

## **Abstract**

The purpose of this thesis is to identify hardware platform with implementation of software to evaluate the performance of LTE Sidelink. Deployment is based on experiments in different conditions and various setups of devices with stable results.

Main problem is to achieve maximum distances between two devices in various conditions, get stable connection and performance.

In the process of experiments LTE Sidelink features were analysed and compared to other existing D2D technologies, OpenAirInterface was successfully implemented with USRP SDR boards.

Performed experiments helped to understand how stability of connection can be achieved and comparison of tests and measurements indoor and outdoor, and as a result with maximum distance outdoor is 40 meters.

This thesis is written in English and is 49 pages long, including 5 chapters and 21 figures.