ZITHA TECH SPECIALTY CABLES (Pty) Ltd

What are the wavelengths of Huawei optical modules



Overview

Optical Modules in General-Purpose Computing Scenarios Huawei offers a comprehensive portfolio of pluggable StarryLink optical modules for data center netw.

Key Takeaways

Huawei optical modules operate across standard wavelengths of 850 nm, 1310 nm, 1550 nm, supervisory wavelengths from 1310 nm to 1611 nm, and advanced coherent DWDM wavelengths spanning the Super C-band and Super L-band.Standard Optical Modules

Huawei's commonly used optical modules have center wavelengths of 850 nm, 1310 nm, and 1550 nm. These correspond to short- and long-wavelength windows optimized for fiber transmission: 850 nm for short-range multimode fiber, 1310 nm for intermediate distances, and 1550 nm for long-distance single-mode fiber due to lower fiber loss at higher wavelengths .

Supervisory and OTDR Modules

Optical supervisory channels (OSC) and OTDR modules use specific wavelengths for monitoring and testing. Common supervisory wavelengths include 1310 nm, 1491 nm, 1506 nm, 1511 nm, 1514 nm, and 1611 nm. OSC modules may use 1310 nm and 1611 nm, while OSC with OTDR modules often operate at 1491 nm and 1511 nm for line quality detection .

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Wavelength Division Multiplexing (WDM) Modules

Huawei's CWDM and DWDM modules transmit multiple wavelengths on a single fiber. CWDM typically uses fewer, widely spaced wavelengths, while DWDM supports dense channels with precise center wavelengths across the C-band (1530–1565 nm) and L-band (1565–1625 nm). These modules allow simultaneous transmission of multiple signals without interference, enabling long-distance and high-capacity networks .

Advanced Coherent Optical Modules

Huawei's latest coherent DWDM modules support high-capacity single-wavelength transmission, including 2 Tbps per wavelength, and operate across the Super C-band and Super L-band. These modules are designed for metro, DCI, and submarine cable applications, providing flexible multi-rate operation (800G, 1.2T, 1.6T, 2T) and extended reach through advanced DSP and modulation techniques .

Summary
• Standard modules: 850 nm, 1310 nm, 1550 nm

• Supervisory/OTDR modules: 1310 nm, 1491–1514 nm, 1611 nm

• CWDM/DWDM modules: Multiple wavelengths in C-band (1530–1565 nm) and L-band (1565–1625 nm)

• Advanced coherent modules: Super C-band and Super L-band, supporting up to 2 Tbps per wavelength These wavelength ranges allow Huawei optical modules to cover short-range, long-range, monitoring, and high-capacity coherent transmission scenarios efficiently.

Article Content

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Huawei unveiled a single-wavelength 2T optical transport solution at MWC 2026, covering DCI and submarine cable

Understanding Pluggable Optical Modules

A common optical module has a center wavelength of 850 nm, 1310 nm, or 1550 nm, whereas a wavelength division multiplexing

Types of Optical Modules

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01-10 OPTICAL MODULES

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WHAT IS AN OPTICAL MODULE AND ITS FAQS (V200)

To support transmission of optical signals in different optical bands, optical modules with different center wavelengths, such as 850

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In the AI era, Huawei provides a full range of GE to 800GE optical modules, featuring three major capabilities: Spanning (ultra-long

Huawei Shipping Advanced 2 Tbps-Capable Coherent Wavelengths

And of course, Huawei''s new module delivers wavelengths across the entire Super C-band and Super L-band, which

Huawei Optical Module Common Models

Optical modules are important devices in fiber optic communication systems. Huawei Optical Module is manufactured by Huawei

What Is StarryLink Optical Module? Why Do We Need It?

It uses the multiplexing technology to combine and separate signals using simple optical couplers or beam splitters,

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Optical Modules in Intelligent Computing Scenarios

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Huawei provides a full series of pluggable optical modules. A wide variety of modules give you flexible plug-and-play options for all

Types of Optical Modules

Wavelength division multiplexing modules differ from other optical modules in center wavelengths. A common optical module has a

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Optical Module

Optical Module Encapsulation Types This topic describes the encapsulation types of optical modules on WDM products

Optical Amplifier Module

1Gbps Electrical Module 1.25Gbps eSFP Optical Module 1.25Gbps eSFP BIDI Optical Module 1.25Gbps eSFP CWDM Optical

Displaying Optical Module Information

The Wavelength (nm) field in the command output indicates the wavelength of an optical module. If the two optical modules have

Huawei Launches the World''s First Single-Wavelength 2T Optical

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Optical Transmission Basics 01

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What Is Spectrum Technology? Wavelength division multiplexing (WDM) is a transmission technology that uses one optical fiber to

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Configuring the Channel Number for the Center Wavelength of DWDM ...

The wavelength determines the fiber transmission quality and efficiency. Setting a wavelength used in optical communication

Understanding WDM MUX/DEMUX Ports and Its Application

An optical Mux/Demux is probably the simplest, most basic component in a wavelength division multiplexing (WDM) system. It is

Types of Optical Modules

Optical modules are encapsulated in different modes to provide different structures. Huawei routers support optical modules of the

GPON ONU SFP Optical Module

Understanding Pluggable Optical Modules GPON ONU SFP Optical Module 1Gbps SyncE and 1588V2 Electrical Module 155Mbps

How to View Optical Module Parameters

If you know the model or type of an optical module, you can view the section "Pluggable Modules for Interfaces" in the Hardware

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QSFP+ optical modules support MPO fiber connectors and are larger than SFP+ optical modules. Classified by physical layer

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Huawei Unveils StarryLink Optical Modules That ...

At MWC Barcelona 2025, Huawei introduced the StarryLink optical modules, aimed at creating a network experience

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