

## Product Brief

### Highlights

- Provides Ethernet connectivity over long distance
- Operates over duplex single-mode fiber
- Uses an industry-standard single-mode LC connector
- Supports a link length of up to 10 km
- IEC 60825-1 and IEC 60825-2 Class 1/CDRH Class 1 laser, eye safe
- RoHS 6 compliant with 7(c)-1 exemption
- PC/UPC compatible

### Ordering Part Number

- XBR-100G-LR4-01 (1-pack)

# Brocade<sup>®</sup> 100GbE LR4 QSFP

## Optimized, Certified Ethernet Optical Transceiver for Extending Data Center Fabrics

### Overview

The Brocade<sup>®</sup> 100GbE long reach (LR4) quad small form-factor pluggable (QSFP) transceiver, part of the Brocade family of optical transceivers, is optimized for Brocade products with Ethernet connectivity. This optical transceiver is a four-lane, pluggable, single-mode, fiber optic QSFP28 transceiver for 100GbE applications. The transceiver provides state-of-the-art performance, while extending data center connectivity over a distance of 10 km. It operates over single-mode fiber and uses an industry-standard LC connector. It integrates four data lanes in each direction with each lane operating at 25.78125Gb/s, giving an aggregated bandwidth of 103.125Gb/s. It allows optical interoperability up to 10 km over single-mode fiber. Each electrical lane operates at 25.78125Gb/s and conforms to the 100GbE CAUI-4 interface with IEEE 802.3 Clause 91 RS-FEC.

High-speed electrical and optical specifications of the Brocade 100GbE LR4 QSFP transceiver comply with IEEE 802.3 Clause 91 RS-FEC, providing real-time monitoring of the following:

- Received optical power
- Laser bias current
- Temperature
- Supply voltage

### End-to-End Compatibility and Reliability

Brocade 100GbE LR4 QSFP optical transceivers undergo rigorous qualification and certification testing to guarantee compatibility and ensure highly reliable connectivity in a storage network fabric.

### Family of Optical Transceivers

Broadcom offers a comprehensive family of reliable optical transceivers to provide connectivity to Brocade director and switch products.

For additional information, contact a Brocade representative or visit [www.broadcom.com/products/fibre-channel-networking/transceiver-modules](http://www.broadcom.com/products/fibre-channel-networking/transceiver-modules).

## Brocade 100GbE LR4 QSFP Specifications

System	
Performance	Ethernet: 25.78125Gb/s line speed per lane; aggregated bandwidth of 103.125Gb/s
Media	Hot-pluggable, industry-standard QSFP, LC connector. This transceiver is targeted for long-reach applications with high-power transmitters.
Operating Parameters	<p><b>Transmit (Tx):</b></p> <ul style="list-style-type: none"> <li>Wavelength: 840 nm to 860 nm</li> <li>Average power: -8.4 dBm to +2.4 dBm, each lane</li> <li>Optical return loss: 12 dB max.</li> <li>OMA: -6.4 dBm to +3.0 dBm, each lane</li> </ul> <p><b>Receive (Rx):</b></p> <ul style="list-style-type: none"> <li>Average power: +4.5 dBm max., each lane</li> <li>Optical return loss: -26 dB max.</li> <li>Unstressed sensitivity: 138 <math>\mu</math>W, -8.6 dBm, each lane</li> </ul>
Mechanical	
Size	Width: 18.35 mm (0.72 in.) Height: 8.5 mm (0.33 in.) Depth: 72.4 mm (2.85 in.)
Environmental	
Storage Temperature	-40°C to +85°C (-40°F to +185°F)
Power	
Power Consumption	4W max.
Regulatory and Standards Compliance	
North America	UL/CSA 62368, CDRH Class 1
European Union	EN 62368, EN 60825 Class 1

### Caution

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