

3GPP TSG RAN #93-e
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Considerations on upcoming submissions to ITU

Background



- The set of RAN4 specifications to be used for Rel-17 NR NTN needs to be decided for RAN4 to proceed with normative work.
- 3GPP TSG RAN should be able to provide a consistent set of specifications towards relevant external groups

Status of RAN4 specifications for NR NTN



- In last RAN meeting, it was agreed to have the following new NTN TSs:
 - TS 38.108: NR; Satellite Node radio transmission and reception. This TS will include all NTN satellite BS core requirements.
 - All satellite bands should be listed in this TS.
 - TS 38.181: NR; Satellite Node radio conformance testing. This TS will specify NTN satellite BS test procedures, test limits, ...
 - No satellite band should be listed in this TS.
- In last RAN4 meeting the creation of new TSs for Satellite UE RF requirements and RRM requirements was discussed, without reaching agreement

Considerations for Satellite UE specifications



1. Satellite node is already separate new TS, it would be consistent to have new dedicated TS for UE as well.
 - It would be coherent to have new separate TS specifying Satellite UE types and bands requirements, and not spread Satellite UE requirements in existing NR UE TS and new Satellite UE TS.
 - This would also enable the possibility to separate RAN4 NTN specific specifications (from TN specs), for both UE and BS, in future 3GPP submissions to external orgs, as needed
2. TS 38.101-1 is already huge/complex document
 - Adding more UE satellite requirements will just make things worse.

Considerations for Satellite RRM specifications



For RRM requirements specification similar observations and considerations can be made

1. Satellite node is already separate new TS, it would be consistent to have new dedicated TS for UE and RRM as well.
2. TS 38.133 is already huge/complex document,
 - Adding more RRM satellite requirements will just make things worse.



Proposed Way Forward for Satellite UE and RRM specifications

- Proposal 1:
 - Create new separate TS specifying UE radio transmission and reception for satellite access
 - Including satellite bands
- Proposal 2:
 - Create new separate TS specifying Radio resource management requirements for satellite access

Conclusions and Proposals



- RAN4 needs a decision on specifications for Satellite UE and RRM requirements
- Separate specifications for Satellite UE and RRM requirements
 - enables more consistent/aligned approach between Satellite node, UE and RRM specs; and
 - is more future proof than mixing Satellite and TN requirements in the same UE and RRM specifications, e.g. to separate ITU submissions for TN or NTN radio technologies
- It is proposed to
 - Proposal 1: Create new separate TS specifying UE radio transmission and reception for satellite access, including satellite bands
 - Proposal 2: Create new separate TS specifying Radio resource management requirements for satellite access



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