

Ireland EPON Equipment QSFP-DD



Overview

QSFP-DD Linear Pluggable Optics (LPO) Amphenol's QSFP-DD Linear Pluggable Optical (LPO) Transceiver delivers low-latency, high Cisco QSFP-DD Pluggable Open.

Key Takeaways

QSFP-DD (Quad Small Form-Factor Pluggable Double-Density) modules enable high-speed 400G and 800G optical interconnects, with growing adoption in Ireland's data centers and enterprise networks. Overview of QSFP-DD Technology

QSFP-DD is an advanced optical transceiver form factor that doubles the electrical interface lanes compared to standard QSFP modules, supporting 8-lane electrical interfaces for high-speed data transmission. It enables data rates of 400G, 800G, and up to 1600G, making it ideal for next-generation networking, AI/ML workloads, and high-performance computing environments (Cisco, Amphenol) . The modules maintain backward compatibility with existing QSFP, QSFP28, and QSFP56 ports, allowing flexible network upgrades without replacing existing infrastructure . QSFP-DD modules are available in copper, multimode fiber, and single-mode fiber variants, supporting both short-reach and long-reach applications. Advanced thermal management features, such as riding heatsinks and optimized airflow designs, ensure reliable operation even at high power densities .

Applications in Ireland



Ireland, particularly Dublin, is a major hub for global tech companies and data centers, often referred to as the "Data Center Capital of Europe" . QSFP-DD modules are increasingly deployed to meet the growing demand for high-bandwidth, low-latency interconnects in:

- Data centers: Rack-to-rack and server-to-server connections at 400G/800G speeds.
- Enterprise networks: High-density core and distribution layers for large organizations.
- AI/ML workloads: Supporting scalable server disaggregation and PCIe Gen 5.0 optical links for AI training and inference .
- Telecommunications: 5G backhaul and high-frequency trading networks requiring ultra-low latency .

Local Suppliers and Manufacturers

Several suppliers provide QSFP-DD equipment in Ireland:

- Kocent Optec: Offers high-speed SFP, SFP+, and QSFP modules, including QSFP-DD, with dedicated production lines for MTP/MPO and PLC splitters. They provide customized solutions for optical design, mechanical layout, and firmware compatibility, ensuring zero-defect performance for Irish networks .
- Cisco: Provides QSFP-DD800 modules with 2x400G and 8x100G configurations, optimized for data centers, HPC networks, and enterprise core layers. Cisco modules support multiple connector types and are designed for high-density deployments .
- Amphenol: Offers QSFP-DD Linear Pluggable Optical (LPO) transceivers for PCIe Gen 5.0 over optical links, suitable for AI/ML and rack-scale data center expansion .

Key Benefits

- High port density: Small form factor allows more connections per switch or server.
- Energy efficiency: Lower power consumption per bit, aligning with Ireland's sustainability goals.
- Scalability: Supports future upgrades to 800G or higher without major infrastructure changes.
- Flexibility: Backward compatibility with existing QSFP modules and support for multiple fiber types. QSFP-DD modules are therefore a strategic choice for Irish enterprises and data centers aiming to meet the increasing bandwidth demands driven by AI, cloud computing, and 5G networks.

Article Content

QSFP-DD Hardware

August 7, 2020 Abstract: This specification defines: the electrical and optical connectors, electrical signals and power supplies,

QSFP-DD Connector System

QSFP-DD Interconnect System's 8-lane electrical interface transmits 28G NRZ, 56G PAM-4 and 112G PAM-4, up to 200, 400 or 800

QSFP-DD Optical Transceivers for High-Speed Connections

Product overview The ongoing explosion of data traffic is driving the need for faster processing, greater bandwidth, and higher

Cisco Optical Transceiver Handling Guide

The following figure shows the QSFP-DD transceiver, but the procedures outlined in this document apply to all pluggable

HPE Slingshot 2x400GbE QSFP-DD800 to 2xQSFP400 10m Splitter

Achieve 10m reach with the HPE Slingshot 2x400GbE to 2xQSFP400 Splitter. This active optical cable provides high-bandwidth,

QSFP-DD Connectors, Cages and Cable Assemblies

QSFP-DD provides high-performance computing capability. The QSFP interconnects density is doubled with electrical interface,

QSFP-DD Optical Transceivers for High-Speed Connections

Systems designed with QSFP-DD ports are backwards compatible to support existing QSFP+, QSFP28, and QSFP56 modules. This

QSFP-DD Connector System

QSFP-DD Interconnect System enables faceplate density equal to the current 2x1 QSFP form factor, but with 8-lane ports. In other

HPE 400GbE QSFP-DD/OSFP 15m Active Optical Cable

HPE 400GbE QSFP-DD/OSFP 15m Active Optical Cable provides secure, high-bandwidth connectivity with scalability and optimized

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

