**3GPP TSG-RAN4 Meeting #102-e *R4-2205056***

Electronic meeting, February 21 – March 3, 2022

**Source:** Ericsson

**Title:** pCR to TS 38.108 – in-band selectivity and blocking

**Agenda item:** 10.13.3.4

**Document for:** Approval

# Background

Based on the various agreements from past RAN4 meetings, the following test is proposed for TS 38.108:

* In-band selectivity and blocking

Note this pCR is assuming 3 SAN classes will be defined: LEO600, LEO1200 and GEO.

For ACS, the interferer level is calculated as in TR 38.817-2:

Interfering signal power level = BS noise floor + ACS + 4.7dB = ‑174 dBm/Hz+10\*log10(BW) + NF + ACS + 4.7 dB

With SAN ACS = [38] dBc, values are kept in [] then.

For in-band and narrow band blocking, those requirements would not be needed for SAN.

# Proposal

It is proposed that the proposed text related to in-band selectivity and blocking here after is included in TS 38.108 [1].

# References

1. TS 38.108, Satellite Access Node radio transmission and reception

# Text proposal

*<Start of the change>*

## 7.4 In-band selectivity and blocking

### 7.4.1 Adjacent Channel Selectivity (ACS)

#### 7.4.1.1 General

 Adjacent channel selectivity (ACS) is a measure of the receiver's ability to receive a wanted signal at its assigned channel frequency at *TAB connector* for *SAN type 1-H* in the presence of an adjacent channel signal with a specified center frequency offset of the interfering signal to the band edge of a victim system.

#### 7.4.1.2 Minimum requirements for Satellite Access Node

The throughput shall be ≥ 95% of the maximum throughput of the reference measurement channel.

For SAN, the wanted and the interfering signal coupled to the *SAN type 1-H* *TAB connector* are specified in table 7.4.1.2-1 and the frequency offset between the wanted and interfering signal in table 7.4.1.2-2 for ACS. The reference measurement channel for the wanted signal is identified in table 7.2.2-1, 7.2.2-2 and 7.2.2-3 for each *SAN channel bandwidth* in any operating band and further specified in annex A.1. The characteristic of the interfering signal is further specified in annex D.

The ACS requirement is applicable outside the *SAN RF Bandwidth* or *Radio Bandwidth*. The interfering signal offset is defined relative to the *SAN RF Bandwidth* edges or *Radio Bandwidth* edges.

Minimum conducted requirement is defined at the *TAB connector* for *SAN type 1-H.*

Table 7.4.1.2-1: Satellite Access Node ACS requirement

|  |  |  |
| --- | --- | --- |
| *SAN channel bandwidth* of the lowest/*highest carrier* received (MHz) | Wanted signal mean power (dBm) | Interfering signal mean power (dBm) |
| 5, 10, 15, 20 (Note 1) | PREFSENS + 6 dB | GEO SAN: [-57]LEO1200 SAN: [-60]LEO600 SAN: [-60] |
| NOTE 1: The SCS for the lowest/highest carrier received is the lowest SCS supported by the SAN for that bandwidth.NOTE 2: PREFSENS depends on the *SAN channel bandwidth* as specified in table 7.2.2-1.  |

Table 7.4.1.2-2: Satellite Access Node ACS interferer frequency offset values

|  |  |  |
| --- | --- | --- |
| *SAN channel bandwidth* of the *lowest/highest carrier* received (MHz) | Interfering signal center frequency offset from the lower/upper *SAN RF Bandwidth edge* (MHz) | Type of interfering signal |
| 5 | ±2.5025 |  |
| 10 | ±2.5075 | 5 MHz DFT-s-OFDM NR signal |
| 15 | ±2.5125 | 15 kHz SCS, 25 RBs |
| 20 | ±2.5025 |  |
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### 7.4.2 In-band blocking

#### 7.4.2.1 General

The in-band blocking characteristics is a measure of the receiver's ability to receive a wanted signal at its assigned channel at the *TAB connector* for *SAN type 1-H* in the presence of an unwanted interferer, which is an NR signal for general blocking or an NR signal with one resource block for narrowband blocking.

#### 7.4.2.2 Minimum requirements for Satellite Access Node

In-band blocking requirement is not applicable for SAN.

*<End of the change>*