



## DESCRIPTION

The Small Form-Factor Pluggable Gigabit Ethernet 1510 nm CWDM (SFP) is a single-mode fiber SFP that plugs into ADTRAN Gigabit Ethernet modules designed to accept SFPs. The SFP provides a dual optical interface to a Gigabit Ethernet physical interface.

Installed into an appropriate module, the SFP provides a Gigabit Ethernet interface to the supporting system.

This SFP is designed for use in Coarse Wavelength Division Multiplexing (CWDM) applications.

The following features are supported on the SFP:

- ◆ LC optical connectors
- ◆ Transmit Wavelength: 1511 nm (1504.5 nm - 1517.5 nm)
- ◆ Receive Wavelength: 1200 nm - 1625 nm
- ◆ Optical distance: 50 km maximum

## SPECIFICATIONS

Specifications for the SFP are as follows:

- ◆ Optical Specifications:
  - ◇ Optical transmit level: 0 dBm to -5 dBm
  - ◇ Optical receive level: -3 dBm to -24 dBm
- ◆ Extended Environmental Support:
  - ◇ Operational temperature range: -40°C to +85°C
  - ◇ Storage temperature range: -40°C to +85°C
  - ◇ Relative humidity to 95%, noncondensing

## INSTALLATION

To install the SFP into an appropriate module, complete the following steps:

1. Inspect the SFP. If damaged, file a claim with the carrier and then contact ADTRAN Customer Support.

### ⚠ CAUTION

Do not remove the protective end cap from the SFP until the fiber optic cable is ready to be connected.

2. Insert the SFP into the SFP cage on the module. Ensure the manufacturer's label on the SFP is facing upward for correct installation.
3. Slide the SFP all the way into the receptacle until there is an audible "click".

### NOTE

The latch on the SFP is used to remove the SFP from the cage on the circuit card.

## SAFETY AND REGULATORY COMPLIANCE

### ⚠ CAUTION

- ◆ Electrostatic Discharge (ESD) can damage electronic modules. When handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.
- ◆ The SFP meets or exceeds all the applicable requirements of NEBS, Telcordia GR-63-CORE, and GR-1089-CORE. The SFP is intended for deployment in Central Office type facilities, EEEs, EECs, and locations where the NEC applies (for example, Customer Premises). The SFP is to be installed in ADTRAN products in Restricted Access Locations only, and installed by trained service personnel.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference
2. This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by ADTRAN could void the user's authority to operate this equipment.

### ⚠ CAUTION

- ◆ Per GR-1089-CORE the ADTRAN system that the SFP is being deployed in is designed and intended for installation as part of a Common Bonding Network (CBN). The ADTRAN system that the SFP is being deployed in is not designed nor intended for installation as part of an Isolated Bonding Network (IBN).
- ◆ Per GR-1089-CORE Section 9, the SFP does not have an internal DC connection between battery return and frame ground. The SFP can be installed in a DC-I (isolated) or DC-C (common) installation. For installations where other cards or the host system have internal connections between battery return and frame ground, the system would be intended for deployment only in a DC-C installation.
- ◆ The ADTRAN system chassis frame ground terminal must be connected to a reliable earth ground to ensure that the metal enclosure of the SFP is properly grounded via the backplane connector.

### ⚠ CAUTION

The Small Form-Factor Pluggable Gigabit Ethernet 1510 nm CWDM is a Class 1 Laser Product and complies with the Laser Safety requirements of FDA 21 CFR 1040.11, and EN60825-1 and EN60825-2. The SFP is NRTL Listed and CB Certified to all applicable American and European safety standards.

### NOTE

The Gigabit Ethernet port(s) are optical and therefore are not classified as any type of port as defined in Appendix B of GR-1089-CORE Issue 4.

The SFP is designed to meet the following environmental classes:

- ◆ ETSI EN 300 019-1-1 "Classification of environmental conditions; Storage," Class 1.2
- ◆ ETSI EN 300 019-1-2 "Classification of environmental conditions; Transportation," Class 2.3
- ◆ ETSI EN 300 019-1-3 "Classification of environmental conditions; Stationary use at weather-protected locations," Class 3.3

The equipment is designed to function without degradation during exposure to all test severities per Class 3.3.

The Small Form-Factor Pluggable Gigabit Ethernet 1510 nm CWDM meets EU RoHS Directive 2002/95/EC and/or applicable exemptions. Refer to [www.adtran.com](http://www.adtran.com) for further information on RoHS/WEEE.

### NOTE

- ◆ This SFP is compliant with SFF-8472 "Digital Diagnostics Monitoring Interface for Optical Transceivers," Revision 9.3.
- ◆ This SFP is compliant with the Small Form-Factor Pluggable (SFP) Multi-Source Agreement (MSA).
- ◆ This SFP is designed to be deployed in GR-3108-CORE environmental class 1 or 2 as defined in GR-3108-CORE Issue 2.

**Warranty:** ADTRAN will replace or repair this product within the warranty period if it does not meet its published specifications or fails while in service. Warranty information can be found online at [www.adtran.com/warranty](http://www.adtran.com/warranty).



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