

## **Advanced Implementation Methods of On-chip Performance Monitors**

The performance of an SoC (System on a Chip) is defined as the maximum achievable clock frequency under worst-case conditions. The performance is difficult to measure directly. Therefore, on-chip monitor structures are added to the SoC, which provides an indirect view of performance.

The implementation of those on-chip monitor structures should be integrated and established into the industrial SoC design flow.

The goal of the thesis is to establish advanced implementation methodologies for the on-chip monitor structures. All stages from the concept to the implementation on-chip are covered in the thesis. The student will gain a broad insight into industrial SoC development.

This thesis will be held at Infineon Technologies and can be started as soon as possible.

### **Job description**

- Getting familiar with industrial EDA tools for physical design, Place & Route, and Design for Test;
- Investigate and improve new on-chip performance monitoring structures;
- Developing a concept for efficient implementation of the monitor structures;
- Modeling and decision algorithm for implementation.

### **Prerequisites**

- Are familiar with digital circuit design;
- Gain first experience with design for test (DFT);
- Could already gain experience in EDA tools and Python.

### **Contact**

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