



Engineering Design and Limited-Run Production for Optical Communications

About SCP

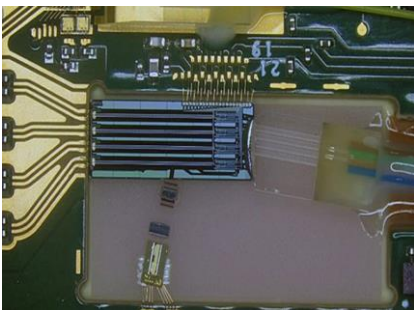
Space Coast Photonics is a U.S.-owned, ITAR-registered engineering design company specializing in custom optical and electronic solutions for high-speed fiber optic communications. Located on Florida's Space Coast, we are trusted by commercial, aerospace, and defense clients for our cutting-edge expertise.

With 20+ years of experience, our engineering team develops pluggable modules, custom optical systems, and advanced electronics using state-of-the-art tools and technology. We offer turnkey design services, from concept and prototyping to pilot production and volume manufacturing transition. Our design expertise and advanced tools allow rapid development and high-performance solutions that meet the most demanding industry challenges.



Engineering Design and Custom Manufacturing Capabilities

- High-Speed RF
- Signal Integrity Analysis
- Power Integrity Analysis
- Digital, DSP
- Custom MPO/MTP Cables
- PCB Layout
- Optical, Si-Pho
- Firmware, CMIS
- Software, GUI
- 1U to 4U Chassis
- 3D EM Modeling
- Mechanical
- Thermal Analysis
- Top Level Assembly
- Environmental Qual

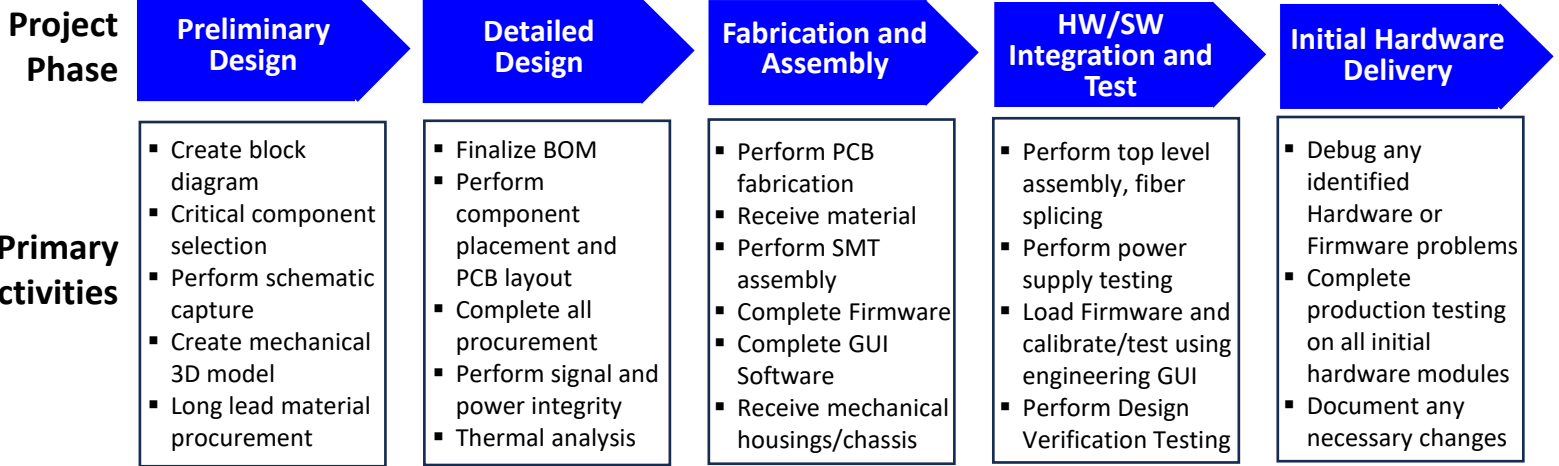


Recent Projects

- ✓ 1.6 Tb/s OSFP-XD using 16L mSAP PCB
- ✓ 1.6 Tb/s (8 x 200G) Active Copper Cable
- ✓ 800 Gb/s OSFP with integrated Flex PCBs
- ✓ 400 Gb/s QSFP-DD with Marvell DSP
- ✓ 400 Gb/s BERT with TEC temperature control
- ✓ 800G (4 x 200G) DSP evaluation card



Development Process



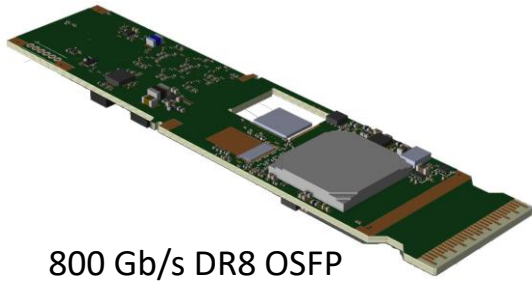
Qualification

- Identify all desired environmental (GR-468) qualification tests and equipment necessary to perform testing
- Write qualification test procedures and fabricate hardware
- Assemble, calibrate, and test all module/chassis hardware to be used for qualification testing
- Execute all environmental qualification tests on the various groups of modules/chassis and record test results

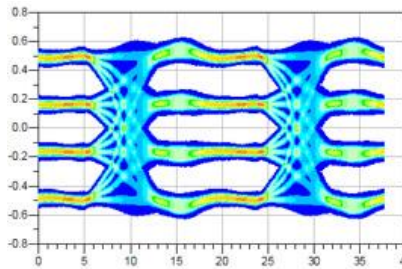
Transition to Volume Production

- Make any necessary design modifications based on production and qualification testing
- Identify low-cost, high-volume CM and create test procedures
- Write automated test software to calibrate and test deliverable hardware
- Transfer test equipment and software to CM and start production line

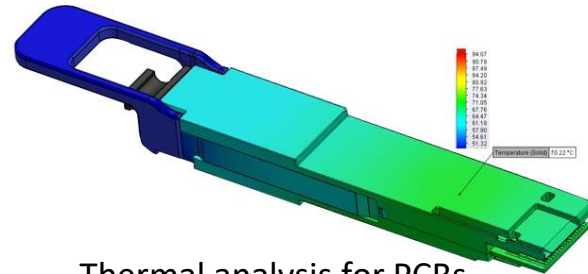
Examples of Deliverables



800 Gb/s DR8 OSFP
10 Layer PCB with cutout for AlN insert



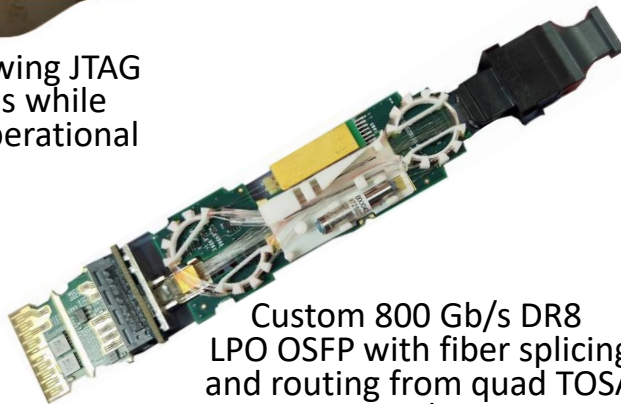
Signal Integrity analysis for up to 200 Gb/s PAM4 per channel



Thermal analysis for PCBs and pluggable modules up to 1.6 Tb/s



Flex PCB allowing JTAG connections while module is operational



Custom 800 Gb/s DR8 LPO OSFP with fiber splicing and routing from quad TOSA to optical engine



1U chassis with multiple custom PCBs installed and Ethernet control interface