**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 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:*** | | 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 >**