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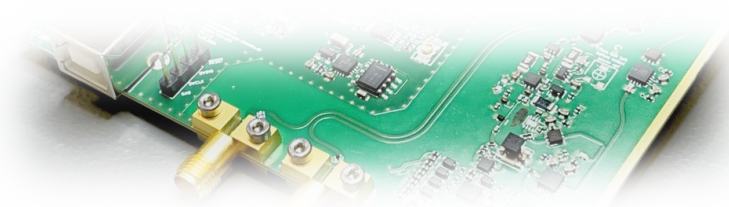
Student Work Opportunity (SHK)

Embedded Software Design for a RF Sweep Generator

In this role you will implement control and application software on a microcontroller for a unique RF sweep generator. The processor needs to communicate with the peripheral hardware on the PCB and configure it in accordance with system settings. Measurement functionality needs to be scheduled and modified to fit the defined parameters. Further system data like temperature and voltage rail status needs to be assembled and presented. User interaction is performed using a button, LEDs and USB connection to a PC. If you are interested, the activity can be extended by the implementation of Python software and a GUI for the PC side to interface with the device.

For documentation, the software flow shall be visualized. The aspects of visualization (layer diagram, flow chart, UML, ...) can be chosen in agreement with the mentor. Throughout the activity there will be design reviews with a mentor to discuss relevant decisions and find potential problems in an early stage.

The development platform for this project is a STM32 microcontroller. The software is developed in the eclipse-based STM32CubeIDE and debugged on the microcontroller. As usual with microcontrollers the programming language is C or C++.



Focus of work

- Implementation of embedded software
- Software flow visualization
- Documentation of the development

Counterpart

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