Master Thesis – Location Tracking with UWB

Background
R&D has a high demand on expensive instruments, e.g., spectrum analyzers, for hardware development. Currently tracking of location is done manually, which is error-prone and shall be automated.

IEEE 802.15.4 is a signaling protocol that makes use of UWB. It provides location information and is expected not to interfere with RF measurements.

Thesis Description
Run technical pre-study to refine the concept including market analysis to select suitable hardware. Develop the software needed to translate location information to position of bench and detect when a unit is leaving the room. Evaluate whether impact to radio measurements is negligible.

Testing Should be done in a technical space either at Ericsson or at the university, to simulate a real-life environment.

References: Ultra Wide Band Radio, IEEE 802.15.4, FiRa Consortium

Qualifications
This project aims at students in electrical engineering, computer science, computer engineering or similar. Basic understanding of RF propagation is preferred.

Extent
1-2 students, 30hp each

Location
Ericsson AB, Kista or Mjärdevi, Linköping

Preferred Starting Date
Spring 2022

Keywords
Ultra Wide Band Radio, software development, location tracking

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