

IDT Releases Industry's First Integrated CMOS Chipset for 200G/400G SR Datacom Modules

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Ideal Solution for Cloud Data Center Optical Connectivity and Delivers Best-in-Class Power Consumption in the Smallest Form Factor

SAN JOSE, Sept. 18, 2018 /PRNewswire/ -- Integrated Device Technology, Inc. ([IDT](#)) (NASDAQ: IDTI) today introduces the industry's first integrated CMOS chipset for 56Gb/ch applications, ideal for 200G/400G SR Ethernet Datacom modules.



The new IDT® developed the new HXT14450/HXR14450 chipset addresses the rapid migration from 100G to 400G that mega data centers are undergoing to meeting the continuing rise in cloud computing. The chipset is primarily designed for 200G/400G SR Ethernet optical transceivers and active optical cables (AOCs) that are largely used in the short distance between servers and top-of-rack (TOR) switches. The integrated CMOS chipset combines low power requirements and a compact form factor that meets all 200G/400G QSFP-DD module application requirements.

The HXT14450 is a power efficient, four channel, fully integrated transmitter with a CDR and a VCSEL driver. Each channel incorporates a powerful equalizer with both CTLE and 10 taps DFE to compensate MR channel up to more than 20dB loss. Analog-approach DFE has been used to reduce power consumption. The HXT14450 has rich digital features such as PRBS generator/checker, EYE monitor and integrated CPU can run user-defined firmware. The transmitter uses a cleanup PLL providing excellent random jitter of 200fs and Tj (total jitter with BER=10⁻¹²) of 7ps. The transmitter uses a 7-bit DAC enabling several digital powerful performance-enhancing features such as nonlinear compensation and rise/fall time correction and a 3-tap FIR de-emphasis equalizer in digital domain. Optical performance measured is less than 1dB TDECQ.

The HXR14450 is a best-in-class, four-channel fully integrated receiver, with TIA and CDR. Each channel can operate with just 380mW of power at full speed of 56 Gb/s, the lowest power consumption in its class. TIA with low noise, wide dynamic range, and the CDR with adaptive CTLE, and DFE give the ability of tuning the circuits to achieve very low bit error rate for a wide range of optical channels.

"The CMOS process is ideal for integration of all functions needed for transmit and receive chips for 200G/400G SR modules and IDT is well versed in all design features," said Emad Afifi, senior director of engineering for CMOS products at IDT. "We are first to be sampling such a chipset to customers and excited to be providing solid support to show the excellent performance of our chipset."

Please visit IDT at [ECOC 2018](#), booth 448, September 24-26 in Rome, Italy. To schedule a meeting with IDT representatives at the show, please complete this [form](#).

About IDT

Integrated Device Technology, Inc. develops system-level solutions that optimize its customers' applications. IDT's market-leading products in RF, high performance timing, memory interface, real-time interconnect, optical interconnect, wireless power, and smart sensors are among the company's broad array of complete mixed-signal solutions for the communications, computing, consumer, automotive and industrial segments. Headquartered in San Jose, Calif., IDT has design, manufacturing, sales facilities and distribution partners throughout the world. IDT stock is traded on the NASDAQ Global Select Stock Market® under the symbol "IDTI." Additional information about IDT can be found at [idt.com](#). Follow IDT on [Facebook](#), [LinkedIn](#), [Twitter](#), and [YouTube](#).

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