



ADTRAN

621X

10 Gbps Single Family Unit ONT

SDX Series



Benefits

- Most cost-effective delivery of symmetric multi-gigabit services
- Pluggable WAN interface for fixed wavelength
- 10G user interface
- IPTV video support including IGMP snooping feature set
- Traffic management through priority queuing, scheduling, policing and traffic shaping

Overview

Upgrading Fibre-to-the-Premises (FTTP) networks to Next-Gen 10G 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 is designing a single system that meets the scale and flexibility needs for premium business and backhaul services while also delivering on the price points needed for mass market residential applications.

The ADTRAN 621X 10G single family unit (SFU) optical network terminal (ONT), part of the ADTRAN family of next-generation 10G ONTs uses a flexible optics approach that enables service providers to support existing fibre-to-the-home (FTTH) subscribers while also providing a path to higher-bandwidth business and backhaul services.

The 621X 10G SFU ONT provides high-bandwidth access for the small office home office (SOHO) applications or homes utilising high bandwidth technology including 4K video streaming, augmented reality (AR) headsets, and video gaming. The 621X 10G SFU ONT leverages XGS-PON technology for delivering SLA-based symmetric 1/2.5/5/10G services over copper or fibre networks. The 621X also supports IPTV and VoIP, enabling premium residential services. Leveraging the ADTRAN Mosaic OS modular network element software, the 621X

10G SFU ONT is software-defined network (SDN) controlled, allowing for zero-touch service orchestration and flexible interoperability.

Advancing Next-Generation Networks

The ADTRAN Next-Gen 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 Next-Gen 10G PON solution set, service providers can extract an additional five to 10 years of revenue from this year's residential PON deployments, maximising future service flexibility and minimising risk of subscriber churn.

SDN-Ready Solution

Additionally, the operational cost and complexity to connect an FTTP subscriber can be further reduced to accelerate the expansion of Gigabit broadband services. ADTRAN 600 Series 10G ONTs support provisioning through modern, open APIs, 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 supports OMCI provisioning, bridging the gap between current and next-gen software-defined access (SD-Access) networks.

Product Specifications

Ethernet Interfaces

- Two User Interfaces:
 - ◆ RJ-45 for 100m/1/2.5/5/10G Base-T
 - ◆ RJ-45 for 10/100/1000 Base-T
- 10 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

Ethernet Services Support

- Service Scale and Flexibility
- 802.1D Bridging
- 802.1x Authentication
- 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
- Virtual Switch Based on 802.1q VLAN
- VLAN Tagging/Detagging
- VLAN Stacking (Q-in-Q) and VLAN Translation
- Class of Service Based on VLAN-ID, 802.1p Bit
- Marking/Remarking of 802.1p
- Supports 9k Jumbo Frame

Working Environment

- Temperature: 0° C to 40° C (32° F to 104° F)
- Humidity: 5% to 95% Relative Humidity

Dimensions

- 6.4" Length x 9.75" Width x 1.5" Height

Power Supply

- EN 300 019-1-2 Class 2.3 –Transportation
- EN 300 019-1-1 Class 1.2 – Storage (Feed via External AC/DC Adapter)
- Dying Gasp Support
- Multi-pin Connector for Power and Alarm Input from UPS
- Power Consumption: Less than 20W

Network Interface

- XGS-PON WAN port with SFP+ pluggable
- Compliant with ITU-T G.9807 XGS-PON standards
- Class B+ 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

POTS Interface

- 2 RJ-11 Interfaces
- 3-REN, 50V RMS
- VoIP Voice: Both SIP and MGCP
- TDM Voice: Both GR.303, GR-57 and TR-08
- Full CLASS Feature Set
- Both ANSI and ETSI POTS
- T.38 Facsimile
- Configurable Dial Plan
- Configurable Country Specific Ring-back Tones (Frequency and Cadence)
- DHCP Client or Static IP Configuration
- Optionally Metallic Loop Testing

Safety

- UL/CUL 62368-1
- IEC 62368-1
- EN 62368-1
- AS/NZS 62368.1

Environmental

- ETS 300 019-2-3 for Class 3.1– Environmental conditions and test for telecommunications equipment
- EN 300 019-1-2 Class 2.3 –Transportation
- EN 300 019-1-1 Class 1.2 – Storage

Electromagnetic Compatibility

- FCC Part 15 Class B
- EN 300 386
- EN 55022
- AS/NZS CISPR 22 Class B

LEDs

- Status
- Network
- Voice
- Data

Ordering Information

Equipment	Part No.
ADTRAN 621X 10 Gbps Single Family Unit ONT SDX Series	1287823F1
ADTRAN 621X 10 Gbps Single Family Unit ONT SDX Series (UK)	1287823F2



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