

100GE CFP2 Optics

The IEEE 802.3ba committee ratified the 100 Gigabit Ethernet standard and along with the general specification, defined a number of fiber optic interfaces. These standard interfaces attempted to satisfy a number of different objectives including support for MMF and SMF compatibility.

100G LR4 CFP2 OPTICAL MODULE

100GBASE-LR4 transceivers are most commonly deployed between data-center or IXP over single mode fiber

100G SR10 CFP2 OPTICAL MODULE

40GBASE-SR10 transceivers are used in a data center to interconnect two Ethernet switches requiring 24 lane ribbon OM3 or OM4 cables.



100G SR10 CFP2



100G LR4 CFP2

Target Applications

The CFP2 pluggable interface is an industry standard - Multisource Agreement (MSA) for pluggable 100 Gigabit Ethernet Optics.

Products

100G LR4 CFP2 OPTICAL MODULE

- 100GBASE-LR4 transceiver support with a link length up to 10 kilometers over 1310 nm single mode fiber, LC Connector

100G SR10 CFP2 OPTICAL MODULE

- 100GBASE-SR transceiver support with a link length up to 100m over 850 nm multimode fiber, MPO Connector.

Technical Specifications

	100GE CFP2 LR4	100GE CFP2 SR10
Fiber Type	Single-mode (SMF)	Multimode (MMF)
Connector Type	LC	MPO
Launch Power min (avg)	-10.5dBm	-6.5dBm
Receiver Power Range	-10.6 - 4.5dBm	-9.5 - 2.4 dBm
Center Wavelength Range	1294 to 1310nm	840 to 860nm
Distance Range	10km	100M/OM3 150M/OM4
Mean Time Between Failure (MTBF) Hours	3921568	4901960

Note: All Extreme Networks qualified CFP2 pluggables meet or exceed the IEEE 802.3ae 100 Gigabit Ethernet specification. The table above shows some CFP2 parameters that may be useful for 100 Gigabit Ethernet deployments.

Physical Specifications

- Dimensions (HxWxD): 7.007 x 6.61 x 3.14 in 17.8 x 16.8 x 8cm)
- Weight: 11.11 lb (315g) unpackaged, 01.516 lb (43 g) packaged
- Shipping box dimensions (HxWxD): 7.007 x 6.61 x 3.14 in (17.8 x 16.8 x 8cm)

Technical Specifications

CFP2 OPTICS ARE SUPPORTED ON THE FOLLOWING PLATFORMS:

- BlackDiamond X8 series

Environmental Conditions

OPERATIONAL

- Operating Temperature: 0° C to +70° C (32° F to 158° F)
- Operating Humidity: 10% to 93% non-condensing
- Altitude: 0 - 4000 meters (13,000 ft)
- Operational Shock: 30 m/s² (3g), 11ms
- Operational Random Vibration: 5 - 500 Hz @ 1.5 Grms

TRANSPORTATION & STORAGE

- Temperature: -40° C to 85° C (-40° F to 185° F)
- Relative Humidity: 10% to 93%
- Shock: 180 m/s² (18g), 6ms
- Random Vibration: 5 - 20 Hz @ 1.0 ASD w/-3dB/oct. from 20 - 200 Hz
- Drop: 42" (105cm)

Environmental Standards

- EN 300 019-2-3 v2.3.1 (2013-04), Stationary Use, Class 3.1e
- EN 300 019-2-2 v2.3.1 (2013-04), Public Transportation, Class 2.3
- EN 300 019-2-1 v2.1.2 (2000-09), Storage, Class 1.2
- RoHS 6 compliant

- China RoHS compliant
- WEEE Compliant

Safety Compliance

NORTH AMERICAN SAFETY OF ITE

- UL 60950-1:2nd Edition, 2011-12-19 or later, Recognized Component
- cUL to CSA C22.2 #60950-1-07 2nd edition or later, Recognized Component

EUROPEAN SAFETY OF ITE

- EN 60950-1:2006+A11+A1+A12
- IEC 60950-1:2005 (2nd Ed.+AM 1:2009
- 2006/95/EC Low Voltage Directive (LVD)

LASER SAFETY

- EN60825-1:2007
- 21 CFR Subpart J, Class 1 Laser
- CDRH Letter of Approval

EMI/EMC Compliance

NORTH AMERICA EMC FOR ITE

- FCC CFR 47 Part 15 Class A (U.S.A.)
- ICES-003 Class A (Canada)

EUROPEAN EMC STANDARDS

- EN 55022:2010/AC:2011 Class A
- EN 55024:2010 Class A
- ETSI EN 300 386: v1.6.1 2012-09
- (EMC Telecommunications)
- 2004/108/EC EMC Directive

INTERNATIONAL EMC CERTIFICATIONS

- CISPR 22:2008, Class A (International Emissions)
- CISPR 24:2010, Class A (International Immunity)
 - IEC/EN 61000-4-2:2008 Electrostatic Discharge, 8kV Contact, 15kV Air, Criteria B
 - IEC/EN 61000-4-3:2010 Radiated Immunity 10V/m, 30MHz to 2GHz, Criteria A
 - IEC/EN 61000-4-4:2012 Transient Burst, 1kV, Criteria A
 - IEC/EN 61000-4-5 2005, Surge, 1kV L-L, 2kV L-G, Level 4, Criteria B
 - IEC/EN 61000-4-6:2008 Conducted Immunity, 0.15-80MHz, 10V/m unmod. RMS, Criteria A
- IEC/EN 61000-4-11:2004 Power Dips & Interruptions, >30%, 25 periods, Criteria A

Note: All CFP2 modules meet the above standards when installed in Extreme Networks equipment.

Ordering Information

PART NUMBER	NAME	DESCRIPTION
10330	CFP2 100GBASE- LR4	100 Gigabit Ethernet-LR4 CPF2 optical module, LC connector, 10km SMF link length
10331	CFP2 100GBASE- SR10	100 Gigabit Ethernet-SR10 CPF2 optical module, MPO connector, 100m link length



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