

## Vector adds optical Ethernet testing to VN5650 through KD's KD7251 transceiver

Integration enables streamlined validation of IEEE Std 802.3cz ("nBASE-AU") links with industry-recognized Vector workflows

- Adds IEEE 802.3cz optical Ethernet testing capabilities to the VN5650 Ethernet interface using KD's KD7251 transceivers.
- Leverages CANoe with Option Ethernet for simulation, analysis and automated testing of Ethernet-based systems.
- Preserves VN5650 strengths: up to 12 ports, robust housing, modular VNmodule60 slots for flexible PHY selection.
- Supports up to 10 Gbit/s optical links with nBASE-AU PHYs.

**Madrid, Spain. February 3, 2026:** Vector, a long-standing partner in embedded electronics development and networking in automotive, has expanded the capabilities of its VN5650 Ethernet interface to include multi-gigabit optical Ethernet testing in compliance with IEEE Std 802.3cz-2023. By integrating KD7251 optical transceivers from Spanish semiconductor company KD, the VN5650 can establish, monitor and analyze in-vehicle optical Ethernet links within existing Vector workflows. This enhancement marks a significant step toward mainstream adoption of optical Ethernet in automotive validation, leveraging tools and software already trusted by OEMs and Tier-1 suppliers.

With KD7251 devices installed, the VN5650 maintains its characteristic robustness and modularity supporting up to 12 Automotive Ethernet ports via VNmodule60 slots, while adding nBASE-AU optical connectivity for link speeds up to 10 Gbit/s (with 2.5/5/10 Gbit/s supported by KD7251). Users continue to benefit from VN5650 features such as synchronous monitoring and fault/load generation, now extended to optical links.

The solution integrates with CANoe option Ethernet, enabling engineers to script, simulate, and verify Ethernet behavior at scale while assessing conformance to 802.3cz across representative vehicle scenarios. The existing VNmodule60

ecosystem remains fully compatible, allowing teams to tailor physical layers to each test setup without altering established workflows.

"Vector's adoption of 802.3cz optical Ethernet within the VN5650 provides development teams a practical, test-bench-ready path to validate multi-gig links using the Vector tools that automotive already trust," said Juan Luis Matus, Field Application Engineer Manager at KD. "It's an important milestone in bringing high-bandwidth optical connectivity to automotive applications."

For his part, Matthias Schwedt, Product Manager Ethernet at Vector, emphasized: "Together with KD's seamless collaboration, we have once again demonstrated the outstanding flexibility of our VN5650 interface. As automotive systems demand higher data speeds and bandwidth, multi-gigabit Ethernet links will play a key role in enabling next-generation Advanced Driver Assistance Systems (ADAS) and Software-Defined Vehicle (SDV) architectures. With this integration, we are ready to support also optical multi-gigabit Ethernet testing across all scenarios – from complex CANoe-based simulations to basic media conversion at the hardware level."

This joint effort delivers cutting-edge testing capabilities to the automotive industry, supporting the deployment of scalable, high-bandwidth solutions essential for next-generation vehicle architectures.

Words: 436

#### More information

Vector VN5650 product page: <https://vector.com/vn5650>

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



## Images



Image 1: Demonstration setup: A VN5650 with integrated KD's optical KD7251 PHYs is shown with its optical connectors. In the setup, the PHYs are looped to transfer gigabit camera data live.

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Image 2: Juan Luis Matus is Field Application Engineer Manager at KD



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Image 3: Matthias Schwedt is Product Manager Ethernet at Vector Informatik GmbH

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Approaching  
Shannon's Limit

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### About KD

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 Vector

Vector is a leading solution provider and trusted partner in the development and networking of software-defined systems. For over 35 years, Vector has empowered manufacturers and suppliers worldwide to create complex electronic products that meet the highest standards of functionality, safety, cybersecurity and efficiency—primarily in the automotive industry, and increasingly in MedTec, Industrial IoT, rail, and aerospace. At the core of Vector's portfolio is a comprehensive software ecosystem that seamlessly integrates tools, embedded software, cloud services, and engineering expertise into a high-performance development environment. Driven by technological excellence and close collaboration with customers and partners, Vector delivers tailored solutions that help manage complexity, accelerate product development, and enable forward-looking innovation.

An independent company, Vector employs more than 4,500 people across 32 locations worldwide and generated more than €1 billion in revenue in 2024. Headquartered in Stuttgart, Germany, Vector maintains a global presence with subsidiaries in Austria, Brazil, China, France, India, Italy, Japan, South Korea, Romania, Sweden, Spain, the United Kingdom, and the United States.

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