

**3GPP TSG RAN #101**

**Bangalore, India, September 11-15, 2023**

**Agenda Item: 8A.2.4**

**Document for: Discussion**

**RP-232075**

# **Views on ambient IoT for Rel-19**

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## ■ Rel-18 RAN SID: Study on Ambient IoT in RAN

- SID (RP-222685) was approved at the RAN#97-e meeting.
- As outcome of the SI, in TR 38.848,
  - » Representative use cases are defined including Indoor/outdoor inventory/sensors/positioning/command.
  - » Connectivity topologies are defined including bidirectional direct communication between A-IoT and BS, communication between A-IoT and BS with intermediate/assisting node, bidirectional direct communication between A-IoT and UE.
  - » Device types are defined according to energy storage capacity and capability of generating RF signals for transmission.
  - » RAN design targets are defined regarding power consumption, complexity, coverage, data rate, etc.

- SI only for Ambient IoT in Rel-19, if included in Rel-19 package.
  - Huge workload is expected to study new Tx/Rx architecture/procedure, similar to Rel-18 study on LP-WUS/WUR
  
- Scope for SI on Ambient IoT in Rel-19
  - Identify high priority use cases, deployment scenarios, topologies, device types [RAN1]
  - Study evaluation methodology [RAN1]
  - Study physical layer design including physical signals, channels, procedures, etc. [RAN1]
  - Study upper layer design including architecture, protocol stacks, procedures, etc. [RAN2, RAN3]
  - Study coexistence with legacy devices [RAN1, RAN4]
  
- Consider following options for prioritization of topologies and device types (Ref: RP-232088 in AI 9.2.2).
  - Opt1: Device A/B with topology 2/3
  - Opt2: Device C with topology 1

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