



Arterial applications of OCT technology provides unsurpassed images of the coronary artery. Orchid's high speed OCT data acquisition and analysis system provides cost effective electronics signal processing.

Optical Coherence Tomography

Optical coherence tomography (OCT) and Fourier domain interferometry (OFDI) provides single micron image resolution of in vivo biological systems. This high speed multi-channel data acquisition system is capable of recording dual high speed optical channels at data sampling rates up to 1200 mega samples per second. Combining the disciplines of high speed analog amplifier design, filter design, analog to digital conversion design with low cost efficient FPGA design provides a cost effective data acquisition and data processing engine.

Altera Arria V FPGA

Dual channel giga sample per second analog to digital conversion functions, on the fly data analysis functions, data formatting functions, low noise power conditioning, and overall system supervision functions are implemented on an Arria V FPGA. Operating at 20 gigabits per second, Analog Devices AD9680 communicates over a high speed multi-channel JESD204B data link to an Intel PSG Arria V FPGA. On the fly data processing is performed within the Arria V FPGA, making the whole system extremely efficient, low power and low cost. Leveraging years of giga sample ADC design, this board set is Orchid's third generation of high speed JESD204B data acquisition designs.

Versatile Laser Pulse Triggering

OCT Data Acquisition must occur synchronously with laser pulsations. Programmable triggering and data length provide highly flexible and accurate data capture.

Orchid Technologies: Data Acquisition Design

The development of custom electronic products for our OEM clients is Orchid's entire business. The design of high speed custom OCT data acquisition systems with rapid design cycles, demanding technical requirements, and unforgiving schedules sets us apart. Call Orchid Technologies today!



"Orchid's custom data acquisition system had us capturing images in record time. Efficient PCI Express interfacing made data transfer to our host processor a snap."

- Director of OCT Design

