

CWDM4 Optical Module Wavelength



Overview

The central wavelengths of the 4 CWDM channels are 1271, 1291, 1311 and 1331 nm as members of the CWDM wavelength grid defined in ITU-T G.694.2.

Key Takeaways

CWDM4 optical modules use four central wavelengths: 1270 nm, 1290 nm, 1310 nm, and 1330 nm. CWDM4 (Coarse Wavelength Division Multiplexing) modules are designed for 100 Gbps optical transmission over single-mode fiber (SMF) for distances typically up to 2 km, making them ideal for intra-data center connections. Each module converts four 25 Gbps electrical channels into four optical signals, which are then multiplexed into a single 100 Gbps optical stream.

On the receiving side, the module de-multiplexes the optical signal back into four 25 Gbps channels.

Wavelength Details

The four CWDM channels follow the ITU-T G. 694. 2 CWDM wavelength grid and have the following central wavelengths: Channel 1: 1270 nm Channel 2: 1290 nm Channel 3: 1310 nm Channel 4: 1330 nm These wavelengths are spaced 20 nm apart, which is standard for CWDM, allowing multiple channels to coexist on a single fiber without interference.

Additional Technical Features



Fiber Type: Single-mode fiber (SMF) Connector Type: Duplex LC or vendor-specific options Distance: Typically up to 2 km; some CWDM4 modules can support longer distances with proper FEC and SMF Form Factor: QSFP28 or CFP4, compliant with the CWDM4 MSAMultiplexing: Uses a wavelength division multiplexer (MUX) and demultiplexer (DEMUX) to combine and separate the four optical channels CWDM4 modules provide a cost-effective solution for 100G data transmission in short to medium-range applications, offering a simpler and more economical alternative to LR4 modules, which are designed for longer distances and slightly different wavelength allocations.

In summary, the key wavelengths for CWDM4 modules are 1270, 1290, 1310, and 1330 nm, spaced 20 nm apart, optimized for 100G transmission over single-mode fiber in data center environments.

Article Content

100G CWDM4 Technical Spec

CWDM4 modules comply with the requirements of this document and have the following common features: four optical transmitters; four optical receivers with signal detect; wavelength division

100GBASE-CWDM4 QSFP28 1310nm 2km Transceiver Datasheet | FS

The central wavelengths of the 4 CWDM channels are 1271, 1291, 1311 and 1331 nm as members of the CWDM wavelength grid defined in ITU-T G.694.2. It contains a duplex LC connector for the optical

100GBase CWDM4 Spec Sheet

The central wavelengths of the 4 LAN WDM channels are 1270, 1290, 1310 and 1330 nm as members of the CWDM wavelength grid. The high performance cooled DML DFB transmitters and high sensitivity

100GbE QSFP28 CWDM4 Optical Transceiver

The module converts 4 input channels of 25Gb/s electrical data to 4 channels of CWDM optical signals and then multiplexes them into a single fiber, using a nominal wavelength of 1310nm, for 100Gb/s

Huawei QSFP-100G-CWDM4 Optical Module Datasheet

These compact optical transceivers. metropolitan-area access and ring network, storage network, and long-haul network.

100G Optical Module: How to Choose Between SR4,

Transmission Method: Based on Short-Wavelength Division Multiplexing (SWDM) technology, it uses four different wavelengths within a

CWDM4-MSA Group

The CWDM4 MSA targets a common specification for low cost 100G optical interfaces that run up to 2 km in data center applications. The MSA uses CWDM (Coarse Wavelength Division Multiplexing)

CWDM4: 100G Coarse Wavelength Division Multiplexing Technology,

Each channel operates at a nominal wavelength around the 1310 nm band. CWDM4 is commonly used in 100G optical Ethernet systems, enabling compact, low-power, and cost-efficient

100G-cwdm4 Optical Module

The 100G-CWDM4 compatible QSFP28 optical module is designed for transmitting 100GBASE Ethernet throughput over single-mode fiber (SMF) at distances of up to 2 km. This optical module uses four

100G QSFP28 CWDM4 vs. LR4 vs. PSM4 vs. ER4 vs. SR4

QSFP28 CWDM4 offers a balanced solution for medium distances, with a reach of up to 2 kilometers. Its main advantage is its use of Coarse Wavelength Division Multiplexing (CWDM), which

JTOPTICS 100G Transceivers | High-Performance 100G Solutions

The Arista QSFP-100G-CWDM4 is a cutting-edge 100GBase-CWDM4 QSFP28 optical transceiver optimized for high-speed data transmission over single-mode fiber (SMF). Operating within a

SFP Module Transceivers, Manufacturer & Supplier

In today's data centers, the QSFP28 CWDM4 optical module, with its unique advantages, is increasingly being chosen by data center builders. Today, let's

QSFP28 Duplex wholesale, 100G QSFP28 suppliers -ETU-Link

QSFP28 Duplex transceiver is a high-performance, power-efficient 100G optical module designed for high-density data center interconnects, enterprise networks, and telecommunications. By maximizing

Introduction to 400G Optical Modules · KAD

A clear, engineer-friendly overview of 400G optical modules, including standards, packaging formats, functions, and market outlook for next-generation data centers.

100GBASE QSFP-100G Modules Data Sheet

The Cisco QSFP-100G-CWDM4-S Module supports link lengths of up to 2 km over a standard pair of G.652 Single-Mode Fiber (SMF) with duplex LC connectors. The 100 Gigabit

QSFP Transceiver Module BlueOptics QSFP-100G-CLR4-BO | AiO.lv

It implements the 100GBASE-CWDM4 optical standard and includes transmitter and receiver channels with CWDM wavelength multiplexing for aggregated 100 Gbit/s throughput. Advantages The module

Cisco 400G QSFP-DD Cable and Transceiver Modules

The Cisco® family of QSFP-DD modules provide the industry's highest bandwidth density while leveraging the backward compatibility to lower

Overview of 400G Optical Modules

This is an expansion of the CWDM4 standard, with each wavelength running at 50G, reaching a total of 400G. Four additional center wavelengths

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

