

# AONT-1501

## GPON ONT (1GE) (SFU)



### Feature Summary

- ✦ ITU-T G.984.1-5 standard compliant
- ✦ ITU-T G.988 standard compliant
- ✦ Small-form factor
- ✦ SC/APC optical connector
- ✦ Indoor wall or table mount
- ✦ One 10/100/1000 Base-T Ethernet RJ-45
- ✦ Dynamic bridging, 784 MAC addresses
- ✦ Extended VLAN support, 32 VLANs
- ✦ Classification and packet filtering
- ✦ 8 queues per T-CONT
- ✦ IPv4/IPv6 Forwarding
- ✦ No. GEM Ports 32
- ✦ No. TCONT/AllocID 16
- ✦ Priority and rate controlled scheduling
- ✦ Downstream rate limiting
- ✦ 2,000 bytes MTU
- ✦ Optical line supervision
- ✦ Dying gasp support
- ✦ IGMPv2/v3 snooping/proxy, 256 groups
- ✦ Hybrid Mode Support
- ✦ DHCP Option 60/43/70
- ✦ DHCP Client/Server
- ✦ PPPoE Client
- ✦ NAT
- ✦ DNS Relay

### Applications

The AONT-1501 is a compact GPON ONT designed and optimized to provide super fast data connection. The AONT-1501 has one 10/100/1000 Base-T port that can be used to provide high speed data, voice and video services. The AONT-1501 supports a wire speed data interface that supports advanced L2 and VLAN features for providing rate and priority controlled high speed internet access. To enable VoIP access, AONT-1501 supports interfacing external IAD box or home router with voice capability through the Ethernet interface. AONT-1501 supports IPTV delivered in the form of data multicast or unicast.

### High Bandwidth GPON

The AONT-1501 is fully FSAN (ITU-T G.984/G988) compliant with a 1.244 Gb/s upstream and 2.488 Gb/s downstream, Class B+ GPON system. In addition, it supports downstream AES (128-bit key) and downstream and upstream FEC RS(255,239).

### Ethernet Quality of Service

The AONT-1501 has extensive Ethernet QoS features, including MAC flow control, DSCP to 802.1p mapping, upstream congestion control, and downstream traffic scheduling for premium or time sensitive content. Intelligent and robust buffer and queue management for Ethernet traffic, with individual prioritizable queues, ensures that tiered residential service offerings based on different bit-rates and QoS can be supported.

### Security

The AONT-1501 comes with the latest security features, including MAC address black list and white list, selectable pass/block BPDU, and MAC address limiting.

### Small form-factor

A space conscious package for simplified wall or table mounting.

### Flexible Management

The AONT-1501 is managed from an Alphion OLT over the GPON's OMCI channel. The AOLT in turn is managed with either Alphion's Element Management System (AEMS) that provides configuration, profile based provisioning, event and fault management and performance monitoring for the AONT, or with a 3rd party EMS using SNMP or a legacy NMS.

# SPECIFICATIONS

## Optical Interfaces

Standard	Fully ITU-T G.984 compliant
Link Budget	28 dB (Class B+)
Wavelength	Upstream: 1310 nm Downstream: 1490 nm
Line rate	Upstream: 1.244 Gb/s Downstream: 2.488 Gb/s
Output power	+0.5 to +5.0 dBm
Sensitivity and overload	-28 dBm, -8 dBm
Connector	SC/APC
OLS parameters	temperature, voltage, bias current, tx power, rx power
Optical power alarms	low rx power, high rx power, SF, SD
Rogue ONT suppression	transceiver auto shutdown

## GPON TC Layer

FEC	RS(255,239) in both US and DS
AES	DS encryption with 128-bit key
Registration methods	registration ID based activation, Password and SN authentication
DBA	Mode 0 and 1
No. GEM Ports	32
No. TCONT/AllocID	16
Dying gasp	supported

## Data Interface

Type	10/100/1000 Base-T RJ-45 Ethernet interface
Rate & Duplex	Auto-negotiation
MDI/MDIX	Auto-sensing
MAC flow control	RX pause operation in full and half duplex mode
Remote control	port enable, disable

## Layer 2 Features

Dynamic bridging	802.1D, 784 MAC addresses, Configurable aging timer, UNI port MAC limit, MAC filters
MTU	2,000 bytes
Classification	Upstream: per UNI port, EtherType, 802.1Q, 802.1P Downstream: per GEM port
Packet filtering	Pass or block of BPDU
VLAN support	32 VLANs, untag, single tag, double tag in both US and DS
Multicast	256 groups, IGMPv2/v3 snooping, fast channel zipping
QoS	SP, 8 queues per T-CONT; WRR, 8 meters per T-CONT; SP+WRR
Rate limiting	upstream broadcast, unknown multicast and DLF Downstream rate limiting
Spanning tree	STP
Loopback	GEM port and UNI port

## Management

OMCI standard	Full G.984.4, limited G.988
Authenticated CLI	local or Telnet for configuration display, alarms and status checking diagnostic operations and logs
Factory default restoration	
Dual software image backup and rollback	

## Environmental

Operating temperature	-5°C to 45°C
Storage temperature	-20°C to 60°C
Relative humidity	5% to 95% (non-condensing)
Storage humidity	5% to 95% (non-condensing)

## Physical

H x W x D	34.5mmx128.2mm x 90.3mm
Weight	<0.2 Kg (excluding power adapter)
Mounting	Wall and table mounting
LEDs	Power, GPON, LOS, LAN

## Power

Control	Power on/off switch, reset button
Power consumption:	
Idle state	3 watts
Maximum	5 watts
Power supply	12 VDC, 0.5A
AC power adapter	100VAC to 240VAC (50Hz to 60Hz)

## Compliance

Regulatory	CE marked
EMC	EN55022, CISPR-22 Class B, ETSI 300386
Safety	EN60950, UL60950, CE, Optical IEC-60825-1 Class I Laser safety per G.664
Transient	EN/IEC61000-4-4 (2001) Level 2
Radiated RF Immunity	EN/IEC61000-4-3 (2002) level 2
Conductive Immunity	EN/IEC61000-4-6 (2001) level 2
Surge	EN/IEC61000-4-5(2001)0.5KV (line)and 1.5KV (earth)
ESD	EN/IEC61000-4-2 (2001) Contact level 2 and air discharge level 3
Hazardous	WEEE, RoHS6