

# 100G QSFP28 LR4 10km

100G Eth, QSFP28, LR4, 10km, LC, 1310nm, SM

## CPQ-CE-LR-CDF02

### OVERVIEW

The CPQ-CE-LR-CDF02 is a single mode QSFP28 transceiver designed for 100 Gigabit Ethernet applications. It uses four LAN WDM lanes in both the transmit and receive paths. Each lane uses a DML laser and PIN photodiode and supports 25.78Gbps which gives an aggregated full duplex link of 103.125Gbps.

The module supports up to 10km transmission on standard single mode fiber. It complies with the QSFP28 Multi-Source Agreement, SFF-8665, IEEE 802.3ba and supports Digital Diagnostics Monitoring according to the SFF-8472 specification. The module operates from a single 3.3V power supply and integrates a duplex LC optical interface.

The transceiver is available in Commercial (0°C to +70°C) operating temperature options. It is suitable for 100GBASE-LR4 links, data center interconnects and long reach optical networks.

### KEY SPECIFICATIONS

- 100G QSFP28 transceiver with duplex LC connector
- Four lane LAN-WDM DML transmitters with optical mux and PIN photodiode receivers
- Supports 25.78Gbps per lane for 100Gbps aggregate data rate
- Up to 10km transmission distance over single mode fiber
- Power consumption less than 4.5W
- Temp operating conditions: Commercial (0°C to +70°C)

## TECHNICAL DATA

Parameter	Value	Parameter	Value
Form Factor	QSFP28	<b>Transmitter Data:</b>	
Transmission Media	SM (LC)	Tx Power	-4.3 to 4.5dBm <sup>3)</sup>
Typical Reach	10km	Tx Amplitude, OMA	-1.3 to 4.5dBm
Nominal Wavelength	1295.56nm 1300.05nm 1304.58nm 1309.14nm	Tx Wavelength	1294.53-1296.59nm 1299.02-1301.09nm 1303.54-1305.64nm 1308.09-1310.19nm
Data Rate Support	103.125Gbps <sup>1)</sup> 25.78Gbps <sup>2)</sup>	Extinction Ratio	≥ 4.0dB
Protocol Support	100GbE	<b>Receiver Data:</b>	
Power Consumption	<4.5W	Rx Sensitivity	-10.6dBm <sup>3)4)</sup>
Operating Temperature	0°C to 70°C	Rx Sensitivity, OMA	-8.6dBm
Storage Temperature	-40°C to 85°C	Rx Overload, max	4.5dBm <sup>3)4)</sup>
DDM	Yes	Rx Wavelength	1294.53-1296.59nm 1299.02-1301.09nm 1303.54-1305.64nm 1308.09-1310.19nm
		LOS Assert	-30dBm
		LOS De-assert	-13dBm
		LOS Hysteresis	0.5dB

<sup>1)</sup> Aggregated line rate 100GbE

<sup>2)</sup> Line rate per 25.78Gbps lane

<sup>3)</sup> Average Power, per lane

<sup>4)</sup> Per 25.78Gbps lane. Measured with PRBS 2<sup>31</sup> - 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	5.5dBm

## ORDERING INFORMATION

Ordering Code	Description
CPQ-CE-LR-CDF02	100G QSFP28, LR4, 10km, LC, 1310nm, SM, 0 to 70C

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