**3GPP TSG-RAN WG4 Meeting #113 *R4-2417839***

**Orlando, US, 18th - 22nd November 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.181** | **CR** | **0049** | **rev** | **-** | **Current version:** | **18.3.0** |  |
|  | | | | | | | | |
| *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:*** | (NR\_NTN\_enh-Core) CR for TS 38.181, Correction on OTA out-of-band blocking requirement for SAN type 2-O | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | CATT | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_NTN\_enh-Core | | | | |  | ***Date:*** | | | 2024-11-01 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | 1. ΔfOOB for FUL,high – FUL,low < 4000 MHz for SAN type 2-O is missing, since the FUL,high – FUL,low for SAN type 2-O for n512, n511, and n510 is less than 4000MHz, so 1500MHz ΔfOOB is reasonable. 2. The out-of-band blocking requirement should be alignment with out-of-band blocking requirement in TS 38.108 according to Endorsed CR R4-2409817 in RAN4#110bis. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Add ΔfOOB for FUL,high – FUL,low < 4000 MHz for SAN type 2-O in Table 10.6.3.1-2. 2. Remove [] for 1500MHz ΔfOOB. 3. Simplification of the out-of-band blocking requirement. 4. Remove [] for Interferer RMS field-strength. | | | | | | | | |
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| ***Consequences if not approved:*** | | The ΔfOOB for FUL,high – FUL,low < 4000 MHz for SAN type 2-O would be unclear, and out-of-band blocking requirement would be unclear. | | | | | | | | |
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| ***Clauses affected:*** | | 10.6.6 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

## **<Start of Change 1>**

### 10.6.6 Test requirements for *SAN type 2-O*

The requirement shall apply at the RIBwhen the AoA of the incident wave of the received signal and the interfering signal are from the same direction and are within the *OTA REFSENS RoAoA*.

The wanted signal applies to each supported polarization, under the assumption of *polarization match*. The interferer shall be *polarization matched* in-band and the polarization maintained for out-of-band frequencies.

For *SAN type 2-O* the OTA out-of-band blocking requirement apply from 30 MHz to FUL,low –ΔfOOB and from FUL,high +ΔfOOB up to 2nd harmonic of the upper frequency edge of the *operating band*.The ΔfOOB for *SAN type 2-O* is defined in table 10.6.6-2.

For OTA wanted and OTA interfering signals provided at the RIB using the parameters in table 10.6.6-1, the following requirements shall be met:

- The throughput shall be ≥ 95% of the maximum throughput of the reference measurement channel. The reference measurement channel for the OTA wanted signal is identified in clause 10.3.3 for each *SAN channel bandwidth* and further specified in annex A.1.

Table 10.6.6-1: OTA out-of-band blocking performance requirement

| Frequency range of interfering signal  (MHz) | Wanted signal mean power  (dBm) | Interferer RMS field-strength  (V/m) | Type of interfering signal |
| --- | --- | --- | --- |
| 30 to FUL,low –ΔfOOB | EISREFSENS + 6 dB | 0.0029 | CW |
| FUL,high +ΔfOOB to 2nd harmonic of the upper frequency edge of the *operating band* | EISREFSENS + 6 dB | 0.0029 | CW |

Table 10.6.6-2: ΔfOOB offset for satellite *operating bands*

|  |  |  |
| --- | --- | --- |
| SAN type | *Operating band* characteristics | ΔfOOB (MHz) |
| *SAN type 2-O* | FUL,high – FUL,low ≤ 4000 MHz | 1500 |

## **<End of Change 1>**