



Lightwave Logic Polymer Material Demonstrates World-Class Enhanced Stability in Polariton's Plasmonics Platform

World-class Results Presented in Peer Reviewed Paper at Prestigious Optical Fiber Conference (OFC 2022)

ENGLEWOOD, Colo. and RUSCHLIKON, Switzerland, March 22, 2022 /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, today announced the achievement of world-class results for a polymer modulator, as demonstrated in an enhanced stability and high-speed measurement by Polariton Technologies and ETH Zurich.

The results were generated using the Company's proprietary, advanced Perkinamine™ chromophores in Polariton's silicon-photonics-based plasmonic racetrack modulator that offers energy-efficient, low-loss, and high-speed modulation in a compact footprint that is ideal for pluggable and/or co-packaging transceiver modules. The POH modulator used a resonant racetrack geometry to form a micro-ring modulator (MRM) using the structure reported last year.

The world-class results were presented as a contributed peer-reviewed paper at the prestigious 2022 Optical Fiber Conference (OFC2022), the optical communication industry's leading international technical conference and trade show, in San Diego on March 10, 2022.

The plasmonic modulator performance was compared to that of silicon photonic microring modulators. The plasmonic device, using Lightwave Logic's electro-optic polymer material, was shown to be 250-3000x more stable than the silicon devices relative to operating condition changes. In addition, the plasmonic modulator was tested for 70+ minutes at 100 Gbps NRZ at 80C with no decrease in performance.

"This result showing third party review and verification of stability and high-temperature operation illustrates once again that our electro-optic polymer materials platform is truly world-class," said Dr. Michael Lebby, Chief Executive Officer of Lightwave Logic. "Our polymer materials are clearly poised to not only change internet optical networking, but to become ubiquitous in their use across the internet.

"Through our collaboration with Polariton, we have again achieved world-class results using our material for high speed, low power polymer modulators, and now that the industry has publicly indicated that these types of modulators are key for lowering power consumption in datacenter/telecommunications systems, 2022 is shaping up to be an extremely exciting year for Lightwave Logic," concluded Lebby.

Dr. Wolfgang Heni, Co-CTO at Polariton, added: "Polariton has continued to enhance the performance of plasmonic modulators using polymer technology. This is another step towards our goal for faster optical communications with a scalable platform that is perfect for photonics integration and low power consumption. Our recent performance enhancement of a plasmonic racetrack modulator demonstrates the simplicity of integrating plasmonics, silicon photonics, and organic polymer electro-optics for high-speed and energy-efficient components. We are again pleased to have worked with Lightwave Logic, providing us with high-performance and reliable Perkinamine™ chromophores for these world-class results. Together, we plan to revolutionize the future of the internet through adoption of electro-optic polymer materials."

About Lightwave Logic, Inc.

Lightwave Logic, Inc. (NASDAQ: LWLG) is developing a platform leveraging its proprietary engineered electro-optic (EO) polymers to transmit data at higher speeds with less power. 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 lightwavelogic.com.

About Polariton Technologies Ltd.

Polariton Technologies is on a mission to revolutionize the future of telecommunications by accelerating information transport and reducing its power consumption. Polariton is providing the world's fastest, most compact, and energy-efficient electro-optic devices with applications in telecommunications, datacenters, wireless communications (5G/6G), space, and sensing. Founded in 2019, Polariton is a spin-off of ETH Zurich, taking pride in teamwork, clear and effective communication, and curiosity. Discover more about us at polariton.ch or follow us at LinkedIn [@polariton-technologies](https://www.linkedin.com/company/polariton-technologies)

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