**3GPP TSG-RAN WG4 Meeting #103-e *R4-2211312***

**Electronic Meeting, 9 – 20 May, 2022**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** |  | **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:***  | Big CR for TS 38.104 Maintenance RF part (Rel-15, CAT F) |
|  |  |
| ***Source to WG:*** | MCC, Ericsson |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_newRAT-Core |  | ***Date:*** | 2022-05-25 |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** |  |
|  | *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:*** | This big CR merges the multiple endorsed draft CRs. The reason for change in each endorsed draft CR is copied below.**R4-2207911 Draft CR to TS 38.104 on clarifications of interfering signal for the OTA transmitter intermodulation requirement**For the interfering signal for the OTA transmitter intermodulation requirement, it is not clear how the power is split between the supported polarizations, and whether the power is split between the supported polarizations when the power is 46 dBm but not Prated,t,TRP. |
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| ***Summary of change:*** | The summary of change in each each endorsed draft CR is copied below.**R4-2207911 Draft CR to TS 38.104 on clarifications of interfering signal for the OTA transmitter intermodulation requirement**Clarify the power shall be equally divided between the supported polarizations when the power is either 46 dBm or Prated,t,TRP. |
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| ***Consequences if not approved:*** | The consequences if not approved for each endorsed draft CR are copied below.**R4-2207911 Draft CR to TS 38.104 on clarifications of interfering signal for the OTA transmitter intermodulation requirement**Ambiguities remain and would lead to different interpretations. |
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| ***Clauses affected:*** | 9.8.2 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

9.8.2 Minimum requirement for *BS type 1-O*

For *BS type 1-O* the transmitter intermodulation level shall not exceed the TRP unwanted emission limits specified for OTA transmitter spurious emission in clause 9.7.5.2 (except clause 9.7.5.2.3 and clause 9.7.5.2.5), OTA operating band unwanted emissions in clause 9.7.4.2 and OTA ACLR in clause 9.7.3.2 in the presence of a wanted signal and an interfering signal, defined in table 9.8.2-1.

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

For RIBs supporting operation in *non-contiguous spectrum*, the requirement is also applicable inside a *sub-block gap* for interfering signal offsets where the interfering signal falls completely within the *sub-block gap*. The interfering signal offset is defined relative to the *sub-block* edges.

For RIBs supporting operation in multiple *operating bands*, the requirement shall apply relative to the *Base Station RF Bandwidth* *edges* of each *operating band*. In case the *inter RF Bandwidth gap* is less than 3\*BWChannel (where BWChannel is the minimal *BS channel bandwidth* of the band), the requirement in the gap shall apply only for interfering signal offsets where the interfering signal falls completely within the *inter RF Bandwidth gap*.

**Table 9.8.2-1: Interfering and wanted signals for
the OTA transmitter intermodulation requirement**

| **Parameter** | **Value** |
| --- | --- |
| Wanted signal | NR signal or multi-carrier, or multiple intra-band contiguously or non-contiguously aggregated carriers |
| Interfering signal type | NR signal the minimum *BS channel bandwidth* (BWChannel) with 15 kHz SCS of the band defined in clause 5.3.5 |
| Interfering signal power level | min(46 dBm, Prated,t,TRP) |
| Interfering signal centre frequency offset from the lower (upper) edge of the wanted signal or edge of *sub-block* inside a gap | , for n=1, 2 and 3 |
| NOTE 1: Interfering signal positions that are partially or completely outside of any downlink *operating band* of the RIB are excluded from the requirement, unless the interfering signal positions fall within the frequency range of adjacent downlink *operating bands* in the same geographical area. In case that none of the interfering signal positions fall completely within the frequency range of the downlink *operating band*, TS 38.141-2 [6] provides further guidance regarding appropriate test requirements.NOTE 2: In Japan, NOTE 1 is not applied in Band n77, n78, n79.NOTE 3: For *BS type 1-O* with dual polarization, the interfering signal power shall be equally divided between the supported polarizations at the *co-location reference antenna*. |