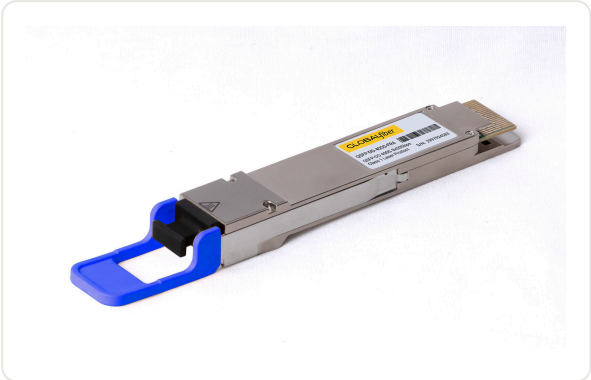
QSFP-DD 400G FR4 2km

QSFP-DD transceiver · 400G · 1271 / 1291 / 1311 / 1331 nm (CWDM) · 2 km SMF · Duplex LC · NVIDIA compatible

The GLOBALfiber QDD400G-FR4-NVE is a 400G QSFP-DD transceiver for NVIDIA Ethernet networks. It uses 4 × 100G PAM4 optical lanes at 1271 / 1291 / 1311 / 1331 nm (CWDM) for links up to 2 km SMF over Duplex LC. The module is coded for NVIDIA equipment and is available with Ethernet coding.



KEY FEATURES

- QSFP-DD form factor
- 400G, 4 × 100G PAM4 optical, 8 × 50G PAM4 electrical
- Wavelength 1271 / 1291 / 1311 / 1331 nm (CWDM)
- Reach up to 2 km SMF
- Duplex LC optical connector
- Max. power consumption 12 W
- Digital diagnostics (DDM), hot-pluggable
- Case temperature 0 to +70 °C

APPLICATIONS & COMPATIBILITY

- NVIDIA switches: Spectrum-3 SN4700, Spectrum-4 SN5400
- Replaces NVIDIA MMS1V50-WM

KEY SPECIFICATIONS

Form factor	QSFP-DD
Data rate	400G
Lanes	4 × 100G PAM4 optical, 8 × 50G PAM4 electrical
Wavelength	1271 / 1291 / 1311 / 1331 nm (CWDM)
Reach	2 km SMF
Connector	Duplex LC
Fiber	Singlemode
Max. power	12 W
Case temperature	0 to +70 °C
Protocol	Ethernet (400GbE)

ORDERING INFORMATION

GLOBALfiber item	Coding	Replaces NVIDIA	Description
QDD400G-FR4-NVE	ETH Ethernet	MMS1V50-WM	QSFP-DD 400G FR4 2km

Choose the coding that matches the host: InfiniBand for NVIDIA Quantum switches, Ethernet for NVIDIA Spectrum switches. Other coding on request: salg@globalfiber.no.

ABSOLUTE MAXIMUM RATINGS

Parameter	Min	Max	Unit
Supply voltage	-0.5	3.6	V
Control input voltage	-0.3	Vcc+0.5	V
Storage temperature	-40	85	°C
Relative humidity (non-condensing)	5	95	%

RECOMMENDED OPERATING CONDITIONS

Parameter	Min	Typ	Max	Unit
Case temperature	0	–	70	°C
Supply voltage	3.135	3.3	3.465	V
Power consumption	–	–	12	W
Link distance	2	–	2000	m

OPTICAL CHARACTERISTICS – TRANSMITTER (PER LANE)

Parameter	Min	Typ	Max	Unit
Center wavelength L0	1264.5	1271	1277.5	nm
Center wavelength L1	1284.5	1291	1297.5	nm
Center wavelength L2	1304.5	1311	1317.5	nm
Center wavelength L3	1324.5	1331	1337.5	nm
Side-mode suppression ratio	30	–	–	dB
Average launch power per lane	-3.2	–	4.4	dBm
Total average launch power (per 400G port)	–	–	10.4	dBm
OMA outer per lane (TDECQ < 1.4 dB)	-0.2	–	3.7	dBm
TDECQ	–	–	3.4	dB
Extinction ratio	3.5	–	–	dB
Average power with TX off	–	–	-16	dBm
RIN (OMA)	–	–	-136	dB/Hz

OPTICAL CHARACTERISTICS – RECEIVER (PER LANE)

Parameter	Min	Max	Unit
Damage threshold	5.4	–	dBm
Average receive power per lane	-7.2	4.4	dBm
Receive power OMA outer	–	3.7	dBm
Sensitivity OMA outer (TECQ < 1.4 dB)	–	-4.6	dBm
Stressed sensitivity OMA outer	–	-2.6	dBm
Receiver reflectance	–	-26	dB

DIGITAL DIAGNOSTICS (DDM)

Parameter	Range	Accuracy
Case temperature	0 to 70 °C	±3 °C
Supply voltage	0 to Vcc	±0.1 V
TX bias per lane	0 to 100 mA	±10 %
TX power per lane	Operating range	±3 dB
RX power per lane	Operating range	±3 dB

COMPLIANCE

- IEEE 802.3cu (400GBASE-FR4)
- QSFP-DD MSA
- CMIS 4.0
- Class 1 laser product
- RoHS compliant

INSTALLATION NOTES

- Use in QSFP-DD host ports.
- Confirm host support, port mode, firmware version and FEC before deployment.
- Check the optical link budget and fiber loss for the full link (singlemode fiber, Duplex LC).
- Keep connectors clean and capped when not in use.

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