

# Fachgebiet Hochfrequenztechnik



# Fachbereich Ingenieurwissenschaften Abteilung Elektrotechnik und Informationstechnik

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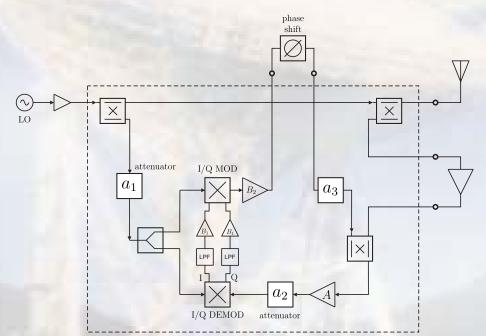
## Aufgabe der Abschlussarbeit im ISE Bachelorstudiengang

Thema:	Design of a feedback canceller circuit
gestellt von:	Prof. DrIng. Klaus Solbach Fakultät für Ingenieurwissenschaft - Hochfrequenztechnik
für:	Herr Ahmad Obeidat

## **Beschreibung:**

### **Description**:

A Cartesian feedback loop is used for suppression of signal components resulting from a measurement with an antenna sensor situated on the human chest. The desired information (heartbeat) is obtained after the translation of the RF signal to baseband (in-phase and quadrature-phase component). Suppression of undesired signal components is based on destructive superposition inside the loop at RF frequency.



#### Thesis task:

The thesis task is to design a printed circuit for the feedback canceller circuit, based on an experimental setup, using ICs and other surface-mount technology (SMD) components and using microstrip line on a dielectric laminate as the printed circuit technology and using SMA coaxial connectors for signal input and output.

In particular the task is to:

- design a complete circuit schematic of the feedback canceller,
- lay-out the printed circuit and prepare the data files for production of printed circuit boards,
- assemble the circuit,
- test the circuit using laboratory test equipment: transfer function, stability, saturation and settling time

At the end of the work, a public presentation of results is to be given.