



## New Twist Inside

### *Optical Transceiver Development*

#### *- Small Form Factor (SFF)*

A global provider of optical components sought Egret Technologies' engineering expertise to commercialize its cost-saving Planar Lightwave Circuit innovation into a Small Form Factor (SFF) Optical Transceiver for the telecommunications industry.

**Situation:** A Planar Lightwave Circuit (PLC) technology company manufactures high-performance optical components that are etched onto a single optical silicon chip to reduce cost and size. The company's team of researchers had developed a new way to manage high-precision optical alignment tolerances while eliminating the expense of traditional lens and filter mechanical tuning. They turned to Egret Technologies to define commercial applications and to apply its combined electrical and optical engineering expertise to bring this new technology to market in a Small Form Factor (SFF) Gigabit-Ethernet Transceiver (GE-PON).



**Solution:** Egret Technologies' work on electrical and mechanical design proceeded over nine months in close collaboration with the company's team. During this development cycle Egret Technologies:

- Completed successful engineering and testing to exceed specifications (1.244 Gb/s burst mode transmit and continuous mode receive) on the first pass
- Isolated performance issues with a key supplier's chip and provided a work-around solution that would maintain all product specifications and functionality
- Provided an attractive and innovative packaging for the GE-PON to further distinguish the PLC providers' brand
- Developed specialized evaluation board designs to speed customer trial and performance testing (e.g. track transceiver current, monitor status signals, interrogate chips, analyze multiple LED indicators, SMA BERT connectors)

**"Turning Innovation into Profit" Results:** Egret Technologies was the perfect partner to help with the commercialization of the company's

PLC technology. We understood the electronic and optical issues, and how to leverage the company's technology with

telecommunications customers. Designs were technically correct and target Bill of Material costs were achieved.

Egret Technologies is a superior electronic design partner to global vendors of technology products. We are an innovative, solution-driven, US-based engineering design firm specializing in optical, electronic, and mechanical hardware, as well as embedded software systems. We provide concept development, product design and project engineering. Contact Egret Technologies at (866) 96-EGRET or [Innovate@EgretTechnologies.com](mailto:Innovate@EgretTechnologies.com)