**3GPP TSG-RAN4 Meeting #116  *R4-2509862***

**Bengaluru, India, 25th August 2025 - 29th August 2025**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.101-1** | **CR** | **2915** | **rev** | **-** | **Current version:** | **17.18.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **x** | Radio Access Network |  | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | (NR\_CADC\_R17\_2BDL\_xBUL-Core) CR to correct and clarify the applicable RB allocations for 30kHz SCS when UE testing in clause 7.3A.1 - TS 38.101-1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Anritsu Limited | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_CADC\_R17\_2BDL\_xBUL-Core | | | | |  | ***Date:*** | | | 2025-08-15 |
|  |  | | | |  | |  | | |  |
| ***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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Several changes are needed:   1. There is an error in Table 7.3A.1-1: (5, 12) should be corrected to (5, 10). The RB allocation for DFT-s-OFDM is “*the closest number lower or equal to CP-OFDM maximum RB allocation satisfying the following equation, partial RB allocations shall also conform to this equation :* ” as written in TR TR38.817-01. The corresponding CP-OFDM value in Table 5.3.2-1 being 11 RBs, 10 is the closest value being lower or equal satisfying that equation. 2. It is not indicated why the RB values in Table 7.3A.1-1 (DFT-s-OFDM) are different from the values given in Table 5.3.2-1 (OFDM) and how they are determined. A note is added in Table 5.3.2-1 in order to indicate how are determined the DFT-s-OFDM UL RB values used for REFSENS. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | In Table 7.3A.1-1:  - Change (5, 12) to (5,10).  - Addition of a note: “*NOTE 1: The values are determined using the CP-OFDM values from Table 5.3.2-1. The corresponding RB allocations for DFT-s-OFDM as defined in the present table, should be equal to the closest integer number lower or equal to the corresponding (same SCS and bandwidth) CP-OFDM maximum RB allocation satisfying the following equation: (where X, Y and Z are non-negative integers)*”. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | For REFSENS level or REFSENS exception tests of CA and SUL, the UL test configurations based 30kHz SCS (targeted mainly for the operating bands above 2.2GHz) are wrongly specified. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.3A.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **x** |  | Test specifications | | | | TS 38.521-1 | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | Similar changes are required for TS 38.101-3, the corresponding CR is R4-2509865. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Revised based on comments received in NWM ([9235](https://nwm-trial.etsi.org/" \l "/documents/9235)). | | | | | | | | |

<<Unchanged sections skipped>>

<<Start of change>>

## 7.3A Reference sensitivity for CA

### 7.3A.1 General

The reference sensitivity power level REFSENS is the minimum mean power applied to each one of the UE antenna ports for all UE categories, at which the throughput shall meet or exceed the requirements for the specified reference measurement channel. For operations with 4 Rx antenna ports, the MSD in the applicable bands shall be increased by the absolute value of ΔRIB,4R in Table 7.3.2-2 when MSD > 0.

For reference sensitivity exception test points where the specified carrier frequency does not correspond to a valid NR-ARFCN, the closest NR-ARFCN as specified in clause 5.4.2 applies.

For reference sensitivity level tests or reference sensitivity exception tests specified in clause 7.3A, SCS=15kHz based UL test configuration can be replaced by SCS=30kHz based UL test configuration. The equivalent substitution relationship between different SCS UL test configuration is shown in table 7.3A.1-1 for the operating bands above 2.2GHz.

Table 7.3A.1-1: Equivalent substitution relationship between different SCS UL test configuration

| SCS (kHz) | (BW[MHz], Lcrb) | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15 | (5, 25) | (10, 50) | (15, 75) | (20, 100) | (25, 128) | (30, 160) | (35, 180) | (40, 216) | (45, 240) | (50, 270) |
| 30 | (5,10) | (10, 24) | (15, 36) | (20, 50) | (25, 64) | (30, 75) | (35, 90) | (40, 100) | (45, 108) | (50, 128) |
| NOTE 1: The values are determined using the CP-OFDM values from Table 5.3.2-1. The corresponding RB allocations for DFT-s-OFDM as defined in the present table, should be equal to the closest integer number lower or equal to the corresponding (same SCS and bandwidth) CP-OFDM maximum RB allocation satisfying the following equation: (where X, Y and Z are non-negative integers). | | | | | | | | | | |

When UEsupports higher power class than default power class for a CA configuration with a single UL CC with DL CA and applicability note for the supported power class is not present for this configuration in clause 5.5A.

- if the corresponding higher power class MSD is not specified, reference sensitivity and exceptions for reference sensitivity of default power class shall be verified with output power limited to default power class

- otherwise, the higher power class reference sensitivity and exceptions for reference sensitivity shall be verified with the power class of CA configuration supported by the UE.

**<<Unchanged parts of the section skipped>>**

<<End of change>>