Credo Demonstrates 112G PAM4 SR, 56G PAM4 LR, and 56G NRZ SerDes Technology

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Robust Low Power Solutions Drive Error-Free Connectivity in Backplanes and Copper Cables

Milpitas, Calif., January 30, 2017 – Credo Semiconductor, a global innovation leader in Serializer-Deserializer (SerDes) technology, today announced it will conduct multiple demonstrations of its low power 112Gbps(G) PAM4, 56G PAM4 LR and 56GNRZ LR SerDes technologies at DesignCon 2017. The conference takes place this week at the Santa Clara Convention Center in Santa Clara, Calif., with exhibits running Feb 1-2.

"The continued demand to accelerate bandwidth in data center, enterprise and high performance computing environments requires continued innovation for serial link technology," said Rajan Pai, vice president of system applications at Credo. “These demonstrations show how our unique SerDes architecture creates new opportunities for cable and backplane manufacturers, delivering the low power and error-free connectivity these solutions demand.”

emonstrations with Keysight (Booth #725) and Amphenol (Booth #641) will showcase Credo’s low power 112G PAM4-SR and 56G PAM4-LR technology. Molex (Booth #619) demos leverage Credo’s 56G PAM4-LR and 56G NRZ LR SerDes IP over copper cables and backplanes. The 56G NRZ demonstrations highlight the fact that high performance computing (HPC) environments have the ability to deploy low latency, error-free systems without the need for forward-error correction (FEC). Additionally, Credo is demonstrating long-reach 28G technology with Leoni (Booth #946), showcasing 10-meter cables for data center connectivity.

DEMONSTRATIONS WITH AMPHENOL

Credo will conduct two demonstrations with Amphenol. The first will show 112G PAM4 SR transport over Amphenol’s ExaMAX+™ Direct-Mate Orthogonal connector system. The second demonstration will show 56G PAM4 transport over FCI’s ExaMAX® backplane interconnect system with over 35dB of insertion loss.

"Amphenol’s portfolio of high-speed interconnect solutions is unmatched in the industry," said Dana Bergey, signal integrity manager at Amphenol’s Valley Green Design Center. "ExaMAX connectors are used in many 28G applications around the world—in standard backplane, midplane, mezzanine, coplanar, and direct-mate orthogonal configurations. At last year’s DesignCon exhibit, we worked with Credo to show standard ExaMAX products running—error-free—with 56G PAM4 and 56G NRZ silicon. This year, we are demonstrating 112G PAM4 signal transmission using Credo silicon and Amphenol’s new ExaMAX+ extension to the ExaMAX connector family."

DEMONSTRATIONS WITH KEYSIGHT

The Credo demonstration with Keysight will highlight Credo’s 112G PAM4 evaluation board and Keysight’s new 100 GHz N1046A remote head plug-in module for the 86100D DCA-X Wide Bandwidth Oscilloscope. The live demonstration in the Keysight booth will show the new Keysight measurement system performing actual measurements on Credo’s 112 Gb/s, 56 Gbaud PAM4 devices, which are among the first available on the market at this speed.

"Keysight has extended the bandwidth of its popular DCA-X series of oscilloscopes to 100 GHz in order to provide the best fidelity and highest measurement accuracy for characterization of next-generation SerDes and systems using PAM-4 modulation in excess of 50 Gbaud (100 Gb/s)," said Joachim Peerlings, vice president and general manager, networks and data centers solutions, Keysight.

The Keysight DCA-X system’s unmatched capability showcases the state-of-the art performance of Credo’s chipset and was a key enabler in its development.

DEMONSTRATIONS WITH MOLEX

Credo will conduct three demonstrations with Molex. For the first demonstration, Credo will supply transmitting and receiving electronics, showing error-free 56G NRZ and 56G PAM4 live serial traffic with crosstalk aggressors on Molex’s Impulse™ OD Backplane Connector System. The second will feature Molex’s Impel™ PLUS Backplane Connector System using Credo’s 56G PAM4 LR evaluation system to transmit 56 Gbps PAM4 data, showing error-free performance. The third demonstration shows error-free 56G PAM4 traffic through an eight meter copper cable using the zQSFP+™form factor.

"This demonstration will highlight the feasibility of running extremely high speed, next-generation data rates, on form factors that are already in use for extended distances," said Joe Dambach, product manager, Molex. "By pairing our advanced cabling solutions with Credo SerDes technology, we can show groundbreaking signal integrity performance at very high speeds over increasing lengths using copper cables."

ABOUT CREDO SEMICONDUCTOR

Credo is a leading provider of high performance, mixed-signal semiconductor solutions for the data center, enterprise networking and high performance computing markets. Credo's advanced Serializer-Deserializer (SerDes) technology delivers the bandwidth scalability and end-to-end signal integrity for next generation platforms requiring single-lane 25G, 50G, and 100G connectivity. The company makes its SerDes available in the form of Intellectual Property (IP) licensing on the most advanced processing nodes and with complementary product families focused on extending reach and multiplexing to higher data rates. Credo is headquartered in Milpitas, California and has offices in Shanghai and Hong Kong. For more information: www.credosemi.com.