**3GPP TSG-RAN4 Meeting #107  *rev* R4-2308492**

 **Incheon, Korea (Republic Of), 22nd May 2023 - 26th May 2023**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **38.104** | **CR** | **0480** | **rev** | **-** | **Current version:** | **16.15.0** |  |
|  |
| *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 for TS 38.104: Operating band unwanted emissions for Single RAT multi-band BS |
|  |  |
| ***Source to WG:*** | Huawei, Hisilicon |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | MB\_MSR\_RF-Core |  | ***Date:*** | 2023-05-15 |
|  |  |  |  |  |
| ***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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | In current specification TS 38.104, Operating band unwanted emissions limits for single RAT NR multi-band BS is not align with that for MSR multi-band BS in 37 series specifications.  |
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| ***Summary of change:*** | Add a note：For BS supporting multi-band operation, either this limit or -16dBm/100kHz ( f\_offset adjusted according to the measurement bandwidth）, whichever is less stringent, shall apply for operating bands <1GHz. |
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| ***Consequences if not approved:*** | If not updated correctly, the NR multi-band BS is not align with the MSR multi-band BS. |
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| ***Clauses affected:*** | 6.6.4.2.2.2 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** | **X** |  |  Test specifications | TS 38.141-1, 38.141-2  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

## **<<Start of Change>>**

6.6.4.2.2.2 Category B requirements (Option 2)

The limits in this clause are intended for Europe and may be applied regionally for BS operating in bands n1, n3, n7, n8, n38, n65, n100, n101.

For a BS operating in bands n1, n3, n8, n65 or *BS type 1-C* operating in bands n7, n38, n100 or n101, *basic limits* are specified in Table 6.6.4.2.2.2-1:

Table 6.6.4.2.2.2-1: Regional Wide Area BS operating band unwanted emission limits for Category B

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| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *Basic limits* (Note 1, 2) | *Measurement bandwidth* |
| 0 MHz ≤ Δf < 0.2 MHz | 0.015 MHz ≤ f\_offset < 0.215 MHz  | -14 dBm | 30 kHz  |
| 0.2 MHz ≤ Δf < 1 MHz | 0.215 MHz ≤ f\_offset < 1.015 MHz |  | 30 kHz  |
| (Note 4) | 1.015 MHz ≤ f\_offset < 1.5 MHz  | -26 dBm (Note 3) | 30 kHz  |
| 1 MHz ≤ Δf ≤min( 10 MHz, Δfmax)  | 1.5 MHz ≤ f\_offset <min(10.5 MHz, f\_offsetmax) | -13 dBm (Note 3) | 1 MHz  |
| 10 MHz ≤ Δf ≤ Δfmax | 10.5 MHz ≤ f\_offset < f\_offsetmax  | -15 dBm (Note 3) (Note 5) | 1 MHz  |
| NOTE 1: For a BS supporting *non-contiguous spectrum* operation within any *operating band*, the minimum requirement 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 minimum requirement within *sub-block gaps* shall be -15dBm/1MHz.NOTE 2: For a *multi-band connector* with *Inter RF Bandwidth gap* < 2\*ΔfOBUE the minimum requirement 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 BS supporting multi-band operation, either this limit or -16dBm/100kHz ( f\_offset adjusted according to the measurement bandwidth）, whichever is less stringent, shall apply for operating bands <1GHz.NOTE 4: 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. |

## **<<End of Change>>**