

Product Brief

Highlights

- Provides high system reliability through rigorous qualification and certification processes.
- Provides the highest performance with industry-leading Brocade switches and directors.
- 850-nm multimode VCSEL transmitter.
- Fibre Channel and Ethernet dual modes of operation.
- FC-PI-7 compliance to 64G, 32G, and 16G operation.
- IEEE 802.3cd compliance to 50GbE, 25GbE and 10GbE operation.
- Diagnostic features per SFF-8472, *Diagnostic Monitoring Interface for Optical Transceivers*, providing real-time monitoring of the following:
 - Transmitted optical power
 - Received optical power
 - Laser bias current
 - Temperature
 - Supply voltage
- Industry-standard LC duplex connector.
- 100m link lengths at 57.8Gb/s on OM4 fiber.
- IEC 60825-1 Class 1/CDRH Class 1 laser, eye-safe.
- RoHS compliant.
- PC/UPC compatible.

Brocade[®] 64G SWL SFP+

Optimized, Certified Optical Transceivers for the Highest Performance Data-Center Network Connectivity

Overview

The Brocade[®] 64G short wavelength (SWL) SFP+, part of the Brocade family of small form-factor pluggable (SFP) optical transceivers, is optimized to fully leverage Brocade 64G director and switch products. Together, these optical transceivers provide state-of-the-art performance, helping IT organizations achieve new levels of infrastructure consolidation while expanding the capabilities of their applications and services.

The Brocade 64G SWL SFP+ modules are hot-swappable, low-voltage (3.3V) digital diagnostic optical transceivers that support high-speed serial links over multimode optical fiber at signaling rates up to 57.8Gb/s. They comply with SFP+ mechanical (SFF-8402), optical, and electrical specifications (FC-PI) for LC duplex transceivers.

The Brocade 64G SWL SFP+ is a multirated 850-nm SFP that complies with 57.8/28.05/14.025Gb/s Fibre Channel specifications. In addition, it supports 10/25/50GbE when plugged into the Gen 7 (64G) 48-port blade AnyIO ports in a Brocade X7 Director. The 64G SWL SFP+ transceiver dynamically changes to Fibre Channel or Ethernet depending on the port configuration.

End-to-End Compatibility and Reliability

The Brocade 64G SWL SFP+ modules support highly reliable operations in data-center fabrics and are optimized for Brocade 64G switching platforms. They undergo rigorous qualification and certification testing that results in an end-to-end solution that is easier to maintain—helping to improve the availability of data-center fabrics that support mission-critical applications.

Family of Optical Transceivers

Broadcom offers a comprehensive family of reliable optical transceivers to provide highly compatible, high-performance connectivity to Brocade director and switch products. For additional ordering information, contact a Brocade representative or visit

www.broadcom.com/products/fibre-channel-networking/transceiver-modules.

Ordering Part Number

- XBR-000462 (1-pack)
- XBR-000463 (8-pack)

Caution

- Do not look through the optical ports, as it is a potential eye hazard.
- The SFP is an ESD sensitivity Class 1 device. It should be handled accordingly.

Brocade 64G SWL SFP+ Specifications

System	
Performance	Fibre Channel: 57.8Gb/s, 28.05Gb/s, and 14.025Gb/s line speed, full duplex; auto-sensing of 57.8Gb/s, 28.05Gb/s, and 14.025Gb/s port speeds AnyIO: Can be configured as 16, 32, and 64G Fibre Channel or 10, 25 and 50GbE Ethernet speeds.
Media	Hot-pluggable, industry-standard small form-factor pluggable (SFP+), LC connector; short wavelength (SWL)
Operating parameters	Transmit (Tx): <ul style="list-style-type: none"> • Wavelength: 840 nm to 860 nm • Spectral width: 0.6 nm • Average power: -7.5 dBm to 4 dBm • RIN: -128 dB/Hz max • OMA: -4.5 dBm min (355 μW) Receive (Rx): <ul style="list-style-type: none"> • Wavelength: 840 nm to 860 nm • Average power: 4 dBm max • Optical return loss: 12 dB min • Unstressed sensitivity: -7 dBm (200 μW) • SRS OMA: -2.4 dBm (575 μW) • 3-dB cutoff maximum: 18 GHz
Operating distances	OM3 50 μm (2000 MHz\timeskm): <ul style="list-style-type: none"> • 16G Fibre Channel. Distance: 0.5m to 100m • 32G Fibre Channel. Distance: 0.5m to 70m • 64G Fibre Channel. Distance: 0.5m to 70m OM4, OM4+, and OM5 50 μm (4700 MHz\timeskm): <ul style="list-style-type: none"> • 16G Fibre Channel: Distance: 0.5m to 125m • 32G Fibre Channel: Distance: 0.5m to 100m • 64G Fibre Channel: Distance: 0.5m to 100m
Mechanical	
Size	Width: 14.80 mm (0.58 inches) Height: 12.21 mm (0.48 inches) Depth: 56.70 mm (2.23 inches)
Environment	
Storage temperature	-40°C to 85°C (-40°F to 185°F)
Power	
Power dissipation	1.6W
Regulatory and Standards Compliance	
North America	UL/CSA 62368, CDRH Class 1
European Union	EN 60950, EN 60825 Class 1