Karlsruher Institut für Technologie

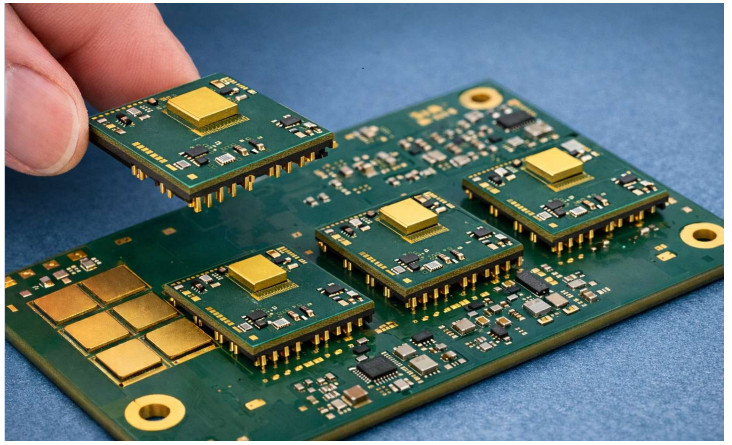
Masters/Bachelors Thesis

Design and Evaluation of PCB-based Removable Chiplet Concepts

Motivation:

This thesis investigates modular active antenna concepts for millimeter-wave applications at 80 GHz and 140 GHz. The work focuses on the design, assembly, and evaluation of removable and fixed active antenna chiplets, including an 80 GHz chiplet integrated on a PCB using flexible interconnects and a 140 GHz active chiplet based on GaN technology. Key challenges such as high-frequency interconnection, packaging, and initial electrical characterization will be addressed through simulations and measurements, providing insight into scalable and reconfigurable millimeter-wave antenna systems.

The student will be required to design the package-to-PCB interconnect, manufacture and assemble the prototypes and measure the prototypes.



Prerequisites:

Antenna fundamentals, CST Microwave Studio.

Ansprechpartner

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