NEWS RELEASE

indie Expands Quantum Portfolio with its First UV DFB Laser Source at 399 nm Wavelength

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ALISO VIEJO, Calif.--(BUSINESS WIRE)-- indie (Nasdaq: INDI), an automotive solutions innovator, has released its first Ultraviolet (UV) Visible Distributed Feedback (DFB) 399 nm single-frequency laser diode optimized for quantum computing systems based on cooled Ytterbium atoms. With the addition of this new device in the UV spectrum, indie is expanding on its previously announced LXM-U and narrow-linewidth visible DFB lasers, furthering our capabilities and strengthening our photonics portfolio, which is enabling advanced quantum technologies. Our photonics division continues to gain momentum as part of our strategic expansion into adjacent markets outside automotive, including quantum and humanoids, as demonstrated by our increasing customer traction and expanding product portfolio.

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Photonics plays a foundational role in emerging quantum technologies primed to reshape multiple markets in the coming decade — from secure communications and advanced sensing to computing platforms that accelerate discovery and decision-making. Quantum computers based upon cold-atom and trapped-ion architectures require multiple lasers for cooling, trapping, pumping and entanglement operations. To advance these platforms, there is a need for compact, cost-effective semiconductor laser sources, which are tailored to specific atom or ion transitions, especially in the visible and UV spectral range.

The ELA350028 is the Company’s first commercially available DFB semiconductor laser source in the UV spectral range with narrow-linewidth output at 398.9 nm, engineered to specifically address the Ytterbium transition for atom cooling, while delivering the stability, compactness, and scalability required for next-generation quantum systems. The device provides a single spatial mode (TEM_{00}) and stable single-frequency output with optical power levels up to 30 mW in a TO-56 package. Higher output power levels of a few 100 mW could be realized with a DFB-MOPA architecture featuring a monolithically integrated amplifier section.

“Highly stable laser sources without mode hopping are a critical building block for atom-cooled and trapped-ion quantum computing platforms,” said Philipp Vorreau, VP & General Manager, SLEDs Photonics Division. “By extending our visible DFB technology into the UV region, we are enabling system developers working with ytterbium atoms to access this key transition with a compact, scalable semiconductor solution. Our novel, patent-pending DFB laser architecture supports high-volume manufacturing with predictable, repeatable performance while maintaining the spectral precision required for quantum technologies.”

Building on indie’s visible DFB architecture, the laser operates in a single longitudinal mode with sub-MHz linewidth, eliminating the need for external cavity gratings or frequency-doubling schemes traditionally used to reach this wavelength. The design also achieves high side-mode suppression and low-noise operation, key requirements for precision quantum experiments and scalable computing platforms. It offers inherent mode-hop-free performance across a wide current and temperature range.

indie is currently sampling ELA350028 with customers.

To learn more about indie’s Visible Distributed Feedback laser diodes, please visit: https://www.indie.inc/spec-sheet/visible-distributed-feedback-laser-diode/

About indie

Headquartered in Aliso Viejo, CA, indie is empowering the automotive revolution with next-generation semiconductors, photonics, and perception software platforms. We focus on developing innovative, high-performance, and energy-efficient mixed-signal SoCs and system solutions for ADAS and adjacent industrial applications, including humanoid robotics, and quantum technology. Our sensors span all major modalities (Radar, Computer Vision, LiDAR, and Ultrasound), accelerating the proliferation of automated vehicle safety and sensing features. As a global innovator, we are an approved vendor to Tier 1 partners, and our solutions can be found in marquee automotive OEMs worldwide.

Please visit us at www.indie.inc to learn more.

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