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Luxtera Advances Optical Technology to Support 100Gbps Interconnects for Datacenters

Silicon CMOS Photonics-based transmitters enable cost effective migration to faster data rates

Carlsbad, CA. – June 1, 2010 – [Luxtera](#), the worldwide leader in [Silicon CMOS Photonics](#), today announced that its optical modulators now support next-generation 30Gbps serial data rates, a key step towards enabling four lane parallel 100Gbps interconnects. Luxtera's technology addresses the growing market for optical interconnects including next-generation Ethernet, Fibre Channel and InfiniBand networks projecting data speeds of up to 100Gbps per Port. By leveraging the benefits of Silicon CMOS Photonics, Luxtera's transmitters support unprecedented levels of optical bandwidth to provide higher performance and longer reach at a lower cost than traditional datacenter technologies.

“As InfiniBand transitions to EDR data rates and Ethernet transitions to 100GE, there is an increasing need for low cost, high-throughput interconnects to support large-scale computing systems and datacenters,” said Lisa Huff of CIR and Discerning Analytics. “Traditionally, this market has been serviced by vertical-cavity surface-emitting lasers (VCSELs) and multi-mode fiber, which may reach performance limitations beyond 10Gbps. Luxtera's Silicon Photonics-based transmitters enable datacenters to keep pace with bandwidth needs, providing end-users with enhanced performance that will support 100Gbps deployments at economical cost points.”

Datacenter connectivity options, such as legacy copper and VCSEL-based multi-mode fiber transceivers, are today limited in reach, size and performance. When pushing conventional, short reach optical components to higher speeds of 30Gbps and beyond, transceivers based on VCSEL technology will face numerous technical obstacles such as achieving the required modulation bandwidth, receiver sensitivity and effects of multimode-fiber dispersion. In addition, at higher data rates VCSEL-based transceivers will be challenged to meet stringent performance and reliability requirements expected by datacenter managers. Luxtera utilizes Silicon CMOS Photonics to break performance restrictions associated with existing optical technologies. This lowers cost and eliminates reach limitation as well as reliability concerns to provide the bandwidth, low power and low bit error



rate required by advanced high performance computer clusters and large scale datacenters.

Silicon Photonics transmitters utilize continuous wave (CW) lasers and Mach-Zehnder interferometer CMOS waveguide based modulators. This technology removes the need for expensive high-speed directly-modulated lasers and, when combined with Luxtera's fiber-to-the-chip single-mode fiber transmission, overcomes the shortcomings of multi-mode fiber. Luxtera has already successfully demonstrated a 30Gbps modulator system implemented in a monolithic Silicon CMOS chip.

“By demonstrating 30Gbps modulators implemented in production-ready CMOS process technology, Luxtera's team continues to lead optical innovation in Silicon Photonics,” said Marek Tlalka, vice president of marketing for Luxtera. “We are the first company to ship Silicon CMOS Photonics-based commercial products. Our 30G transmitter overcomes performance constraints associated with traditional optics. We are paving the way to the next wave of Silicon Photonics commercial applications as well as wide deployment of low cost optical connectivity for EDR InfiniBand, 100G Ethernet and 28G Fibre Channel applications.”

Luxtera will be participating at this year's International Supercomputing Conference (ISC) in Hamburg, Germany, co-exhibiting with its sales partner Stordis in booth number 150. The company's 40G Active Optical Cables (AOC), Blazar, are once again providing connectivity for the ISCnet InfiniBand network, built for high performance computing demonstrations, at this year's event. By utilizing Silicon CMOS Photonics and single-mode fiber, Blazar can support reach up to 4,000 meters and offers the industry's lowest power consumption of 20mW per Gigabit. Blazar is currently shipping in production volumes. Next-generation products based on 30Gbps transmitter technology will sample in 2011.

For more information on Luxtera's products, please visit the company's website, www.luxtera.com, or visit Stordis' product portfolio, www.stordis.com.

About Luxtera:

Luxtera, Inc. is the world leader in Silicon CMOS Photonics. It is the first company to overcome the complex technical obstacles involved with integrating high performance optics directly with silicon electronics on a mainstream CMOS chip, bringing direct “fiber to the chip” connectivity to market. With its award-winning Blazar active optical cable and optics on motherboard OptoPHY transceiver family Luxtera is breaking cost barriers associated with traditional multimode optics and offers a roadmap to high performance optical connectivity and copper cost points. Headquartered in Carlsbad, California, Luxtera is a fabless



semiconductor company that was founded in 2001 by a team of industry-renowned researchers and technology managers drawn from the communications and semiconductor industries. Luxtera has received funding from leading venture capitalists including August Capital, New Enterprise Associates, Sevin Rosen Funds and Lux Capital. More information can be found on the company's web site: www.luxtera.com.

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