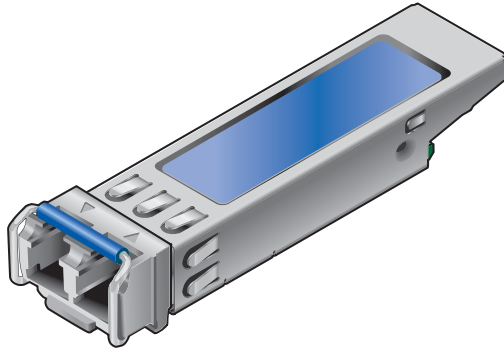


## SFP OC3-48 1G CWDM 80KM

Product P/N: 1442706PX1

Issue Date: May 2016  
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## DESCRIPTION

The OC-48 CWDM SFP (SFP48-18C) plugs into ADTRAN OC-48 equipment designed to accept Small Form-factor Pluggables (SFPs). Installed into an appropriate host unit, the SFP48-18C provides an OC-48 Coarse Wavelength Division Multiplexing (CWDM) interface to the supporting system.

The document supports the following SFPs in this series:

| Part Number | Description                   | CLEI     |
|-------------|-------------------------------|----------|
| 1442706PG1  | SFP OC3-48 1G CWDM 1471 80 km | SOOTALGJ |
| 1442706PG2  | SFP OC3-48 1G CWDM 1491 80 km | SOOTALHJ |
| 1442706PG3  | SFP OC3-48 1G CWDM 1511 80 km | SOOTALJJ |
| 1442706PG4  | SFP OC3-48 1G CWDM 1531 80 km | SOOTALKJ |
| 1442706PG5  | SFP OC3-48 1G CWDM 1551 80 km | SOOTALLJ |
| 1442706PG6  | SFP OC3-48 1G CWDM 1571 80 km | SOOTALMJ |
| 1442706PG7  | SFP OC3-48 1G CWDM 1591 80 km | SOOTALNJ |
| 1442706PG8  | SFP OC3-48 1G CWDM 1611 80 km | SOOTALPJ |
| 1442706PF9  | SFP OC3-48 1G CWDM 1451 80 km | N/A      |
| 1442706PF10 | SFP OC3-48 1G CWDM 1431 80 km | N/A      |
| 1442706PF11 | SFP OC3-48 1G CWDM 1411 80 km | N/A      |
| 1442706PF12 | SFP OC3-48 1G CWDM 1391 80 km | N/A      |
| 1442706PF13 | SFP OC3-48 1G CWDM 1371 80 km | N/A      |
| 1442706PF14 | SFP OC3-48 1G CWDM 1351 80 km | N/A      |
| 1442706PF15 | SFP OC3-48 1G CWDM 1331 80 km | N/A      |
| 1442706PF16 | SFP OC3-48 1G CWDM 1311 80 km | N/A      |
| 1442706PF17 | SFP OC3-48 1G CWDM 1291 80 km | N/A      |
| 1442706PF18 | SFP OC3-48 1G CWDM 1271 80 km | N/A      |

## NOTE

To ensure compatibility, refer to the documentation provided with the host module or splitter/combiner unit.

The following features are supported on the SFP48-18C:

- SONET OC-48 compatible (2.488 Gbps), long reach, single-mode, 2-fiber operation
- 80 km maximum optical span

## NOTICE

Due to compliance certification requirements, use only SFPs supplied by ADTRAN with the host module. ADTRAN cannot certify system integrity with other SFPs.

## Operational Specifications

Optical Specifications:

- Transmitter
  - ◆ Laser Diode Type: DFB
  - ◆ TX Central Wavelength: 1271 nm to 1611 nm
  - ◆ TX Output optical power:
    - 1271 nm to 1331 nm: +2 dB to +5 dB
    - 1351 nm to 1451 nm: +1 dB to +5 dB
    - 1471 nm to 1611 nm: 0 dB to +5 dB
  - ◆ TX Spectral width: 1nm Max
  - ◆ SMSR: 30dB Minimum
  - ◆ Output Eye: SONET OC-48 / SDH STM-16 compatible
  - ◆ Extinction Ratio: 8.2 dB
  - ◆ Optical Rise time (tr): 160 ps
  - ◆ Optical Fall time (tf): 160 ps
  - ◆ Dispersion Penalty:
    - 1271 nm to 1331 nm: +1 dB
    - 1351 nm to 1451 nm: +1.5 dB
    - 1471 nm to 1611 nm: +2 dB
- Receiver
  - ◆ Rx Type: APD
  - ◆ Rx Central wavelength: 1271 nm to 1611 nm
  - ◆ Receiver Overload: -9 dBm
  - ◆ Receiver Sensitivity: -28 dBm
    - 1271 nm to 1451 nm: -31 dBm
    - 1471 nm to 1611 nm: -28 dBm
- Extended Environmental
  - ◆ Operational temperature range: -40°C to +65°C
  - ◆ Case temperature hardened range: -40°C to +85°C
  - ◆ Storage temperature range: -40°C to +85°C
  - ◆ Relative humidity to 5 to 85%

## INSTALLATION

Before installing the equipment, inspect the SFP48-18C. If damage has occurred during shipping, file a claim with the carrier, and then contact ADTRAN Customer Support. For more information, refer to the warranty.

To install the SFP48-18C into an appropriate module, complete the following steps:

**NOTE**

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

1. Insert the SFP48-18C into the SFP cage on the module. Ensuring that the latch handle on the SFP is facing upward, slide the SFP all the way into the SFP cage until there is an audible “click”.

**NOTE**

The latch on the SFP is for removal only. When removing the SFP, rotate the latch away from the SFP, the SFP should easily slide out of the cage.

2. Do not remove the protective end cap until the optical fiber connection is made.

**NOTICE**

It is recommended that the protective end cap remain on whenever the transceiver optical fiber connector is not inserted.

3. Continue the installation and turn-up of the host module using the instructions in the Job Aid provided with the module or other system-level documentation available online at [www.adtran.com](http://www.adtran.com).

**MAINTENANCE**

The SFP48-18C does not require routine hardware maintenance for normal operation. ADTRAN does not recommend that repairs be attempted in the field. Repair services may be obtained by returning the defective unit to ADTRAN. Refer to the warranty for further information.

**SAFETY AND REGULATORY COMPLIANCE**

**⚠ WARNING**

Read all warnings and cautions before installing or servicing this equipment.

**⚠ CAUTION**

This product uses a Class 1 Laser module that complies with 21 CFR 1040.10 and 1040.11 and IEC 60825-1 and -2. For continued compliance with the above standards, only approved Class 1 laser modules from an ADTRAN approved vendor list (located on the ADTRAN website) should be installed in this product. ADTRAN cannot certify system integrity with other laser modules.

**⚠ 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.

- Per GR-1089-CORE, this system is designed and intended for installation as part of either a Common Bonding Network (CBN) or Isolated Bonding Network (IBN).
- Per GR-1089-CORE Section 9, this product does not have an internal DC connection between battery return and frame ground. This product can be installed in a DC-I (isolated) or DC-C (common) configuration. 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 configuration.
- The chassis frame ground terminal must be connected to an earth ground to ensure that the metal enclosure of this product is properly grounded by way of the backplane connector.

**NOTE**

- The OC-48 port is optical and therefore is not classified as any type of port as defined in Appendix B of GR-1089-CORE.
- This product is designed to be deployed in GR-3108-CORE environmental class 1 or 2, as defined in GR-3108-CORE.

This product is NRTL Listed to the applicable UL standards. This product meets or exceeds all the applicable requirements of NEBS, Telcordia GR-63-CORE, and GR-1089-CORE. It is intended for deployment in Central Office type facilities, EEEs, EECs, and locations where the NEC applies (for example, Customer Premises). Install this product in ADTRAN equipment that is located in a restricted access location.

| Configuration Code          | Input | Output |
|-----------------------------|-------|--------|
| Power Code (PC)             | F     | C      |
| Telecommunication Code (TC) | -     | -      |
| Installation Code (IC)      | A     | -      |

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.

This product 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

This equipment is designed to function without degradation during exposure to all test severities per Class 3.3 of ETSI EN 300 019-1-3.

This product meets EU RoHS Directive 2011/65/EU and/or applicable exemptions. Refer to [www.adtran.com](http://www.adtran.com) for further information on RoHS/WEEE.

## FRANÇAIS

### AVERTISSEMENT

Lisez tous les avertissements et mises en garde avant l'installation de cet équipement ou la réalisation de toute opération de maintenance.

### ATTENTION

Ce produit utilise un module laser de classe 1 qui conforme aux normes 21 CFR 1040.10, 1040.11 et IEC 60825-1 et -2. Pour assurer la conformité aux normes mentionnées plus haut, seuls des modules laser de classe 1 approuvés provenant d'une liste de fournisseurs certifiés par ADTRAN (disponible sur le site d'ADTRAN) doivent être installés sur ce produit. ADTRAN ne peut certifier l'intégrité d'un système doté d'autres modules laser..

### ATTENTION

- Une L'ESD (décharge électrostatique) peut endommager les modules électroniques. Lors de la manipulation des modules, portez un bracelet de décharge antistatique pour éviter d'endommager les composants électroniques. Placez les modules dans un emballage antistatique lors du transport ou du stockage. Lorsque vous travaillez sur les modules, placez-les toujours sur un tapis antistatique certifié muni d'un branchement de mise à la terre.
- La borne de mise à la terre du châssis doit être branchée à une prise de terre afin d'assurer que le boîtier métallique de la SFP est correctement mis à la terre grâce au connecteur de face arrière.

Ce produit est conçu pour répondre aux classes environnementales suivantes :

- ETSI EN 300 019-1-1 "Classification des conditions d'environnement; Entreposage," classe 1.2
- ETSI EN 300 019-1-2 "Classification des conditions d'environnements; Transport," classe 2.3
- ETSI EN 300 019-1-3 "Classification des conditions d'environnements; l'utilisation à poste fixe dans des endroits protégés contre les intempéries," classe 3.3

L'équipement est conçu pour fonctionner sans dégradation lors des tests à tous les niveaux de sévérité, suivant les spécifications de la classe 3.3 de l'ETSI EN 300 019-1-3.

Ce produit est conforme à la directive européenne RoHS 2011/65/CU et/ou aux exonérations applicables. Reportez-vous à [www.adtran.com](http://www.adtran.com) pour de plus amples renseignements sur RoHS/WEEE.

## DEUTSCH

### WARNUNG

Lesen Sie sich alle Warn- und Sicherheitshinweise durch, bevor Sie dieses Gerät installieren oder warten.

### VORSICHT

Dieses Produkt nutzt ein mit den Richtlinien 21 CFR 1040.10 und 1040.11 und IEC 60825-1 und -2 konformes Class 1 Lasermodul. Damit die obigen Richtlinien auch in Zukunft eingehalten werden können, dürfen ausschließlich Class 1 Lasermodule von einem von ADTRAN zugelassenen Anbieter in dem Produkt installiert werden (erhältlich auf der Website von ADTRAN). ADTRAN garantiert nicht für die Systemintegrität bei anderen Lasermodulen.

### VORSICHT

- Elektrostatische Entladung können elektronische Module beschädigen. Tragen Sie beim Umgang mit Modulen ein Erdungsarmband, um Schäden an den elektronischen Komponenten zu vermeiden. Transportieren oder lagern Sie Module in antistatischem Verpackungsmaterial. Bei der Arbeit an den Modulen, achten Sie darauf, diese stets auf antistatische, elektrisch geerdete Matten zu legen.
- Die Erdungsschiene des Rahmens muss an eine Bodenstation angeschlossen werden, um sicherzustellen, dass das Metallgehäuse des SFP vorschriftsmäßig über den Rückwandanschluss geerdet ist.

Dieses Produkt wurde entsprechend der folgenden Umweltkassen entwickelt:

- ETSI EN 300 019-1-1 "Klassifikation von Umweltbedingungen, Lagerung," Klasse 1.2
- ETSI EN 300 019-1-2 "Klassifikation von Umweltbedingungen, Transport," Klasse 2.3
- ETSI EN 300 019-1-3 "Klassifikation von Umweltbedingungen, Stationärer Einsatz ohne Witterungseinflüsse," Klasse 3.3

Dieses Gerät funktioniert ohne Leistungsabfall während aller für Klasse 3.3 von ETSI EN 300 019-1-3 vorgeschriebenen Belastungstests.

Dieses Produkt erfüllt die EU RoHS Richtlinie 2011/65/EU und/oder gültige Ausnahmen. Bitte besuchen Sie [www.adtran.com](http://www.adtran.com) für ausführlichere Informationen zu RoHS/WEEE.



**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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