

100G QSFP28 ER4 40km

100G Eth, QSFP28, LAN-WDM4, ER4, 40km, LC, 1310nm, SM

CPQ-CE-ER-CDA02

OVERVIEW

The CPQ-CE-ER-CDA02 is a single mode QSFP28 transceiver designed for 100 Gigabit Ethernet 100GBASE-ER4 applications. The module integrates four LAN-WDM optical lanes operating in the 1310nm wavelength window. Each transmit lane utilizes a LAN WDM EML laser and each receive lane uses a PIN photodiode receiver.

Each lane supports 25.78Gbps, providing an aggregate data rate of 103.125Gbps. The module supports transmission distances up to 40km over standard single mode fiber without FEC.

The transceiver complies with QSFP28 MSA (SFF-8661 and SFF-8636) and IEEE 802.3bm CAUI-4 electrical interface standards. It operates from a single 3.3V power supply and uses a duplex LC optical connector. Digital Diagnostic Monitoring (DDM) is supported via a two-wire serial interface.

The module operates over a commercial case temperature range of 0°C to +70°C and is suitable for metro networks, long-haul 100G Ethernet links, and data center interconnect applications requiring extended reach.

KEY SPECIFICATIONS

- 100G QSFP28 transceiver with duplex LC connector
- Four lane LAN WDM EML transmitters and SOA + PIN receivers
- Supports 25.78Gbps per lane for an aggregate 103.125Gbps data rate
- Up to 40km transmission distance over single mode fiber (without FEC)
- Maximum power consumption 5.5W
- Operating temperature: Commercial (0°C to +70°C)
- Single 3.3V power supply
- Compliance with QSFP28 MSA, IEEE 802.3bm CAUI-4 standards

TECHNICAL DATA

Parameter	Value	Parameter	Value
Form Factor	QSFP28	Transmitter Data:	
Transmission Media	SM (LC)	Tx Power	-2.9 to +2.9dBm ³⁾
Typical Reach	40km	Tx Power, OMA	0.1 to 4.5dBm
Nominal Wavelength	1295.56 1300.05 1304.58 1309.14	Tx Wavelength	1294.53 – 1296.59nm 1299.02 – 1301.09nm 1303.54 – 1305.63nm 1308.09 – 1310.19nm
Data Rate Support	103.125Gbps ¹⁾ 25.78Gbps ²⁾	Extinction Ratio	≥8dB
Protocol Support	100GbE	Receiver Data:	
Power Consumption	<5.5W	Rx Power, min	-20.9dBm ³⁾
Operating Temperature	0°C to 70°C	Rx Sensitivity, OMA	-21.4dBm ⁴⁾
Storage Temperature	-40°C to 85°C	Rx Overload, max	-4.5dBm ³⁾
DDM	Yes	Rx Wavelength	1294.53 – 1296.59nm 1299.02 – 1301.09nm 1303.54 – 1305.63nm 1308.09 – 1310.19nm
		LOS Assert	-30dBm
		LOS De-assert	-22dBm
		LOS Hysteresis	0.5dB

¹⁾ Aggregated line rate 100GbE

²⁾ Line rate per 25.78Gbps lane

³⁾ Average power, per lane

⁴⁾ Per 25.78Gbps lane. Measured with PRBS31 (2³¹-1) @ BER 1E-12

Safety/Regulatory Compliance

- Class 1 laser safe
- RoHS Compliance

ABSOLUTE MAX RATING

Exceeding these limits can cause permanent damage to the transceiver

Parameter	Value	Parameter	Value
Supply Voltage	-0.5V to 3.6V	Relative Humidity	85%
Storage Temp	-40°C to 85°C	Max Rx Optical Power	-3.5dBm per lane

ORDERING INFORMATION

Ordering Code	Description
CPQ-CE-ER-CDA02	100G QSFP28, LAN-WDM4, ER4, 40km, LC, 1310nm, SM, 0 to 70C

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