Function of 1550 Optical Module



Overview

Operating at a wavelength near 1550 nanometers, it enables high-speed data transmission across single-mode fiber (SMF), especially suited for long-reach applications such as metro or WAN environments. This blog explores what a 1550nm transceiver is, its. Gigabit Ethernet 1000BASE-ZX and Fiber Channel 1x SM-LC-L FC-PI. It is with the SFP 20-pin connector to allow hot plug capability. This module is designed for single mode fiber and operates at a nominal wavelength of 1550nm. The receiver section uses an integrated InGaAs. Among these, the 1550nm optical transmitter stands out as a key technology due to its efficiency, reliability, and ability to support large bandwidths over vast distances. 1310nm SFP operates at a wavelength of 1310 nanometers and is typically used for shorter distance transmission. 10G-SFP-ZR is a kind of optical module that supports 10Gbps rate and transmission distance of 80KM, which can send data to you from 80KM away, and the delay of data transmission is almost negligible in the process.

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Article Content

Apr 24, 2026

1550nm Direct Modulation Optical Transmitter · MX-T1500A Series

The Maxcom MX-T1500A is a 1550nm direct modulation optical transmitter with high index and AGC function. Maxcom incorporates a high linearity and a low chirp DFB laser, built-in pre-distortion

May 05, 2026

1000BASE-ZX SFP 1550nm 80kmTransceiver Datasheet | FS

1G SFP transceiver module is individually tested on corresponding equipment such as Cisco, Arista, Juniper, Dell, Brocade and other brands, and passes the monitoring of FS intelligent quality

Feb 11, 2026

Insertion Loss Troubleshooting Tip: Singlemode 1310 vs.

In Singlemode cable assembly, the 2 wavelengths used for Insertion Loss testing are 1310nm & 1550nm. Read the differences between 1310 vs 1550

Jul 08, 2025

Choice of Wavelength for RF over Fiber – 1310nm vs

The amount of scattering which occurs is a function of the wavelength. Shorter wavelengths have higher levels of scattering. Choices of wavelength therefore

Nov 03, 2025

PowerPoint Presentation

It also features ~2MHz direct modulation with external board DFB-1550-PM can be ordered as DFB- PM-M, which allows DFB laser''s operating temperature and output power precisely controlled to

Aug 24, 2025

What is the difference between 1310nm transceiver and

1310nm and 1550nm are both central wavelength of optical transceiver modules and used for medium and long distance transmission. In transmission, 1310nm

Mar 20, 2026

WT-1550-EM30 series Optical Transmitter

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Working principle WT-1550-EM30 series transmitter has 7 function modules: RF control, DFB laser, optical modulator, SBS control, CSO control, communication/display control and power supply.

Jun 01, 2026

10G 1550nm LC Interface Singlemode Dual-fiber SFP+ Optical Module

Upgrade networks with our 10G SFP+ 80km Module. This 1550nm optical transceiver offers effortless, stable long-range connectivity for data centers and switches.

Dec 20, 2025

SFP 1.25G 1550nm Single mode Optical Transceiver

The transceiver consists of five sections: A DFB transmitter, a PIN photodiode, a trans-impedance preamplifier (TIA), the LD Driver and the digital diagnostic function.

Oct 24, 2025

What is an Optical Transceiver? – VCELINK

This article provides an exploration of optical transceivers, covering their structure, working principles, functions, types, and applications. What are

Jul 19, 2025

What are the differences between 1310nm and 1550nm

Can optical modules with wavelengths of 1310nm and 1550nm be connected? Taking into account the different transmission loss and dispersion in

Sep 27, 2025

Optical Module, Model 155C | Berkeley Nucleonics

In External Modulation, an electrical signal is converted into an analog optical form. Thus, it is now possible to transform signals from instruments such as a function

Oct 18, 2025

Dahua, Gigabit Optical Module, Transmission distance up to 20 km,

Features: Single mode single fiber LC port | 1310 nm sending, and 1550 nm receiving | Transmission distance up to 20 km |

Dec 21, 2025

RIO ORION Series 1550nm Low Phase Noise Narrow Linewidth Laser Module

The ORIONTM module is an ideal source for commercial and other fiber optic sensing applications, such as interferometric and Brillouin DTSS systems for oil & gas, security and smart infrastructure

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Jul 02, 2025

What is the difference between 1310 and 1550 SFP□

The numbers 1310 and 1550 refer to the wavelength of light used in the optical transmitters of SFP (Small Form-factor Pluggable) modules. These wavelengths are commonly associated with fiber

Jun 09, 2026

1310nm vs. 1550nm Lasers: Understanding the

Lasers play a crucial role in modern communication systems. They concentrate light into a narrow, coherent beam, allowing for efficient transmission

May 05, 2026

Why is 1550 nm the most widely used wavelength in

The 1550 nm window has become extremely important in view of the availability of optical amplifiers (erbium-doped fiber amplifiers) and wavelength

May 17, 2026

What is the difference between 1310nm and 1550nm SFP□

1550nm SFP operates at a wavelength of 1550 nanometers and is used for longer distance transmission, typically up to 80 kilometers in single mode fiber optic networks.

Jun 30, 2025

All About the SFP-10G-ZR: Understanding the 1550nm 80km Optical ...

The core function of sfp 10g zr optical module is to convert electrical and optical signals to each other, and achieve ultra-long-distance data transmission through optical fibre.

Apr 14, 2026

Model 1790 1550 nm High Power CW Source DFB Laser for LiDAR

The device is in a 14-pin, OC-48 pinout compatible hermetic butterfly package with double optical isolator mounted on the TEC. It is highly immune to mode or optical frequency hopping typically

Aug 22, 2025

1550nm Internal Modulation Optical Transmitter

Softel has been engaged in 1550nm Internal Modulation Optical Transmitter for several years, and this 1550nm Transmitter is used mainly for CATV Fiber Network.

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Jan 09, 2026

XG-SFP-ER-SM1550 10GBASE-ER SFP+ 1550-nm 40-km DOM

XG-SFP-ER-SM1550 10GBASE-ER SFP+ 1550-nm 40-km DOM Duplex LC SMF Optical Transceiver Module Applicable to data center and campus networks, enabling cost-effective, efficient, and high

Mar 20, 2026

Technical Characteristics Of 10G Optical Modules With

There are three wavelength windows for 10G optical module communication applications, namely the 850nm window, 1310nm window, and

May 16, 2026

What Is a 1550nm Optical Transceiver and How Does It

In modern fiber-optical networks, a 1550nm optical transceiver plays a vital role by converting electrical data into invisible light, sending it across single

Apr 07, 2026

The key role and technical advantages of 1550nm optical transmitters

But what exactly is a 1550nm optical transmitter, how does it work, and why is it so important for today''s communication infrastructure? Let''s explore this critical component of fiber-optic networks.

Contact Us

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