AUFGABE DER PROJEKTARBEIT

im Studiengang ,,Elektro- und Informationstechnik"

für: Verfügbar

gestellt von: **Prof. Dr.-Ing. Andreas Czylwik**

Thema: Implementation of a multiband jammer using USRP

One of the targets of any communication system is to have a high reliability which can be measured by the *bit error rate* (BER) of the system. The system reliabilty is affected by numerous interference sources such as channel noise, multiuser interference, or jamming attacks.

To study the effect of jamming attacks on communication systems, a multiband jammer using the software-defined radio system ,,Universal Software Radio Peripheral" (USRP) shall be realized. In this project, the implemented jammer shall be able to do various jamming techniques such as *barrage noise jamming* (BNJ), *partial band jamming* (PBJ), *multitone jamming* (MTJ), *multi off-tone jamming* (MOTJ).

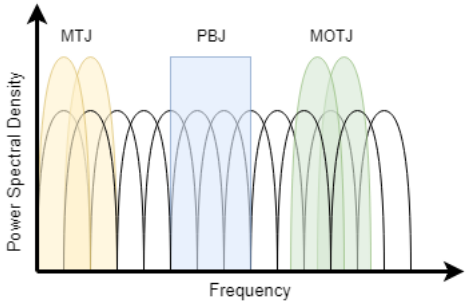

Figure 1: Jamming techniques

The task entails the following:

- Creating a time and work plan,
- implementation of the previously mentioned jamming techniques using USRP,
- performing required tests and measurements,
- documentation of the work,
- final presentation of the work, and
- submitting a digital copy of documentation and presentation in PDF format.

Zweitgutachter: Prof. Dr.-Ing. Jan C. Balzer

Duisburg, _____ Betreuer: _____

Prof. Dr.-Ing. A. Czylwik