3GPP TSG-RAN WG4 Meeting # 102-e R4-2205981

Electronic Meeting, 21 Feb – 03 Mar, 2022

**Source:** Huawei

**Title:** TP to TS 38.108: section 10.7 (OTA Rx spur) and 10.8 (OTA Rx IMD)

**Agenda Item:** 10.13.3.2

**Document for:** Approval

# Introduction

Based on the worksplit agreed in [1] (Issue 3-3-2), in this contribution a TP to TS 38.108 section 10.7 (OTA Rx spur) and 10.8 (OTA Rx IMD) is provided for approval.

TS 38.108 skeleton in [2] was used as the starting point.

As the OTA Rx spurious emissions requirements was subject to the emission scaling in the NR specification, please refer to the related discussion paper in [3]. As multiple open issues were identified, part of the proposed TP text is captured in [] until the technical conclusion is reached.

# Conclusions

**Proposal 1**: Approve the attached TP to TS 38.108.

# References

[1] R4-2203080 Way Forward on NTN\_solutions\_Part1, RAN4#101bis-e

[2] R4-2203087 Skeleton for TS 38.108 NR Satellite Access Node radio transmission and reception v0.0.1, RAN4#101bis-e

[3] R4-2205978 Discussion on the AAS architecture and consideration of the emissions scaling

# Annex A: TP to TS 38.108

*------------------------------ Modified sections ------------------------------*

## 10.7 OTA receiver spurious emissions

### 10.7.1 General

The OTA RX spurious emission is the power of the emissions radiated from the antenna array from a receiver unit.

The metric used to capture OTA receiver spurious emissions for *SAN type 1-O* is *total radiated power* (TRP), with the requirement defined at the RIB.

### 10.7.2 Minimum requirement for *SAN type 1-O*

For a SAN operating in FDD, OTA RX spurious emissions requirement do not apply as they are superseded by the OTA TX spurious emissions requirement. This is due to the fact that TX and RX spurious emissions cannot be distinguished in OTA domain.

[The OTA RX spurious emissions requirement for *SAN type 1-O* is that for each *basic limit* specified in table 10.7.2‑1*,* the power sum of emissions at the RIB shall not exceed limits specified as the *basic limit* + X, where X = 9 dB, unless stated differently in regional regulation.]

Table 10.7.2-1: General SAN receiver spurious emission basic limits for *SAN type 1-O*

|  |  |  |  |
| --- | --- | --- | --- |
| Spurious frequency range | *Basic limit* | Measurement bandwidth | Notes |
| 30 MHz – 1 GHz | -36 dBm | 100 kHz | Note 1 |
| 1 GHz – 12.75 GHz |  | 1 MHz | Note 1, Note 2 |
| 12.75 GHz – 5th harmonic of the upper frequency edge of the UL *operating band* in GHz | -30 dBm | 1 MHz | Note 1, Note 2 |
| NOTE 1: Measurement bandwidths as in ITU-R SM.329 [2], s4.1.NOTE 2: Upper frequency as in ITU-R SM.329 [2], s2.5 table 1.NOTE 3: The frequency range from ΔfOBUE below the lowest frequency of the SAN transmitter *operating band* to ΔfOBUE above the highest frequency of the SAN transmitter *operating band* may be excluded from the requirement. ΔfOBUE is defined in clause 9.7.1.  |

## 10.8 OTA receiver intermodulation

The requirement is not applicable in this version of the specification.

*------------------------------ End of modified section ------------------------------*