

Rapid electronic product redesign keeps semiconductor fabrication equipment makers in business.

### Rapid Electronic Product Redesign

Semiconductor fabrication equipment requires the high volume manufacturing of critical component parts. When COVID-related supply chain component shortages threatened to shut down operations, OTEC got the call. With a forecasted twenty five hundred unit shortfall OTEC sprang into action. OTEC specified software compatible alternate devices, confirmed device supplies and performed the design update tasks flawlessly. OTEC assisted with test and qualifications. Passing all tests on the first design release, the redesigned unit was cleared for production. The gap was filled and semiconductor wafer fabrication equipment deliveries averted catastrophe.

### Redesign to Production in Record Time

Within a three months elapsed time period, OTEC performed the identification and supply confirmation of critical components, performed schematic capture, circuit board layout, high speed circuit board routing, and release to production. OTEC design processes result in accurate, first-revision-ready design success. This unit was no exception. Ready for test and evaluation at the two month mark, production units were ready to ship and fill the gap in three short months.

### Intel PSG Cyclone V Based Design

Cyclone V component availability has been challenging during COVID-related supply interruptions. OTEC's redesign required the reimplementing and re-compilation of existing Verilog and VHDL project files. OTEC extensive experience with Intel PSG development tools such as Quartus, Modelsim, Questa, Platform Builder, Eclipse, and NIOS IP were an invaluable element of this program's success.

### Form / Fit / Function Accurate

The bottom left photo shows the client's original circuit board assembly. The bottom right photo shows OTEC's redesign update. Mechanical accuracy is achieved by OTEC's keen ability to perform mechanical modeling and simulation. Note the change in FPGA, memory device and power systems.

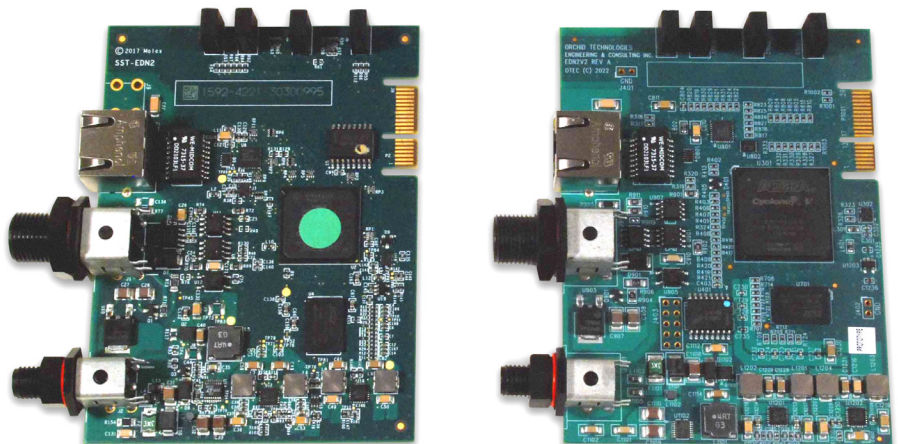


*"Redesign and qualification for production in three months. Astounding, no other firm could have produced such positive results."*

–Vice President  
–Supply Chain Sourcing

### Orchid Technologies: Rapid Product Redesign

The development of custom electronic products for our OEM clients is OTEC's entire business. Accurate product redesign 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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