

8G-ZR-Cxx-BR1

SFP+, 8/4/2 Gbps FC/FICON, CWDM, DDM, 23dB, 70km, 1470nm-1610nm (8ch)

BROCADE

OVERVIEW

The 8G-ZR-Cxx-BR1 is a versatile CWDM transceiver in SFP+ form-factor supporting a wide range of Fiber Channel (FC) services (2G to 8G). The transceiver has been layer-1 tested and approved by Brocade.

The transceiver is provided in 8 channel versions at the CWDM grid as specified in the ITU-T 694.2 standard.

The optical performance provides a bridgeable distance of up to 70km (without dispersion compensation) for 8G FC. This transceiver provides digital diagnostic functions via a 2-wire serial interface as defined by the SFF-8472 specification.

The transceiver module is compliant to RoHS-6/6.

TECHNICAL DATA

Parameter	Value
Technology	CWDM SFP+
Transmission media	SM (2x LC)
Typical reach	70km
Nominal wavelengths	1471 – 1611nm (8ch)
Bit rate range	2.125 – 8.5Gbps
Protocol support	2G FC, 4G FC, 8G FC
Power budget	11 – 23dB
Dispersion tolerance	1400ps/nm
Optical path penalty	Max 3dB
Power consumption	< 1.6W
Operating temperature	0°C to +70°C
Storage temperature	-40°C to +85°C

Parameter	Value
Transmitter data:	
Output power	Min: -0.5dBm ²⁾ Max: +4.0dBm ²⁾
Transmit wavelength	1471 to 1561nm (G.694.2)
Receiver data:	
Minimum input power	-23.5dBm ^{1) 2)}
Overload (max power)	-7.0Bm ^{1) 2)}
Wavelength range	1260 – 1620 nm
LOS Assert	Min -35dBm
LOS De-assert	Max -23.5dBm
DDM	Yes
MSA compliance	SFP MSA, SFF-8472

¹⁾ At 8.5Gbps (8G FC) using PRBS7 @ BER 1x10⁻¹².

²⁾ Average power



Safety/regulatory compliance:

TUV/UL/FDA (contact Smartoptics for latest certification information)

RoHS compliance

Subject to change without notice.

For more information visit smartoptics.com.

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ORDERING INFORMATION

Ordering number	Description
8G-ZR-C47-BR1	SFP+, 8/4/2 Gbps FC/FICON, CWDM 1470nm, DDM, 23dB, 70km
8G-ZR-C49-BR1	SFP+, 8/4/2 Gbps FC/FICON, CWDM 1490nm, DDM, 23dB, 70km
8G-ZR-C51-BR1	SFP+, 8/4/2 Gbps FC/FICON, CWDM 1510nm, DDM, 23dB, 70km
8G-ZR-C53-BR1	SFP+, 8/4/2 Gbps FC/FICON, CWDM 1530nm, DDM, 23dB, 70km
8G-ZR-C55-BR1	SFP+, 8/4/2 Gbps FC/FICON, CWDM 1550nm, DDM, 23dB, 70km
8G-ZR-C57-BR1	SFP+, 8/4/2 Gbps FC/FICON, CWDM 1570nm, DDM, 23dB, 70km
8G-ZR-C59-BR1	SFP+, 8/4/2 Gbps FC/FICON, CWDM 1590nm, DDM, 23dB, 70km
8G-ZR-C61-BR1	SFP+, 8/4/2 Gbps FC/FICON, CWDM 1610nm, DDM, 23dB, 70km

GENERAL DEFINITIONS

Parameter	Description
Technology	Grey; Transceiver type for non-WDM applications. Electrical or optical. CWDM; Transceiver type for CWDM applications using G.694.2 channel grid. DWDM; Transceiver type for DWDM applications using G.694.1 channel grid. BiDi; Transceiver pair using two different wavelength channels operating on a single-fiber. DAC: Direct Attach Cable. Electrical cable with attached connectors. AOC: Active Optical Cable. Optical cable with attached connectors.
Transmission Media	Type of fiber, e.g. Multimode (MM) or Singlemode (SM). Number of and connector type within brackets (e.g. 2x LC, 1x MPO).
Typical reach	Nominal distance performance based on typical fiber dispersion, fiber loss and power budget properties, i.e. w/o dispersion compensation and optical amplification. Actual distance is dependent on actual optical path loss and dispersion properties.
Bit rate range	Supported bit rate range in Gigabit or Megabit per second (Gbps or Mbps).
Protocols	Protocols within supported bit rate range.
Nominal wavelength	Typical wavelength(s) from transmitter.
Interface standards	Referenced interface standards or MSA's, e.g. IEEE 802.3 standard for 10GbE services or 100G 4WDM-10 etc.
Power budget	Min and max power budget between Transmitter and Receiver w/o optical path penalties.
Dispersion tolerance/penalty	Maximum amount of tolerated dispersion and required reduction of power budget to maintain stipulated Bit Error Rate (BER) and at a given bit rate.
Temperature range	Max operating case temperature range. Standard temperature range (C-temp): 0°C to +70°C (32°F to +158°F) Extended temperature range (E-temp): typically -20°C to +75°C (-4°F to +167°F) Industrial temperature range (I-temp): -40°C to +85°C (-40°F to +185°F)
Power consumption	Worst case power consumption. Will vary over temperature.
Transmitter Output power	Average output power. Provided in min and max values.
Receiver minimum input power	Minimum average input power at specified BER, normally $1E^{-12}$. Note that some protocols require FEC to achieve sufficient BER.
Receiver max input power	Maximum average input power giving a BER, normally $1E^{-12}$.
DDM	Digital Diagnostic Monitoring functionality as defined in e.g. SFF-8472 MSA.

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