**3GPP T****SG-RAN WG4 Meeting #111 R4-2408716**

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

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **36.101** | **CR** | **<CR#>** | **rev** | **-** | **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:*** | Big CR TS 36.101 High-power UE operation for fixed-wireless/vehicle-mounted use cases in LTE bands | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | LTE\_NR\_HPUE\_FWVM\_R18-Core | | | | |  | ***Date:*** | | | 2024-05-13 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)*  *Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Addition of PC1 operation for bands 40, 42 and 106. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Relevant table updated | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | PC1 operation for 40, 42 and 106 bands is not possible. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.2.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Start of changes \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 6.2.2 UE maximum output power

The following UE Power Classes define the maximum output power for any transmission bandwidth within the channel bandwidth for non CA configuration unless otherwise stated. The period of measurement shall be at least as defined in Table 6.2.2-0.

Table 6.2.2-0: Measurement period for UE maximum output power

|  |  |
| --- | --- |
| TTI pattern | Minimum measurement period |
| Subframe | 1ms |
| Slot | 7OS |
| Subslot | 2OS, 3OS |

Table 6.2.2-1: UE Power Class

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| EUTRA band | Class 1 (dBm) | Tolerance (dB) | Class 2 (dBm) | Tolerance (dB) | Class 3 (dBm) | Tolerance (dB) | Class 4 (dBm) | Tolerance (dB) |
| 1 |  |  |  |  | 23 | ±2 |  |  |
| 2 |  |  |  |  | 23 | ±22 |  |  |
| 3 | 31 | +2/-3 |  |  | 23 | ±22 |  |  |
| 4 |  |  |  |  | 23 | ±2 |  |  |
| 5 |  |  |  |  | 23 | ±2 |  |  |
| 6 |  |  |  |  | 23 | ±2 |  |  |
| 7 |  |  |  |  | 23 | ±22 |  |  |
| 8 |  |  |  |  | 23 | ±22 |  |  |
| 9 |  |  |  |  | 23 | ±2 |  |  |
| 10 |  |  |  |  | 23 | ±2 |  |  |
| 11 |  |  |  |  | 23 | ±2 |  |  |
| 12 | 31 | +2/-3 |  |  | 23 | ±22 |  |  |
| 13 |  |  |  |  | 23 | ±2 |  |  |
| 14 | 31 | +2/-3 | 26 | ±2 | 23 | ±2 |  |  |
| … |  |  |  |  |  |  |  |  |
| 17 |  |  |  |  | 23 | ±2 |  |  |
| 18 |  |  |  |  | 23 | ±25 |  |  |
| 19 |  |  |  |  | 23 | ±2 |  |  |
| 20 | 31 | +2/-3 |  |  | 23 | ±22 |  |  |
| 21 |  |  |  |  | 23 | ±2 |  |  |
| 22 |  |  |  |  | 23 | +2/-3.52 |  |  |
| 23 |  |  |  |  | 236 | ±26 |  |  |
| 24 |  |  |  |  | 23 | +2/-32 |  |  |
| 25 |  |  |  |  | 23 | ±22 |  |  |
| 26 |  |  |  |  | 23 | ±22 |  |  |
| 27 |  |  |  |  | 23 | ±2 |  |  |
| 28 | 31 | +2/-3 |  |  | 23 | +2/-2.5 |  |  |
| 30 |  |  |  |  | 23 | ±2 |  |  |
| 31 | 31 | +2/-3 |  |  | 23 | ±2 |  |  |
| … |  |  |  |  |  |  |  |  |
| 33 |  |  |  |  | 23 | ±2 |  |  |
| 34 |  |  |  |  | 23 | ±2 |  |  |
| 35 |  |  |  |  | 23 | ±2 |  |  |
| 36 |  |  |  |  | 23 | ±2 |  |  |
| 37 |  |  |  |  | 23 | ±2 |  |  |
| 38 |  |  | 26 | ±2 | 23 | ±2 |  |  |
| 39 |  |  |  |  | 23 | ±2 |  |  |
| 40 | 31 | +2/-3 | 26 | ±2 | 23 | ±2 |  |  |
| 41 |  |  | 26 | ±22 | 23 | ±22 |  |  |
| 42 | 31 | +2/-3 | 26 | +2/-3 | 23 | +2/-3 |  |  |
| 43 |  |  |  |  | 23 | +2/-3 |  |  |
| 44 |  |  |  |  | 23 | +2/[-3] |  |  |
| 45 |  |  |  |  | 23 | ±2 |  |  |
| … |  |  |  |  |  |  |  |  |
| 47 |  |  | 26 | ±2 | 23 | ±2 |  |  |
| 48 |  |  |  |  | 23 | +2/-3 |  |  |
| 50 |  |  |  |  | 23 | ±2 |  |  |
| 51 |  |  |  |  | 23 | ±2 |  |  |
| 52 |  |  |  |  | 23 | +2/-3 |  |  |
| 53 |  |  |  |  | 23 | ±2 |  |  |
| 54 |  |  |  |  | 23 | ±2 |  |  |
| 65 |  |  |  |  | 23 | ±2 |  |  |
| 66 |  |  |  |  | 23 | ±2 |  |  |
| 68 |  |  |  |  | 23 | ±2 |  |  |
| … |  |  |  |  |  |  |  |  |
| 70 |  |  |  |  | 23 | ±2 |  |  |
| 71 |  |  |  |  | 23 | +2/-2.5 |  |  |
| 72 | 31 | +2/-3 |  |  | 23 | ±2 |  |  |
| 73 |  |  |  |  | 23 | ±2 |  |  |
| 74 |  |  |  |  | 23 | ±2 |  |  |
| 85 |  |  |  |  | 23 | ±22 |  |  |
| 87 | 31 | +2/-3 |  |  | 23 | ±2 |  |  |
| 88 | 31 | +2/-3 |  |  | 23 | ±2 |  |  |
| 106 | 31 | +2/-3 |  |  | 23 | ±2 |  |  |
| NOTE 1: Void  NOTE 2: 2 refers to the transmission bandwidths (Figure 5.6-1) 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 3: For the UE which supports both Band 11 and Band 21 operating frequencies, the tolerance is FFS.  NOTE 4: PPowerClass is the maximum UE power specified without taking into account the tolerance  NOTE 5: For a UE that supports both Band 18 and Band 26, the maximum output power requirement is relaxed by reducing the lower tolerance limit by 1.5 dB for transmission bandwidths confined within 815 MHz and 818 MHz.  NOTE 6: When NS\_20 is signalled, the total output power within 2000-2005 MHz shall be limited to 7 dBm.  NOTE 7: Void.  NOTE 8: Generally, PC1 UE is not targeted for smartphone form factor.  NOTE 9: Void. | | | | | | | | |

The default power class PPowerClass\_Default for an operating band is Power Class 3 unless otherwise stated.

For a power class 2 capable UE operating on Band 41, when an IE *P-max* as defined in TS 36.331 [7] of 23 dBm or lower is indicated in the cell or if the uplink/downlink configuration is 0 or 6, the requirements for power class 2 are not applicable, and the corresponding requirements for a power class 3 UE shall apply.

For each supported frequency band other than Band 14 and Band 41, the UE shall:

- if the UE supports a different power class than the default UE power class for the band and the supported power class enables the higher maximum output power than that of the default power class:

- if the band is a TDD band whose frame configuration is 0 or 6; or

- if the IE *P-Max* as defined in TS 36.331 [7] is not provided; or

- if the IE *P-Ma*x as defined in TS 36.331 [7] is provided and set to the maximum output power of the default power class or lower;

- meet all requirements for the default power class of the operating band in which the UE is operating and set its configured transmitted power as specified in sub-clause 6.2.5;

- else (i.e the IE *P-Max* as defined in TS 36.331 [7] is provided and set to the higher value than the maximum output power of the default power class):

- meet all requirements for the supported power class and set its configured transmitted power class as specified in sub-clause 6.2.5;

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* End of changes \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*