University of Stuttgart
Germany

SUPER – Stuttgart University Program for Experiencing Research
Project Information

Institute's Information

Name of Institute	Institute of Robust Power Semiconductor Systems (ILH)
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Duration of Project/Number of Students

June/July	
June/July/August	>= 2.5 months
Number of Students	1-2

Name of Project	Design and Development of Analog Frontend Components for Wireless Communication Systems.

Beneficial Skills & Knowledge	Background in electrical engineering with focus on RF
	Basic knowledge in radio frequency (RF) electronics
	First contact points with Printed Circuit Board (PCB) circuit design

Description of Work

This research project invites students to actively engage in the development of analog microwave frontend components for wireless point-to-point communication systems. Participants will gain insights into the development process, from system-level design to detailed layout work. The project involves designing various passive and active building blocks for an analog RF frontend, providing a valuable opportunity to enhance knowledge in high-frequency PCB circuit design. Students will use Keysight's ADS as a simulation tool to develop components to a fabrication-ready state. Additionally, the project offers the chance to characterize the designed components in the lab.

The specific scope and objectives of the project will be tailored in collaboration with the student, based on their interests, skills, and progress.