

# MediaTek Views on RAN4 Rel-19

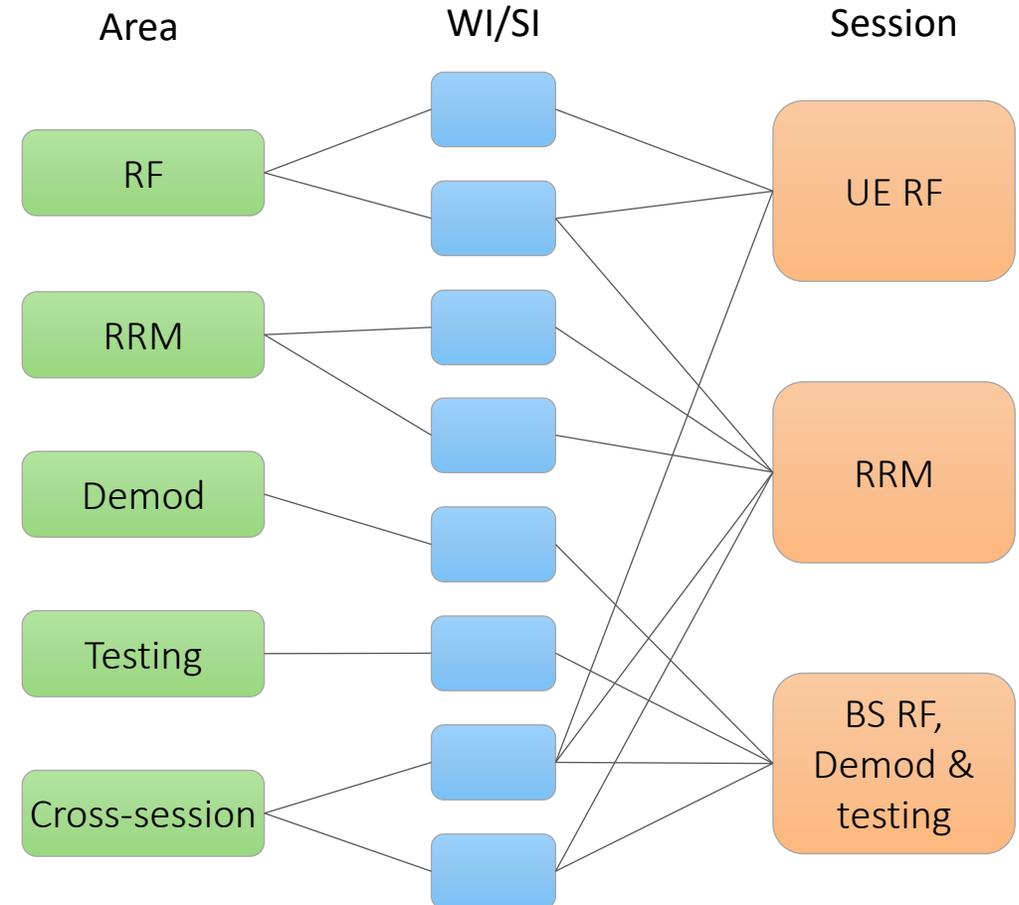
# Outline

- General views on RAN4-led WI handling
- Proposals to individual areas

# General views on handling RAN4-led WIs

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- Continue work on existing areas with balanced workload among sessions
  - RF: Spectrum-related, FR1 RF, FR2 RF, BS RF
  - RRM: RRM enh, MG enh
  - Demod: Demod enh
  - Testing: (OTA) testing
  - Cross-session: Others (e.g., NTN, HST, ..)
- No more than 12 non-spectrum WIs with  $\leq 2$  objectives for each WI to better control the workload
  - For RAN4-led Rel-18 items, total 16 WIs were approved in RP#95
- Leave sufficient margin for the uncertainty of RAN1/2/3-led work and RAN-tasks



*A figure of concept on mapping from area to WI/SI and the impacted RAN4 sessions*

# Proposals to individual areas

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Area	Proposed objectives	Main motivations
Spectrum-related	NTN NR Ku Band	New demands for NTN NR at Ku band. Operators' inputs are invited. [DL:10.7–12.75 GHz; UL 12.75–13.25 GHz & 13.75–14.5 GHz]
FR1 RF	UE Tx power configuration: requirement clarifications	Spec clarifications related to power class for bands and band combinations: In maintenance, there have been hot discussions related to power class clarification and understanding for both bands and band combinations, including power class related requirements and interaction among different power class capabilities for single band and band combination. However, it is not easy to reach a common understanding. A dedicated WI would be helpful rather than as maintenance works.
	New requirement antenna correlation for FR1 multiple Tx	In FR1, the RF conducted requirements are defined and tested at the antenna connectors where antennas are excluded. With the inclusion of antennas in the real fields, RF performances may variate along with the correlation among antennas. In particular, the effectiveness of radiation, e.g., actual TRP via antennas, is highly dependent on antenna correlation. Therefore, a new requirements for FR1 antenna correlation is necessary in order to guarantee the correlation among antennas, e.g., ECC (Envelope Correlation Coefficients) could be minimized thus a good candidate.
	3Tx for Smart phone for 2 bands	There is no normative works within Rel-18 on 3Tx for smart phones, which can be done in Rel-19. Focus on 1 Tx antenna in one band and 2 Tx antennas in the other band

# Proposals to individual areas

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Area	Proposed objectives	Main motivations
RRM enh	HO interruption minimization	In current requirements, UE stops source cell data Tx/Rx once the HO command is received. However, during HO delay, most of the time were spent waiting for SSB of the target cell. This waiting time can be better leveraged to reduce interruption.
	Spec alignment: calculation of $K_p$	Current RRM spec contains 2 different approaches of calculating $K_p$ (the delay extension parameter due to RS punctured by MG or shared between L1/L3 measurements), making the spec inconsistent and hard to maintain. Suggest to unified the calculation before implementing further enhancement into the spec
MG enh	Pre-configured NCSG	The leftover of Rel-18 MGE WI. Benefit for faster and low-overhead on-off NCSG in scenarios like BWP switch or SCell activation/deactivation
	NCSG enh for deactivated SCell	A newly identified issue during Rel-18 MGE discussion. Current UE capability report of NCSG does not distinguish whether the SCell status (i.e., activated or not). However, the applicable scenario for NCSG could be highly dependent on the SCell status. It is suggested to introduce the required signaling and corresponding requirements.

# Proposals to individual areas

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Area	Proposed objectives	Main motivations
Demod enh	App layer throughput enh: OLLA and 4-layer	One leftover issue in Rel-18 Demod enh discussion. Extending the current scope to consider OLLA and 4-layer provides an even better assessment of UE performance in the real deployment scenario
Testing	Improving UE NTN testing coverage for NGSO	In current channel model of NTN (including NR and IoT), the DL arrival timing and Doppler frequency offsets were agreed to be fixed, which cannot reflect the real channel under NGSO. It is suggested to introduce a practical framework for joint channel model and SIB info for realistic NGSO environments
Cross-session	NTN RedCap UE Support	No UE RF req. for 1Rx, or HD-FDD operation defined in existing specs
	NR NTN 3MHz channel bandwidth	The need for a narrower channel bandwidth than 5MHz has been identified when considering frequency reuse deployment scenario within a satellite spectrum block. It seems feasible to reuse the solution specified in Rel-18 for NTN (NR_FR1_lessthan_5MHz_BW)
	NTN IoT HPUE support	Interest expressed for high power NTN IoT UE. TBD PC & Bands
	In-band/guard-band co-existence of NB-IoT w/ NR	RAN4 req currently assume no inband or guardband operation for NB-IoT in an NR channel operated from the same SAN, although UE RF req provide flexibility for this. Stakeholder interest was expressed to facilitate this scenario It is proposed to specify the corresponding SAN requirements

**Thank you!**