**3GPP TSG-RAN WG4 Meeting # 116 R4-2511434**

**Bangalore, India, August 25 - 29, 2025**

**Source:** Ericsson, Sony

**Title:** A-IoT device requirement overview

**Agenda item:** 7.22.3.2

**Document for:** Discussion

# Introduction

In this paper, the TP for backscatter power loss is proposed.

# TP proposal

6.2 Transmitter power

### 6.2.1 UE maximum output power

6.2.1.1 UE maximum output power for device type 1

The maximum backscatter loss is defined as the difference between the input CW power at the device antenna in dB scale to the backscatter power at the device antenna in dB scale. The backscatter power is defined as mean filtered power measured over the duration of the D2R signal at the measurement direction.

The basckscatter loss shall be met in Table 6.2.1.1-1 with the test parameters defined in Annex X, with the UE declared measurement direction.

Table 6.2.1.1-1: Maximum backscatter loss

|  |  |  |  |
| --- | --- | --- | --- |
| Operating band | Maximum backscatter loss (dB) | | CW power at the device antenna (dBm) |
| n8 | OOK | 10 | -27 |
| BPSK | 6 |
| OOK | 15 | -15 |
| BPSK | 11 |

Annex X (normative):

The test configuration for backscattering loss

The test configuration in Table X.1-1 is defined to be used for testing the backscattering loss requirement defined in section 6.2.1

Table X.1-1: Test configuraton

|  |  |
| --- | --- |
| Test parameter | value |
| D2R channel bandwidth (kHz) | (2000\*(1+Tb/(2Tc))/Tb)\* 1.1/0.9 |
| CW frequency (MHz) | According to TS 38.192 |
| Filter centre frequency | CW frequency |
| Filter frequency offset | 1/Tc |
| Filter bandwidth | 2/Tb \*1.1 |