

Title: On work scope of Rel-18 NR NTN enhancements

Agenda item: 9.3.2.7
Source: Samsung
Document for: Decision

Background

- **According to the WID, whether specification support is necessary for network verified UE location should be decided:**

RAN is expected to **determine by RAN#98** whether the study has identified any need for Network verified UE location specification support in Rel-18.

- **In RAN1#111, there were discussions about whether or not existing multi-RTT, DL-TDoA and UL-TDoA frameworks could be reused for Network verification of UE location in NR NTN, but progress was not good.**
 - For multi-RTT based solution, it was concluded that existing multi-RTT framework with potential enhancements could meet the NTN UE location verification accuracy requirement with the assumption that some of potential enhancements are justified
 - For DL-TDoA based solution, it was concluded that existing DL-TDoA positioning method may not meet the NTN UE location verification accuracy requirement if realistic assumption on UE clock drift is considered, and there was no consensus about which aspects should be enhanced
 - For UL-TDoA based solution, there was no consensus (i.e., nothing was concluded)

- **NR NTN in RAN1 has 0.5 TU and RAN1 workload should be minimized**
- **Proposal: RAN1 should focus on multi-RTT based solution for network verification of UE location in NR NTN**

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Thank you