TSG-RAN Working Group 4 (Radio) meeting #98-bis-ER4-xxyyzzz

Electronic Meeting, 12th – 20th April 2021

**Source:** Ericsson

**Title:** WF on BS RF RX requirements for 52.6 – 71 GHz

**Agenda item:** 8.12.5.2

**Document for:** Approval

# Introduction

At RAN4#98-bis-E meeting BS RF receiver requirements was discussed. In this contribution a way-forward to summarize the discussion and give guidance for further discussion next meeting is captured.

# Agreements

Based on the discussion captured in [1] the following agreements was captured:

1. The radiated receiver characteristics requirements applying to the BS type 2-O should be considered as the starting point for NR operation in 52.6 – 71 GHz range. Final requirement values need further considerations.
2. Sensitivity is declared, FRCs will be discussed when minimum and maximum carrier bandwidths are known.
3. ACS and in-band blocking interferer bandwidth are adjusted taking into account applicable channel bandwidths
4. For receiver intermodulation the interferer levels for general receiver intermodulation for NR operation in 52.6 – 71 GHz range can be derived by applying an offset below the in-band blocking levels.
5. The current methodology to derive ICS value for BS type 2-O can be used as baseline to calculate the wanted and interfering signal levels for NR operation in 52.6 – 71 GHz range, but the value may be adjusted for this higher frequency range.
6. New FRCs should be defined for the larger SCSs with the channel bandwidth for NR operation in 52.6 – 71 GHz range, where the allocated RBs within the new FRCs should be scaled according to the target SCSs and channel bandwidth.

# Way Forward

Based on the discussion captured in [1] the following aspects needs further considerations.

1. Further consider derive ACS based on 70 GHz co-existence study in TR 38.803 or new co-existence simulation.
2. For out-of-band blocking consider:
   1. Re-use current FR2 OOB blocker level.
   2. ΔfOOB needs further consideration taking into account the expected wider operating bands in 52.6 – 71 GHz range.
   3. Test system feasibility needs to be considered together with setting upper frequency limit for blocker.
   4. Current measurement step size can be the starting point, but test time needs to be considering taking into account the extended upper frequency limit.
3. The receiver unwanted emissions in the spurious domain specified in ETSI EN 303 722 can be considered as starting point for at least unlicensed NR operation in 52.6 – 71 GHz range, and additional regional requirements can be specified to align with regulatory requirements in certain regions.

# References

[1] R4-2105983, “Email discussion summary for [98-bis-e][312] NR\_exto71GHz\_BSRF”, Nokia