

## **Abstract**

The topic of the thesis is the design of a digital signal processor based platform which processes low intermediate frequency signals or RF signals which are downmixed to baseband. The goal was to create a hardware unit which allows us the easy and quick implementation and test of various signal processing algorithms. I studied some radio structures, and selected a suitable signal processing platform which is able to perform the most common signal processing operations emerging in radio applications. I designed the hardware units which are required for the operation, and I also simulated the circuit to make sure whether it operates as intended. The printed circuit board plan was created from the circuit's schematic diagram, and was manufactured. After building the circuit, I tested the complete hardware. Next I wrote the low level software components which handle the hardware units. Using these software modules, I implemented a simple algorithm which is able to demodulate SSB (Single Side Band) signals. Finally, measurements were carried out with the hardware and the algorithm in order to investigate whether they comply with the expected operation.