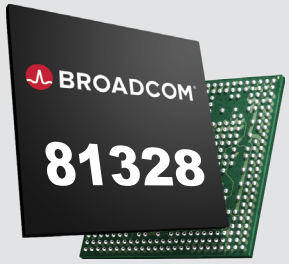
BROADCOM®

Product Brief

BCM81328

Octal 56-Gb/s PAM-4 Duplex Front-Panel PHY



Features

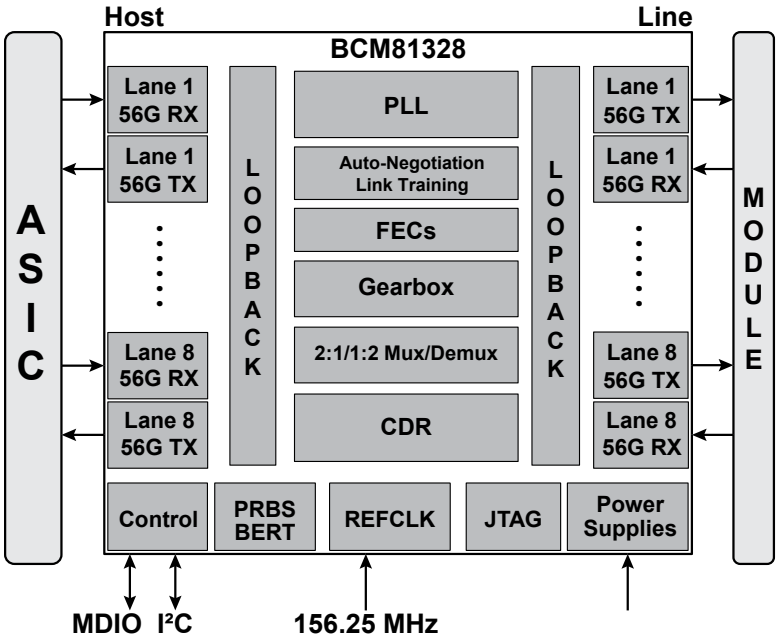
- Host-side interface: High-performance SerDes supports Long Reach (30 dB)
- Line-side interface: High-performance SerDes supports Long Reach (30 dB)
- Gearbox and Retimer modes
- Integrated AC-coupling capacitors
- Multiple standard and line-rate support for both PAM-4 and NRZ
- Forward Error Correction (FEC) options
- Continuous auto-adaptive equalizer
- Line-side and system-side loopbacks
- PRBS generator/error checker
- Single low-cost REFCLK input
- Interoperates with Broadcom ASIC and Merchant Switch Silicon
- Low-power 16-nm CMOS design
- 15-mm × 15-mm BGA package, 0.8-mm ball pitch package

Overview

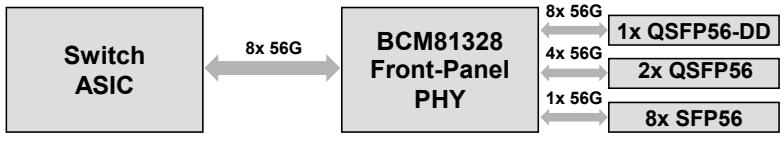
The Broadcom® BCM81328 is a single-chip, 8× 56-Gb/s full-duplex, front-panel Pulse Amplitude Modulation 4-Level (PAM-4) PHY. It is a low-power device supporting both the PAM-4 and Non Return-to-Zero (NRZ) data formats. It supports various operation modes such as Retimer and Gearbox modes. It also supports 10G, 25G, 40G, 50G, 100G, 200G, and 400G line-card applications. On-chip clock synthesis is performed by a low-cost 156.25 MHz reference clock via high-frequency, low-jitter phase-locked loops (PLLs).

The BCM81328 is fabricated with advanced low-power 16-nm CMOS technology. The BCM81328 is available in a 15-mm × 15-mm, 0.8-mm pitch, 324-pin BGA, RoHS-compliant package.

Block Diagram



Front-Panel Retiming Diagram



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