

3GPP TSG RAN Meeting #103

Maastricht, Netherlands, March 18-21, 2024



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Title: Views on R19 topics impacting both RF and RRM
Document for: Discussion

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CONTENTS

- NTN evolution in RAN4
- ATG
- Sidelink

- Supportive of this scope.
- Prefer to define PC2 first in this release, then PC1/PC 1.5 in future release.
- Objective
 - Conduct co-existence simulation to support FR1 NR NTN/IoT-NTN PC2 UE.
 - Specify UE RF requirements for FR1 NR NTN/IoT-NTN PC2 UE.
 - Study and specify solutions/requirements to solve SAR issue for FR1 NR NTN/IoT-NTN PC2 UE if it's needed.
- Impacted TS
 - TS 38.101-5, TS 36.102

- Supportive of this scope.
- Objectives
 - Core
 - Check if TN 3MHz methodology can be reused including the solution in RAN1, RAN2 and RAN4.
 - Specify SAN and UE RF requirements to support 3MHz CBW for NR NTN FR1.
 - Specify RRM core requirements to support 3MHz CBW for NR NTN FR1.
 - Performance
 - Specify SAN RF conformance test to support 3MHz CBW for NR NTN FR1.
 - **Specify RRM performance requirements to support 3MHz CBW for NR NTN FR1.**
 - Specify demodulation requirements to support 3MHz CBW for NR NTN FR1.
- Impacted TS
 - TS 38.108, TS 38.181, TS 38.101-5, TS 38.133

NTN evolution in RAN4 (3/6)



- Enhanced Test Equipment-emulated channel model for NGSO (NR-NTN and IoT NTN)

- Supportive of this scope.
- Objectives
 - Core
 - Investigate and specify the channel model to accommodate the joint delay and Doppler variation for NGSO for both FR1 NR-NTN and IoT-NTN.
 - **Study if RRM core requirements need to be updated.**
 - Study if RF requirements need to be updated.
 - Performance
 - **Specify RRM performance requirements for this scenario.**
 - Specify UE demodulation requirements for this scenario.
 - Specify SAN demodulation requirements for this scenario.
- Impacted TS
 - For NR-NTN: TS 38.133, TS 38.101-5, TS 38.108, TS 38.181
 - For IoT-NTN: TS 36.133, TS 36.102, TS 36.108, TS 36.181

- Supportive of this scope, low priority if TU is limited.
- Objectives
 - Core
 - Define necessary RRM requirements to support Ka band mobile VSAT.
 - Check if co-existence simulation is needed or not.
 - Performance
 - Define RRM performance requirements to support Ka band mobile VSAT, as applicable.
- Impacted TS
 - TS 38.133

- In-band/guard band IoT-NTN co-existence with NR NTN

- Low priority.
- Objectives
 - Conduct co-existence simulation to support in-band IoT-NTN co-existence with NR NTN.
 - Investigate the feasibility to support guard band IoT-NTN co-existence with NR NTN.
 - Conduct co-existence simulation to support guard band IoT-NTN co-existence with NR NTN if it's feasible.
 - Specify corresponding SAN RF requirements.
 - Specify corresponding SAN RF conformance test requirements.
- Impacted TS
 - TS 38.108, TS 38.181

NTN evolution in RAN4 (6/6)

- Summary



- CATT view for the top 3 priority topics in NTN
 - HPUE for FR1 NR NTN and IoT NTN
 - PC2 is prioritized.
 - NR Channel BW less than 5 MHz for FR1 NR NTN
 - Enhanced Test Equipment-emulated channel model for NGSO
- Low priority if TU is limited
 - Mobile VSAT for NR NTN FR2.
 - In-band/guard band IoT-NTN co-existence with NR NTN.

- Supportive to prioritize FR1 CA.
- Both intra-band and inter-band CA can be considered.
- Objectives
 - Core
 - Specify ATG BS and ATG UE RF requirements for intra-band and inter-band FR1 CA.
 - Specify ATG UE RRM core requirements for intra-band and inter-band FR1 CA.
 - Performance
 - Specify ATG BS RF conformance test for intra-band and inter-band FR1 CA.
 - Specify ATG UE RRM performance requirements for intra-band and inter-band FR1 CA.
 - Specify ATG BS and UE demodulation requirements for intra-band and inter-band FR1 CA.
- Impacted TS
 - TS 38.104, TS 38.101-1, TS 38.133

- Supportive to focus on intra-band non-contiguous CA.
- Objectives
 - Specify necessary RF requirements for sidelink CA
 - Specify necessary RRM requirements for sidelink CA if any
- Impacted TS
 - TS 38.101-1, TS 38.133

- RP-240019, Proposed Summary for RAN Rel-19 Package: RAN4 Part, RAN#103, RAN Chair, RAN4 Chair
- RP-233918, Moderator's summary for RAN4 Candidate RF/OTA Topics for Rel-19, RAN#102
- RP-233920, Moderator's summary for RAN4 Candidate Topics Impacting both RF/OTA and Demod/RRM for Rel-19, RAN#102

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Thank you!



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