**3GPP TSG- Meeting #**

**Fukuoka, Japan, 20 – 24 May 2024**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** |  | **rev** | **1** | **Current version:** |  |  |
|  |
| *For* [***HELP***](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 |  | Radio Access Network | **X** | Core Network |  |

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| --- |
|  |
| ***Title:***  | (NR\_IAB-Core) CR to TS 38.174: maintenance to IAB requirements |
|  |  |
| ***Source to WG:*** | Nokia, Qualcomm Inc. |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_IAB-Core |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** | Rel-16 |
|  | *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 canbe 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:*** | Update core spec via removal of brackets from power control requirements |
|  |  |
| ***Summary of change:*** | Removal of brackets for power control requirements for legacy IAB-MT. |
|  |  |
| ***Consequences if not approved:*** | Core specification will still include brackets for several RF requirements |
|  |  |
| ***Clauses affected:*** | 6.3.3, 9.4.3 |
|  |  |
|  | **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:*** | Revision of R4-2409070: brackets for [21ms] removed for 6.3.3.2. |

**< Start of change >**

6.3.3 Power control

6.3.3.1 Relative power tolerance for local area IAB-MT type 1-H

The relative power tolerance is the ability of the transmitter to set its output power in a target sub-frame (1 ms) relatively to the power of the most recently transmitted reference sub-frame (1 ms) if the transmission gap between these sub-frames is less than or equal to 20 ms.

The minimum requirements specified for each *TAB-connector* in Table 6.3.3.1-1 apply only when the output power is within the limits set by declared maximum output power and specified dynamic range.

2 exceptions are allowed for each of two test patterns. The test patterns are a monotonically increasing power sweep and a monotonically decreasing power sweep. For those exceptions, the power tolerance limit is a maximum of ± 6.0 dB in Table 6.3.3.1-1.

**Table 6.3.3.1-1: Relative power tolerance**

|  |  |
| --- | --- |
| **Power step P (Up or down)****(dB)** | **Power tolerance (dB)** |
| ΔP < 2 | ± 2.5 |
| 2 ≤ ΔP < 3 | ± 3.5 |
| 3 ≤ ΔP < 4 | ± 4.5 |
| 4 ≤ ΔP < 10 | ± 5.5 |

6.3.3.2 Aggregate power tolerance for local area IAB-MT type 1-H

The aggregate power control tolerance is the ability of the transmitter to maintain its power in a sub-frame (1 ms) during non-contiguous transmissions within 21 ms in response to 0 dB commands with respect to the first transmission and all other power control parameters as specified in 3GPP TS 38.213 [10] kept constant.

The minimum requirements specified for each *TAB-connector* in Table 6.3.3.2-1 apply only when the output power is within the limits set by declared maximum output power and specified dynamic range.

**Table 6.3.3.2-1: Aggregate power tolerance**

|  |  |  |
| --- | --- | --- |
| **TPC command** | **UL channel** | **Aggregate power tolerance within [21 ms]** |
| 0 dB | PUCCH | ± 2.5 dB |
| 0 dB | PUSCH | ± 3.5 dB |

**< End of change >**

**< Start of change >**

9.4.3 Power control

9.4.3.1 Power control for local area IAB-MT type 1-O

9.4.3.1.1 Relative EIRP tolerance for local area IAB-MT type 1-O

The relative EIRP tolerance is the ability of the transmitter to set its radiated output power in a target sub-frame (1 ms) relatively to the power of the most recently transmitted reference sub-frame (1 ms) if the transmission gap between these sub-frames is 20 ms.

The minimum requirements specified in Table 9.4.3.1.1-1 apply only when the output power is within the limits set by declared maximum output power and specified dynamic range.

2 exceptions are allowed for each of two test patterns. The test patterns are a monotonically increasing power sweep and a monotonically decreasing power sweep. For those exceptions, the power tolerance limit is a maximum of ± 11.0 dB in Table 9.4.3.1.1-1.

**Table 9.4.3.1.1-1: Relative EIRP tolerance for local area IAB-MT type 1-O**

|  |  |
| --- | --- |
| **Power step ∆P (Up or down)** **(dB)** | **EIRP tolerance (dB)** |
| ΔP < 2 | ± 2.5 |
| 2 ≤ ΔP < 3 | ± 3.5 |
| 3 ≤ ΔP < 4 | ± 4.5 |
| 4 ≤ ΔP < 10 | ± 5.5 |

9.4.3.1.2 Aggregate EIRP tolerance for local area IAB-MT type 1-O

The aggregate EIRP control tolerance is the ability of the transmitter to maintain its EIRP in a sub-frame (1 ms) during non-contiguous transmissions within 21ms in response to 0 dB TPC commands with respect to the first UE transmission and all other power control parameters as specified in 3GPP TS 38.213 [10] kept constant.

The minimum requirements specified in Table 9.4.3.1.2-1 apply only when the output power is within the limits set by declared maximum output power and specified dynamic range.

**Table 9.4.3.1.2-1: Aggregate power tolerance for local area IAB-MT type 1-O**

|  |  |  |
| --- | --- | --- |
| **TPC command** | **UL channel** | **Aggregate EIRP tolerance within [21 ms]** |
| 0 dB | PUCCH | ± 2.5 dB |
| 0 dB | PUSCH | ± 3.5 dB |

9.4.3.2 Power control for local area IAB-MT type 2-O

9.4.3.2.1 Relative EIRP tolerance for local area IAB-MT type 2-O

The relative EIRP tolerance is the ability of the transmitter to set its radiated output power in a target sub-frame (1 ms) relatively to the power of the most recently transmitted reference sub-frame (1 ms) if the transmission gap between these sub-frames is 20 ms.

The minimum requirements specified in Table 9.4.3.1.1-1 apply only when the output power is within the limits set by declared maximum output power and specified dynamic range.

2 exceptions are allowed for each of two test patterns. The test patterns are a monotonically increasing power sweep and a monotonically decreasing power sweep. For those exceptions, the power tolerance limit is a maximum of ± 11.0 dB in Table 9.4.3.1.1-1.

**Table 9.4.3.2.1-1: Relative EIRP tolerance for local area IAB-MT type 2-O**

|  |  |
| --- | --- |
| **Power step ∆P (Up or down)** **(dB)** | **EIRP tolerance (dB)** |
| ΔP < 2 | ±3.0 |
| 2 ≤ ΔP < 3 | ±4.0 |
| 3 ≤ ΔP < 4 | ±5.0 |
| 4 ≤ ΔP < 10 | ±6.0 |

9.4.3.2.2 Aggregate EIRP tolerance for local area IAB-MT type 2-O

The aggregate EIRP control tolerance is the ability of the transmitter to maintain its EIRP in a sub-frame (1 ms) during non-contiguous transmissions within 21ms in response to 0 dB TPC commands with respect to the first UE transmission and all other power control parameters as specified in 3GPP TS 38.213 [10] kept constant.

The minimum requirements specified in Table 9.4.3.1.2-1 apply only when the output power is within the limits set by declared maximum output power and specified dynamic range.

**Table 9.4.3.2.2-1: Aggregate power tolerance for local area IAB-MT type 2-O**

|  |  |  |
| --- | --- | --- |
| **TPC command** | **UL channel** | **Aggregate EIRP tolerance within [21 ms]** |
| 0 dB | PUCCH | ± 3.5 dB |
| 0 dB | PUSCH | ± 3.5 dB |

**< End of change >**