MASTER THESIS - DEVELOPING POSITIONING SUPPORT FOR NB-IoT

Background
Narrowband IoT is a new standardized radio technology specifically designed for Internet of Things (IoT). Providing positioning support for machine-type communication (MTC) and narrow-band IoT devices has become one of the hottest topics in the area of wireless networks, while the low bandwidth of these devices brings new challenges in the area of positioning. The purpose of this thesis is to investigate and analyze a proper positioning method for NB-IoT.

This work is carried out at Ericsson Research, which provides Ericsson with system concepts, technology and methodology, to secure long term competitive products. We drive world-class innovation through cooperation within Ericsson and with partners, customers, universities and research institutes.

Thesis Description
This Master Thesis aims at both link and system level simulation of positioning performance for NB-IoT UEs assuming the already agreed use case scenarios. Since the work will focus on theoretical work on signal processing along with simulation, evaluation and verification of different models and scenarios, a strong theoretical background in this area is recommended.

Qualifications
This project aims at Master of Science (civilingenjör) students in electrical engineering, computer science, or computer engineering. Matlab is our primary tool for modeling and simulation work, hence excellent Matlab programming skills is a must. Background in telecommunication is preferred.

Extent
This position is for one student. Scope is 30 points (högskolepoäng).

Location
Ericsson AB Mjärdevi, Linköping

Preferred Starting Date
January 2017

Keywords
Positioning, NB-IoT, Simulation, Wireless Networks

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