China Academy of Telecommunication Technology

3GPP TSG RAN Meeting #102
Edinburgh, Scotland, December 11-15, 2023
Agenda: 9.1.4.4
Document for: Discussion

RP-233009

Views on candidate Topics Impacting both RF/OTA and Demod/RRM for Rel-19

CATT

Introduction

- Background
  - All the RAN4-led non-spectrum Rel-18 WIs are to be completed in RAN#102 and Rel-19 scope will be discussed.
  - In RAN#101 meeting, companies has provided many different proposals on the topics impacting both RF and RRM aspects.
  - To meet the market demand and operators' request, the following objectives are proposed in this paper:
    - ATG enhancement
      - New scenarios support, e.g., FR2 and CA.
      - New spectrum support based on operator request.
    - NTN enhancement
      - Introduce the support of HPUE
      - Introduce the support of RedCap UE
      - New spectrum support based on operator request

Candidate topics - ATG enhancement (1/2)

- Motivation
  - ATG deployment is much attractive to operators and aircraft industry to provide network connection during the flight travel.
  - The ATG WI in Rel-18 only considered FR1 and single carrier.
  - CA is important to improve the network capacity.
  - FR2 support is important to accommodate more scenarios and to reduce the interference.
- Objective
  - Specify the support of new scenarios for ATG:
    - Evaluate and specify the necessary RF and RRM requirements for FR2 ATG.
    - Evaluate and specify the necessary RF and RRM requirements for intra-band and inter-band CA for ATG.

Candidate topics - ATG enhancement (2/2)

- Motivation
  - Only part of bands are defined for ATG in Rel-18.
  - New spectrum including more TN bands or aviation bands can be considered in Rel-19 based on operators requests.
- Objective
  - Evaluate and specify the support of new spectrum for ATG.

Candidate topics - NTN enhancement (1/2)

- Motivation
  - The HPUE has been widely supported in TN deployment while only PC3 UE is considered in Rel-17/18 NTN.
  - The support of HPUE can improve the UL coverage and throughput performance.
- Objective
  - Specify the support of HPUE in NTN deployment:
    - Evaluate and specify the necessary RF requirements for FR1 NTN HPUE [RAN4].
      - If co-existence simulation is needed pending on RAN4 discussion.
    - Evaluate and specify the schemes to meet SAR requirements for handheld UEs, if it's needed [RAN4].
      - If there is RAN2 signaling impact then RAN4 will send LS to RAN2 to inform the solution.

Candidate topics - NTN enhancement (2/2)

- Motivation
  - RedCap UE is introduced for TN to reduce the cost which is also valuable for NTN network.
  - NTN coverage may benefit some scenarios which use RedCap devices e.g., monitoring.
- Objective
  - Specify the support of RedCap UE in NTN deployment:
    - Define the RF requirements for RedCap UE operating in satellite service allocated bands in FR1 [RAN4].
    - Define the RRM requirements for RedCap UE operating in NTN deployment [RAN4].
    - If there is RAN2 signaling impact then RAN4 will send LS to trigger the discussion.

THANK YOU