**3GPP TSG-RAN WG4 Meeting #** **116 R4-2511725**

**Bengaluru, India, August 25th – 29th, 2025**

Title: draft TP for TS 38.194 to introduce base station output power and transmit ON/OFF power

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Agenda item: 7.22.3.1

Document for: Approval

# Introduction

This contribution provides a draft TP to TS 38.194 for A-IoT BS Tx requirements. The agreements of Tx requirements in the WF [2] are included in the TP.

# Reference

[1] TS 38.194, V0.1.0

[2] R4-2508101, “WF on A-IoT BS and CW requirements”, Huawei, RAN4#115

# TP for TS 38.194

6.2 Base station output power

6.2.1 General

The A-IoT BS conducted output power requirement is at *antenna connector* for *A-IoT BS type 1-C*.

The *rated carrier output power* of the *A-IoT BS type 1-C* shall be less than or equal to 38dBm.

6.4 Transmit ON/OFF power

6.4.1 Transmitter OFF power

#### 6.4.1.1 General

Transmitter OFF power for A-IoT BS is defined as the mean power measured over 70/N us filtered with a square filter of bandwidth equal to the *transmission bandwidth configuration* of the BS (BWConfig) centred on the assigned channel frequency during the *transmitter OFF period*. N = SCS/15, where SCS is Sub Carrier Spacing in kHz.

#### 6.4.1.2 Minimum requirement for *A-IoT BS type 1-C*

For *A-IoT* *BS type 1-C*, the requirements for transmitter OFF power spectral density shall be less than -85 dBm/MHz per *antenna connector*.

6.4.2 *Transmitter transient period*

#### 6.4.2.1 General

The *transmitter transient period* for A-IoT BS is the time period during which the transmitter is changing from the *transmitter OFF period* to the *transmitter ON period* or vice versa. The *transmitter transient period* is illustrated in figure 6.4.2.1-1.

Transmitter output power

Time

Transmitter ON period

(DL transmission)

Transmitter OFF

period

Transmitter OFF

period

Transmitter transient

period

OFF power level

ON power level

UL transmission

GP or UL transmission

**Figure 6.4.2.1-1: Example of relations between transmitter ON period, transmitter OFF period and *transmitter transient period***

For *A-IoT BS type 1-C*, this requirement shall be applied at the *antenna connector* supporting transmission in the operating band.

#### 6.4.2.2 Minimum requirement for *A-IoT BS type 1-C*

For *A-IoT BS type 1-C*, the *transmitter transient period* shall be shorter than the values listed in the minimum requirement table 6.4.2.2-1.

**Table 6.3.2.2-1: Minimum requirement for the *transmitter transient period* for *A-IoT BS type 1-C***

|  |  |
| --- | --- |
| **Transition** | **Transient period length (µs)** |
| OFF to ON | 10 |
| ON to OFF | 10 |