3GPP TSG-RAN WG4 Meeting #111 R4-2409527

Fukuoka City, Fukuoka, Japan, 20th – 24th May, 2024

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.101-1** | **CR** | **2354** | **rev** | **1** | **Current version:** | **18.5.0** |  |
|  | | | | | | | | |
| *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 TS 38.101-1: Clarification on PC1 applicability for bands n100 and n101 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | LTE\_NR\_HPUE\_FWVM\_R18-Core, NR\_bands\_n31\_n72-Core, NR\_n14-Core | | | | |  | ***Date:*** | | | 2024-05-13 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | In Rel-16, band n14 was introduced with the following Note 6 introduced in Table 6.2.1-1 (UE Power Class):  *NOTE 6: Generally, PC1 UE for Band n14 is not targeted for smartphone form factor. The UE power class 1 requirements for Band n14 are applicable for public safety scenario only.*  In Rel-18, the above Note 6 was reused for multiple other PC1 requirements for other bands, e.g. by R4-2400616 introducing PC1 for n7, n41 and n78.  In this CR we correct applicability of Note 6 to be n14-specific, with the introduction of a new PC1-specific Note 7.  Furthermore, according to ECC Decision (20)02, HPUE PC1 requirement is only applicable to the FRMCS rooftop mounted cab-radio. Current text does not clarify this, potentially leading to ambiguities.  In this CR we provide corrections to the PC1 Note in Table 6.2.1-1, removing n14-related ambiguity, and introducing a new Note for RMR bands n100/n101, to clarify applicability of PC1 for FRMCS. | | | | | | | | |
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| ***Summary of change:*** | | Correction of Note 6 applicability in Table 6.2.1-1, with the introduction of a new PC1-specific Note 7.  PC3 header update with Note 2 being generic for all bands.  Table 6.2.1-1 headers text correction to clarify Tolerance applicability per PC.  Introduction of RMR-specific Note to clarify applicability of PC1 requirement for the FRMCS rooftop mounted cab-radio only. | | | | | | | | |
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| ***Consequences if not approved:*** | | Ambiguity of Note 6 in Table 6.2.1-1 and its n14 content being reused for other bands would remain.  Applicability of PC1 requirement for n100 and n101 would remain ambiguous, not following regulation. | | | | | | | | |
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| ***Clauses affected:*** | | 6.2.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

*------------------------------ Modified section ------------------------------*

### 6.2.1 UE maximum output power

The following UE Power Classes define the maximum output power for any transmission bandwidth within the channel bandwidth of NR carrier unless otherwise stated. The period of measurement shall be at least one sub frame (1ms).

Table 6.2.1-1: UE Power Class

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NR  band | Class 1 (dBm) | Tolerance (dB) | Class 1.5 (dBm) | Tolerance (dB) | Class 2 (dBm) | Tolerance (dB) | Class 3 (dBm) | Tolerance (dB) |
| n1 |  |  |  |  | 26 | +2/-3 | 23 | ±2 |
| n2 |  |  |  |  | 26 | +2/-33 | 23 | ±23 |
| n3 |  |  |  |  | 26 | +2/-33 | 23 | ±23 |
| n5 |  |  |  |  |  |  | 23 | ±2 |
| n7 | 317 | +2/-3 |  |  |  |  | 23 | ±23 |
| n8 |  |  |  |  | 26 | +2/-33 | 23 | ±23 |
| n12 |  |  |  |  |  |  | 23 | ±23 |
| n13 |  |  |  |  |  |  | 23 | ±2 |
| n14 | 316 | +2/-3 |  |  | 26 | +2/-3 | 23 | ±2 |
| n18 |  |  |  |  |  |  | 23 | ±2 |
| n20 |  |  |  |  |  |  | 23 | ±23 |
| n24 |  |  |  |  |  |  | 23 | +2/-33 |
| n25 |  |  |  |  | 26 | +2/-33 | 23 | ±23 |
| n26 |  |  |  |  |  |  | 23 | ±23 |
| n28 |  |  |  |  |  |  | 23 | +2/-2.5 |
| n30 |  |  |  |  |  |  | 23 | ±2 |
| n31 | 317 | +2/-3 |  |  |  |  | 23 | ±2 |
| n34 |  |  | 295 | +2/-3 | 26 | +2/-3 | 23 | ±2 |
| n38 |  |  |  |  |  |  | 23 | ±2 |
| n39 |  |  | 295 | +2/-3 | 26 | +2/-3 | 23 | ±2 |
| n40 |  |  | 295 | +2/-3 | 26 | +2/-3 | 23 | ±2 |
| n41 | 317 | +2/-3 | 295 | +2/-33 | 26 | +2/-33 | 23 | ±23 |
| n47 |  |  |  |  |  |  | 23 | ±2 |
| n48 |  |  |  |  |  |  | 23 | +2/-3 |
| n50 |  |  |  |  |  |  | 23 | ±2 |
| n51 |  |  |  |  |  |  | 23 | ±2 |
| n53 |  |  |  |  |  |  | 23 | ±2 |
| n54 |  |  |  |  |  |  | 23 | ±2 |
| n65 |  |  |  |  |  |  | 23 | ±2 |
| n66 |  |  |  |  | 26 | +2/-3 | 23 | ±2 |
| n70 |  |  |  |  | 26 | +2/-3 | 23 | ±2 |
| n71 | 317 | +2/-3 |  |  | 26 | +2/-3 | 23 | +2/-2.5 |
| n72 | 317 | +2/-3 |  |  |  |  | 23 | ±2 |
| n74 |  |  |  |  |  |  | 23 | ±2 |
| n77 | 317 | +2/-3 | 295 | +2/-3 | 26 | +2/-3 | 23 | +2/-3 |
| n78 | 317 | +2/-3 | 295 | +2/-3 | 26 | +2/-3 | 23 | +2/-3 |
| n79 |  |  | 295 | +2/-3 | 26 | +2/-3 | 23 | +2/-3 |
| n80 |  |  |  |  | 26 | +2/-33 | 23 | ±23 |
| n81 |  |  |  |  |  |  | 23 | ±2 |
| n82 |  |  |  |  |  |  | 23 | ±2 |
| n83 |  |  |  |  |  |  | 23 | +2/-2.5 |
| n84 |  |  |  |  | 26 | +2/-3 | 23 | ±2 |
| n85 | 317 | +2/-3 |  |  |  |  | 23 | ±23 |
| n86 |  |  |  |  |  |  | 23 | ±2 |
| n89 |  |  |  |  |  |  | 23 | ±2 |
| n91 |  |  |  |  |  |  | 23 | ±23, 4 |
| n92 |  |  |  |  |  |  | 23 | ±23, 4 |
| n93 |  |  |  |  |  |  | 23 | ±23, 4 |
| n94 |  |  |  |  |  |  | 23 | ±23, 4 |
| n95 |  |  |  |  | 26 | +2/-3 | 23 | ±2 |
| n97 |  |  |  |  | 26 | +2/-3 | 23 | ±2 |
| n98 |  |  |  |  | 26 | +2/-3 | 23 | ±2 |
| n99 |  |  |  |  |  |  | 23 | +2/-33 |
| n100 | 317,8 | +2/-3 |  |  |  |  | 23 | ±2 |
| n101 | 317,8 | +2/-3 |  |  |  |  | 23 | ±2 |
| n104 |  |  |  |  | 26 | +2/-3 | 23 | +2/-3 |
| n105 |  |  |  |  |  |  | 23 | +2/-2.5 |
| n106 |  |  |  |  |  |  | 23 | ±2 |
| n109 |  |  |  |  |  |  | 23 | ±23, 4 |
| NOTE 1: PPowerClass is the maximum UE power specified without taking into account the tolerance.  NOTE 2: Powerclass 3 is default power class unless otherwise stated.  NOTE 3: Refers to the transmission bandwidths confined within FUL\_low and FUL\_low + 4 MHz or FUL\_high – 4 MHz and FUL\_high, the maximum output power requirement is relaxed by reducing the lower tolerance limit by 1.5 dB.  NOTE 4: The maximum output power requirement is relaxed by reducing the lower tolerance limit by 0.3 dB.  NOTE 5: Achieved via dual Tx  NOTE 6: The UE power class 1 requirements for Band n14 are applicable for public safety scenario only.  NOTE 7: PC1 UE is not targeted for smartphone form factor.  NOTE 8: PC1 in Band n100 and n101 is allowed only for the FRMCS rooftop mounted cab-radio devices. | | | | | | | | |

*------------------------------ End of modified section -------------------------*