**3GPP TSG-RAN4 Meeting #111 *R4-2409904***

**Fukuoka City, Fukuoka, Japan, 20th May 2024 - 24th May 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.870** | **CR** | **0006** | **rev** | **1** | **Current version:** | **18.1.0** |  |
|  | | | | | | | | |
| *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:*** | CR to TR38.870 on CBW scaling of the TRS requirement | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Apple, [Samsung], vivo | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_FR1\_TRP\_TRS\_enh-Perf | | | | |  | ***Date:*** | | | 2024-05-20 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | Incorporate agreements on addition of framework to scale requirements for additional channel bandwidths for n1, n28, n41, n77 and n78 and parameters | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The framework for scaling and derivation of requirements for additional channel bandwidths for n1, n28, n41, n77 and n78 and parameters | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Missing framework for derivation and scaling of requirements for additional channel bandwidths for n1, n28, n41, n77 and n78 and parameters | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.3.6, 4.3.6.1, 4.3.6.2, 4.3.6.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

<< Begin Change >>

### 4.3.6 Alternative parameters related to channel bandwidth and bands

#### 4.3.6.1 General

This clause defines the alternative parameters related to channel bandwidths and bands and is applicable to bands n28, n41, n77, and n78 with the following applicability:

- For a given band, Power Class, and test mode, if a UE fulfils the TRS requirements according to the test parameters defined in Clause 4.3.3, then it is considered to have fulfilled the TRS requirements according to the parameters defined in Clause 4.3.6, where applicable; or vice versa

- For a given band, Power Class, and test mode, if a UE fulfils the TRS requirements according to the test parameters defined in Clause 4.3.6, then it is considered to have fulfilled the TRS requirements according to the parameters defined in Clause 4.3.3, where applicable; or vice versa

#### 4.3.6.2 Test parameters

Table 4.3.6.2-1 below defines the alternative NR FR1 TRS measurement parameters.

Table 4.3.6.2-1: Alternative NR FR1 TRS measurement parameters

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NR Band | CBW (MHz) | SCS (kHz) | DL modulation | UL modulation | Range | UL Carrier centre  [ARFCN] | UL Carrier Center (MHz) | DL Carrier centre  [ARFCN] | DL Carrier Center (MHz) | UL RB Allocation  (LCRB @ RBstart) | DL Configuration (FULL RB, LCRB @ RBstart) |
| n28 | 10 | 15 | CP-OFDM QPSK | DFT-s-OFDM  QPSK | Low | 141600 | 708 | 152600 | 763 | 25@27 | 52@0 |
| Mid | 145100 | 725.5 | 156100 | 780.5 |
| High | 148600 | 743 | 159600 | 798 |
| n41 | 20 | 30 | CP-OFDM QPSK | DFT-s-OFDM  QPSK | Low | 501204 | 2506.02 | 501204 | 2506.02 | 50@0 | 106@0 |
| Mid | 518598 | 2592.99 | 518598 | 2592.99 |
| High | 535998 | 2679.99 | 535998 | 2679.99 |
| n77 | 20 | 30 | CP-OFDM QPSK | DFT-s-OFDM  QPSK | Low | 620668 | 3310.02 | 620668 | 3310.02 | 50@0 | 106@0 |
| Mid | 650000 | 3750 | 650000 | 3750 |
| High | 679332 | 4189.98 | 679332 | 4189.98 |
| n78 | 20 | 30 | CP-OFDM QPSK | DFT-s-OFDM  QPSK | Low | 620668 | 3310.02 | 620668 | 3310.02 | 50@0 | 106@0 |
| Mid | 636666 | 3549.99 | 636666 | 3549.99 |
| High | 652666 | 3789.99 | 652666 | 3789.99 |

#### 4.3.6.3 TRS requirements for additional channel bandwidths

The below framework shall be used for deriving TRS requirements for additional channel bandwidths.

- The core specification shall only list the requirement based on the band parameters defined in Clasue 4.3.3

- Scaled requirements for additional channel bandwidths is limited to bands n28 (additional channel bandwidth 10 MHz), n41, n77, n78 (additional channel bandwidth 20 MHz).

The ratio of the channel bandwidths shall be used to derive and scale requirements on alternate CBW (20 MHz) for n41, n77 and n78 using the below formula.

Average\_TRS*20MHz* (dBm) = Average\_TRS*100MHz* (dBm) - 7 dB

The ratio of channel bandwidths shall be used to derive and scale requirements on alternate CBW (10 MHz) for n28, using the below formula.

Average\_TRS*10MHz* (dBm) =Average\_TRS*20MHz* (dBm) - 3 dB

<< End of Change >>