# AFBR-79Q4Z, AFBR-79Q4Z-D

InfiniBand 4x QDR

QSFP Pluggable, Parallel Fiber-Optics Module

## Product Brief

**Avago**
TECHNOLOGIES

## Description

The Avago Technologies AFBR-79Q4Z is a Four-Channel, Pluggable, Parallel, Fiber-Optic QSFP Transceiver for QDR InfiniBand and proprietary applications. This transceiver is a high performance module for short-range multi-lane data communication and interconnect applications. It integrates four data lanes in each direction with 40 Gbps aggregate bandwidth. Each lane can operate at 10 Gbps up to 100 m using OM3 fiber. These modules are designed to operate over multimode fiber systems using a nominal wavelength of 850nm. The electrical interface uses a 38-contact edge type connector. The optical interface uses an 8 or 12 fiber MTP® (MPO) connector. This module incorporates Avago Technologies proven integrated circuit and VCSEL technology to provide reliable long life, high performance, and consistent service.

## Part Number Ordering Information

QDR 10G InfiniBand                    AFBR-79Q4Z

QDR 10G InfiniBand with DMI          AFBR-79Q4Z-D

## Applications

- InfiniBand QDR (4 x 10G), DDR (4 x 5G) and SDR (4 x 2.5G) interconnects
- High Performance and High Productivity computer interconnects
- Data Aggregation, Backplane and Proprietary Density Applications
- PCI-Express, SAS/SATA, Fibre Channel compatible interconnect
- Datacom and Telecom switch and router backplane connections

## Features

- Compliant to the InfiniBand Architecture Release 1.2.1 QDR Specification
- Compliant to the industry standard INF-8436i QSFP Transceiver Specification Revision 1.0
- High Channel Capacity: up to 40 Gbps per module, bi-directional operation
- Operates up to 10 Gbps with 8b/10b compatible coded data
- Backwards compatible to 5Gbps DDR IB and 2.5 Gbps SDR IB
- 0 to 70°C case temperature operating range
- Proven High Reliability 850 nm technology: Avago Technologies VCSEL array transmitter and Avago Technologies PIN array receiver
- High port density: 21mm horizontal port pitch
- Up to 100m links at 10G/channel using OM3 multimode fiber
- Four independent transmitter channels and 4 independent receiver channels per module
- Two Wire Serial (TWS) interface with maskable interrupt for expanded functionality including:
  - Individual channel functions: disable, squelch disable
  - A/D readback: module temperature and supply voltages, per channel laser current and laser power, or received power
  - Status: per channel Tx fault, electrical (transmitter) or optical (receiver) LOS, and alarm flags

## Evaluation Kit

This Evaluation kit provides the designer with a convenient way to evaluate Avago Technologies AFBR-79Q4Z QSFP and AFBR-79Q4Z-D Transceiver modules. The designer can evaluate the management interface, as well as the electrical and optical performance of the QSFP transceiver module.



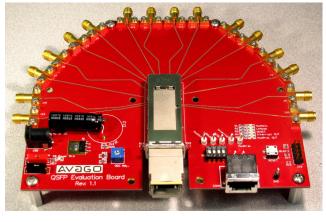## Part Number Ordering Information

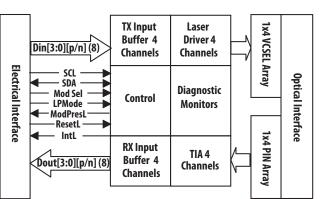| Evaluation Board | AFBR-79Q4EKZ* |
| --- | --- |
| Evaluation Kit | AFBR-79Q2EKZ** |

\*   Includes GUI and User Guide
\*\*  Includes GUI, User Guide, i-Port and Power Supply

## Transceiver Block Diagram



## Mechanical Dimensions