**3GPP TSG-RAN4 Meeting #102-e *DRAFT R4-2207481***

**Electronic Meeting, 21 February – 3 March 2022**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **37.145-1** | **CR** | **XXXX** | **rev** |  | **Current version:** | **16.9.0** |  |
|  |
| *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:***  | Big CR for TS 37.145-1 Maintenance (Rel-16, CAT F) |
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| ***Source to WG:*** | MCC, Huawei |
| ***Source to TSG:*** | RAN4 |
|  |  |
| ***Work item code:*** | AASenh\_BS\_LTE\_UTRA-Perf,TEI15 |  | ***Date:*** | 2021-03-07 |
|  |  |  |  |  |
| ***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)* |
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| ***Reason for change:*** | This big CR merges endorsed draft CR to TS 37.145-1 in RAN4#102-e. The reason for change in endorsed draft CR is copied below:**R4-2207299: Correction on the test configuration for NC operation 37.145-1 R16**Existing ANTC3 and ANTC6 are constructed with fixed two carriers to reflect high PSD scenarios. The test with total number of supported carriers may not be required, but wider CBW and/or more carrier may be placed to reach the rated total output power. ANTC8 has similar issue.**R4-2204453: BS OBUE requirements clarification, rel-16**In RAN4#101e, corrections of NOTE for OBUE requirement tables for NR specs were agreed. Similar corections are required for MSR specs.  |
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| ***Summary of change:*** | The summary of change in endorsed draft CR is copied below.**R4-2207299: Correction on the test configuration for NC operation 37.145-1 R16**The test for ANTC3, ANTC6 and ANTC8 with total number of supported carriers is removed. The TC is updated to cover the case rated total output power is tested with high PSD.**R4-2204453: BS OBUE requirements clarification, rel-16**Added clarification text in NOTE in tables for OBUE requirements.Deleted unnecessary text in NOTE in tables for OBUE requirements. |
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| ***Consequences if not approved:*** | The consequences if not approved for endorsed draft CR are coppied below.**R4-2207299: Correction on the test configuration for NC operation 37.145-1 R16**ANTC3, ANTC6 and ANTC8 cannot be constructed as defined in some cases.**R4-2204453: BS OBUE requirements clarification, rel-16**Without the clarification text, how to derive “cumulative sum” is not clear when measurement bandwidthes are different.Unnecessary text in the NOTE which is never applied could cause misunderstanding. |
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| ***Clauses affected:*** | 4.11.2.6, 4.11.2.10, 4.11.2.14, 6.6.4.5.2.2, 6.6.5.5.2, 6.6.5.5.3 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** | **X**  |  |  Other core specifications  | TS 37.105 |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ... |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

***<Start of change>***

#### 4.11.2.6 ANTC3: UTRA and E-UTRA multi-RAT non-contiguous operation

##### 4.11.2.6.1 General

The purpose of ANTC3 is to test UTRA and E-UTRA multi-RAT non-contiguous aspects.

##### 4.11.2.6.2 ANTC3 generation

ANTC3 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 (see table 4.10-1, 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 (see table 4.10-1, D6.19).

- For transmitter tests, place an UTRA carrier at the lower *Base Station RF Bandwidth edge* and a 5 MHz E-UTRA carrier at the upper *Base Station RF Bandwidth edge*. The specified Foffset, RAT shall apply. If 5 MHz E-UTRA carriers are not supported by the *TAB connector*, the narrowest supported *channel bandwidth* shall be selected instead. The UTRA FDD may be shifted maximum 100 kHz towards lower frequencies to align with the channel raster. In case rated total output power is not reached, the narrowest E-UTRA channel BW which supports rated carrier output power shall be selected. If still there are some output power room, alternately place an E-UTRA carrier of this BW adjacent to the carrier at the lower Base Station RF Bandwidth edge and UTRA carrier adjacent to the carrier at the upper Base Station RF Bandwidth edge until the rated total output power or the total number of supported carriers is reached.

- For receiver tests, place an UTRA carrier at the lower *Base Station RF Bandwidth edge* and a 5 MHz E-UTRA carrier at the upper *Base Station RF Bandwidth edge*. The specified Foffset, RAT shall apply. If 5 MHz E-UTRA carriers are not supported by the *TAB connector*, the narrowest supported *channel bandwidth* shall be selected instead. The UTRA FDD may be shifted maximum 100 kHz towards lower frequencies to align with the channel raster.

- For single-band operation receiver tests, if the remaining gap is at least 20 MHz plus the *channel bandwidth* of the E-UTRA carrier used in the previous step and the *TAB connector* supports at least 2 UTRA and 2 E-UTRA carriers, place a E-UTRA carrier of this *channel bandwidth* adjacent to the carrier at the lower *Base Station RF Bandwidth edge* and UTRA carrier adjacent to the carrier at the upper *Base Station RF Bandwidth edge*. The nominal carrier spacing defined in clause 4.6 shall apply. The UTRA FDD may be shifted maximum 100 kHz towards higher frequencies to align with the channel raster.

- 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*.

##### 4.11.2.6.3 ANTC3 power allocation

Set the power of each carrier to the same power so that the sum of the carrier powers equals the PRated,t,TABC according to the cases in clause 4.11.2.6.1.

***<Next change>***

#### 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.

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. In case rated total output power is not reached, the narrowest E-UTRA channel BW which supports rated carrier output power shall be selected. If still there are some output power room, alternately place an E-UTRA carrier adjacent to the carrier at the lower Base Station RF Bandwidth edge and NR carrier adjacent to the carrier at the upper Base Station RF Bandwidth edge until the rated total output power or the total number of supported carriers is reached.

- 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 change>***

#### 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:

- 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. In case rated total output power is not reached, for the NR carrier adjacent to the lower Base Station RF Bandwidth edge, the narrowest NR channel BW which supports rated carrier output power shall be selected.

- 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 change>***

Table 6.6.4.5.2.2-1: *basic limits* for spectrum emission mask values,
Prated,c,cell - 10\*log10(NTXU,countedpercell) ≥ 34 dBm for 1,28 Mcps TDD

|  |  |  |
| --- | --- | --- |
| Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* | Measurement bandwidth |
| 0.815 MHz ≤ f\_offset < 1.015 MHz  | -18.5 dBm | 30 kHz  |
| 1.015 MHz ≤ f\_offset < 1.815 MHz |  | 30 kHz  |
| 1.815 MHz ≤ f\_offset < 2.3 MHz  | -26.5 dBm | 30 kHz  |
| 2.3 MHz ≤ f\_offset < f\_offsetmax  | -11.5 dBm | 1 MHz  |
| NOTE: For a *multi-band TAB connector* with *Inter RF Bandwidth gap* less than 8MHz, the *basic limit* within the *Inter RF Bandwidth gap* is calculated as a cumulative sum of emissions from the two adjacent carriers on each side of the *Inter RF Bandwidth gap*, where the contribution from the far-end *RF Bandwidth* shall be scaled according to the measurement bandwidth of the near-end *RF Bandwidth*. |

Table 6.6.4.5.2.2-2: *basic limits* for spectrum emission mask values,
26 dBm ≤ Prated,c,cell - 10\*log10(NTXU,countedpercell) < 34 dBm for 1,28 Mcps TDD

|  |  |  |
| --- | --- | --- |
| Frequency offset of measurement filter centre frequency, f\_offset | *basic limit* | Measurement bandwidth |
| 0.815 MHz ≤ f\_offset < 1.015 MHz  | Prated,c,cell - 10\*log10(NTXU,countedpercell) -52.5 dB | 30 kHz  |
| 1.015 MHz ≤ f\_offset < 1.815 MHz |  | 30 kHz  |
| 1.815 MHz ≤ f\_offset < 2.3 MHz  | Prated,c,cell - 10\*log10(NTXU,countedpercell) -60.5 dB | 30 kHz  |
| 2.3 MHz ≤ f\_offset < f\_offsetmax  | Prated,c,cell - 10\*log10(NTXU,countedpercell) - 45.5 dB | 1 MHz  |
| NOTE: For a *multi-band TAB connector* with *Inter RF Bandwidth gap* less than 8MHz, the *basic limit* within the *Inter RF Bandwidth gap* is calculated as a cumulative sum of emissions from the two adjacent carriers on each side of the *Inter RF Bandwidth gap*, where the contribution from the far-end *RF Bandwidth* shall be scaled according to the measurement bandwidth of the near-end *RF Bandwidth*. |

Table 6.6.4.5.2.2-3: *basic limits* for spectrum emission mask values,
Prated,c,cell - 10\*log10(NTXU,countedpercell) < 26 dBm for 1,28 Mcps TDD

|  |  |  |
| --- | --- | --- |
| Frequency offset of measurement filter centre frequency, f\_offset | Maximum level | Measurement bandwidth |
| 0.815 MHz ≤ f\_offset < 1.015 MHz  | -26.5 dBm | 30 kHz  |
| 1.015 MHz ≤ f\_offset < 1.815 MHz |  | 30 kHz  |
| 1.815 MHz ≤ f\_offset < 2.3 MHz  | -34.5 dBm | 30 kHz  |
| 2.3 MHz ≤ f\_offset < f\_offsetmax  | -19.5 dBm | 1 MHz  |
| NOTE: For a *multi-band TAB connector* with *Inter RF Bandwidth gap* less than 8MHz, the *basic limit* within the *Inter RF Bandwidth gap* is calculated as a cumulative sum of emissions from the two adjacent carriers on each side of the *Inter RF Bandwidth gap*, where the contribution from the far-end *RF Bandwidth* shall be scaled according to the measurement bandwidth of the near-end *RF Bandwidth*. |

***<Next change>***

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, 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 ≥ 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*, 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: 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, 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 ≥ 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*, 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: 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. 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.NOTE 3: The requirement is not applicable when Δfmax < 10 MHz. |

***<Next change>***

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, 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 ≥ 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*, 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: 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. |

***<Next change>***

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, 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 ≥ 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*, 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: 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. |

***<Next change>***

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, 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 ≥ 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*, 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: 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. |

***<Next change>***

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, 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 ≥ 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*, 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: 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. |

***<Next change>***

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, 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 ≥ 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*, 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 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. 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.*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. |

***<Next change>***

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, 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 ≥ 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*, 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 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*. 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*.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, 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 ≥ 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*, 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 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*. 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*.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. |

***<End of change>***