Lightwave Logic and Polariton to Jointly Showcase Packaged Electro-Optic Polymer Modulators at the European Conference on Optical Communications

Demonstration Combines Polariton's High-Speed Plasmonic Modulators with Lightwave's Perkinamine™ Chromophores in a Packaged Device

ENGLEWOOD, Colo. and ADLISWIL, Switzerland, Sept. 24, 2024 /PRNewswire/ -- Lightwave Logic, Inc. (NASDAQ: LWLG), a technology platform company leveraging its proprietary electro-optic (EO) polymers to transmit data at higher speeds with less power in a small form factor, today announced a collaboration with Polariton Technologies to demonstrate a packaged device with over 110 GHz super high bandwidth packaged electro-optic polymer modulators using Polariton's plasmonic modulator device design that contains Lightwave's proprietary Perkanamine™ chromophores at the European Conference on Optical Communications (ECOC) being held in Frankfurt, Germany from September 22-26, 2024. The device will be available for viewing at Polariton's booth #F47.

The packaged device contains a plasmonic modulator using electro-optic polymer material and platform chips have demonstrated 400 Gbps, which is the current specification that datacenters are looking for in optical transceiver modules.

Dr. Michael Lebby, Chairman and Chief Executive Officer of Lightwave Logic, said: "Building on our previous collaborations, we look forward to showcasing this packaged device to customers in attendance at what is a premier industry event. This is an example of extending the performance of silicon photonics using both plasmonics as well as electro-optic polymers. Further, this collaboration forms an important technology platform for scalability using large silicon foundries for mass commercialization with 200mm silicon wafers. We look forward to sharing with ECOC attendees how the combination of electro-optic polymers and plasmonics can support datacenters around the world which are responding to high power consumption and the burgeoning demand for higher speed data transmission from artificial intelligence, machine learning, and other cloud-based services."

Dr. Wolfgang Heni, Co-CTO at Polariton, added: "Our collaboration combines our decade of experience in plasmonic circuits with Lightwave Logic's excellent high-performance electro-optic material. This device enables ultra-high bandwidths, which are extremely well suited for next generation internet and optical networking transceivers that require 200Gbps per lane today, and 400Gbps per lane soon. We look forward to additional collaborations in the future to demonstrate the capability of our combined technologies at 1.6 Tbps and 3.2 Tbps. We welcome ECOC attendees to visit our booth for more information."

About Polariton Technologies Ltd.

Polariton Technologies Ltd. designs and manufactures plasmonic PICs, featuring the world's fastest and smallest electro-optic modulators, thus creating a solution that overcomes the interconnect bottleneck in optical communications. Follow us on LinkedIn @polariton-technologies and visit us at polariton.ch.

About Lightwave Logic, Inc.

Lightwave Logic, Inc. (NASDAQ: LWLG) develops a platform leveraging its proprietary engineered electro-optic (EO) polymers to transmit data at higher speeds with less power in a small form factor. The company's high-activity and high-stability organic polymers allow Lightwave Logic to create next-generation photonic EO devices, which convert data from electrical signals into optical signals, for applications in data communications and telecommunications markets. For

more information, please visit the company's website at www.lightwavelogic.com.

Safe Harbor Statement

The information posted in this release may contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. You can identify these statements by use of the words "may," "will," "should," "plans," "explores," "expects," "anticipates," "continue," "estimate," "project," "intend," and similar expressions. Forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from those projected or anticipated. These risks and uncertainties include, but are not limited to, lack of available funding; general economic and business conditions; competition from third parties; intellectual property rights of third parties; regulatory constraints; changes in technology and methods of marketing; delays in completing various engineering and manufacturing programs; changes in customer order patterns; changes in product mix; success in technological advances and delivering technological innovations; shortages in components; production delays due to performance quality issues with outsourced components; those events and factors described by us in Item 1.A "Risk Factors" in our most recent Form 10-K and 10-Q; other risks to which our company is subject; other factors beyond the company's control.

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9/24/2024 4:05:00 PM