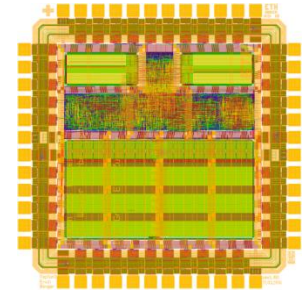


RFID using ATmega on FPGA



Motivation

Our current RFID demotag exists of an analog front-end and an ATmega processor. The idea of this project is to take an ATmega processor from opencores.org, synthesize it and get the existing C-implementation running on our FPGA demotag.

Project description

- Goals
 - ATmega processor on FPGA
 - RFID ISO-15693 using FPGA demotag
- Tasks
 - Investigate existing ATmega processors at opencores.org
 - Setup compiler for ATmega processor
 - Write some scripts to generate VHDL code out of existing, compiled program code
 - Add missing peripherals if necessary
 - Test the design on the IAIK FPGA demotag using ISO-15693 reader

Literature

- www.atmel.com
- www.opencores.org
- VHDL
- ISO-15693 specification

Deliverables

- Project files (.zip, cleaned)
- Documentation (inline)
- Readme (getting started)
- Presentation (10 .ppt slides)

Project schedule

- Start Immediately
- Month 1 Reading, planning, tool setup
- Month 2 ATmega on FPGA
- Month 3 Final deliverables

Master Project

Studies: INF SEW TEL

Prerequisites

- Hardware modeling (VHDL / Verilog)
- Embedded C (assembly) programming

Advisor / contact

Erich.Wenger@iaik.tugraz.at