LAB RF PROJECT

ECTS credits: 4 **Period : year 2, semester 1**

Objectives:
Design of microwave mixers with ADS (Advanced Design System from Agilent Technologies). Simulation of sub-systems and of the global
system of high bit rate transmission and reception with COMSIS (simulation software from IPSIS) . Experimental measurement of the system
for high bit rate transmission on a coaxial cable. Measurement of reception of digital data at 100 Mbits/s modulating a microwave carrier at
4,45 GHz. Experimental evaluation of the bit error rate.

Contents:
- Design, simulation and realisation of the filter and of the microwave mixer at emission and reception sides at 4.45 GHz. Realisation of the circuits.
- Simulation of the transmission and reception systems.
- Realisation on PCB (printed circuit board) of the circuits.
- Microwave test of the circuits. Digital measurements using a digital pattern generator. Evaluation of the bit error rate.

Prerequisites:
Course on modulation systems. Course on microwave devices.