Alphion

Product Brief

AMUX-7216

16-port XGSPON/XGPON & GPON (Co-Existence) OLT

Feature Summary

- 19" standard rack mountable
- Redundant Power
- PON Protection
- Hot-Swappable Modular design for power-supplies and fans.
- 16 XGSPON/XGPON & GPON Combo ports
- Two 100GE QSFP28 uplink ports that can support 8x25GE with "100GE QSFP28 to 8x25GE SFP2B cable".

XG(S)PON & GPON Technology

- Complies with ITU-T G.984.1-5, G.987/G.988, G.9807.1 standards
- XGSPON with 10Gbps(Up)/10Gbps(down), XGPON with 10Gbps(Up)/2.5Gbps(down) & GPON with 2.5Gbps(Up)/1.25Gbps(down) Interfaces
- Supports 5 T-CONT types as per G.984.3 standards
- Supports SN/SN+Password ONU Authentication
- Supports FEC and Rogue ONU detection

Switching and advanced features

- Supports line-speed switching and forwarding capabilities
- Supports 355K MAC address table
- Supports advanced L2 Switching features and VLAN functionality
- Supports IPV4 and IPV6 Multicasting
- Supports time-synchronization using PTP and SyncE
- Supports abundant QOS functions
- Supports advanced security features

Powering

Dual AC/Dual DC redundant power inputs, with pluggable AC and DC inputs modules.



AMUX-7216 with Dual Power supply

Applications

The AMUX-7216 is 1RU Pizza-box GPON platform which supports GPON/XGPON/XGSPON functions and provides End-to-End optical last mile solution with multiple broadband services (Triple-play) to residential and business customers. The high subscriber density and low-cost of entry combined with the operational cost-savings of GPON Technology, makes AMUX-7216 a compelling alternative to legacy last-mile solutions.

Standards

The AMUX-7216 design takes advantages of the latest switching technologies. By complying with the FSAN/ITU-T XGSGPON and GPON standards, the AMUX-7216 achieves interoperability with a wide range of XGSPON and GPON ONTs. With PTP and SyncE support, the AMUX-7216 can be also used in mobile backhaul solutions.

Flexible Provisioning, Management and QOS

The AMUX-7216 supports Telnet/SNMP/CLI for remote management. Its powerful OMCI functions enable remote diagnostics and flexible provisioning of the ONU/ONTs. It's enriched QOS functions such as traffic policy/traffic shaping/rate limit/schedule allows operators to provide flexible bandwidth allocation policy for multiple customized services.

THIS PRODUCT BRIEF IS SUBJECT TO CHANGE AND IS PROVIDED ON AN "AS-IS" BASIS.

SPECIFICATIONS

XG(S)PON/GPON Interface

Ports:	16 XG(S)PON & GPON combo PON ports
Standards:	ITU-T G.984, G.987/G.988, G.9807 compliant
Line rate:	Downstream: 10 Gbps/2.5 Gbps; Upstream: 10 Gbps/2.5 Gbps/1.25 Gbps
Fiber Type:	Single-Mode, BIDI
Transceiver:	Supports N1&B+/N2&C + XGSPON Combo transceiver
Split ratio:	1:128 (GPON) and 1:256(XG(S)PON)
Interface Type:	SC/UPC
Tx Power:	3 to 7 dBm(C+), 4 to 8 dBm (N2a)
Rx Sensitivity:	- 30 dBm (C+), -29.5 dBm (N2a)
Rx Overload:	-12 dBm (C+), -9 dBm (N2a)
Wavelength:	GPON - Rx: 1310nm and Tx: 1490nm XG(S)PON - Rx: 1270 nm and Tx:1577nm
T-CONT:	1-5

Ethernet Uplink Trunking Interfaces

100GE/40GE:	2xQSFP28 Ports (Breakout to 8x25GE/10GE with AOC cable).

Timing Interfaces

SyncE (TODBITS)	1xRJ45 Ethernet port

Management Interfaces

Out-Of-Band	1xRJ45 Ethernet port
Console	1xRJ45 COM port
Alarms	1xRJ45 Ethernet port

Switching

Duplex Switching	
Capacity:	300 Gbps
Throughput:	300 Mpps
VLAN Support:	Port based VLAN, Protocol based VLAN and 801.q VLAN
VLAN Mapping:	ONU-Based Q-in-Q: 1:1/ N:1 VLAN translation
Performance:	300 Mpps throughput, 355K MAC address table.
Spanning Tree:	STP (802.1d), RSTP (802.1w), MSTP (802.1s)
Multicast:	IGMP V1/V2 Snooping & Proxy, MLD V1 Snooping, IGMP Fast leave
Link Aggregation:	LAG/LACP
Forwarding:	IPv4, IPv6
Mirroring:	Port mirroring

Security

DHCP Option:	Option 82 (RFC3046)
PPPoE:	PPPoE+
Protection:	Broadcast / Unknown Multicast / DLF packet limit
PON:	Downstream AES, Rogue ONU/ONT detection, SN, Password. SN+Password Authentication
Access control:	SSH, Packet Filtering (ACL), QoS Policing, User isolation

Quality of Service

Classification:	8 priority queues per GEM port, 802.1p TCI, 802.1q CoS, IPv4 ToS/IP Precedence, Upstream Policing
Congestion:	Back pressure (802.3x Flow Control)
Scheduling:	SP, WRR, SP+WRR, Egress Traffic Shaping

Management

OAM:	Ethernet OAM, FTP/TFTP, ONU Auto-provisioning, ONU Digital diagnostic monitor
Local:	CLI via CONSOLE/MGMT
Remote:	SNMP v1/v2c, Telnet(IPv4/IPv6).
ONT/ONUs:	Managed over OMCI
Time Sync:	SyncE - ITU-T G.8261/G.8262/G.8264, PTP – IEEE1588V2 & G.8265/G.8275.1/G.8275.2

Power

Power Supply	Dual AC or Dual DC or AC+DC
Power:	250 Watts (Typical).
AC option:	100V to 240V, 50/60 Hz, 4A
DC option:	-36VDC to -72VDC

Physical

Operating Temp:	0ºC to 50 ºC
Storage Temp:	-40 ºC to 70 ºC
Humidity (N.C.):	10% to 90% Non-condensing
Rack:	19 inch ANSI/ETSI standard rack
Dimensions:	482mm (W) x 286mm (D) x 44 mm (H)
Weight:	4.8kg approx.
Cooling:	Hot-swappable fans,
LED Indicators:	PON/Uplink ports Link Status, RUN status, Alarms (Critical, Major and Minor), Alarm/ Management/Console/TODBITS ports
Buttons:	RESET (Recessed)

Regulatory Compliance

Certification:	CE (Conformité Européenne) compliant
EMC Emissions:	CISPR-32:2015 Class B
EMC Immunity:	Radiated RF: EN/IEC61000-4-3: 2006 + A1: 2007 + A2: 2010 level 2
Conducted RF:	EN/IEC61000-4-6: 2013 level 2
Safety:	CE, EN/IEC60950-1/UL60950, UL2043-ready
Laser safety:	IEC60825-1 Class 1 laser safety per G.664
ESD:	EN/IEC61000-4-2: 2008 contact level 2, air discharge level 3
Transient:	EN/IEC61000-4-4: 2012 level 2
Surge:	EN/IEC61000-4-5:2014+A1: 2017 1KV (Line), 2 KV (Earth), 2 KV (Signal)
AC Voltage Dips:	EN61000-4-11: 2004
DC Voltage Dips:	EN61000-4-29
Environment:	EN300019-1-3, QM-333 B2 Category (-5 °C to 50 °C; 50% RH) and QM-333 D Category (-10 °C to 60°C; 50% RH) when in an Outdoor Cabinet
Altitude, Pressure:	GR-63-CORE, IEC 60068-2-13
Drop Test:	GR-63-CORE, IEC 60068-2-31, IEC 60068-2-32
Mechanical:	EN300119-4
Energy:	Broadband Equipment Code of Conduct (2008)
Hazardous	RoHS6, WEEE

** Contact Alphion Sales

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