



## **Broadcom Announces Industry's First Octal 10GbE SFP+ PHY**

### **New Eight-Channel Physical Layer Transceiver Delivers Higher Bandwidth to Data Center and Enterprise Networks**

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#### **News Highlights:**

- High-density 40nm architecture delivers higher bandwidth while reducing printed circuit board (PCB) size and power consumption by approximately 25 percent
- Features Broadcom's fourth generation of all-DSP electronic dispersion compensation (EDC) technology
- Extends industry's broadest portfolio of single, dual, quad, and now octal channel SFP+ PHYs
- Industry's first Octal 10GbE PHY optimized for increasing data center and enterprise network traffic

Broadcom Corporation (NASDAQ: BRCM), a global innovation leader in semiconductor solutions for wired and wireless communications, today announced the industry's first 10GbE eight-channel, front panel Ethernet physical layer transceiver (PHY). The new Broadcom<sup>®</sup> BCM84780 Octal SFI-XFI PHY establishes a new standard for higher bandwidth data center and enterprise network performance and server virtualization while reducing chip size and power by approximately 25 percent. The addition of the BCM84780 extends Broadcom's industry-leading portfolio of single, dual, quad and now octal channel SFP+ physical layer devices.

Consumer demand and traffic volume continues to rise for high-bandwidth applications such as streaming video and cloud computing. As the need for higher density processing and transmission of data rises, so does the need for data centers and enterprise networks to transition from 1GbE to 10GbE. According to The Linley Group, shipments of 10GbE ports are expected to increase at a compound annual growth rate (CAGR) of more than 40 percent from 2010 to 2015.

Optimized for data centers and enterprise networks that are transitioning to 10GbE and server virtualization, the BCM84780 octal PHY is approximately 25 percent smaller with lower power per port compared to other currently available solutions. The PHY features eight fully independent channels with IEEE 1588 timestamping. It also incorporates EDC that enables data to be transmitted on a 10GbE serial interface 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 BCM84780 handles 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-DSP high-speed, front end and an on-chip microcontroller provide the highest performance and flexibility for line card designers.

The PHY's multi-rate capabilities enable the user to work with either 10GbE or 1GbE systems. Integrated IEEE 1588 time synchronization operates on a per-channel basis that allows an in-band scheme of precisely timed packets to traverse across multiple systems for voice, video and cellular base stations applications. The user also can bypass or disable the 1588 functionality for each channel independently.

The BCM84780 is fully compliant with the SFF-8431 SFP+ standard for both 10GbE and 1GbE operation.

#### **Market Drivers:**

- 10GbE port growth fueled by increasing traffic and content
  - Streaming video, cloud computing, server virtualization
- Shipments of 10GbE ports to increase 40 percent (CAGR) from 2010 to 2015(1)
- Octal 10GbE PHYs a clear requirement for next generation, high density networks moving to higher bandwidths

#### **Key Features:**

- Octal-channel SFI-to-XFI PHY developed in low-power 40nm CMOS process technology

- Supports SFP+ optical, SR, LR, ZR, DWDM, and LRM optical interfaces
- Supports SFP+ copper twin-ax
- IEEE 1588 timestamping, Y.1731 with Sync-E recovered clock outputs
- 1GbE mode with support for IEEE802.3 Clause 37 AN
- 21mm x 21mm BGA, 1mm pitch
- Advanced diagnostics on SFP+ interface including Eye-Mapping, SNR, and BER

## Availability

The BCM84780 is sampling now. Production release is scheduled for mid-2012.

## Quotes:

### Jag Bolaria, Senior Analyst, The Linley Group

*"Broadcom is a market leader for standard Ethernet components and 10GbE PHY silicon. We expect Broadcom's product offerings to serve its customers well as this segment of the market grows rapidly through 2015."*

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

*"Broadcom is committed to providing the broadest portfolio of 10GbE PHYs on the market. Our latest octal PHY provides the higher bandwidth required in data center and Enterprise networks while reducing footprint and power by up to 25 percent compared to previous generation designs. 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

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