



Broadcom Expands Industry's Broadest Portfolio of 10GbE and 40GbE PHYs

New Dual, Quad, and Octal-Channel PHYs Deliver Higher Bandwidth for Wider Range of Applications

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News Highlights:

- Extends industry's broadest portfolio of 10GbE and 40GbE solutions for data center and enterprise networks
- Features Broadcom's fourth generation electronic dispersion compensation (EDC) technology
- Delivers 10 times more bandwidth than previous generation 1GbE PHYs

Broadcom Corporation (NASDAQ: BRCM), a global innovation leader in semiconductor solutions for wired and wireless communications, today introduced four new physical layer transceivers (PHYs) to its portfolio of 10 gigabit Ethernet (GbE) and 40GbE high-speed Ethernet products for optical fiber communications. The new SFP+ physical layer transceivers (PHYs) include a variety of dual, quad and octal-channel devices for data center and enterprise networks, enabling the transition from 1GbE to 10GbE and 40GbE. Based on advanced 40nm CMOS architecture, the new devices deliver 10 times more bandwidth than previous generation 1GbE PHYs. See Broadcom's complete portfolio of solutions for optical fiber communications at [OFC/NFOEC booth # CV-1557](#).

Consumer demand and the exponential increase in Internet traffic are driving the need for higher density processing and transmission of data. Data center, cloud and enterprise networks are transitioning from 1GbE to 10GbE and 40GbE. Analysts predict overall 10GbE ports to increase from 24 million in 2011 to 76 million in 2015.(1) In addition, 40G port shipments are projected to grow from 36,000 in 2011 to 795,000 in 2015.(2)

Broadcom's new SFP+ and QSFP+ PHYs ([BCM84728](#), [BCM84748](#), [BCM84758](#), and [BCM84784](#)) are designed to meet the increasing bandwidth and traffic demands being placed on the network, with greater functionality, flexibility and performance for system managers. All four devices feature Broadcom's fourth generation of EDC technology, enabling data transmission on a 10GbE or 40GbE serial interface. This feature is ideal for applications requiring transmission over multimode fiber (MMF) at distances up to 300m (LRM) using OM3 fiber and SFP+ copper twin-axial cable (CR).

In addition to supporting long reach over multi-mode fiber (LRM), the new PHYs handle short range (SR), long range (LR) and newer extended range (ER and ZR) optical interfaces for a broad range of high-bandwidth applications. The all-digital signal processing (DSP) high-speed, front end, on-chip microcontroller provide the highest performance and flexibility for line card designers.

Multi-rate capabilities allow IT managers to work with 1GbE, 10GbE or 40GbE systems for maximum flexibility. Integrated IEEE 1588 time synchronization operating on a per-channel basis, provides an in-band scheme of precisely-timed packets to traverse multiple systems for voice, video and cellular base station applications. This feature also can be bypassed or disabled for each channel independently.

Key Features:

[BCM84728](#) 10GbE Dual-Channel PHY and [BCM84748](#) 10GbE Quad-Channel PHY

- SFI-to-XAUI™ transceiver for LAN/WAN
- Supports SFP+ optical, SR, LR, ZR, DWDM, and LRM optical interfaces
- Supports SFP+ copper twin-ax
- IEEE 1588 time stamping, Y.1731 with Sync-E recovered clock outputs

[BCM84758](#) 10GbE Dual-Channel PHY

- SFI-to-XFI™ transceiver
- Supports SFP+ optical, SR, LR, ZR, DWDM, and LRM optical interfaces
- Supports SFP+ copper twin-ax

- IEEE 1588 time stamping, Y.1731 with Sync-E recovered clock outputs

[BCM84784](#) Dual-Channel 40GbE QSFP+ PHY with 8x10GbE support

- Supports QSFP+ optical, SR4 and LR4
- Supports QSFP+ CR4 copper twin-ax
- Can drive QSFP+ Dongle Cables for individual 10GbE channels

Market Drivers:

- 10GbE and 40GbE port growth fueled by increasing traffic and content: streaming video, cloud computing, server virtualization
- Shipments of 10GbE ports to increase from 24 million in 2011 to 76 million in 2015(1)
- 40G port shipments projected to grow from 36K in 2011 to 795K in 2015(2)
- Market trend for data centers is to reduce cost, reduce power consumption and increase connectivity(2)
- Dual, Quad, and Octal 10GbE and 40GbE PHYs a clear requirement for next generation, high density networks moving to higher bandwidths

Availability

All four PHYs are now sampling with volume production expected in mid-2012.

Quotes:

Jag Bolaria, Senior Analyst, The Linley Group

"Today's enterprise and data center managers face some very significant challenges when it comes to upgrading network solutions for higher levels of bandwidth and performance while at the same time trying to minimize costs and power consumption. Broadcom's expansion of its 10GbE and 40GbE devices should serve the industry well by giving IT professionals more options to choose from when it comes to selecting PHYs that will best serve the needs of their respective organizations."

Lorenzo Longo, Vice President & General Manager, High Speed Interconnect Products, Broadcom

"Broadcom provides the industry's widest selection of 10GbE and 40GbE PHYs. Our latest innovations provide the higher bandwidth required in data center and enterprise networks while significantly reducing complexity, footprint and power consumption. These enhancements enable our customers to successfully migrate to higher levels of bandwidth and all-around superior performance."

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(1) [Linley Group, Inc.](#) — Communications Semiconductor Market Forecast 2010-2015

(2) [Linley Group, Inc.](#) — A Guide to Ethernet Switch and PHY Chips

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