

Views on Network Energy Saving in Release 19

KDDI corporation



Time domain(Work Item)

- **Justification**

In Release 19, we foresee a shift towards advanced energy-saving techniques that consider idle UE. e.g. Technique A-1 adaptation of common signals/channels, Technique A-3 UE wake up signal (WUS) for gNB, Technique A-5 adaptation of SSB/SIB1 including on-demand SSB/SIB1

- **Objectives**

Specify mechanisms relevant to the following area :

- Adapting transmission/reception of common channels/signals(A-1): Simplified or skipping or adaptation of longer periodicity of SSB/SIB1 and/or uplink RA opportunities, clustered paging
- UE wake up signal (WUS) for gNB(A-3): WUS which trigger the SSB/SIB transmission and relevant UE behaviors. Potentially it would be merged with A-5
- For non-CA SSB/SIB1-less operation(A-5): SI obtain from other associated carriers, RA for the SSB/SIB1-less carrier, on-demand SSB/SIB1 transmission at the serving cell.
- Multi Carrier Operation(B-1): Similar mechanism as NB-IoT, anchor cell is a cell where a UE is capable of receiving SSB, SI and paging and non-anchor cell which is used for other data transmissions and receptions. Potentially it would be merged with A-5.



Spatial domain(Study Item)

- **Justification**

- In spatial domain, One potential enhancement for Release 19 could be Technique C-2 Adaptation of TRPs in mTRP operations.
- However, it is possible that the TRP muting involved in Technique C-2 could be achieved by gNB implementation with the current UE dedicated L1/L2 signaling. Therefore, it is important to carefully evaluate the potential benefits of these enhancements, as well as the impact on network performance and reliability, in order to determine the most effective strategies for implementing them.

- **Objectives**

Study possible enhancements on UE-specific/group-level/cell common signaling for indicating adaptation of TRPs and TRP-related parameters (e.g. TRP index or CORESET pool index) in mTRP and relevant UE behaviors.



Power domain (Study Item)

- **Justification**

During the Rel-18 study phase, simulation results on UE post distortion (Technique D-5), over the air digital pre-distortion (Technique D-2), and Tone Reservation (Technique D-3) had shown efficient power saving. They were not included in Rel-18 WI due to limited simulation results, but they could be considered in further discussions for Rel-19.

- **Objectives**

Further study for UE post-distortion / over the air digital pre-distortion/ tone reservation including the following aspects:

- more performance simulations especially from network vendors
- impacts on the current network implementation and UE implementation
- interface between UE and gNB (signaling/configuration/measurement)

Note: Assume the technologies would not impact current RAN4 requirements and would not require each country's regulation change.

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誰もが思いを実現できる社会をつくる。

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