PRODUCT OVERVIEW

Marvell® Alaska® 88E1514 Gigabit Ethernet Transceiver is a physical layer device containing a single Gigabit Ethernet transceiver. The transceiver implements the Ethernet physical layer portion of the 1000BASE-T, 100BASE-TX, and 10BASE-T standards. The device supports SGMII/Fiber to Copper.

In addition to supporting Energy Efficient Ethernet (EEE) on the new generation of enabled MACs, this product is also capable of implementing EEE with legacy or non-EEE devices by incorporating EEE buffering.

The device also integrates MDI interface termination resistors into the PHY. This resistor integration simplifies board layout and reduces board cost by reducing the number of external components. This new Marvell calibrated resistor scheme will achieve and exceed the accuracy requirements of the IEEE 802.3 return loss specifications.

The 88E1514 device has an integrated switching voltage regulator to generate all required voltages and can run off a single 3.3V supply; the device supports 1.8V, 2.5V, and 3.3V LVCMOS I/O Standards. This device uses advanced mixed-signal processing to perform equalization, echo and crosstalk cancellation, data recovery, and error correction at a Gigabit per second data rate. The 88E1514 achieves robust performance in noisy environments with very low power dissipation.

The Alaska family of transceiver products provides the ideal solution for rapid development and deployment of Gigabit standalone and switching systems for the Enterprise, embedded, consumer, and Metro/service provider market segments.

Fig 1. Marvell Alaska 88E1514 Gigabit Ethernet Transceiver SGMII to Copper Device Application
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