Student Project Proposal

Project title: **Integration of an amplifier on a PCB for microwave measurements in the Ka band**

Project type: **Master Thesis Project**

Faculty and Laboratory: STI, Microwaves and Antennas Group (MAG)

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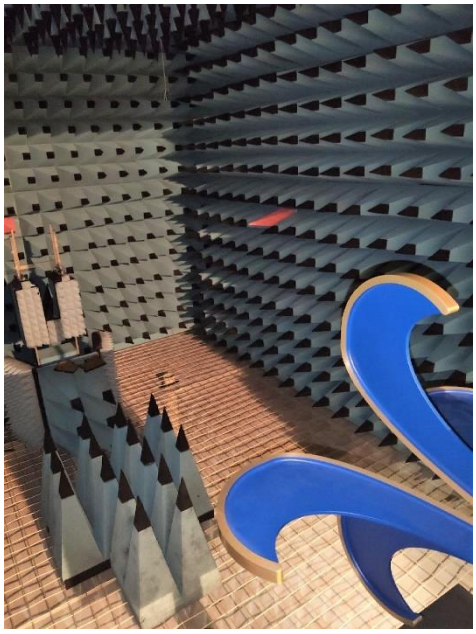
Project description

For accurately measuring the radiation pattern or gain of an antenna, the use of an anechoic chamber is customary. These chambers are shielded and covered with absorbers, to provide an environment free of reflections and interferences. Nevertheless, at very high frequencies, the antenna engineer often needs to use amplifiers to compensate for the free space losses between the antenna under test and the reference antenna and increase the dynamic range of the measurement. The goal of this project is to design, fabricate and test a high-frequency PCB operating in the range between 20-40GHz, starting from a commercial-off-the-shelf (COTS) amplifier.



Type of work: Simulation 50%, Fabrication and measurements 30%, Documentation & Reporting 20%

Student tasks

- Design of a PCB for an amplifier in the range between 26-40GHz.
- Fabrication of a prototype (depending on time availability).
- Measurement and characterization of the prototype (depending on time availability).
- Writing a report with the results.