

First 10GBASE-AU enabled camera with optical fiber connectivity for automotive applications

KD Collaborates with Leopard Imaging and Corning Incorporated for IEEE 802.3cz-compliant Multigigabit Vision System Solution

Madrid, Spain. June 26, 2025: KD, a fabless semiconductor company, proudly announced the first implementation of its 10GBASE-AU KD7251 optical transceiver into an optical automotive multigigabit camera, LI-VENUS-ISX031-BASE-AU, from Leopard Imaging, a global leader in embedded vision and AI camera technology. Corning Incorporated, one of the world's leading innovators in materials science, designed and developed a hybrid cable and connector system utilizing Corning's automotive grade cables and connectors. By upgrading the existing wide angle camera system from a traditional GMSL2 copper interface to an optical fiber-based 10GBASE-AU link that is compliant with IEEE 802.3cz, the new system delivers scalable data communications up to 10 Gb/s. This provides a future-enabling solution to meet the challenging network requirements of automotive applications such as autonomous driving, assisted driving (ADAS), digital video recording, and machine vision.

David Sánchez, Hardware Designer at KD, and project manager of the technology collaboration, further highlighted the unique features of the joint solution:

"We've successfully integrated our KD7251 optical transceiver into the LI-VENUS-ISX031-BASE-AU camera from Leopard Imaging. This breakthrough highlights the ability of our KD7251 transceiver to operate within compact automotive camera modules (sub-20x20 mm PCB), while enabling extended link distances up to 40 meters. By leveraging glass optical fiber, we eliminate Electromagnetic Compatibility (EMC) challenges, reduce cable weight, and support asymmetric link speeds to optimize power consumption. This innovation is key for next-generation in-vehicle networks, where high bandwidth, low latency, and interference-free data links are critical."

Unlimited View with Optical Camera

With the new optical link, the LI-VENUS-ISX031-BASE-AU camera from Leopard Imaging supports higher data transmission, higher resolution, and greater image depth. By replacing the copper interface with the optical KD7251 transceiver, in-vehicle connectivity has significantly increased from 3 Gb/s to now up to 10 Gb/s.

The small camera weighs only 162 grams. It's equipped with the Sony Diagonal 7.45 mm (Type 1/2.42) CMOS image sensor ISX031 and can be used in a surround view system. Incorporating Corning's cable and connector system allows for improved access to complex positions like the inside of a side mirror. In addition, the new solution enables cable distances up to 40 meters without loss of data transmission quality.

Words: 382

More information

KD7251: <https://kd.tech/product/kd7251/>

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Images



Image 1: Leopard Imaging implemented KD's KD7251 transceiver in LI-VENUS-ISX031-BASE-AU automotive camera with Corning's automotive grade hybrid connector and harness

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Image 2: David Sánchez, Hardware Designer at KD, leads the implementation with Leopard Imaging and Corning

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About KD

Fabless semiconductor supplier, KD provides innovative high-speed optical networking solutions for harsh environments. Founded in 2010 in Madrid, Spain, KD offers its cost-effective technology as fully qualified automotive-grade ASSP, integrating electronics, photonics, and optics in a single IC. KD's technology makes use of information theory, innovative digital adaptive algorithms, and analog mixed-signal design to maximize the receiver's sensitivity. KD innovates in optical coupling and packaging design, which enables integration of optical communications ports in electronic control units using standard printed circuit assembly processes. Together, these offerings allow KD to support high-yield and reliable optoelectronics production in low-cost automotive-grade bulk CMOS deep submicron nodes, and to deliver products to carmakers with low risk, low cost, and short time-to-market products. KD made gigabit communications for step-index plastic optical fiber (SI-POF) a reality for automotive and is now developing its multi-gigabit optimized solution for use with Glass Optical Fiber (GOF) as well. More information is available at <https://kd.tech>

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About Leopard Imaging Inc.

Founded in 2008, Leopard Imaging is a global leader in high-definition embedded cameras and AI-based imaging solutions. Specializing in core technologies that enhance image processing, Leopard Imaging serves various industries, including automotive, aerospace, drones, IoT, and robotics. Offering both original equipment manufacturer (OEM) and original design manufacturer (ODM) services, as well as high-quality manufacturing capabilities in both the U.S. and offshore, Leopard Imaging provides customized camera solutions for some of the most prestigious organizations worldwide. As an NVIDIA Elite Partner, Leopard Imaging holds quality management certifications such as IATF16949 for the automotive industry and AS9100D

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for the aerospace industry, ensuring the highest standards in its products and services. More at <https://leopardimaging.com>

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About Corning Incorporated

Corning (www.corning.com) is one of the world's leading innovators in materials science, with a 170-year track record of life-changing inventions. Corning applies its unparalleled expertise in glass science, ceramic science, and optical physics along with its deep manufacturing and engineering capabilities to develop category-defining products that transform industries and enhance people's lives. Corning succeeds through sustained investment in RD&E, a unique combination of material and process innovation, and deep, trust-based relationships with customers who are global leaders in their industries. Corning's capabilities are versatile and synergistic, which allows the company to evolve to meet changing market needs, while also helping our customers capture new opportunities in dynamic industries. Today, Corning's markets include optical communications, mobile consumer electronics, display, automotive, solar, semiconductors, and life sciences.

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