800G QSFP-DD 2xFR4 2km

800G Eth, QSFP-DD, 2x400G, 2km, LC, 1311nm, SM

CDD-8E2-8FO-CA02

OVERVIEW

The CDD-8E2-8FO-CA02 is an 800G QSFP-DD transceiver designed for 800GbE or 2×400GbE applications. It supports data-center interconnects up to 2 km over single-mode fiber and provides two duplex LC optical interfaces.

The module converts eight 106.25G electrical signals into eight PAM4 optical lanes transported over four CWDM wavelengths: 1271, 1291, 1311 and 1331 nm. It supports 800G operation as well as breakout configurations for 400G, 200G and 100G applications.

The transceiver supports CMIS 5.0 management with digital diagnostics through an I^2C interface. Host-side RS(528,514) FEC is required for reliable operation.

KEY SPECIFICATIONS

- Supports 800GAUI-8, 400GAUI, 200GAUI and 100GAUI host interfaces
- Uses PAM4 modulation
- Supports 8 optical lanes over 4 CWDM wavelengths
- Features 2× duplex LC connectors over SMF
- Power consumption is <14 W
- Supports CMIS 5.0, DDM and QSFP-DD MSA
- Supports Commercial temperature: 0°C to +70°C

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TECHNICAL DATA

Parameter	Value	Parameter	Value
Form Factor	QSFP-DD	**Transmitter Data:**	
Transmission Media	SM (2x Duplex LC)	Tx Power	-3.2 to +4.4dBm[3)]
Typical Reach	2km	Tx Power, OMA	-0.2 to +3.7dBm
Nominal Wavelength	1271nm 1291nm 1311nm 1331nm	Tx Wavelength	1264.5 – 1277.5nm 1284.5 – 1297.5nm 1304.5 – 1317.5nm 1324.5 – 1337.5nm
Interface Standards	2x400GBASE-FR4	**Receiver Data:**	
Electrical Interfaces	800GAUI-8 or 2x400GAUI-4	Rx Power, min	-7.4dBm[3)]
Bit rate support	850Gbps[1)] 53.125GBd[2)]	Rx Power, OMA	-4.6dBm[3)]
Protocol Support	800GbE	Rx Overload, max	+4.4dBm[3)]
Power Consumption	< 14W	Rx Wavelength	1264.5 – 1277.5nm 1284.5 – 1297.5nm 1304.5 – 1317.5nm 1324.5 – 1337.5nm
Operating Temperature	0ºC to +70ºC	LOS Assert	-16dBm
Storage Temperature	-40ºC to +85ºC	LOS De-assert	-10dBm
		LOS Hysteresis	0.5dB

[1)] Aggregated line rate 800GbE
[2)] Line baud rate per lane
[3)] Average Power

Safety/Regulatory Compliance

- Class 1 laser safe
- RoHS Compliance

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OPTICAL SPECIFICATION - NTWK/MEDIA CODES

The table below lists the primary optical parameters for each supported application code.

CMIS Application Code	Host format	Electrical Interface	Payload	FEC	Media ID	MSA
1	2 x 400GBASE-R	2x 400GAUI-4-L C2M	2x 400G	RS-FEC	0x1D	400G-FR4 MSA / 400GBASE-FR4
2	2 x 400GBASE-R	2x 400GAUI-4-S C2M	2x 400G	RS-FEC	0x1D	400G-FR4 MSA / 400GBASE-FR4
3	800GBASE-R	1x 800GAUI-8-L C2M	800G	RS-FEC	0xC0	800G 2xFR4 (Undefined)
4	800GBASE-R	1x 800GAUI-8-S C2M	800G	RS-FEC	0xC0	800G 2xFR4 (Undefined)
5	4 x 200GBASE-R	4x 200GAUI-2-S C2M	4x 200G	RS-FEC	0xC1	200G-FR2* (Undefined)
6	4 x 200GBASE-R	8x 100GAUI-1-L C2M	4x 200G	RS-FEC	0xC1	200G-FR2* (Undefined)
7	8 x 100GBASE-R	8x 100GAUI-1-L C2M	8x 100G	RS-FEC	0xC2	100G-FR1* (Undefined)
8	8 x 100GBASE-R	8x 100GAUI-1-S C2M	8x 100G	RS-FEC	0xC2	100G-FR1* (Undefined)

*) The media ID for the application code is missing in the MSA SFF-8024 and uses a Vendor specific/Custom Code.

ORDERING INFORMATION

Ordering Code	Description
CDD-8E2-8FO-CA02	800G QSFP-DD, PAM4, 2xFR4, 2km, LC, 1311nm, SM, 15C to 75C

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