

Views on Network Energy Savings enhancements for Rel-19

Rakuten Mobile



Importance of Network Energy Savings in Rel-19

① Probably the most sought-after feature in Rel-19 as per Moderators summary RP-232515 which notes.

- 32 companies submitted proposals for further work on network energy savings in Rel-19
- 15 out of 17 companies included network energy savings in their Rel-19 overview Tdocs (agenda 8A.2)

② NES features impact extend beyond the realm of Wireless Standards, Even slight improvements in energy efficiency can be transformative on a global scale, given that the telecom sector accounts for 2 to 3% of worlds energy consumption- a figure expected to rise with ongoing 5G deployments and exponential growth in data usage.

③ The potential financial benefits of NES features are more predicable compared to uncertain profitability from new services. The services like Ambient IOT,ISAC,XR and NTN all necessitate investment in developing new markets, incurring marketing and service development costs without guaranteed profitability. In contrast, NES offers a straightforward route to enhance Operators profitability through the reduction of OPEX.

④ Incorporating extensive set of Network Energy Savings (NES) feature into Release 19 is essential to harness energy efficiencies now, rather than waiting for 6G, allowing operators to benefit from NES advancements as soon as possible

Proposal: Considering the significance NES WI, its proposed to include more features in Rel-19 than the currently proposed *“On demand SSB for S-Cell”* and *on demand SIB1 transmission for Idle UE’s”* even if they deem challenging and require additional TU allocation in WGs.

Proposed Objectives for Rel-19 NES Work Item

- On-demand SSB for Scell for connected UEs
 - Possible triggering methods (e.g., UE uplink wake-up-signal using an existing signal/channel, cell on/off indication via backhaul, Scell activation/deactivation signaling, etc.)
- On-demand SIB1/SSB transmission for idle UEs
 - Possible triggering methods (e.g., UE uplink wake-up-signal using an existing signal/channel, cell on/off indication via backhaul, Scell activation/deactivation signaling, etc.)

Include following as well -

- [SSB]/SIB1-less operation in multi-carrier scenario for (documented in TR38.864) – Scope need to be discussed again during RAN102
 - [SSB]/SIB1-less for non-anchor NES cell for UEs in IDLE/INACTIVE state, where it is assumed that another carrier (an anchor cell) is available for the UE
- Adaptation of common signal/channel transmissions (documented in TR38.864) – Scope need to be discussed again during RAN102
- Specify Cell DRX/DTX for UEs in idle/inactive modes (as an extension of Rel-18 cell DRX/DTX)
- Rakuten is open to discuss all possible techniques based on companies input to RAN102 However, Multi-TRP (due to lack of actual deployments) and Power Domain Techniques (due to lack of prior detailed studies) can be de-prioritized for Rel-19.