**3GPP TSG-<TSG/WG> Meeting # 116bis *R4-2513153***

**Prague, CZ, 13rd - 17th October, 2025**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.108** | **CR** | **draftCR** | **rev** | **1** | **Current version:** | **19.1.0** |  |
|  | | | | | | | | |
| *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>*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network |  |

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| ***Title:*** | Draft CR for 38.108, On SAN requirement of the NR NTN Ku band | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | CATT | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_NTN\_Ku\_bands-Core | | | | |  | ***Date:*** | | | 2025-09-20 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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:*** | | Introduce note for the synchronization raster entries for band n248 and n247, and OTA ACS interferer frequency offset for 20MHz CP-OFDM interfering signal is incorrect. This draft CR is on the top of agreed big CR R4-2511234 in RAN4#116. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1) Add Note 2 for band n248 and n247 in Table 5.4.3.3-1.  2) Change OTA ACS interferer frequency offset for 20MHz CP-OFDM interfering signal. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The SAN requirement would be incorrect. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.4.3.3, 10.5.1.2a | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | Revised from R4-2513153. | | | | | | | | |

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

#### 5.4.3.3 Synchronization raster entries for each operating band

For FR1-NTN and for above 3 MHz channel bandwidth, the synchronization raster for each band is given in table 5.4.3.3-1. The distance between applicable GSCN entries is given by the <Step size> indicated in table 5.4.3.3-1.

For FR1-NTN and for 3 MHz channel bandwidth, the synchronization raster for each band is given in table 5.4.3.3-3. The distance between applicable GSCN entries is given by the <Step size> indicated in table 5.4.3.3-3.

For FR2-NTN, the synchronization raster for each band is given in table 5.4.3.3-2. The distance between applicable GSCN entries is given by the <Step size> indicated in table 5.4.3.3-2.

Table 5.4.3.3-1: Applicable SS raster entries per *operating band* (FR1-NTN) for above 3 MHz channel bandwidth

|  |  |  |  |
| --- | --- | --- | --- |
| SAN operating band | SS Block SCS | SS Block pattern (NOTE) | Range of GSCN  (First – <Step size> – Last) |
| n256 | 15 kHz | Case A | 5429 – <1> – 5494 |
| n255 | 15 kHz | Case A | 3818 – <1> – 3892 |
|  | 30 kHz | Case B | 3824 – <1> – 3886 |
| n254 | 15 kHz | Case A | 6215 – <1> – 6244 |
|  | 30k Hz | Case C | 6220 – <1> – 6238 |
| n252 | 15 kHz | Case A | 5456 – <1> – 5494 |
| n248 (Note 2) | 15 kHz | Case A | 12848 – <1> – 14268 |
| 30 kHz | Case C | 12850 – <1> – 14266 |
| n247 (Note 2) | 15 kHz | Case A | 12848 – <1> – 14268 |
| 30 kHz | Case C | 12850 – <1> – 14266 |
| NOTE 1: SS Block pattern is defined in clause 4.1 in TS 38.213 [7].  NOTE 2: The SCS for the SSB shall be the same as the SCS for the data channel. | | | |

Table 5.4.3.3-2: Applicable SS raster entries per *operating band* (FR2-NTN)

|  |  |  |  |
| --- | --- | --- | --- |
| **SAN operating band** | **SS Block SCS** | **SS Block pattern (NOTE)** | Range of GSCN  **(First – <Step size> – Last)** |
| n512 | 120 kHz | Case D | 17448 – <12> – 19428 |
|  | 240 kHz | Case E | 17472 – <24> – 19416 |
| n511 | 120 kHz | Case D | 17448 – <12> – 19428 |
|  | 240 kHz | Case E | 17472 – <24> – 19416 |
| n510 | 120 kHz | Case D | 17448 – <12> – 19428 |
|  | 240 kHz | Case E | 17472 – <24> – 19416 |
| n509 | 120 kHz | Case D | 12864 – <12> – 14256 |
| n508 | 120 kHz | Case D | 12864 – <12> – 14256 |
| NOTE: SS Block pattern is defined in section 4.1 in TS 38.213 [7]. | | | |

Table 5.4.3.3-3: Applicable SS raster entries per *operating band* (FR1-NTN) for 3 MHz channel bandwidth

|  |  |  |  |
| --- | --- | --- | --- |
| **NR *operating band*** | **SS Block SCS** | **SS Block pattern1** | **Range of GSCN**  **(First – <Step size> – Last)** |
| n256 | 15 kHz | Case A | 37492 – <1> – 37629 |
| n255 | 15 kHz | Case A | 34267 – <1> – 34424 |
| n254 | 15 kHz | Case A | 39060 – <1> – 39129 |
| NOTE: SS Block pattern is defined in clause 4.1 in TS 38.213 [7]. | | | |

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

## **<Start of Change 2>**

#### 10.5.1.2a Minimum requirement for *SAN type 1-O operating above 10 GHz*

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

The wanted and interfering signals apply to each supported polarization, under the assumption o*f polarization match*.

The throughput shall be ≥ 95% of the maximum throughput of the reference measurement channel.

For FR1-NTN above 10 GHz, the OTA wanted signal and the interfering signal are specified in table 10.5.1.2a-1 and table 10.5.1.2a-2 for OTA ACS. The reference measurement channel for the OTA wanted signal is further specified in annex A.1. The characteristic of the interfering signal is further specified in annex C.

The OTA ACS requirement is applicable outside the *SAN RF Bandwidth* or *Radio Bandwidth*. The OTA interfering signal offset is defined relative to the *SAN RF Bandwidth edges* or *Radio Bandwidth edges*.

Table 10.5.1.2a-1: OTA ACS requirement for *SAN type 1-O operating above 10 GHz*

|  |  |  |
| --- | --- | --- |
| SAN channel bandwidth of the lowest/highest carrier received (MHz) | Wanted signal mean power (dBm)  (NOTE 2) | Interfering signal mean power (dBm) |
| 10, 20, 25, 35, 50, 70, 100 (Note 1) | EISREFSENS + 6 dB | SAN LEO class: EISREFSENS\_50M + 29.7 + ΔFR2\_REFSENS  SAN GEO class: EISREFSENS\_50M + 23.7 + ΔFR2\_REFSENS |
| NOTE 1: The SCS for the *lowest/highest carrier* received is the lowest SCS supported by the SAN for that bandwidth  NOTE 2: EISREFSENS is given in clause 10.3.2a | | |

Table 10.5.1.2a-2: OTA ACS interferer frequency offset for *SAN type 1-O operating above 10 GHz*

|  |  |  |
| --- | --- | --- |
| SAN channel bandwidth of the lowest/highest carrier received (MHz) | Interfering signal centre frequency offset from the lower/upper SAN RF Bandwidth edge or sub-block edge inside a sub-block gap (MHz) | Type of interfering signal |
| 10 | ±2.5075 | 5 MHz CP-OFDM NR signal,  15 kHz SCS, 25 RBs |
| 20 | ±2.5025 |
| 25 | ±[10.0075] | 20 MHz CP-OFDM NR signal,  15 kHz SCS, 106 RBs |
| 35 | ±[10.0025] |
| 50 | ±[10.0025] |
| 70 | ±[10.0075] |
| 100 | ±[10.0075] |

## **<End of Change 2>**