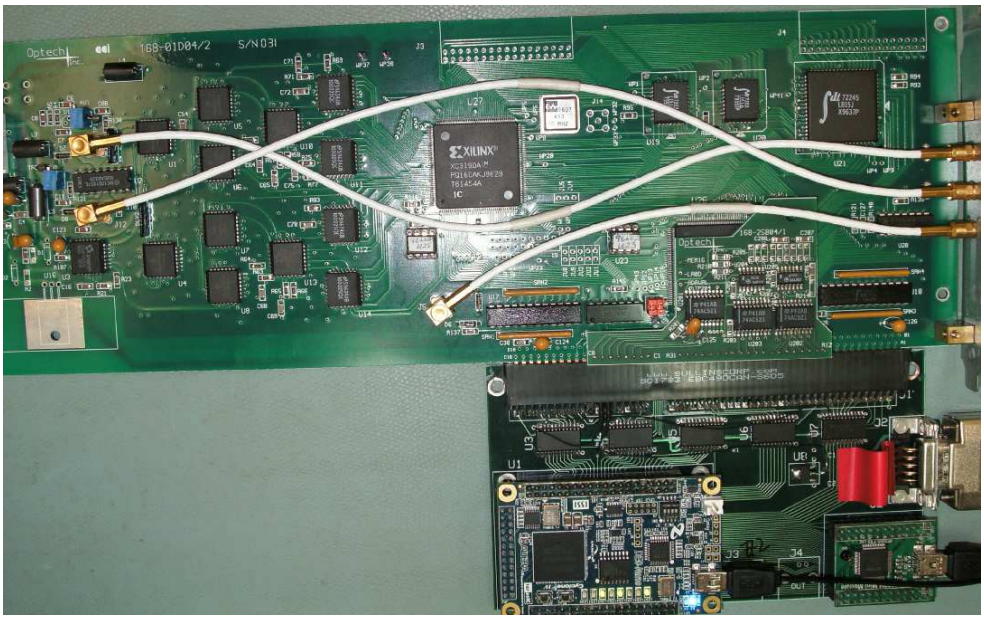

ISA to USB Adapter for Optech FDC-700 Counter Board

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1 Introduction

The ISA to USB adapter (the adapter) is an open source project to provide data acquisition from Optech FDC-700M counter board via USB 2.0. Optech FDC-700M is a single photon dual channel counter utilized in LIDAR systems to measure intensity of backscatter signal. The project consists of a hardware and software parts. The hardware part is based on Terasic DE0-Nano FPGA Development Board (http://www.terasic.com.tw) simulating ISA bus, integrated with the Future Technology Devices International Limited (FTDI) FT2232H USB 2.0 UART/FIFO mini module, used to interface the system with a computer. The FPGA code is written in Verilog Hardware Development Language using Altera Quartus II programmable logic device design software. The main control and data acquisition software is written in Labview.

The adapter is currently being installed and tested at Stratospheric Ozone Differential Absorption LIDAR in Eureka (http://www.candac.ca) [1]. The hardware PCB layout as well as software is available upon request.

This is "work in progress" project. If you have any questions, feedback, ideas – please contact us via e-mail.

References

1. Tikhomirov A.B., McCullough E. and Drummond J.R. Refurbishment of the Stratospheric Ozone Differential Absorption LIDAR in Eureka // Canadian Network for the Detection of Atmospheric Change. 11-th Workshop. Toronto. 2015.