

ADTRAN

602

10 Gbps Business Class ONT



Features

- Most cost-effective delivery of symmetric multigigabit services
- Supports CE 2.0/MEF 2.0 services
- Pluggable WAN interface for fixed wavelength or TWDM optics
- Simple migration from fixed to tunable optics
- 10GE/1GE user interface
- Small 1RU half-rack form factor
- IPTV video support including IGMP snooping feature set
- Traffic management through priority queuing, scheduling, policing and traffic shaping

Overview

Upgrading FTTP networks to 10G Next Gen PON provides network operators the performance to extend the life of their Optical Distribution Network (ODN) while providing an architecture that supports cost-effective business and backhaul services delivery at greater than Gigabit speeds.

Delivering Cost-Effective Converged Residential and Business Services

The biggest challenge facing Next Gen 10G PON networks is coming up with a single system that meets the scale and flexibility needs of premium business and backhaul services, while also delivering on the price points needed for mass-market residential applications.

The ADTRAN 602 10G optical network terminal (ONT), part of the ADTRAN family of next generation 10G ONTs, that uses a flexible optics approach allows service providers to support existing fibre-to-the-home (FTTH) subscribers while also providing a path to higher-bandwidth business and backhaul services. The 602 10G PON ONT supports delivery of symmetric 10G making it an ideal solution for businesses requiring high-bandwidth, redundant connections or for 5G x-haul needs. The 602 10G ONT utilises both fixed XGS-PON (1577 nm downstream and 1270 nm upstream wavelengths) as well as tunable Next Gen PON optics to deliver 10Gbps data rates. With the 602 10G ONT, service providers can overlay existing GPON (2.5Gbps) networks and provide capability to offload business customers and offer higher speed services.

On the PON side 602 10G ONT offers both SFP+ and XFP interfaces. On the subscriber side, both 1G Ethernet copper and 10G Ethernet SFP+ interfaces are provided allowing for symmetric 1G or 10G service delivery. Carrier Ethernet 2.0 (CE 2.0) and MEF 2.0 services are supported allowing for SLA-based services.

Benefits

The ADTRAN 10G PON system elegance offers the ability to benefit from mass market price-points without having to wait for large volumes to be reached in the 10G PON market. This approach gives service providers confidence that they can move forward with a 10G PON strategy today, without the risk of depending on a future worldwide volume ramp of 10G and tunable optics to make it cost-effective. Leveraging the additional capacity available through the disruptive ADTRAN 10G PON solution set, service providers can extract an additional five to ten years of revenue from this year's residential PON deployments, maximising future service flexibility and minimising risk of subscriber churn.

SDN-Ready Solution

The operational cost and complexity to connect a FTTP subscriber can be further reduced to accelerate the expansion of Gigabit broadband services. The 600 series 10G ONTs support provisioning via the ADTRAN Mosaic Cloud Platform solution, facilitating deployment in next-generation SDN-based management systems. This in concert with accelerated mass-market electronics and optics pricing ensures that cost-sensitive residential broadband will be viable via 10G PON technologies. The 600 series also support OMCI provisioning, bridging the gap between current PON and next-gen software-defined access (SD-Access).

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Product Specifications

Interfaces

- **Two User Interfaces:**
 - SFP+ for 10G Base-T over Copper or Fibre
 - RJ-45 for 100/1000 Base-T
- 10/1 Gbps Symmetric Throughput
- Ethernet Port Auto Negotiation or Manual Configuration
- MDI/MDIX Automatically Sense
- Hardware Priority Queues on the Downstream Direction in Support of CoS
- **OLT Compatibility:**
 - Total Access 5000 XGS-PON OLT
 - SDX 6310-16 vOLT

Ethernet Services Support

- Service Scale and Flexibility
- MEF 9, 14, 20, 23.1, 30, 33 Compliant E-Line, E-LAN, E-Tree, E-Access
- Eight Queues, Strict Priority and/or Weighted Fair Queue Schedulers
- Configurable to EtherType and TPID for Service Flexibility
- VLAN IDs 0 – 4095; EVC Configurable in the Range of 2 – 4,094
- Supports 10k Jumbo Frame in Four Byte Increments
- 8k Active MAC Address; Ability to Disable MAC Learning
- Ingress Policers (tr3CM), CIR and EIR Settings to 64 Kbps Granularity, Configurable Burst through EBS and CBS Settings
- Egress Shaping per Port
- Y.1731 PM and CFM, NTP (Up MEPs on UNIs, CCM, LBM/LBR, LTM/LTR, 1DM, DMM/DMR, SLM/SLR)
- MAC Swap Loopback ■ Y.1564 Traffic Generation
- MEF E-Line and E-LAN Services
- Ingress Policing Per Flow ■ Hierarchical QoS
- 1588v2

IPTV Support

- Internet Group Management Protocol V2 and V3
- Dynamic Host Configuration Protocol Support with Option 82
- Lightweight DHCPv6 Relay Agents Support
- IGMP v2/v3 Snooping

Physical Specifications

- **Dimensions:** 1.75 in. X 8 in. X 8 in. (45mm X 200mm X 200mm) (H X W X D)
- **Weight:** 2lbs (0.9kg)
- Desk, Rack and Wall Mountable ■ Reset Button

Power Supply

- +12V (Feed via External AC/DC Adapter)
- 3-PIN Power Adapter Input with Locking Mechanism
- Dying Gasp Support
- Multi-pin Connector for Power and Alarm Input from UPS
- **Power Consumption:** Less than 15W

Working Environment

- **Operational Temperature:** 23° F to 113° F (-5° C to +45° C)
- **Storage Temperature:** -20° F to 131° F (-4° C to +55° C)
- **Humidity:** 5% to 95% Relative Humidity

Regulatory Agency Approvals

- UL/CUL 60950-1
- IEC 60950-1/EN 60950-1/AS/NZS 60950.1
- RoHS 6 of 6 ■ FCC Part 15 Class B ■ IEEE 802.3

Network Interface

- TWDM WAN CFP Port (XGS-PON/NG-PON2)
- Compliant with ITU-T G.9807 XGS-PON standards
- Compliant with ITU-T G.989 NG-PON2 standards
- Class B+ optics support
- Class N1 (NG-PON2) optics support
- Class G (XGS-PON) optics support
- DBA (Dynamic Bandwidth Allocation)
- Mapping of xGEM Ports into a T-CONT with Priority Queues Based Scheduling

LEDs

- Power ■ LAN ■ WAN

OAM

- Manageable through ADTRAN Mosaic Cloud
- Standard Compliant OMCI (the Embedded Operations Channel) Interface as Defined by ITU-T G.988
- Provisioning all kinds of Services including Ethernet, VoIP etc.
- Alarming and Performance Monitoring
- Remote Software Image Download over OMCI, as well as Activation and Rebooting
- Hold Two Software Sets with Software Image Integrity Checking and Automatic Rollback

Ordering Information

Equipment

ADTRAN 602 Business Class ONT

Part No.

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ISO 9001
ISO 14001
TL 9000



TL9000
TL1012/0