

Porrima 100G/400G PAM4 for Optical Module Applications

Part No.

Porrima

Product Type

100G/400G PAM DSP

Market Segments

Inside Data Centers

Applications

- Single-Mode Fibre Transceivers
- Multi-Mode Fibre Transceivers
- Active Optical Cables

Features

- 100G Variant: 4x25G NRZ PCS to 1x100G KP-FEC encoded PAM4
- 400G Variant: 8x50G PAM4 to 4x100G PAM4
- All lanes independent to support breakout applications
- Full data & clock cross-bars on Egress and Ingress for ease of system layout
- Host interfaces with full 4-tap Tx FIR with eye1/2 control
- Line interfaces support 3-tap Tx FIR with eye1/2 control
- Line Tx variants
 - 1Vp-p differential output
 - 1.6Vp-p single-ended, single or dual bias-T EML drive
- Full DSP Line Receiver for maximum performance over complex optical links
- Hardware supported KP FEC statistics monitor that can be used on Egress or Ingress

Description

The Marvell Porrima PAM4 DSP is a next generation solution for cloud data center, high-performance computing, and AI optical transceivers. Porrima supports multiple industry standard protocols up to 100Gbs for both single mode and multi-mode applications. It is equipped with an industry leading PAM4 digital core for optimal performance across a range of applications. Porrima includes several performance monitoring features including SNR, histogram, FFE-tap view for line side interface. Both host and side interface support shallow loopback and PRBS generation/checking for diagnostic operations. Additionally, Porrima has a hardware assisted KP FEC statistics monitor that can report counts for correctable code-words uncorrectable code-words and the full FEC 'histogram' for errors from 1/code-word, up to 15/code-word.