**3GPP TSG-RAN WG4 Meeting #104-e *R4-22xxxxx***

**Electronic Meeting, Aug. 15 – Aug. 26, 2022**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.151** | **CR** | **draft** | **rev** | **-** | **Current version:** | **V17.1.0** |  |
|  | | | | | | | | |
| *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*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Draft CR to TS38.151 on Minimum requirements | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | CAICT, vivo | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_MIMO\_OTA-Perf | | | | |  | ***Date:*** | | | 2022-08-10 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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:*** | | In TS 38.151, the minimum requirements for FR1 and FR2 MIMO OTA are not specified. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The minimum requirements for FR1 and FR2 MIMO OTA are added. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The MIMO OTA performance of NR UEs cannot be verified. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6, 7 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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>

6.2 Minimum requirement

FR1 TRMS minimum performance requirements for NR handheld UEs operating on SA mode in free space and the primary mechanical mode for 70% DL throughput with the corresponding measurement configurations (i.e., channel model and gNB configuration) specified in Annex C.1 and Annex E.1 are defined in Table 6.2-1.

**Table 6.2-1: FR1 TRMS minimum performance requirements for NR handheld UEs operating on SA mode in free space and the primary mechanical mode**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NR bands | Bandwidth (MHz) | MIMO layer | Channel model | Reference channel | TRMSaverage,70 |
| n28 | 10 | 2x2 | FR1 UMi CDL-C | R.PDSCH.1-3.1 FDD | TBD dBm/15kHz |
| n41 | 40 | 4x4 | FR1 UMa CDL-C | R.PDSCH.2-2.4 TDD | TBD dBm/30kHz |
| n78 | 40 | 4x4 | FR1 UMa CDL-C | R.PDSCH.2-2.4 TDD | TBD dBm/30kHz |
| n79 | 40 | 4x4 | FR1 UMa CDL-C | R.PDSCH.2-2.4 TDD | TBD dBm/30kHz |

< end of change 1>

< start of change 2>

7.2 Minimum requirement

FR2 MASC minimum performance requirements for power class 3 NR handheld UEs in free space and the primary mechanical mode for averaging of the best 18 sensitivity values for 70% DL throughput with the corresponding measurement configurations (i.e., channel model and gNB configuration) specified in Annex D.1 and Annex E.2 are defined in Table 7.2-1.

**Table 7.2-1: FR2 MASC minimum performance requirements for NR handheld UEs in free space and the primary mechanical mode**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NR bands | Bandwidth (MHz) | MIMO layer | Channel model | Reference channel | MASC70 [dBm/120kHz] |
| n257 | 100 | 2x2 | FR2 UMi CDL-C | R.PDSCH.5-2.2 TDD | TBD |
| n258 | 100 | 2x2 | FR2 UMi CDL-C | R.PDSCH.5-2.2 TDD | TBD |
| n260 | 100 | 2x2 | FR2 UMi CDL-C | R.PDSCH.5-2.2 TDD | TBD |
| n261 | 100 | 2x2 | FR2 UMi CDL-C | R.PDSCH.5-2.2 TDD | TBD |

< end of change 2>