KVH Introduces Revolutionary ActiveFiber Technology for Optical Networking

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Preliminary Specifications Released for Breakthrough 40 Gb/s All-fiber Modulator Built Directly within an Optical Fiber Strand

MIDDLETOWN, R.I.--(BUSINESS WIRE)--March 19, 2001--Today at the Optical Fiber Communications (OFC) Conference in Anaheim, California, KVH Industries (Nasdaq: KVHI) unveiled its new ActiveFiber technology, with which the company is creating next-generation optical networking components directly within individual strands of optical fiber. Tests of this new technology indicate that it is capable of providing significant increases in modulation speeds and decreased insertion loss and drive voltage while simultaneously eliminating the need for pigtailing to external planar optical chips. KVH also released the preliminary technical and operational specifications of the first product to be built using this new technology, an all-fiber, 40 gigabits per second modulator for use in high-speed optical networks.

"ActiveFiber technology offers an entirely new platform for manufacturing components for optical networks," said Martin Kits van Heyningen, president and CEO of KVH Industries. "By combining our patented D-shaped fiber with electro-optic polymers, we are building optical components no larger than the width of the fiber itself, creating what we have dubbed 'photonic fiber.' This is a revolutionary approach that is based on our proven fiber optic technology, but goes beyond the conventional mindset that planar optic chips are required for component design."

The concept of ActiveFiber involves replacing a segment of the optical fiber core with a chromophore-doped electro-optic polymer developed by Dr. Larry Dalton, a pioneer in electro-optic polymers and a member of KVH's technical advisory board. The polymer has virtually the same optical characteristics as the core itself, allowing the light to pass from the core to the polymer and back with virtually no loss of light. However, when exposed to voltage from an electrical data source placed in proximity to the fiber, the polymer's refractive index changes, which in turn creates a phase shift in the light beam. This phase shift can correspond to the ones and zeros of digital data, thereby encoding digital data directly onto a beam of light passing through the fiber.

Currently, data is encoded onto light by transferring the light from the fiber to a planar optic chip, where modulation occurs, and then back to the fiber. These conventional systems rely on gluing or "pigtailing" chips made of lithium niobate or other materials to individual fiber strands. This is expensive and has high loss in terms of both manufacturing yield and light energy. KVH's ActiveFiber technology eliminates the need to pigtail fibers to chips by bypassing the planar optical chip altogether.

The first product that will be built with photonic fiber will be a 40 Gb/s, all-fiber polarimetric modulator, the preliminary specifications of which were released at OFC. In addition to eliminating the need to pigtail fiber strands to planar optical chips, the photonic fiber modulator exhibits wideband properties with excellent input impedance match for minimal waveform distortion. Since the optical signal never leaves the fiber, the modulator's insertion loss is reduced, permitting either increased span lengths or lower-powered light sources. At the same time, an internal polarizer improves the optical extinction ratio. This radical new approach offers breakthroughs in manufacturability, cost, and speed.

"The faster you can modulate the light, the higher the data capacity you can transmit over the same beam," explained Kits van Heyningen. "Today's modulators top out at 10 Gb/s. We anticipate that our initial modulator will have a speed of at least 40 Gb/s while future KVH photonic fiber modulators, using next-generation polymers, will be able to modulate at speeds in excess of 100 Gb/s."

"Our ActiveFiber technology will not be limited to modulators, either," he continued. "Future components could include tunable Bragg gratings for optical add-drop multiplexers, low-cost optical switches, and even in-line fiber amplifiers. If successful, these new products will allow us to enter the multibillion-dollar market for optical components."

Additional details regarding KVH's ActiveFiber technology and the preliminary specifications of the optical modulator are available at www.photonicfiber.com.

With more than 20 years of fiber optic experience and 70+ patents, KVH Industries, Inc. is one of the few companies to make its own fiber as well as manufacture components and systems. Using its E-Core(R) polarization maintaining fiber, KVH manufactures an array of fiber optic products, including fiber optic gyros, high-voltage current sensors, and optical networking components. KVH is also a leading provider of innovative high-bandwidth mobile satellite communications products and navigation systems. An ISO 9001-registered company, KVH has headquarters in Middletown, Rhode Island, with a fiber optic manufacturing facility in Tinley Park, Illinois, and a European sales, marketing and support office in Hoersholm, Denmark.

This press release may contain certain forward-looking statements that involve risks and uncertainties. The actual results realized by the Company could differ materially from the statements made herein. Factors that might cause such differences include, but are not limited to: failure to develop and market fiber optic products; lack of reliable vendors, service providers and outside

products; unforeseen changes in competing technologies and products; and poor or delayed research and development results. Additional factors are discussed in the company's Annual Report on Form 10K filed with the Securities and Exchange Commission on February 8, 2001. Copies are available through the company's Investor Relations Department or web site.

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