

SFP Fiber Optic Transceivers

TPT1490-TL20
1 G-EPON SFP for AurOS/DPoE
Optical Line Terminal (OLT) Platforms

FEATURES

- 1/1 Gbps EPON and 2/1 Gbps Turbo-EPON duplex OLT Transceiver in a Small Form Pluggable (SFP) MSA compliant package
- Single fiber dual wavelength bidirectional transmit and receive
 - 1310 nm burst mode APD receiver
 - 1490 nm CW mode DFB transmitter
- Based on IEEE 802.3ah Ethernet First Mile (EFM) Specifications
- -40°C to +85°C temperature range supports node and chassis-based installations
- Intended for ARRIS Unified PON Solution platform links up to 20 km including Node PON
- Supports Point to Multi-point (P2MP) FTTx gigabit Ethernet access networks
- Low power consumption
- Diagnostic monitoring and control



PRODUCT OVERVIEW

The ARRIS TPT1490-TL20 is an integrated standard EPON based Optical Line Terminal (OLT) and transceiver packaged in an MSA compliant Small Footprint Pluggable (SFP) module. The TPT1490-TL20 series Optical Transceiver Module enables transmission capabilities for optical point to multi-point communications for Fiber to the Home, Business, or Curb (FTTx) installations using high-speed burst mode TDM transmitters and receivers.

These state-of-the-art TPT1490-TL20 transceivers are designed expressly for bi-directional asymmetrical communication applications that require 1/1 Gbps downstream/upstream (GEAPON) and 2/1 Gbps downstream/upstream (Turbo-EPON). The device incorporates a 1490 nm CW mode DFB transmitter and a high-performance 1310 nm burst mode Avalanche Photo Diode (APD) receiver. The digital RSSI function allows measurement of the received power to within ± 3 dB.

TPT1490-TL20 series modules feature a very low jitter contribution, resulting in an extremely clean, high-quality eye pattern required for high transmission performance. The modules’ metal enclosure not only makes the unit sturdier, but also improves their FCC test margins. This emission and ESD control is particularly important in applications with sensitive multiport hubs and switches. The modules, which dissipate less than 1.8 Watts, are supplied with a single SC Optical connector.

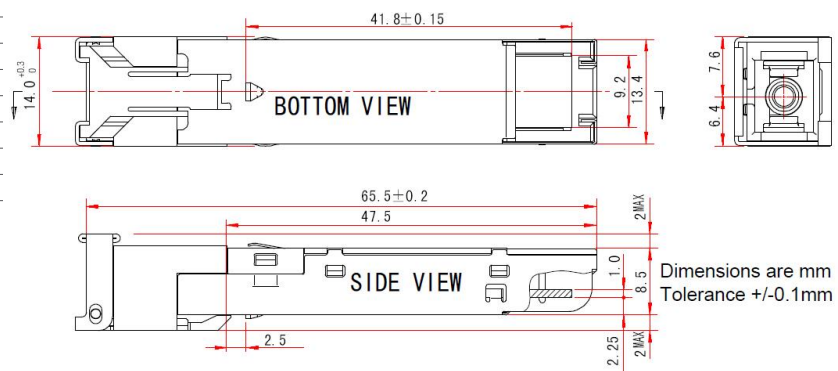
The TPT1490-TL20 is compatible with ARRIS’ Unified PON AurOS DPoE Platforms:

- Trident7 Compact OLT (COLT) using the PIM-8802 EPON card
- EM8212 EPON Line Card
- GE4404M Node PON OLT

Full digital diagnostics functions are available via the 2-wire serial bus specified in the SFP MSA.

SPECIFICATIONS

Characteristics	Specification
Physical	
Dimensions	MSA-SFP Compliant Dimensions (See Outline Drawing)
Environmental	
Operating temperature range	-40° to +85°C (-40° to +185°F)
Storage temperature range	-40° to +85°C (-40° to +185°F)
Humidity	0% to 85% non-condensing
Power requirements	
Input voltage	3.3 V _{DC} ± 5%
Supply Current	270 mA Typ; 500 mA Maximum
PON Interface	
Optical Connector	SC/UPC (1000BASE-PX20+)
Transmit Data Rate	1250 or 2500 Mbps (Turbo-EPON)
Transmit Wavelength	1490 ± 10 nm
Transmit Output Power	2.5 to 7.0 dBm max
Receive Data Rate	1250 Mbps
Receive Wavelength	1310 ± 50 nm
Receive Sensitivity	-30 dBm max (@ BER < 10 ⁻¹² , 1250 Mbps, PRBS 27-1 ER=10 dB)
Maximum Optical Input	4 dBm
Receive Overload	-6 dBm min; (@ BER < 10 ⁻¹² , 1250 Mbps, PRBS 27-1 ER=10 dB)
General	
Supported Link Length	20 km (on SMF-28 or equivalent)
Protocol Support	
IEEE 802.3ah	
Other Standards	
MSA (Multi Source Agreement) for SFP (Small Form Pluggable) September 2000	
Regulatory	
Safety	
IEC 60825-1 Class laser safety	
EEC Directive 2002/95/EC RoHS	
EMC	
47 CFR 15 – Sub Part B, Class A	
EN 55022 – Radiated and Conducted Emission for ITE	
EN 55024 – Immunity for ITE	
VCCI Class A – EMI Requirement	



ORDERING INFORMATION

Model Number

TPT1490-TL20

RELATED PRODUCTS

GE4404M Node PON OLT

Customer Care

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
- International: +1-678-473-5656

Note: Specifications are subject to change without notice.

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