Jordan procures single-fiber bidirectional QSFP-DD



Overview

RAD offers dual to single fiber solutions for high-speed, reliable networks. Explore our Bidi QSFP28 adaptors for seamless connectivity.

Key Takeaways

Single-fiber bidirectional QSFP-DD solutions enable Jordan to double fiber capacity and deploy high-speed 100G or 400G links over existing fiber infrastructure.

Overview of Single-

Fiber Bidirectional QSFP-DD TechnologySingle-fiber bidirectional (BiDi) QSFP-DD transceivers allow simultaneous transmission and reception over a single optical fiber, effectively doubling fiber utilization without laying additional fiber. These modules are compatible with QSFP-DD form factors, supporting 100G, 200G, and 400G Ethernet speeds, and can be deployed in data centers, metro, and regional networks.

Key Solutions and Vendors

Coherent 100G ZR QSFP-DCO: This dual-laser module integrates two independently tunable lasers for transmit and local oscillator functions, enabling IP-over-DWDM transmission on a single fiber. It enhances capacity up to 10x on existing 10Gb/s networks while minimizing power consumption.



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RAD Bi

Di QSFP28 DD Adaptor: RAD offers a passive BiDi adaptor that converts standard QSFP/SFP transceivers for single-fiber bidirectional operation. It supports bit rates from 1G to 400G and works with multiple wavelengths (1300nm/1550nm), providing 50% fiber savings and quick ROI for service providers. Smartoptics QSFP-DD Transceivers: Smartoptics provides 2x100G single-mode fiber QSFP-DD modules, enabling two independent 100G connections over a single fiber.

These transceivers support coherent DWDM networks, AES-256 encryption, and breakout to 4x100G, making them suitable for brownfield deployments and high-density networking. Benefits for Jordan's NetworkFiber Optimization: Single-fiber BiDi QSFP-DD modules allow Jordan to double the effective fiber capacity without additional cabling. Cost Efficiency: Reduces CapEx and OpEx by minimizing new fiber deployment and leveraging existing infrastructure.

High-

Speed Connectivity: Supports 100G, 200G, and 400G Ethernet, enabling scalable, high-bandwidth links for data centers, metro, and aggregation networks. Simplified Deployment: Passive adaptors and pluggable modules allow easy integration with existing QSFP-DD ports and network equipment. Enhanced Security and Flexibility: Some modules provide AES-256 encryption and support DWDM, ROADM, and breakout configurations for flexible network design.

Deployment Considerations

Compatibility: Ensure QSFP-DD modules are compatible with existing switches, routers, and optical line systems. Wavelength Planning: BiDi modules typically use two wavelengths (e.g., 1310nm/1550nm) for bidirectional operation. Distance and Fiber Type: Single-mode fiber is preferred for long-reach deployments; multimode fiber is suitable for short-range data center links.

Power and Cooling: Coherent and high-speed QSFP-DD modules may require attention to power dissipation and thermal management. By procuring single-fiber bidirectional QSFP-DD transceivers, Jordan can maximize fiber utilization, reduce infrastructure costs, and scale network capacity efficiently while maintaining high-speed, secure connectivity.

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Article Content

NEC : begins sale of 100G QSFP28 ZR4 single fiber bi directional ...

This product is an improved version of the dual-fiber 100Gb/s transceiver that uses two fibers, and it achieves bi-directional data transmission in both the upstream and downstream directions using a

Industry''s First 100G ZR QSFP28 for Bi-Directional Application

The Coherent 100G ZR QSFP-DCO is the industry''s first dual laser QSFP28 digital coherent optics (DCO) module for single fiber, bi-directional applications – a breakthrough for

Dual to Single Fiber Solutions | RAD BiDi QSFP28 DD Adaptor

RAD offers dual to single fiber solutions for high-speed, reliable networks. Explore our Bidi QSFP28 adaptors for seamless connectivity.

100G QSFP28 BiDi : Optical Transceiver Module | NEC

NEC''s 100G QSFP28 BiDi optical transceiver enables the transmission and reception of 100Gb/s high-speed data over a single optical fiber. By enabling bidirectional transmission over a single fiber, this

NEC begins sale of 100G QSFP28 ZR4 single-fiber bi-directional

Going forward, NEC will continue to provide optical transceivers incorporating advanced technologies such as its single-fiber bi-directional technology for both domestic and international

100G QSFP28 BiDi : Optical Transceiver Module | NEC

100G QSFP28 LR1 BiDi/ER1 BiDi /ZR4 BiDi NEC''s 100G QSFP28 BiDi optical transceiver enables the transmission and reception of 100Gb/s high-speed data

40G QSFP+ TRANSCEIVERS | Smartoptics

QSFP-DD transceivers dQSFP+ is a cost-efficient solution for 40G Ethernet that is popular for breakout to maximize fiber utilization.

Bidirectional (BiDi) WDM Transceivers

Non – BiDi duplex transceivers require two fibers for two – way communication. In contrast to BiDi, non – BiDi transceivers do not use wavelength division multiplexing to achieve

SFP vs. SFP+ vs. QSFP: Key Differences

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QSFP-DD versions, at 400 Gbps, uphold similar distances as QSFP28 but handle higher bandwidths. These ranges, nonetheless, can vary based on factors like fiber type and quality. QSFP

What is QSFP-DD Transceiver: A Beginner Guide (2022)

QSFP-DD transceiver is becoming increasingly popular in data center applications nowadays. In this beginner''s guide, we will take a closer look at the QSFP-DD transceiver, introduce

Understanding the QSFP-DD MSA: The Hardware Specification ...

Discover how the QSFP-DD MSA is revolutionizing 400G networks with advanced modules and cables, enhancing speed and performance in data centers.

What Is A Single-Fiber BiDi Transceiver?--ETU-LINK

When planning a fiber optic network,one key decision is choosing between single-fiber (BiDi) and dual-fiber optical transceivers. This guide from ETU-Link explains their differences,advantages,and how to

QSFP Cables Explained 2025: Types, DAC vs AOC, and DC Use Cases

But QSFP is not a single thing, there are multiple generations (QSFP+, QSFP28, QSFP56, QSFP-DD), different physical media (copper vs fiber), and multiple deployment options (DAC vs AOC). Picking

Cisco 40/100Gb QSFP100 BiDi Pluggable Transceiver

The Cisco QSFP 40/100 Gb dual-rate BiDi transceiver can function as a 40Gb BiDi, matching its reach of 100m and 150m over OM3 and OM4 multi

Introduction of 40G BiDi QSFP+ dual fiber bidirectional optical module ...

The interface type of the QSFP-40G-SR-BD optical module is a dual-fiber LC interface, the working wavelength is 850nm and 900nm, there are 2 bidirectional channels, and the

What is BiDi Transceiver: A Beginner''s Guide

What is a BiDi Transceiver? BiDi transceiver, or Bidirectional or simplex optical transceiver, is an optical module that uses Wavelength Division Multiplexing (WDM) technology to

BiDi Transceivers For Beyond 100G Fiber Infrastructure | RAD SFP

RAD has developed the patented BiDi QSP adaptor to solve the issue of making the transition from dual-fiber optical transceivers to single-fiber easy. RAD''s BiDi QSFP adaptor is a

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BiDi SFP: The Complete Guide to Bidirectional SFP Transceivers and ...

BiDi SFP (Bidirectional Small Form-Factor Pluggable) transceivers have emerged as a powerful solution, enabling full-duplex communication over a single optical fiber. By using

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

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