Zurich University
of Applied Sciences

School of
Engineering

InES Institute of
Embedded Systems

SDI Input and Output for Multimediaprocessor

This project was conducted as a bachelor's thesis at the Zurich University of Applied Sciences (ZHAW) in collaboration with the Institute of Embedded Systems (InES). The InES is developing a device that is able to stream HD video via a multimedia processor over Ethernet and is used to realize video transmission in professional environments. The goal of this project is to develop a SDI card that interfaces the main board with the multimedia processor which supports MIPI DSI and CSI connectivity. Part of this project was to layout the interface card containing SDI receiver/transmitter, FPGA and their necessary peripherals. The video conversion, done by the FPGA, was also implemented using partly intellectual property provided by the FPGA manufacturer and partly self-developed modules. Different clock concepts were evaluated and a working solution was found and implemented. The SDI to CSI and DSI to SDI interfaces were realized and verified as far as possible under the given circumstances.

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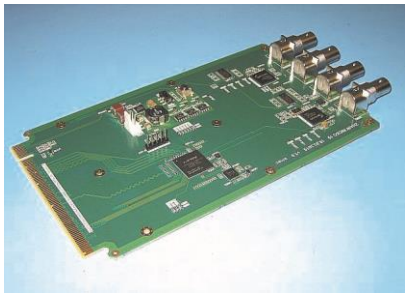

SDI Interface Board that was developed as part of this thesis

The rack carrying the Multimedia-Processor and the SDI Interface Board