2425A1
GPON ONT with RF Video

G-Series ONT with RF video enables subscribers to enjoy bandwidth-intensive multimedia services with Zhone leading-edge GPON technology.

Features & Benefits

+ Supports 2.5Gbps/1.25Gbps (Downstream/Upstream) with integrated GPON WAN interface
+ Four gigabit multi-rate 10/100/1000M Ethernet interfaces
+ Two POTS interfaces compliant to SIP and MGPC telephony standards
+ One RF F-connector interface with wide RF passband of 47 – 1,000MHz

The Zhone is an advanced, GPON compliant Optical Network Terminal (ONT) able to support service provider requirements for highspeed data, voice and RF video in a cost-effective design. The ONT is fully compliant with ITU-T G.984 GPON standard with integrated, Class B+ on-board optics supporting 1310nm and 1490nm wavelengths.

The 2425A1 offers data rates of 2.5Gbps downstream and 1.25Gbps upstream able to deliver access edge services and full range of residential and business use cases required. With unique Zhone's software management features, subscribers can enjoy hyperconnected multimedia services much easier, faster, and more reliably than ever before.

The 2425A1 GPON ONT provides four 10/100/1000 Mbps LAN ports, two FXS Voice ports, and one RF Video port. The ONT supports wirespeed L2 bridging and L3 gateway features, with carrier grade voice services.

Service Scenario

The GPON network consists of an Optical Line Termination (OLT) located at the Central Office, and a set of residential Single-Family Unit (SFU) and Multi Dwelling Unit (MDU) locations with Optical Network Terminals (ONTs). Between them is the optical distribution network (ODN) comprised of fibers, passive optical splitters and couplers. RF Video is combined with the GPON signals with modulated 1550nm wavelength and de-multiplexed at the ONT into RF signals.

The 2425A1 ONT supports 2.5G capable downlinks using the GPON standard. Services include High-Speed Internet (HIS), Packet Voice, IPTV, RF and OTT video, and cloud enabled services to multi-media devices.

Key Service Attributes

+ FSAN ITU-T G.984 GPON Class B+ compliant
+ Four 10/100/1000MBase-T Ethernet ports, RJ45 supporting 1Gbps symmetrical services
+ Two voice ports, FXS interfaces compliant to ANSI and ETSI standards, SIP and MGCP
+ One RF video port, F-connector for broadcast video signals
+ IPTV multicast, IGMPv2 and IGMPv3 services
+ Any-port, Any-service data model

+ Traffic management including Q-in-Q tagging, 802.1Q VLANs, multiple subscriber VLANs, per-port rate limiting
+ 802.1p priority bits, DiffServ and priority ques based on services types.
+ +12 VDC uninterruptable service power source, option for battery backup

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Product Specifications

Hardware
- Dimensions
  Width: 7.7" (196mm)
  Depth: 5.1" (130mm)
  Height: 1.4" (35mm)
- Weight 0.81 LB (0.37 kg)
- 128MByte Flash Memory
- 256MByte SDRAM (DDR3)
- GPON WAN Interface
- Capacity:2.5Gbps Down/1.25Gbps Up

Interfaces
- WAN: 1 SC/APC port, GPON
- LAN:4 ports 10/100/1000MBase-T Ethernet (RJ45)
- Telephone: 2 ports 2-wire RJ11
- Power: 1 2-pin 12VDC barrel input, 1 2x4 Molex BBU input
- Standard RF F-type connector
- LED Indicators
- Recessed RESET button

GPON
- Class B+ optics, 20km (12.4 miles), reach, max split 64
- Maximum ODN Attenuation, +28.5 dB link budget
- GPON Type B redundancy support
- xPON co-existence filter
- Transmitter, 1310nm, +0.5 to +5 dBm, DBF
- Receiver, 1490nm, -28 dBm, APD/TIA
- Forward Error Correction (FEC) per G.989.3
- Dying Gasp

RF Video
- F-type coax connector
- Optical wavelength: 1550 nm
- Input optical range: -8 to +2 dBm
- Input power overload: +5 dBm
- RF output impedance: 75 Ohms
- RF passband: 47 – 1,000MHz
- RF output level: 18 dBmV
- RF output AGC adjustment

Quality of Service
- HW-based internal IEEE 802.1p (CoS)
- Strict Priority (SP)
- 802.1Q(VLAN tag) QoS mapping ToS/CoS
- 8 queues per port
- Classified traffic can be tagged with VLAN ID and Ethernet Priority bit, and can be assigned to priority queues
- Classify packets into different IEEE 802.1p priority queues according to DSCP values (RFC 2475)
- The range of traffic shaping or ratelimit shall between 64 Kbps to the maximum port rate with 64kbps granularity. The accuracy error shall be less than ±10%.
- DSCP IP CoS (RFC 2475)

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Product Specifications

Software Features
- IEEE802.1D and IEEE802.1Q
- Address learning with auto aging- L2/BPDU Filter
- Support 2048 MAC learning addresses
- Multiple T-CONTs/GEM ports per device
- Flexible mapping between GEM port and T-CONT
- Priority queues and scheduling on upstream
- Activation with automatic discovered serial Number and password

IP Routing and Firewall
- DHCP, Static-IP and PPPoE
- NAT/NAPT
- DNS Proxy
- DHCP Server
- UPnP, plug and play

IPv6
- IPv4 and IPv6 Dual-Stack-Lite
- Bridged Mode (transparent pass thru of IPv6 frames)
- IPv6 support of BRouted and PPPoE Bridged VLANs
- DHCPv6 client and server
- Router Advertisement on LAN-side interfaces
- SLAAC for automatic acquisition of WAN-side IPv6 addresses and GW
- CLI, HTTP and TR-069 management via IPv6

Environmental
- Operating Temperature -5~+50°C
- Extended Temperature
- Storage temperature -22~140°F (-30~60°C)
- Operating humidity 20 to 90% (noncondensing)
- Altitude: −200 to 10,000 feet (−61 to 3,048 m) above sea level

Powering
- DC power, +12 VDC nominal, 1.0A
- Input power, 90-240VAC, 50/60Hz
- Power consumption, ~13W maximum

Management
- ITU-T 984.1/G988 compliant OMCI interface
- CPE Manager Web UI
- CLI over telnet
- SNMP Client
- TR-069, TR-104, TR-98
- LED indications for status

Compliance
- FCC Part 15 Class B
- ICES-003 Class B
- CE Mark
- Safety ETL/Intertek
- IEC 62368-1, UL 62368-1, EN 62368-1
- FDA IEC 60825-1
- RoHS 2015/863/EU

Ordering Information

Model	Description
2425A1	1x SC/APC port, GPON (Class B+) 2x POTS RJ11 ports, 4x 1G RJ45 ports 1x 2-pin barrel, 12VDC power input 1x RF F-Connector, 47 – 1,000MHz -5 to +50°C
ZNID-GPON-2425A1-NA **ZNID-GPON-2425A1-EU** **ZNID-GPON-2425A1-UK** **ZNID-GPON-2425A1-00**	North America EU UK No power supply

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