Adtran

Data Sheet

SDX 6000 Series

6210-4

4-Port Sealed 10G-EPON OLT

10 Gbps | FTTH | Low TCO | Sealed

Benefits

- **Scales Both Gigabit Broadband Services and SLA-Based Multi-Gigabit Business and Backhaul Services**
- **Supports Low-Latency Consumer Applications Like Emerging Augmented and Virtual Reality Applications**
- **Cuts Headend Space Congestion, Power Consumption, and Fiber Exhaust**
- **Offers a Lower-Cost Model While Affording Hyperscale Service Delivery**
- **Accelerates Creation and Delivery of New, Differentiated Service Offerings**
- **Expedites OSS/IT Onboarding and Minimizes Impact to Existing DOCSIS- Centric Technical Teams**
- **Supports Stand-Mount, Pedestal, and Hand-Hole Deployments Aligning With DAA and Fiber Deep Strategies**

Overview

The Adtran SDX 6210-4 is an SDN-programmable, virtualized 10G fiber access platform that is both environmentally sealed and temperature hardened. When used with the microservices-based Adtran virtual EPON controller (vEPON) this virtualized 10G EPON remote OLT (10G vR-OLT)is seamlessly integrated into existing MSO operational and billing systems. It presents itself operationally in the same way as existing cable access nodes. The Adtran SDX 6210-4 is part of Adtran's portfolio of cost-effective, remotely deployed 10G fiber access platforms that are purpose-built to deliver symmetric multi-gigabit broadband services. The Adtran 6210-4 is a remote CATV plant-powered, Layer 2 solution that uses 10G-EPON FTTH technology to support up to 128 users per PON access interface (up to 512 subscribers per 10G vR-OLT node). The four corresponding non-blocking 10Gbps duplex uplink interfaces have an XFP form factor. This disaggregated solution provides a centralized control plane and distributed access providing high levels of service resiliency and hyperscale to simultaneously support low-cost gigabit residential and multi-gigabit business and mobile backhaul services.

The virtualized 10G-EPON OLT supports DOCSIS provisioning over EPON (DPoE 1.0 and 2.0) and modern SDN control protocols. This allows MSOs to effectively execute a transition to open, programmable, and scalable SD-Access service architectures. In addition, this 10G virtual R-OLT with its full fiber architecture, centralized data center-based control, and remote electronics enables a simpler, greener service delivery model with a lower total cost of ownership compared to coaxial cable deployment models.

The Adtran SDX 6210-4 virtualized 10G-EPON remote OLT aligns with the MSO industry's Distributed Access Architecture (DAA) strategy targeted at alleviating headend space congestion, power consumption, and fiber exhaust issues. It allows cable MSOs to reduce time to market, cost per add, outage incidents, and overall maintenance costs. Additionally, it provides a highly scalable and available solution that enables rapid deployment of fault-tolerant differentiated multi-gigabit broadband services.

SDX 6210-4

Product Specifications

System Features

- 4x 10GE/1GE Uplink SFP+ Ports
- 4x 10G/10G EPON XFP Ports
- CWDM and DWDM Uplink Optics Supported
- Full-duplex Switching Capacity: 80 Gbps
- Supports 128 Home Splits Per PON Port
- Management Interfaces: RS-232C, 10/100/1000BASE-T

Mechanical

- 11 x 19.5 x 10 in. (279 x 495 x 254 mm) (W x L x H)
- Maximum Weight: 30 lbs. (13.6 kg)

Electrical Power Specification

- Maximum Power Consumption: 85W
- Standard CATV Plat Power, Pseudo Square Wave, 45 - 95 VAC RMS at 60Hz

Environmental

- Operating Temperature: -40°C to 65°C
- Humidity: 5 – 95%

Layer 2

- MAC address: up to 64K (shared) MAC management
- VLAN
  - Max 4 K VLANs, 802.1Q Support
  - 802.1ad Q-in-Q
  - Tagging/stacking
  - Port to VLAN Mapping
  - Service to VLAN Mapping
- Link Aggregation
  - 802.3ad Link Aggregation
  - Load-balancing Based on Source and Destination MAC/IP

Security

- Subscriber Management Filters (SMF)
- Source Address Verification (SAV)
- Packet Filtering

Cable-aligned Operational Features

- TACACS/RADIUS (AAA)
- SNMP v2c/v3 Support (Polling/Traps)
- Cable Service Classes and QOS
- Subscriber Management Filters (SMF)
- Source Address Verification (SAV)
- Cable Filter Groups
- Upstream Drop Classifiers
- IPv6 Prefix Delegation
- CPE MAC Binding
- IPDR PM Exporting
- CALEA/LI
- LAG with SA/DA MAC Hashing
- Passive LACP
- IPv4/IPv6 Lease Query
- Bidirectional PON Encryption
- Tagged/Untagged Inband Management
- DHCPv4 / DHCPv6 Relay Options
- Verbose Cable Modem Management Commands
- High Availability (Redundant Controllers)
- Virtual IP Support
- Firmware Management
- Alarm Notifications/Events
- Log Aggregation, Filtering, Forwarding
- Configuration Synchronization
- Configuration Snapshots and Rollback
- Pre-Provisioning With Auto-Prov
- Active and Passive Node Onboarding (Call Home With Node Advertisements)
- Config Diff and Reconcile
- User Management (Controller/Node)
- TLS/Certificate Management for C-to-C and C-to-N Communication
- Node Inventory and Status Tracking

Quality of Service

- Cable Filter Groups
- Upstream Drop Classifiers
- Multi-UNI With Cable Modem Interface Mask (CMIM)
- Layer 2: Source/Destination MAC address, VLAN ID, COS Field
- Marking/Remarking: DSCP, 802.1p
- Eight Queues Per Port
- SPQ, DWRR, Hybrid (SPQ+DWRR)
- Egress Rate Shaping Per Port/Queue With 1 Mbps Unit
- Abnormal traffic blocking
  - Block the Illegal Source MAC Address
  - ALL 0s, 1s
  - Cut-off of Illegal Traffic Per Source MAC
  - Blocking of User-to-User Flows

Service Provisioning and Resiliency

- Fully Redundant Controllers (auto-fail/fallback with no interaction required)
- Virtual IP Support (communicate with Virtual IP, not the instance)
- Firmware Management and State Info
- Alarm Notifications/Events
- Configuration Synchronization
- Configuration Snapshots and Rollback
- Pre-Provisioning with Auto-Prov
- Active and Passive Node Onboarding (Call Home with Node Advertisements)
- Config Diff and Reconcile
- Full-Proof User Management (Controller/Node)
- TLS/Certificate Management for C-to-C and C-to-N Communication

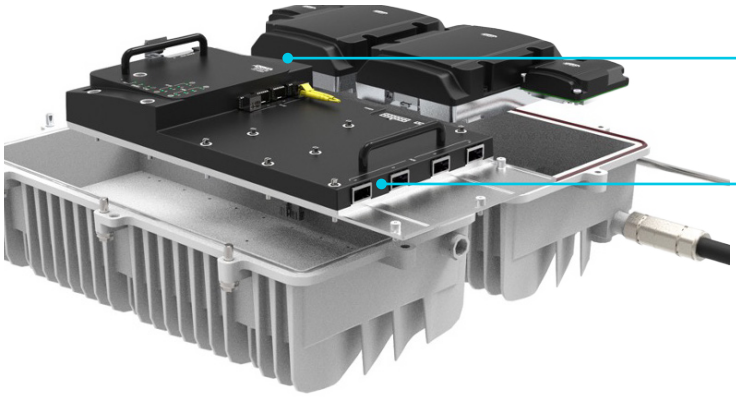
System Security

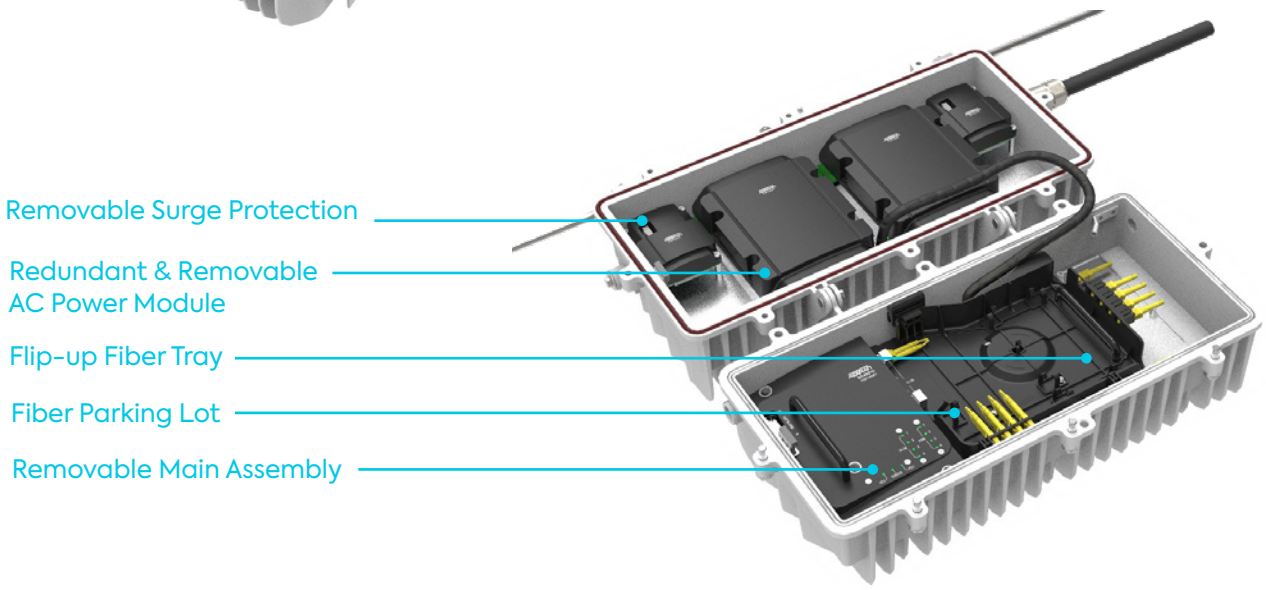
- Access control: RADIUS; TACACS+; Telnet, SNMP (in DPoE app) with ACL; DHCP, DHCP 82/60 Options, and Static IP
- CPU Packet Filtering with ACL
- CPU Overload Packet Traffic Sender Block
- CPU Packet Rate-Limit
- Bidirectional PON Encryption
- Lawful Intercept/CALEA Integration Interop (EVE)

Management

- Node Inventory and Status Tracking
- IPDR PM integration (Velocidata)
- Remote access
  - SSH, SNMP (With DPoE App)
- OS/configuration
  - Remote OS Upgrade Using TFTP, FTP, SFTP, HTTP
  - Dual Flash Image
  - Remote Configuration Data Download
- Others
  - NTP
  - Packet Monitoring with TCPDUMP
  - Type-based Port, CPU Packet Statistics

SDX 6210-4





Ordering Information

Equipment	Part No.
SDX 6210-4 (Includes Single Power Supply)	41971420F1
SDX 6210-4 (Includes Dual Power Supply)	41971420F2

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