



AX7501-B0

Dual-Band Wireless AX 10G PON VoIP IAD with SFP+

The Zyxel AX7501-B0 Dual-Band Wireless AX 10G PON VoIP IAD with SFP+ is fully compliant with ITUT 9807.1 (XGS-PON), IEEE 802.3ae 10G BASE-LR/LW (10G P2P) for 10G service, and support the latest WiFi 6 (11ax) wireless standard in order to provide ultra-high speed fiber and meet worldwide market requirements for triple-play services. This product comes with one 10GbE LAN, four GbE LAN, two VoIP ports, one USB 3.0 port and a 4x4 dual-band WiFi 6 (11ax) WLAN.

As a means of high-speed data transmission, Zyxel's OPAL software realizes modulation of upper-layer applications and makes AX7501-B0 more powerful for delivering customized software features.

Furthermore, to better extend WiFi coverage and eliminate possible dead zones, the Zyxel AX7501-B0 optimizes its hardware design to provide stable, reliable wireless connections for high-speed data and multimedia applications that ensure a superior WiFi user experience.



Integrated Internet services through 10G fiber



WiFi 6 (11ax) for superior performance and coverage



Flexible design to support both passive and active fiber



Auto provisioning and remote management through TR-069



In-house developed OPAL realizes the flexibility and faster time to market

Benefits

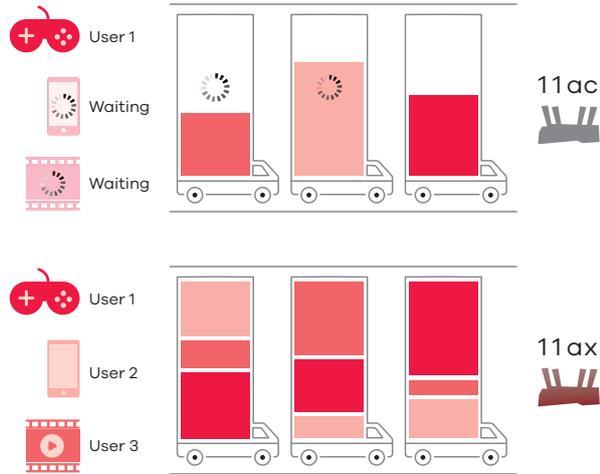
WiFi 6 (11ax) technology for superior performance and coverage

The Zyxel AX7501-B0 features WiFi 6 (11ax) technology to provide an ultimate solution for both speed and coverage. With WiFi 6 (11ax) support, the wireless maximum throughput rate can achieve 6000 Mbps*, support MU-MIMO features and enable reliable wireless connections for high-speed data and multimedia applications. It greatly reduces dead zones in homes, solves the high-density issues and supports the latest high-throughput and low-latency applications in order to help service providers to achieve a higher level of customer satisfaction.

Uplink MU-MIMO



OFDMA

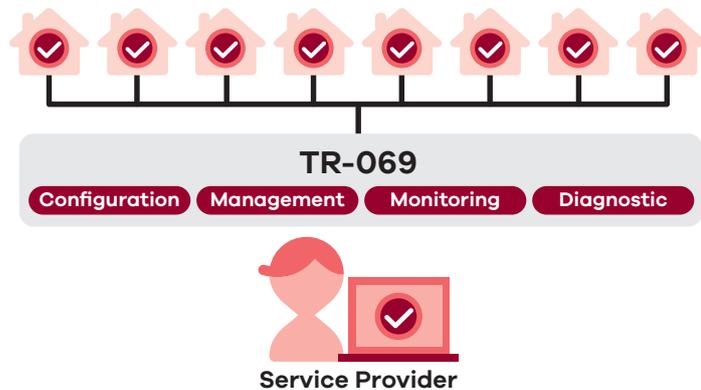


Integrated internet services through fiber

The Zyxel AX7501-B0 supports 10GbE Ethernet LAN with reserved SFP+ cage to support 10G active fiber Ethernet functions. The product smoothly migrates from today's GPON deployments to the next-generation 10G symmetric and asymmetric PON solutions.

TR-069 remote management

With the TR-069 standard management specifications, the Zyxel AX7501-B0 allows service providers to manage and configure client devices remotely without interfering end users. This unique feature not only offers true "plug-and-play" experience but also reduces deployment complexity, and it also saves operating as well as maintenance costs for service providers.



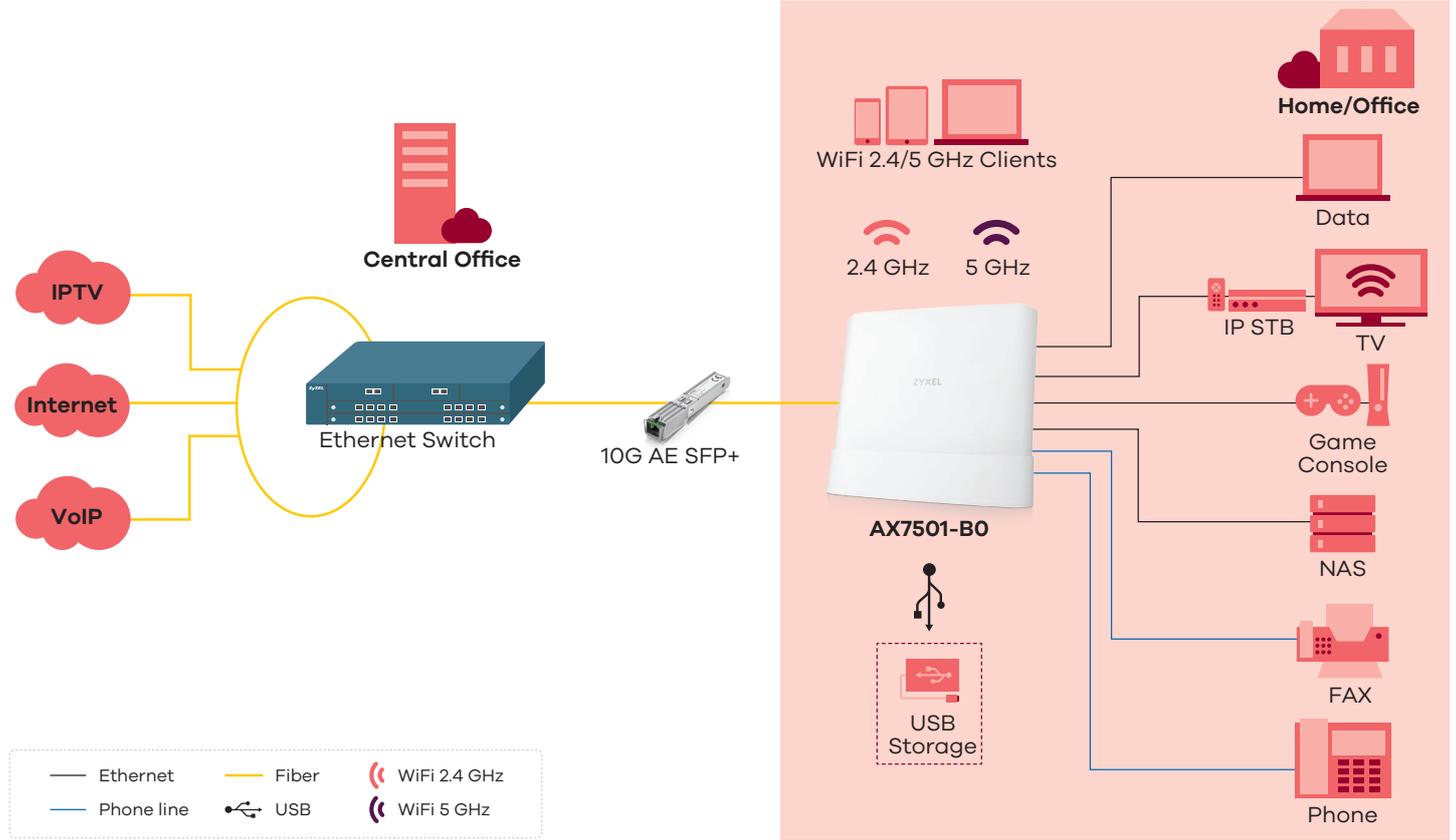
Zyxel OPAL firmware realizes the flexibility and faster time to market

With same OPAL firmware trunk applied in Zyxel CPE, the AX7501-B0 inherits a rich, field-proven feature set including TR-069, VoIP and more. Service providers can expect the same user experience after they migrate to new devices. Furthermore, the lab qualification time can be greatly reduced by using the same OPAL firmware trunk. As a flexible software platform, OPAL, a modular software architecture and open framework, provides the flexibility for easy feature tailoring to assure all the application requests can be addressed.

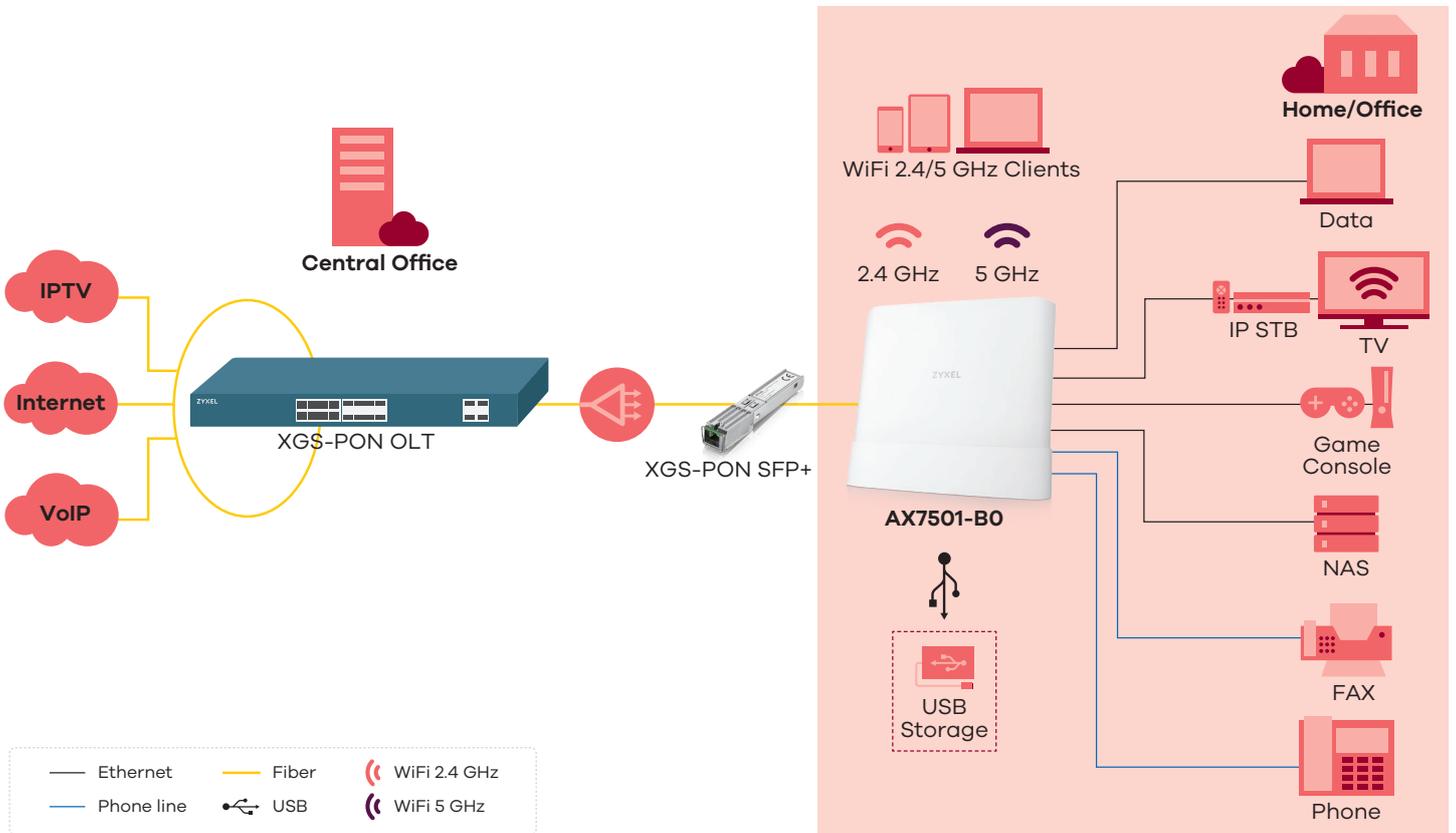


Application Diagram

Active Fiber Application



Passive Fiber Application



Specifications

System Specifications

Wireless Standard

- 802.11 b/g/n/ax 2.4 GHz
- 802.11 a/n/ac/ax 5 GHz

XGS-PON Compliance

- Comply ITU-T G.9807.1/G.988 GPON standard
- Comply with class N1/N2
- DS/US speed: 9.95328/9.95328 Gbps
- Wavelength: 1577 nm (DS) & 1270 nm (US)
- Physical distance reach to 20 km

10G AE compliance

- Comply with class B+ type PMD
- DS/US speed: 10.3125/10.3125 Gbps
- Wavelength: 1330 nm (DS) & 1270 nm (US)
- Physical distance reach to 10 km

Ethernet (LAN) Features

- Full duplex IEEE 802.3x
- MAC address learning
- IPv6 address transparent

Networking Features

- IEEE 802.1D transparent bridge
- IEEE 802.1D basic spanning tree
- Static route/DNS route/policy route
- Static routing, dynamic routing Routing Information Protocol (RIP)
- DNS entry
- Dynamic DNS
- Internet Group Management Protocol (IGMP)
- OPAL FW
- VLAN group
- Interface grouping

VLAN Functional Specifications

- VLAN IEEE 802.1Q
- CoS IEEE 802.1p
- QinQ VLAN

QoS

- 802.1p priority
- SP/WRR/SP+WRR
- Broadcast storm control

WLAN

- Wireless Protected Setup (WPS)
- WPA/WPA2 (WiFi protected access)
- Supports multiple SSID (up to 4)

Security

- Static Packet Inspection (SPI) firewall
- MAC/IP/URL addresses filtering

VoIP

- Voice functionality:
 - Codec: G.711 a/u, G.722, G.726
 - DTMF tone: detection and generation

Phone Features:

- Internal call
- T.30/T.38/G.711 fax mode, call waiting, call forwarding (No condition, Busy, No answer)
- Call transferring (Blind, Consult OnHold, Attendant)
- Call hold/call retrieve
- Three-way conference
- Second call/adding an outgoing call
- Switch between 2 active calls

Management

- WEB/TELNET (CLI)
- OMCI (G.988)/TR-069
- Firmware upgrade via FTP/TFTP/HTTP

USB

- File sharing

Hardware Specifications

Wireless

- Four internal antennas (2.4 GHz)
- Four internal antennas (5 GHz)

Ethernet LAN

- 10GbE LAN: one 10000/1000/100 Mbps with R-J45 port
- 1GbE LAN: four 1000/100 Mbps with RJ-45 ports

VoIP

- Two FXS ports RJ-11 (6P2C)

USB

- One USB 3.0 host

Button

- One power on/off
- One WLAN on/off button
- One WPS on/off push button
- One reset button

Status LEDs Indicators

- Power/System
- Fiber
- Internet
- 10GbE LAN
- Ethernet
- WLAN 2.4G
- WLAN 5G
- Phone
- USB

Power Consumption

- 12 V DC 3.5 A
- Max 42 watt

Physical Specifications

- Item dimensions (WxDxH): 250 x 187 x 32 mm (9.84" x 7.36" x 1.26")
- Item weight: 473 g (1.043 lb.)
- Packing dimensions (WxDxH): 273 x 207 x 92 mm (10.75" x 8.15" x 3.62")
- Packing weight: 1084 g (2.390 lb.)

Environmental Specifications

Operating Environment

- Temperature: 0°C to 40°C (32°F to 104°F)
- Humidity: 10% to 90% RH (non-condensing)

Storage Environment

- Temperature: -30°C to 70°C (-4°F to 158°F)
- Humidity: 10% to 95% RH (non-condensing)

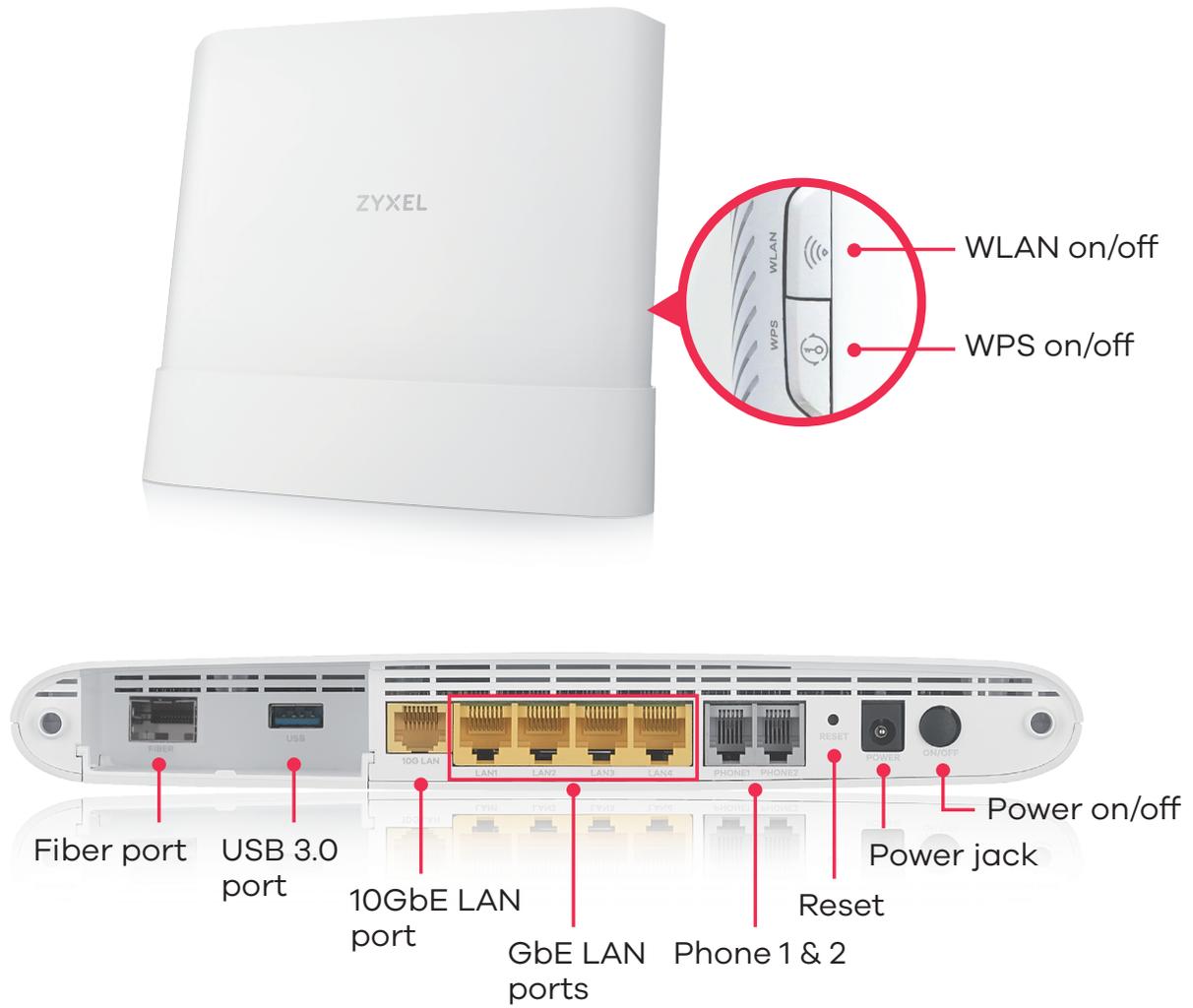
Certification

- CE
- 2011/65/EC Restriction of Hazardous Substances directive (RoHS)

Package Contents

- 10G PON VoIP IAD
- Power adapter
- Ethernet cable
- Phone cable
- Quick start guide
- Safety warning card
- Wall mount screw

Interface description



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Datasheet [AX7501-B0](#)



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