

3GPP TSG RAN #101

RP-232556

Bangalore, India, September 11th – 15th 2023

Overview of Rel-19 Content

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| Agenda Item: | 8A.1 |
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RAN-led and RAN plenary led proposals

- **AI/ML for Air-interface [RP-232556]**
 - SI to WI conversion
 - Data collection, LCM, beam prediction, CSI prediction
- **MIMO Enhancement [RP-232561]**
 - Massive MIMO with > 32 ports
 - Beam management, UL only TRP, STxMP enhancements, Asynchronous mTRP
- **Network Energy Saving [RP-232563]**
 - Enhancements not picked up in Rel-18
 - Common signal adaptation (including SSB, SIB1, PRACH, paging, etc), higher layer aspects
- **Positioning [RP-232560]**
 - Leftovers from Rel-18
 - DL/UL positioning in unlicensed band
 - SL positioning in unlicensed band
 - UL positioning in RRC_IDLE
- **Duplex Evolution [RP-232562]**
 - SI to WI conversion
 - Non-overlapped SBFD-based FD operation
 - UE-UE CLU measurements, Intra-cell, inter-SB interference mitigation for SBFD
- **Integrated Sensing and Communication Study (ISAC) [RP232559]**
 - RAN plenary led study into use cases, scenarios, and KPI for ISAC
 - Short SI – two quarters
- **Channel Modeling for Mid-band & ISAC [RP-232559]**
 - Start after RANP-led SI for ISAC
 - Spectrum/regulatory study not needed
 - Validation of 7 – 24 GHz large scale parameter modeling
 - Development of channel models for ISAC
- **Ambient IoT**
 - Anticipated to be part of Rel-19 package
 - Preference for full release study in Rel-19

RAN2 and RAN3 led proposals

- **XR Enhancements [RP-232554]**
 - Multi-modal data
 - Synchronised and coordinated transmissions
 - Multiple active C-DRX configurations
 - Differentiated handling of PDU sets with different importance within a QoS flow
 - PDU set discard based on inter-PDU set dependency
 - Measurement gap enhancement to mitigate impact on XR traffic
- **Security for UE configuration provided by DU [RP-232552]**
 - Address security associated with use of MAC CEs for UE configuration provided by DU
- **Protocol enhancements Study [co-sourced contributions RP-232430, RP-232322]**
 - Study into user plane protocol stack performance for emerging and future use cases and data rates
 - Control plane protocol enhancements (e.g. addressing security associated with use of MAC CEs)
- **Mobility Enhancement [RP-232553]**
 - LTM for PCell with SCG configuration
 - Inter-CU LTM
 - CHO for LTM
 - HARQ continuation during LTM operation
 - LTM based Early TA and RACHless for L3 HO
 - Selective activation of the MCG
- **AI/ML for NG-RAN [RP-232555]**
 - Support AI/ML in NG-RAN for NR-DC
 - Support model inference at gNB-DU
 - Model/Model Info sharing among NG-RANs
- **AI/ML for Mobility Study [RP-232555]**
 - Study benefits of AI/ML on mobility especially considering challenges in HO
 - E.g. Use AIML for UE trajectory prediction, HO parameter tuning to minimize power consumption, HO failure/ping-pong, signalling overhead, etc
- **NTN**
 - Anticipated to be part of Rel1-19 package
 - Careful selection of items required

RAN4-led proposal [RP-232441]

- **Requirements to enable mTRP operation with $RTD > CP$**
 - Extended set of UE RRM/Demod requirements for mTRP deployments operation with $RTD > CP$
- **Evolved FR2 multi-panel UE**
 - Multi-Rx: CA support; improved RF/RRM/Demod requirements; FR2-2
 - Multi-Tx: Baseline RF/RRM requirements
- **Measurement Gaps evolution**
 - Pre-configured NCSG
 - Enhanced collision handling for concurrent MGs
- **RRM requirements evolution**
 - Enhanced TCI state switch requirements
 - URLLC-enabling requirements
 - Improved Beam switching requirements
- **Demodulation Evolution**
 - BS MMSE-IRC for inter-cell interference
 - UE Soft IC receivers
 - Application layer throughput with OLLA
 - Irregular Channel Bandwidth
 - FR1 RF Evolution
 - FR1 6Rx
 - HPUEs evolution
 - mmWave multi-band BS
 - FR2 HST enhancements
 - ATG enhancements
 - Intra-band non-collated CA/EN-DC enhancements

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