsetmax | -29 dBm (Note 11) | 100 kHz |
| NOTE 1: For MSR *TAB connectors* supporting non-contiguous spectrum operation within any operating band the *basic limit* within *sub-block gaps* is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the *sub block gap*, where the contribution from the far-end sub-block shall be scaled according to the measurement bandwidth of the near-end sub-block. Exception is f ≥ 10MHz from both adjacent sub blocks on each side of the *sub-block gap*, where the *basic limit* within sub-block gaps shall be -29dBm/100kHz.NOTE 2: For MSR *multi band TAB connector* with *Inter RF Bandwidth gap* < 2×ΔfOBUEthe *basic limit* within the *Inter RF Bandwidth gaps* is calculated as a cumulative sum of contributions from adjacent sub-blocks or *RF Bandwidth* on each side of the *Inter RF Bandwidth gap*, where the contribution from the far-end sub-block shall be scaled according to the measurement bandwidth of the near-end sub-block.NOTE 3: For operation with an E-UTRA 1.4 or 3 MHz carrier adjacent to the *Base Station RF Bandwidth edge*, the limits in table 6.6.5.5.3-5 apply for 0 MHz ≤ Δf < 0.15 MHz. |

Table 6.6.5.5.3-5: MR BS OBUE applicable for: BS with maximum output power 31 < Prated,c,cell-10\*log10(NTXU,countedpercell) ≤ 38 dBm and operating E-UTRA 1.4 or 3 MHz carriers adjacent to the *Base Station RF Bandwidth edge*

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* (Notes 2 and 3) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 0.05 MHz | 0.015 MHz ≤ f\_offset < 0.065 MHz  |  | 30 kHz |
| 0.05 MHz ≤ Δf < 0.15 MHz | 0.065 MHz ≤ f\_offset < 0.165 MHz  |  | 30 kHz |
| NOTE 1: The limits in this table only apply for operation with an E-UTRA 1.4 or 3 MHz carrier adjacent to the *Base Station RF Bandwidth edge*.NOTE 2: For MSR *TAB connector* supporting non-contiguous spectrum operation within any operating band the *basic limit* within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap.NOTE 3: For MSR *multi-band TAB connector* with *Inter RF Bandwidth gap* < 2×ΔfOBUE MHz the *basic limit* within the *Inter RF Bandwidth gap*s is calculated as a cumulative sum of contributions from adjacent sub-blocks on each side of the *Inter RF Bandwidth gap*.NOTE 8: Void.NOTE 10: The requirement is not applicable when Δfmax < 10 MHz |

Table 6.6.5.5.3-6: MR BS OBUE in BC2 bands applicable for: BS with maximum output power Prated,c,cell-10\*log10(NTXU,countedpercell) ≤ 31 dBm and operating E-UTRA 1.4 or 3 MHz carriers adjacent to the *Base Station RF Bandwidth edge*

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* (Notes 2, 3 and 4) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 0.05 MHz | 0.015 MHz ≤ f\_offset < 0.065 MHz  |  | 30 kHz |
| 0.05 MHz ≤ Δf < 0.15 MHz | 0.065 MHz ≤ f\_offset < 0.165 MHz  |  | 30 kHz |
| NOTE 1: The limits in this table only apply for operation with an E-UTRA 1.4 or 3 MHz carrier adjacent to the *Base Station RF Bandwidth edge*.NOTE 2: For MSR *TAB connector* supporting non-contiguous spectrum operation within any operating band the *basic limit* within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap.NOTE 3: For *multi-band TAB connector* with *Inter RF Bandwidth gap* < 2×ΔfOBUE MHz the *basic limit* within the *Inter RF Bandwidth gap*s is calculated as a cumulative sum of contributions from adjacent sub-blocks on each side of the *Inter RF Bandwidth gap*.NOTE 4: Void.NOTE 8: Void.NOTE 10: The requirement is not applicable when Δfmax < 10 MHz |

Table 6.6.5.5.3-7: LA BS OBUE in BC2 bands

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* (Notes 2 and 3) | Measurement bandwidth |
| 0 MHz ≤ Δf < 5 MHz(Note 1) | 0.05 MHz ≤ f\_offset < 5.05 MHz |  | 100 kHz |
| 5 MHz ≤ Δf < min (10 MHz, Δfmax) | 5.05 MHz ≤ f\_offset < min(10.05 MHz, f\_offsetmax) | -35.5 dBm | 100 kHz |
| 10 MHz ≤ Δf ≤ Δfmax | 10.05 MHz ≤ f\_offset < f\_offsetmax  | -37 dBm (Note 7) | 100 kHz |
| NOTE 1: For operation with an E-UTRA 1.4 or 3 MHz carrier adjacent to the *Base Station RF Bandwidth edge*, the limits in table 6.6.5.5.3-8 apply for 0 MHz ≤ Δf < 0.16 MHz.NOTE 2: For MSR *TAB connector* supporting non-contiguous spectrum operation within any operating band the *basic limit* within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap. Exception is f ≥ 10 MHz from both adjacent sub blocks on each side of the sub-block gap, where the *basic limit* within sub-block gaps shall be -37 dBm/100 kHz.NOTE 3: For MSR *multi-band TAB connector* with *Inter RF Bandwidth gap* < 2×ΔfOBUE MHz the *basic limit* within the *Inter RF Bandwidth gap*s is calculated as a cumulative sum of contributions from adjacent sub-blocks on each side of the *Inter RF Bandwidth gap*.NOTE 8: Void.NOTE 10: The requirement is not applicable when Δfmax < 10 MHz |

Table 6.6.5.5.3-8: LA BS OBUE in BC2 bands applicable for: BS operating with E-UTRA 1.4 or 3 MHz carriers adjacent to the *Base Station RF Bandwidth edge*

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* (Notes 2, 3 and 4) | Measurement bandwidth  |
| 0 MHz ≤ Δf < 0.05 MHz | 0.015 MHz ≤ f\_offset < 0.065 MHz  |  | 30 kHz  |
| 0.05 MHz ≤ Δf < 0.16 MHz | 0.065 MHz ≤ f\_offset < 0.175 MHz  |  | 30 kHz  |
| NOTE 1: The limits in this table only apply for operation with an E-UTRA 1.4 or 3 MHz carrier adjacent to the *Base Station RF Bandwidth edge*.NOTE 2: For MSR *TAB connector* supporting non-contiguous spectrum operation within any operating band the *basic limit* within sub-block gaps is calculated as a cumulative sum of contributions from adjacent sub blocks on each side of the sub block gap.NOTE 3: For MSR *multi-band TAB connector* with *Inter RF Bandwidth gap* < 2×ΔfOBUE MHz the *basic limit* within the *Inter RF Bandwidth gap*s is calculated as a cumulative sum of contributions from adjacent sub-blocks on each side of the *Inter RF Bandwidth gap*.NOTE 4: Void.NOTE 8: Void.NOTE 10: The requirement is not applicable when Δfmax < 10 MHz |

*------------------------------ Next modified section ------------------------------*

### 7.4.5 Test requirements

#### 7.4.5.1 MSR operation

##### 7.4.5.1.1 General blocking test requirement

For the general blocking requirement, the interfering signal shall be a UTRA FDD signal as specified in clause A.1 in 3GPP TS 25.141 [18] for a UTRA, E-UTRA or NR (≤ 20 MHz) wanted signal. The interfering signal shall be a 20 MHz E-UTRA signal for NR wanted signal channel bandwidth greater than 20 MHz.

For *TAB connector* operating in non-contiguous spectrum, the requirement applies in addition inside any *sub-block gap*, in case the *sub-block gap* size is at least 15 MHz. The interfering signal offset is defined relative to the sub-block edges inside the *sub-block gap*.

For *multi-band TAB connector* the requirement applies in addition inside any *Inter RF Bandwidth gap*, in case the gap size is at least 15 MHz. The interfering signal offset is defined relative to the *Base Station RF Bandwidth* *edges* inside the *Inter RF Bandwidth gap*.

For the wanted and interfering signal coupled to the *TAB connector*, using the parameters in tables 7.4.5.1.1-1 and 7.4.5.1.1-2, the following requirements shall be met:

- For any measured E-UTRA carrier, the throughput shall be ≥ 95% of the *maximum throughput* of the reference measurement channel defined in subclause 7.2.5.3.

- For any measured UTRA FDD carrier, the BER shall not exceed 0.001 for the reference measurement channel defined in subclause 7.2.5.1.

- For any measured UTRA TDD carrier, the BER shall not exceed 0.001 for the reference measurement channel defined in subclause 7.2.5.2.

- For any measured NR carrier, the throughput shall be ≥ 95% of the maximum throughput of the reference measurement channel defined in TS 38.104 [17], subclause 7.2.

For a *multi-band TAB connector*, the requirement applies according to table 7.4.5.1‑1 for the in-band blocking frequency ranges of each supported operating band.

Table 7.4.5.1.1-1: General blocking requirement

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Base Station class | Mean power of interfering signal (dBm) | Wanted Signal mean power (dBm)(Note 1) | Centre Frequency of Interfering Signal | Interfering signal centre frequency minimum frequency offset from the *Base Station RF Bandwidth* *edge* or sub-block edge inside a gap (MHz) |
| Wide Area BS | -40 +y (Note 7) | PREFSENS + x dB (Note 2, 5) |  |  |
| Medium Range BS | -35 +y (Note 7) | PREFSENS + x dB (Note 3, 5) | FUL\_low - ΔfOOB to FUL\_high + ΔfOOB (Note 8) | ±(7.5+z) (Note 9) |
| Local Area BS | -30 +y (Note 7) | PREFSENS + x dB (Note 4, 5) |  |  |
| NOTE 1: PREFSENS depends on the RAT, the BS class and on the channel bandwidth, see clause 7.2.NOTE 2: For WA BS, "x" is equal to 6 in case of NR or E-UTRA or UTRA wanted signals.NOTE 3: For MR BS supporting UTRA, "x" is equal to 6 in case of UTRA wanted signals, 9 in case of NR or E-UTRA wanted signal.NOTE 4: For LA BS supporting UTRA, "x" is equal to 11 in case of NR or E-UTRA wanted signal, 6 in case of UTRA wanted signal.NOTE 5: For a BS not supporting UTRA, x is equal to 6 for all BS classes if NR is supported, otherwise “x” is equal to 6 for WA BS or 9 for MR BS or 11 for LA BS if NR is not supported.NOTE 6: For a BS capable of multi-band operation, "x" in Note 2, 3, 4, 5 applies in case of interfering signals that are in the in-band blocking frequency range of the operating band where the wanted signal is present or in an adjacent or overlapping band. For other in-band blocking frequency ranges of the interfering signal for the supported operating bands, "x" is equal to 1.4 dB.NOTE 7: For a BS supporting NR and not supporting UTRA, "y" is equal to -3 for the WA and MR BS class and -5 for the LA BS class. For all other cases, “y” is equal to zero for all BS classes.NOTE 8: The downlink frequency range of an FDD operating band is excluded from the general blocking requirement.NOTE 9: For NR wanted signal channel bandwidth greater than 20 MHz, z = 22.5 MHz. For all other cases, z = 0 MHz. |

*------------------------------ Unchanged part omitted ------------------------------*

*------------------------------ Next modified section ------------------------------*

### 7.7.5 Test requirements

#### 7.7.5.1 MSR operation

##### 7.7.5.1.1 General intermodulation test requirement

Interfering signals shall be a CW signal and an E-UTRA or UTRA signal, as specified in annex A of 3GPP TS 37.141 [16].

The requirement is applicable outside the *Base Station RF Bandwidth* or M*aximum Radio Bandwidth*. The interfering signal offset is defined relative to the *Base Station RF Bandwidth edges* or *Maximum Radio Bandwidth* edges.

For *multi-band TAB connector*, the requirement applies in addition inside any *Inter RF Bandwidth gap*, in case the gap size is at least twice as wide as the UTRA/E-UTRA interfering signal centre frequency offset from the RF bandwidth edge. The interfering signal offset is defined relative to the *Base Station RF Bandwidth edges* inside the *Inter RF Bandwidth gap*.

For the wanted signal at the assigned channel frequency and two interfering signals coupled to the *TAB connector*, using the parameters in table 7.7.5.1.1-1 and 7.7.5.1.1-2, the following requirements shall be met:

- For any measured E-UTRA carrier, the throughput shall be ≥ 95 % of the *maximum throughput* of the reference measurement channel defined in subclause 7.2.5.3.

- For any measured UTRA FDD carrier, the BER shall not exceed 0.001 for the reference measurement channel defined in subclause 7.2.5.1.

- For any measured UTRA TDD carrier, the BER shall not exceed 0.001 for the reference measurement channel defined in subclause 7.2.5.2.

- For any NR carrier, the throughput shall be ≥ 95% of the maximum throughput of the reference measurement channel defined in TS 38.104 [36], subclause 7.2.

Table 7.7.5.1.1-1: General intermodulation requirement

|  |  |  |  |
| --- | --- | --- | --- |
| Base Station Type | Mean power of interfering signals (dBm) | Wanted Signal mean power (dBm) | Type of interfering signal |
| Wide Area BS | -48 +y (Note 6) | PREFSENS +x dB (Note 2, 5) |  |
| Medium Range BS | -44 +y (Note 6) | PREFSENS +x dB (Note 3, 5) | See Table 7.7.5.1.1-2 |
| Local Area BS | -38 +y (Note 6) | PREFSENS +x dB (Note 4, 5) |  |
| NOTE 1: PREFSENS depends on the RAT, the BS class and on the channel bandwidth, see clause 7.2.NOTE 2: For WA BS, "x" is equal to 6NOTE 3: For MR BS supporting UTRA, "x" is equal to 6 in case of UTRA wanted signals, 9 in case of NR or E-UTRA wanted signals.NOTE 4: For LA BS supporting UTRA, "x" is equal to 12 in case of NR or E-UTRA wanted signals, 6 in case of UTRA wanted signals.NOTE 5: For a BS not supporting UTRA, x is equal to 6 for all BS classes if NR is supported, otherwise x is equal to 6 for WA BS or 9 for MR or 12 for LA BS if NR is not supported.NOTE 6: For a BS supporting NR and not supporting UTRA; "y" is equal to -4 for the WA BS class, -3 for the MR BS class and -6 for the LA BS class. For all other cases, “y” is equal to zero for all BS classes. |

*------------------------------ Unchanged part omitted ------------------------------*

*----------------------------- End of modified section ------------------------------*