TECHNISCHE UNIVERSITÄT DRESDEN

Faculty of Electrical and Computer Engineering Chair of Radio Frequency and Photonics Engineering

28th March 2022

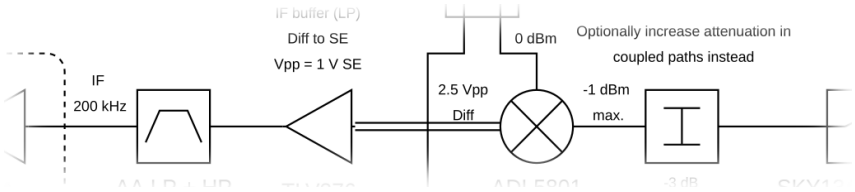
Student Work Opportunity (SHK)

Analog Hardware Design

In this role you will design PCB modules and prototypes for analog systems in current research projects. The first project focuses on baseband circuitry for receive and transmit frontends of a novel portable 4-port network analyzer. The frequencies for this design remain in the lower megahertz range, thus this position is suited as entry to radio frequency (RF) hardware design. If you are interested, the activity can be extended by modules in higher frequency ranges up to the entire RF frontend.

The whole design cycle, including schematic design, simulation, layout, measurement and documentation shall be performed. Throughout the activity there will be design reviews with a mentor to discuss relevant decisions and find potential problems in an early stage.

The software used for PCB design is KiCad. The simulation of low-frequency schematics can be performed in LTspice or similar. RF circuits are simulated in AWR esign Environment. For assembly and measurement of the prototypes, access to the laboratories of the Chair of Radio Frequency and Photonics Engineering is granted. PCs with the required software can be provided as part of the chairs PC pool.



Focus of work

- Schematic and layout design
- Circuit simulation
- Measurement, test and verification
- Documentation of the development

Counterpart

Fabian Geissler
Barkhausen-Bau, Room IV63
+49 351 463-36913
fabian.geissler@tu-dresden.de