Chair of Communication Networks
TUM Department of Electrical and Computer Engineering
Technical University of Munich

Ingenieurspraxis, Bachelor's Thesis, Master's Thesis

Design and evaluation of conditional device paging DRX

Energy Efficiency (EE) has become a key performance indicator for sustainable 5G networks due to the growth of next-generation mobile devices connected to the network and applications with the requirements to preserve energy resources. The relevance of EE increases for Industrial Internet of Things (IIoT) devices, which run on limited energy supported by the batteries not replaced over the lifetime.

Therefore, the development of methods to increase the energy efficiency on the device side has received the attention of academia and industry research. Reducing the continuous monitoring of the PDCCH channels is considered a key factor in increasing the device energy efficiency, especially considering the limited resources.

In this thesis, the student shall focus on the implementation and evaluation of a conditional device paging DRX mechanism to reduce the PDCCH channel monitoring. The mechanism will be evaluated through a 5G based simulator.

Prerequisites

- Good knowledge of Python and Matlab.
- Knowledge of mobile networks.

Advisors

Alba Jano