**3GPP TSG-RAN WG4 Meeting # 109 [R4-2321970](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2321970.zip)**

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

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.101-5** | **CR** |  | **rev** | **1** | **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 Clause 10.4 Maximum input power requirement | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE Corporation | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_NTN\_enh-Core | | | | |  | ***Date:*** | | | 2023-10-31 |
|  |  | | | |  | |  | | |  |
| ***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 VSAT requirements for NTN Ka bands according to the agreed work split. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | To introduce the NTN VSAT maximum input power requirement. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The NTN ka-bands won’t be correctly supported | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 10.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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>*

## 10.4 Maximum input level

### 10.4.1 General

The maximum input level is defined as the maximum mean power, for which the throughput shall meet or exceed the minimum requirements for the specified reference measurement channel.

The maximum input level is defined as a directional requirement. The requirement is verified in beam locked mode in the direction where peak gain is achieved.

### 10.4.2 Minimum requirement for Mobile VSAT

For mobile VSAT, the throughput shall be ≥ 95 % of the maximum throughput of the reference measurement channels as specified in Annex A (with one sided dynamic OCNG Pattern for the DL-signal as described in Annex A.x.x.x) with parameters specified in Table 10.4.2-1. The requirement is verified with the test metric of EIS (Link=RX beam peak direction, Meas=Link angle).

Table 10.4.2-1: Maximum input level for VSAT type 4 and type 5

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Rx Parameter | Units | Channel bandwidth | | | |
|  |  | 50 MHz | 100 MHz | 200 MHz | 400 MHz |
| Power in transmission bandwidth configuration | dBm | -[TBD](NOTE 2) | | | |
| NOTE 1: The transmitter shall be set to 4 dB below the PUMAX,f,c as defined in clause 9.2.3, with uplink configuration specified in Table 10.3-x.  NOTE 2: Reference measurement channel is specified in Annex A.3.3.2: QPSK, R=1/3 variant with one sided dynamic OCNG Pattern as described in Annex A. | | | | | |

### 10.4.3 Minimum requirement for Fixed VSAT

For fixed VSAT, the throughput shall be ≥ 95 % of the maximum throughput of the reference measurement channels as specified in Annex A (with one sided dynamic OCNG Pattern for the DL-signal as described in Annex A.x.x.x) with parameters specified in Table 10.4.3.-1 and 10.4.3-2. The requirement is verified with the test metric of EIS (Link=RX beam peak direction, Meas=Link angle).

Table 10.4.3-1: Maximum input level for VSAT type 1, 2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Rx Parameter | Units | Channel bandwidth | | | |
|  |  | 50 MHz | 100 MHz | 200 MHz | 400 MHz |
| Power in transmission bandwidth configuration | dBm | -[TBD](NOTE 2) | | | |
| NOTE 1: The transmitter shall be set to 4 dB below the PUMAX,f,c as defined in clause 9.2.3, with uplink configuration specified in Table 10.3-x.  NOTE 2: Reference measurement channel is specified in Annex A.3.3.2: QPSK, R=1/3 variant with one sided dynamic OCNG Pattern as described in Annex A. | | | | | |

Table 10.4.3-2: Maximum input level for VSAT type 3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Rx Parameter | Units | Channel bandwidth | | | |
|  |  | 50 MHz | 100 MHz | 200 MHz | 400 MHz |
| Power in transmission bandwidth configuration | dBm | -[TBD](NOTE 2) | | | |
| NOTE 1: The transmitter shall be set to 4 dB below the PUMAX,f,c as defined in clause 9.2.3, with uplink configuration specified in Table 10.3-x.  NOTE 2: Reference measurement channel is specified in Annex A.3.3.2: QPSK, R=1/3 variant with one sided dynamic OCNG Pattern as described in Annex A. | | | | | |

*<Start of the change>*