**3GPP TSG-RAN WG4 Meeting # 104-eR4-221xxxx**

**Electronic Meeting, 15 - 26 August 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.104** | **CR** | **xxxx** | **rev** | **-** | **Current version:** | **17.6.0** |  |
|  | | | | | | | | |
| *For* [***HELP***](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 to 38.104 for Rel-17 NR extension up to 71 GHz maintenance (Rel-17, CAT F) | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_ext\_to\_71GHz-Core | | | | |  | ***Date:*** | | | 2022-08-10 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | R4-2211806 Draft CR to TS 38.104 on correction of TAE requirements:  Table 9.6.3.3-4 for TAE requirements for BS type 2-O has been added in the wrong clause 9.6.3.2 and the TAE requirements for BS type 1-O has been wrongly removed.  R4-2211808 Draft CR to TS 38.104 on finalization of ICS interfering signal RB : | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | R4-2211806 Draft CR to TS 38.104 on correction of TAE requirements:  Move Table 9.6.3.3-4 for TAE requirements for BS type 2-O to clause 9.6.3.3 and restore the TAE requirements for BS type 1-O in clause 9.6.3.2.  R4-2211808 Draft CR to TS 38.104 on finalization of ICS interfering signal RB : | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | R4-2211806 Draft CR to TS 38.104 on correction of TAE requirements:  Errors remain and would lead to wrong interpretations.  R4-2211808 Draft CR to TS 38.104 on finalization of ICS interfering signal RB : | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 9.6.3.2, 9.6.3.3, 10.9.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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, R4-2211806>**

9.6.3.2 Minimum requirement for *BS type 1-O*

For MIMO transmission, at each carrier frequency, OTA TAE shall not exceed 65 ns.

For *intra-band contiguous carrier aggregation*, with or without MIMO, OTA TAE shall not exceed 260 ns.

For *intra-band non-contiguous carrier aggregation*, with or without MIMO, OTA TAE shall not exceed 3 µs.

For inter-band *carrier aggregation*, with or without MIMO, OTA TAE shall not exceed 3 µs.

**Table 9.6.3.2-1: Void**

**Table 9.6.3.2-2: Void**

**Table 9.6.3.2-3: Void**

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9.6.3.3 Minimum requirement for *BS type 2-O*

**Table 9.6.3.3-1: Void**

**Table 9.6.3.3-2: Void**

**Table 9.6.3.3-3: Void**

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**<End of change 1, R4-2211806>**

**<Start of change 2, R4-2211808>**

10.9.3 Minimum requirement for *BS 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 and interfering signals applies to each supported polarization, under the assumption of *polarization match.*

For *BS type 2-O*, the throughput shall be ≥ 95% of the maximum throughput of the reference measurement channel as specified in annex A.1 with parameters specified in table 10.9.3-1. The characteristics of the interfering signal is further specified in annex D.

**Table 10.9.3-1: OTA in-channel selectivity requirement for *BS type 2-O***

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| **Frequency Range** | **BS channel bandwidth (MHz)** | **Subcarrier spacing (kHz)** | **Reference measurement channel** | **Wanted signal mean power (dBm)**  **(Note 2)** | **Interfering signal mean power (dBm)**  **(Note 2)** | **Type of interfering signal** |
| FR2-1 | 50 | 60 | G-FR2-A1-4 | EISREFSENS\_50M + ΔFR2\_REFSENS | EISREFSENS\_50M + 10 + ΔFR2\_REFSENS | DFT-s-OFDM NR signal, 60 kHz SCS,  32 RB |
|  | 100,200 | 60 | G-FR2-A1-1 | EISREFSENS\_50M + 3+ ΔFR2\_REFSENS | EISREFSENS\_50M + 13 + ΔFR2\_REFSENS | DFT-s-OFDM NR signal, 60 kHz SCS,  64 RB |
|  | 50 | 120 | G-FR2-A1-5 | EISREFSENS\_50M + ΔFR2\_REFSENS | EISREFSENS\_50M + 10 + ΔFR2\_REFSENS | DFT-s-OFDM NR signal, 120 kHz SCS,  16 RB |
|  | 100,200,400 | 120 | G-FR2-A1-2 | EISREFSENS\_50M+ 3+ ΔFR2\_REFSENS | EISREFSENS\_50M + 13 + ΔFR2\_REFSENS | DFT-s-OFDM NR signal, 120 kHz SCS,  32 RB |
| FR2-2 | 100,400 | 120 | G-FR2-A1-2 | EISREFSENS\_50M+ 3+ ΔFR2\_REFSENS | EISREFSENS\_50M + 13 + ΔFR2\_REFSENS | DFT-s-OFDM NR signal, 120 kHz SCS,  32 RB |
|  | 400 | 480 | G-FR2-A1-8 | EISREFSENS\_50M+ 9+ ΔFR2\_REFSENS | EISREFSENS\_50M + 19+ ΔFR2\_REFSENS | DFT-s-OFDM NR signal, 480 kHz SCS,  32 RB |
|  | 800, 1600 | 480 | G-FR2-A1-6 | EISREFSENS\_50M+ 12+ ΔFR2\_REFSENS | EISREFSENS\_50M + 22 + ΔFR2\_REFSENS | DFT-s-OFDM NR signal, 480 kHz SCS,  54 RB |
|  | 400 | 960 | G-FR2-A1-9 | EISREFSENS\_50M+ 9+ ΔFR2\_REFSENS | EISREFSENS\_50M + 19+ ΔFR2\_REFSENS | DFT-s-OFDM NR signal, 960 kHz SCS,  16 RB |
|  | 800, 1600, 2000 | 960 | G-FR2-A1-7 | EISREFSENS\_50M+ 12+ ΔFR2\_REFSENS | EISREFSENS\_50M + 22+ ΔFR2\_REFSENS | DFT-s-OFDM NR signal, 960 kHz SCS,  27 RB |
| NOTE 1: Wanted and interfering signal are placed adjacently around Fc, where the Fc is defined for *BS channel bandwidth* of the wanted signal according to the table 5.4.2.2-1. The aggregated wanted and interferer signal shall be centred in the *BS channel bandwidth* of the wanted signal.  NOTE 2: EISREFSENS\_50M is defined in clause 10.3.3. | | | | | | |

**Table 10.9.3-2: (Void)**

**Table 10.9.3-3: (Void)**

**<End of change 2, R4-2211808>**