**3GPP TSG-RAN WG4 Meeting #95-e *R4-2008738***

**Electronic Meeting, 25 May – 5 June, 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** |  | **rev** | **1** | **Current version:** |  |  |
|  | | | | | | | | |
| *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 38.104 on Receiver spurious emissions exclusion band | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_newRAT-Core | | | | |  | ***Date:*** | | | 2020-05-15 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-15 |
|  | *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 can be 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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | At RAN4#93, the OTA Receiver spurious emissions requirements were updated to be in line with the updated limits in ERC Recommendation 74-01 and Category A and B limits were also aligned (R4-1916150).  This was done by copying the Category B Tx spurious limits into the Rx spurious emission sections for BS Type 1-O and BS Type 2-O, in order to make the requirements self-contained. In that process however, it was overlooked that the Rx spurious limits always have an exclusion range written into the requirement covering the Tx spurious operating band plus ΔfOBUE on each side. The Tx spurious limits also have such an exclusion, but the it is written in the preamble to the chapter, not as a note to the table as is normally done for Rx spurious. The exclusion was therefore lost in the editing process.  The Exclusion note is missing for both BS Type 1-O and 2-O, but for BS Type 2-O this makes no difference for the requirement, since the same range is already excluded in the table. For BS Type 1-O however, a normative note needs to be added containing the exclusion. | | | | | | | | |
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| ***Summary of change:*** | | - A note is added to the table for BS Type 1-O identifying the frequency range that may be excluded. | | | | | | | | |
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| ***Consequences if not approved:*** | | The frequency range for the OTA receiver spurious emission requirement would remain incorrect. | | | | | | | | |
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| ***Clauses affected:*** | | 10.7.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

## 10.7 OTA receiver spurious emissions

### 10.7.1 General

The OTA RX spurious emission is the power of the emissions radiated from the antenna array from a receiver unit.

The metric used to capture OTA receiver spurious emissions for *BS type 1-O* and *BS type 2-O* is *total radiated power* (TRP), with the requirement defined at the RIB.

### 10.7.2 Minimum requirement for *BS type 1-O*

For a BS operating in FDD, OTA RX spurious emissions requirements do not apply as they are superseded by the OTA TX spurious emissions requirement. This is due to the fact that TX and RX spurious emissions cannot be distinguished in OTA domain.

For a BS operating in TDD, the OTA RX spurious emissions requirement shall apply during the *transmitter OFF period* only.

For RX only *multi-band RIB*, the OTA RX spurious emissions requirements are subject to exclusion zones in each supported *operating band*.

The OTA RX spurious emissions requirement for *BS type 1-O* is that for each *basic limit* specified in table 10.7.2‑1*,* the power sum of emissions at the RIB shall not exceed limits specified as the *basic limit* + X, where X = 9 dB, unless stated differently in regional regulation.

Table 10.7.2-1: General BS receiver spurious emission basic limits for *BS type 1-O*

|  |  |  |  |
| --- | --- | --- | --- |
| Spurious frequency range | *Basic limit* (Note 4) | Measurement bandwidth | Notes |
| 30 MHz – 1 GHz | -36 dBm | 100 kHz | Note 1 |
| 1 GHz – 12.75 GHz | -30 dBm | 1 MHz | Note 1, Note 2 |
| 12.75 GHz – 5th harmonic of the upper frequency edge of the UL *operating band* in GHz | 1 MHz | Note 1, Note 2, Note 3 |
| NOTE 1: Measurement bandwidths as in ITU-R SM.329 [2], s4.1.  NOTE 2: Upper frequency as in ITU-R SM.329 [2], s2.5 table 1.  NOTE 3: This spurious frequency range applies only for *operating bands* for which the 5th harmonic of the upper frequency edge of the UL *operating band* is reaching beyond 12.75 GHz.  NOTE 4: Additional limits may apply regionally.  NOTE 5: The frequency range from ΔfOBUE below the lowest frequency of the BS transmitter *operating band* to ΔfOBUE above the highest frequency of the BS transmitter *operating band* may be excluded from the requirement. ΔfOBUE is defined in clause 9.7.1. For *multi-band* *RIB*, the exclusion applies for all supported *operating bands*. | | | |