POET Launches LightBar™ Solution for Data Centers

Advanced Remote Laser Light Source for Transceivers and Data Center Switches

Management to Host “Beyond the Press Release” Interview to Discuss the LightBar Product

TORONTO, Ontario, December 8, 2020 – POET Technologies Inc. (“POET” or the “Company”) (TSX Venture: PTK; OTCQX: POETF) the designer and developer of the POET Optical Interposer™ and Photonic Integrated Circuits (PICs) for the data center and tele-communication markets, announced today that it has completed and tested its designs for a line of high-performance remote laser light source products for 400G FR4, 800G and Co-Packaged Optics (CPO) applications in Cloud Data Centers, named LightBar™.

For makers of conventional and Silicon Photonics-based optical transceivers, the LightBar product line offers a fully aligned, tested, and multiplexed laser light source attached to an output fiber, eliminating the difficult and costly step of four laser alignments in optical transceivers. For makers of next generation network switches that require the combination of switch components and optical components in a single package, commonly referred to as “Co-Packaged Optics” (CPO), using LightBar products will reduce heat generation within the package, which is a common cause of component failure. When used as a remote laser source, POET’s LightBar is expected to improve overall system reliability for both transceiver and CPO applications by offering the ability to replace failed laser assemblies in the field, without disturbing other components and sub-assemblies. Laser failures have proven to be the cause of a large majority of sub-assembly failures in both optical transceivers and co-packaged optics applications.

LightBar products are configured as a Transmit Optical Sub-Assembly (TOSA) incorporating four Continuous Wave (CW) lasers into the waveguide matrix of POET’s proprietary Optical Interposer, meeting the CWDM4 and FR4 technical specifications. The 400G version is upgradeable to 800G with the incorporation of additional components. The LightBar is completely customizable and can support a wide range of output power from 15mW to 60mW depending on the application. In all cases, LightBar incorporates POET’s proprietary designs and assembly features that deliver an industry-leading laser coupling efficiency of >80% (power loss = <1.0dB), while maintaining wafer-scale integration capability. These results are significantly better than the best results observed with competing integrated approaches. Better coupling efficiency allows the use of lower power, more reliable lasers to achieve the same output. POET will begin sampling the LightBar product line to customers beginning in Q1 2021. Following qualification with customers, the Company expects to begin volume production in Q4 of 2021.
According to LightCounting, the market for 400G optical transceivers in all formats will grow to over $3 billion by 2025 from an estimated $0.5 billion in 2021. The market for optical connectivity, also known as chiplets in co-packaged optics, is forecast to be more than $4 billion in 2028.

Beyond the Press Release Interview
POET Technologies management goes “Beyond The Press Release” to discuss today’s news. Investors and other interested parties are encouraged to visit the following link the evening of Tuesday, December 8, 2020 to view the interview:

About POET Technologies Inc.
POET Technologies is a design and development company offering integration solutions based on the POET Optical Interposer™ a novel platform that allows the seamless integration of electronic and photonic devices into a single multi-chip module using advanced wafer-level semiconductor manufacturing techniques and packaging methods. POET’s Optical Interposer eliminates costly components and labor-intensive assembly, alignment, burn-in and testing methods employed in conventional photonics. The cost-efficient integration scheme and scalability of the POET Optical Interposer brings value to any device or system that integrates electronics and photonics, including some of the highest growth areas of computing, such as Artificial Intelligence (AI), the Internet of Things (IoT), autonomous vehicles and high-speed networking for cloud service providers and data centers. POET is headquartered in Toronto, with operations in Allentown, PA and Singapore. More information may be obtained at www.poet-technologies.com.

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