Broadcom Samples Industry's First 7nm 400G PAM-4 PHY Enabling Sub-8W Optical Modules

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Industry leading performance, lowest power 400G 8:4 gearbox accelerating 400GbE deployments in hyper-scale data center and cloud networks

SAN JOSE, Calif., Nov. 01, 2018 (GLOBE NEWSWIRE) -- Broadcom Inc. (NASDAQ: AVGO) today announced the immediate availability of its 7nm 400G PAM-4 PHY device, the BCM87400, designed for data center and cloud infrastructure. Built on Broadcom's state-of-art 7nm Centenario™ 112G PAM-4 DSP platform, the device provides best-in-class 400G 8:4 gearbox performance while delivering the lowest power, enabling broad market adoption of 400bE links in hyper-scale datacenter and cloud networks.

Networks are rapidly transitioning to 400GbE pipes as the main interface connecting the latest generations of high density, multi-terabit switches with 100G single-lambda optics to support the increasing demand for higher bandwidth. The exploding need for high speed connectivity is being driven by emerging technology such as 5G, AI and machine learning. However, with the current generation of 16nm 400G PHYs, optical module power dissipation is approximately 12W. Broadcom's 7nm 400G PHY solution delivers significant power savings compared to existing 16nm PHYs, thereby enabling sub-8W optical modules.

7nm Centenario PAM-4 DSP Highlights

- Industry leading DSP performance and power efficiency enabling DR4/FR4 optical modules to meet IEEE standards and MSA specifications
- DSP platform supporting DR/FR optical modules for legacy switch applications
- Client-side interface compliance to CEI-28G/56G LR specification supporting long reach (LR) channels
- IEEE 802.3bs standard-compliant KP4 and end-to-end FEC bypass operation
- Proven PAM-4 architecture supporting multiple optics front ends including EML, DML and silicon photonics
- Optimized design with proven interoperability with Broadcom switch ASICs and ASSPs using 28Gbaud PAM-4 and NRZ SerDes architecture

"With the general availability of 12.8-Tb/s switches such as Broadcom's Tomahawk 3, hyper-scale data center operators and cloud providers will be leveraging the 400GbE ports in these switches to address increasing demand for higher bandwidth. Our low power 7nm Centenario PAM-4 DSP is essential to support high density 400G connectivity using QSFP-DD and OSFP optical modules, accelerating the adoption of 400GbE network infrastructure," said Lorenzo Longo, senior vice president and general manager of the Physical Layer Products Division at Broadcom. "The currently available 16nm 400G PHYs have been used to enable engineering prototypes and testing of 100G per lambda optical components. Our 7nm Centenario 400G PHY enables high volume deployment of 400G optical modules in hyper-scale data centers."

"Broadcom demonstrates its technology lead in the PAM4 market segment with the sampling of the industry's first 7nm 400G PAM4 PHY," said Dale Murray, principal analyst at LightCounting Market Research. "A savings of 4W per 400G optical module in comparison with currently available CMOS solutions is significant as it will ease market concerns about power consumption in the transition to 400G optical modules in hyperscale network deployments."

Availability

Broadcom is sampling the BCM87400 to customers now. Please contact your local Broadcom sales representative for information.

Further information on the BCM87400 can be found online at:

https://www.broadcom.com/products/ethernet-connectivity/optical-phy/bcm87400

About Broadcom
Broadcom Inc. (NASDAQ:AVGO) is a leading designer, developer and global supplier of a broad range of digital and analog semiconductor connectivity solutions. Broadcom Inc.'s extensive product portfolio serves four primary end markets: wired infrastructure, wireless communications, enterprise storage and industrial & other. Applications for our products in these end markets include: data center networking, home connectivity, set-top box, broadband access, telecommunications equipment, smartphones and base stations, data center servers and storage, factory automation, power generation and alternative energy systems, and electronic displays. For more information, go to www.broadcom.com.

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