**3GPP TSG-RAN WG4 Meeting # 109 R4-2319575**

**Chicago, USA, November 13 – November 17, 2023**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.101-5** | **CR** |  | **rev** |  | **Current version:** | **18.3.0** |  |
|  | | | | | | | | |
| *For* ***[HE](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_blank)******[LP](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_blank)*** *on using this form: comprehensive instructions can be found at  <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 TS 38.101-5: NTN Ka-band introduction – sub-clause 9.2.3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_NTN\_enh-Core | | | | |  | ***Date:*** | | | 2023-11-13 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | This CR introduces requirements for NTN Ka bands according to the agreed work split. Sub-clause 9.2.3. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The configured transmitted power clause has been specified assuming the following features are not supported at least in this release (partly discussed offline):   * MPR * A-MPR * Multi-band support and peak EIRP relaxation ΔMBP (not specified in 9.2.1) * Suport for *mpr-PowerBoost-FR2-r16 (*DPIBE) * Power management MPR (P-MPRf,c) * maxUplinkDutyCycle-FR2 usage (used for EMF) | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The NTN ka-bands won’t be correctly supported | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 9.2.3 (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 the change>*

### 9.2.3. Configured transmitted power

The NTN UE can configure its maximum output power. The configured NTN UE maximum output power PCMAX,f,c for carrier f of a serving cell c is defined as that available to the reference point of a given transmitter branch that corresponds to the reference point of the higher-layer filtered RSRP measurement as specified in TS 38.215 [11].

The configured NTN UE maximum output power PCMAX,f,c for carrier *f* of a serving cell *c* shall be set such that the corresponding measured peak EIRP PUMAX,f,c is within the following bounds

PPowerclass ≤ PUMAX,f,c ≤ EIRPmax

while the corresponding measured total radiated power PTMAX,f,c is bounded by

PTMAX,f,c ≤ TRPmax

with PPowerclass the NTN UE minimum peak EIRP as specified in sub-clause 9.2.1, EIRPmax the applicable maximum EIRP as specified in sub-clause 9.2.1, and TRPmax the maximum TRP for the NTN UE power class as specified in sub-clause 9.2.1. The requirement is verified in beam peak direction.

The tolerance T(∆P) for applicable values of ∆P (values in dB) is specified in Table 9.2.3-1.

Table 9.2.3-1: PUMAX,f,c tolerance for FR2-NTN

|  |  |  |
| --- | --- | --- |
| Operating Band | ∆P (dB) | Tolerance T(∆P)  (dB) |
| n510, n511, n512 | P = 0 | 0 |
|  | 0 < P ≤ 2 | 1.5 |
|  | 2 < P ≤ 3 | 2.0 |
|  | 3 < P ≤ 4 | 3.0 |
|  | 4 < P ≤ 5 | 4.0 |
|  | 5 < P ≤ 10 | 5.0 |
|  | 10 < P ≤ 15 | 7.0 |
|  | 15 < P ≤ X | 8.0 |
| NOTE: X is the value such that Pumax,f,c lower bound, PPowerclass - P – T(P) = minimum output power specified in clause 6.3.1 | | |

*<End of the change>*