

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



"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 IVUS Design

Intra-vascular Ultrasound

Intra vascular ultrasound provides high quality image resolution of in vivo biological systems. This high speed multi-channel data acquisition system is capable of recording a high speed IVUS channel at data sampling rates up to 500 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

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 10 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.

Precision Analog Front End Design

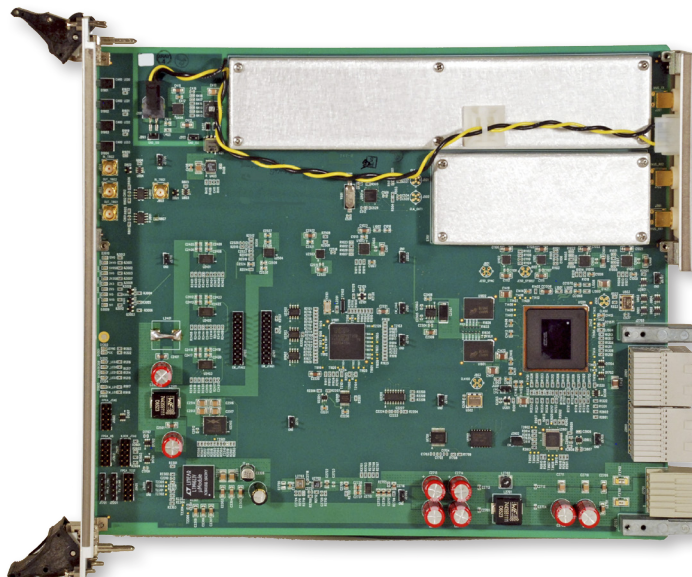
Impedance matched, low noise front end design is essential to clean high speed data acquisition. Orchid excels at the design of high performance, tuned analog amplifiers. Expertise in shielding design completes the low noise picture.

IVUS High Voltage Pulse Generation

IVUS transducer excitation requires the generation of a clean, precisely timed high voltage pulse train. Transformer based, FPGA programmable pulse generation circuitry provides flexible transducer excitation.

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 IVUS data acquisition systems with rapid design cycles, demanding technical requirements, and unforgiving schedules sets us apart. Call Orchid Technologies today!



**ORCHID TECHNOLOGIES
ENGINEERING & CONSULTING, INC.**

Custom Engineering From Concept to Production

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