



# 2466GN

## Wi-Fi 6 GPON ONT

Intelligent 802.11ax G-Series ONT enables subscribers to enjoy multimedia services over wireless 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
- + One POTS interface compliant to SIP telephony standard
- + Dual-band 2.4GHz 2x2 802.11ax, 5GHz 2x2 802.11ax Carrier-grade Wi-Fi 6 interfaces
- + 160MHz Bandwidth support at 5GHz
- + USB 2.0

The Zhone 2466GN is a next-generation GPON compliant Optical Network Terminal (ONT) with integrated WiFi 6 802.11ax, able to support service provider requirements for high-speed data and video over wireless interfaces. The ONT with integrated Home Gateway features is fully compliant with ITU-T G.984 GPON standard with integrated, Class B+ on-board optics. The 2466GN offers data rates of 2.5Gbps downstream and 1.25Gbps upstream able to deliver access edge services and full range of residential wireless use cases required, including whole-home wireless extensions, and 160MHz Bandwidth channels at 5GHz. With support of Zhone Xperience and unique management features, subscribers can enjoy hyper connected multimedia services much easier, faster, and more reliably than ever before.



The 2466GN includes one SC/APC GPON interface, four 10/100/1000Base-T ports, one FXS RJ11 voice port, dual-band 2.4GHz and 5GHz 802.11ax wireless, and one USB 2.0 compliant port. The ONT supports wire-speed L2 bridging and L3 gateway features, with carrier grade voice services, and option for Zhone approved battery backup unit with battery status telemetry.

## 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.

The 2466GN ONT supports 2.5G capable downlinks using the GPON standard. Services include High-Speed Internet (HIS), carrier-grade wireless, packet Voice, IPTV, OTT video, and cloud enabled services to multi-media devices.

## Key Service Attributes

- + FSAN ITU-T G.984 GPON Class B+ compliant
- + Four 1GBase-T Ethernet ports, RJ45 supporting 1Gbps symmetrical services
- + Two voice ports, FXS interfaces compliant to ANSI SIP standard
- + 2.4GHz 2x2 802.11ax, 20MHz and 40MHz channels
- + 5GHz 2x2 802.11ax, 20MHz, 40MHz, 80MHz and 160MHz channels
- + Downstream and Upstream MU-MIMO
- + USB 2.0 port
- + 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 queues based on service types.
- + 12 VDC power adapter, optional uninterruptable service power source with battery backup

## 2466GN Wi-Fi 6 GPON ONT

### Product Specifications

#### Hardware

- Dimensions
  - Width: 7.8" (197mm)
  - Depth: 5.1" (130mm)
  - Height: 1.4" (35mm)
- Weight: 0.81 LB (0.37 kg)
- 256MByte Flash Memory
- 512MByte 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: 1 port 2-wire RJ11
- Power: 1 2-pin barrel connector, 1 2x4 8-pin battery connector
- USB 2.0 Type A
- WiFi push button setup (WPS)
- 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

#### Wireless

- 2.4GHz 2x2 802.11ax MU-MIMO, 5GHz
- 2x2 802.11ax MU-MIMO
- SSIDs: 4x2.4GHz, 4x5GHz
- Devices per radio: 120
- Authentication WEP, WPA-PSK, WPA2, WPA2-PSK, 802.1x
- Encryption: WEP (64-bit, 128-bit), AES, TKIP+AES
- WPS modes: Push-button, API PIN, STA PIN
- RADIUS Server support
- MAC filtering
- Wireless bridge mode

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## Product Specifications

### Ethernet LAN ports

- Auto-MDI-X crossover control
- Auto-Speed or manual selection
- IEEE 802.3ab 1000Base-T
- IEEE 802.3u 100Base-T
- IEEE 802.3az EEE
- IEEE 802.1x Authentication

### Telephone

- SIP (RFC 3261)
- RENs per line: 5 maximum
- Drop length: Residential short loop,  
152.4 m (500 ft.)
- Output max: 25mA
- Ring voltage: 48Vrms @ 20/25 Hz

### 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 rate-limit shall between 64 Kbps to the maximum port rate with 64kbps granularity. The accuracy error shall be less than  $\pm 10\%$
- DSCP IP CoS (RFC 2475)

### 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
- Dying Gasp

### 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
- 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 32~104°F (0~+40°C)  
Commercial
- Storage temperature -4~149°F (-20~65°C)
- Operating humidity 5 to 90% (non-condensing)
- Altitude: -200 to 10,000 feet (-61 to 3,048 m) above sea level

### Powering

- DC power, +12 VDC nominal, 2.0A
- Input power, 90-240VAC, 50/60Hz
- Power consumption, ~16W 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 and TR-369, TR-181
- 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
2466GN	1x SC/APC port, GPON (Class B+)  1x POTS RJ11 port, 4x 1G RJ45 ports, 1x 2.0 2.4GHz 2x2 802.11ax, 5GHz 2x2 802.11ax  1x 2-pin barrel, 12VDC power input  1x 2x4 Molex Battery-Backup (BBU), 8-pin power input 0 to +40°C
HX-2466GN-NA	North America
HX-2466GN-UK	EU
HX-2466GN-EU	UK
HX-2466GN-00	No power supply



Zhone Technologies, Inc