Broadcom Delivers 200G/lane PAM-4 DSP PHY for Next Generation Switches and AI Networks

October 2, 2023

New Sian DSP enables lowest power 800G and 1.6T optical module solutions with industry leading performance, bringing unprecedented bandwidth and efficiency to hyperscale data centers supporting AI workloads at scale

SAN JOSE, Calif., Oct. 02, 2023 (GLOBE NEWSWIRE) -- Broadcom Inc. (NASDAQ: AVGO) today announced the availability of its 5nm 200G/lane optical PAM-4 DSP PHY, the Sian™ BCM85822, at the 49th European Conference on Optical Communication (ECOC 2023). The BCM85822 features 200G/lane serial optical interfaces, which enable optical transceiver manufacturers to cost effectively deliver 800G and 1.6T pluggable modules and meet the growing bandwidth needs and low power consumption requirements of hyperscale data centers.

Sian™ BCM85822 Product Highlights

- Monolithic 5nm 800G (8:4) PAM-4 DSP with integrated laser driver
- Delivers best-in-class module performance in BER and power consumption
- Proven interoperability with Broadcom's 200G EML
- Compliant to all IEEE and OIF standards, capable of supporting MR links on the chip to module electrical interface
- Supports optical modules from 800G to 1.6T
- Supports IEEE compliant (128,120) Hamming Inner Code

Given the increasing bandwidth demands from AI-driven workloads in hyperscale data centers, deploying 1.6T OSFP-XD transceiver modules would double the bandwidth capacity per 1RU without changing the existing infrastructure. The BCM85822 is optimized for the 1.6T OSFP-XD transceiver module design and would effectively enable 51.2T switching capacity in a 1RU rack to improve bandwidth density in hyperscale data centers. Further, the adoption of 200G/lane optical interfaces lays the foundation for the eventual deployment of 1.6T and 3.2T solutions with 200G/lane electrical interfaces, which are needed for cloud providers to support next generation switches and scale AI workloads.

"This latest generation of DSP operating at 200G/lane extends Broadcom's leadership in high-bandwidth PHY and enables the lowest power optical modules in the industry," said Vijay Janapaty, vice president and general manager of the Physical Layer Products Division at Broadcom. "This, in turn, lays the foundation for next generation switching platforms for AI/ML clusters and networks."

For more information on how Broadcom's 200G/lane optical solutions drive next-generation networks, read our blog here.

Demo Showcase at ECOC 2023

Broadcom will demonstrate its BCM85822 and 200G EML operating inside Eoptolink 1.6T DR8, 1.6T 2xFR4 and 800G DR4 optical modules. Attendees will see live traffic stream of data running between optical modules, which are connected to a Tomahawk 5 switch in an end-to-end link. The demonstration will be in Eoptolink Booth 432 at the ECOC 2023 exhibition in Glasgow, Scotland from October 2nd to 4th.

Availability

Broadcom is currently sampling both the BCM85821 and BCM85822 to its early access customers and partners. The BCM85821 is an 800G (8:4) PAM-4 DSP PHY with no integrated laser driver. Please contact your local Broadcom sales representative for samples and pricing.

Further information on the BCM85821 and BCM85822 can be found online at:

https://www.broadcom.com/products/ethernet-connectivity/phy-and-poe/optical/bcm85821
https://www.broadcom.com/products/ethernet-connectivity/phy-and-poe/optical/bcm85822

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Source: Broadcom Inc.