



## PX7511-B0

### Wireless AX 10G PON Gateway with VoIP

The Zyxel PX7511-B0 Dual-Band Wireless AX 10G PON Gateway with VoIP is fully compliant with ITU-T G.9807 (XGS-PON) and supports the latest WiFi 6 (11ax) wireless standard in order to provide ultra-high fiber speeds and meet worldwide market requirements for triple-play services. This product comes with one 10GbE LAN and four GbE LAN ports, 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 PX7511-B0 more powerful for delivering customized software features.

Furthermore, to better extend WiFi coverage and to eliminate possible dead zones, the Zyxel PX7511-B0 optimizes its hardware design to provide stable, reliable wireless connections for high-speed data and multimedia applications to ensure a superior WiFi user experience.



Integrated Internet services through 10G fiber



WiFi 6 (11ax) for superior performance and coverage



Provisioning and management through TR-069



In-house developed OPAL offers great flexibility and faster time to market

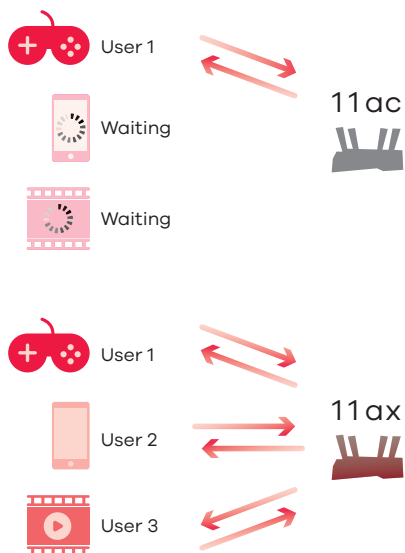


## Benefits

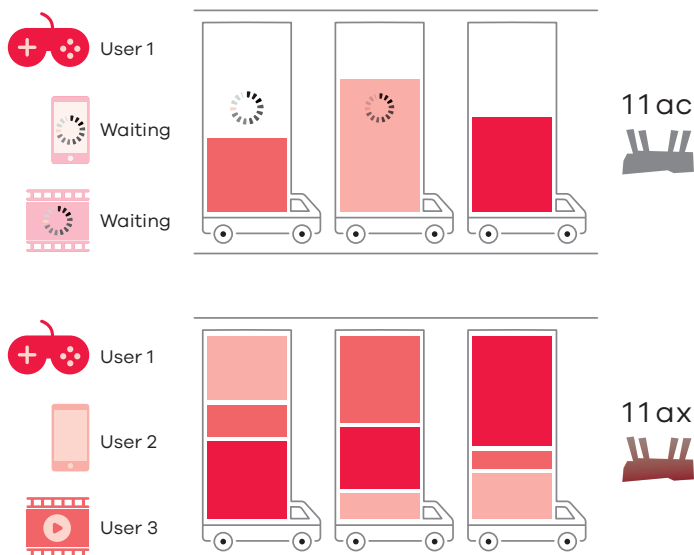
### WiFi 6 (11ax) technology for superior performance and coverage

The Zyxel PX7511-B0 features WiFi 6 (11ax) technology to provide an ultimate solution for both speed and coverage. With WiFi 6 (11ax) high-efficiency wireless support, the maximum wireless data rates can achieve 6000 Mbps\*, while the MU-MIMO and OFDMA features support reliable wireless connections for high-speed data and multimedia applications. It significantly reduces dead zones in homes, solves the high-density issues, supports the latest high-throughput features and low-latency applications in order to help service providers to achieve better customer satisfaction.

#### Uplink MU-MIMO

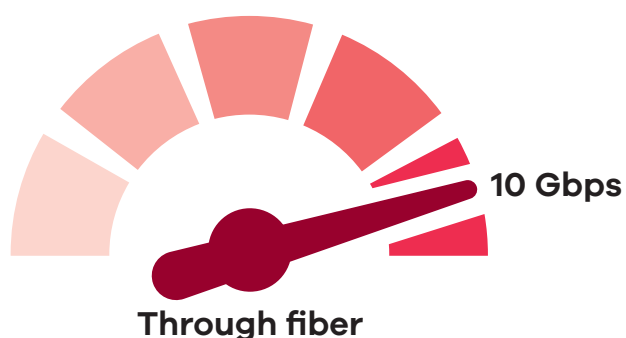


#### OFDMA



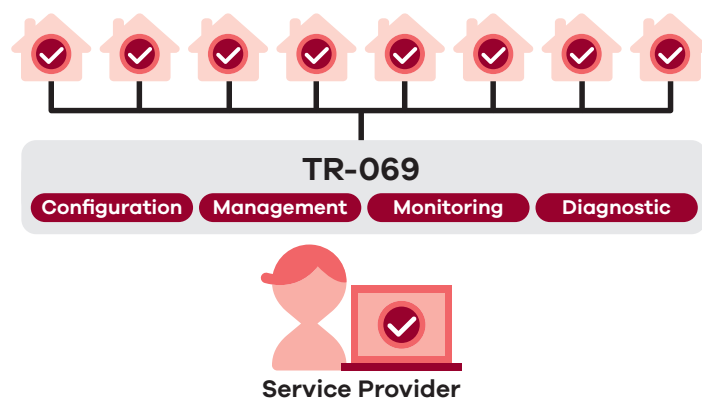
### Integrated Internet services through fiber

The Zyxel PX7511-B0 supports 10 Gbps symmetric speed with XGS-PON fiber WAN connection and a 10GbE LAN. The product smoothly migrates from today's GPON deployments to the next-generation 10G symmetric and asymmetric PON solutions.



### TR-069 remote management

The Zyxel PX7511-B0 supports TR-069 that simplifies remote configurations, upgrades as well as management to improve cost effectiveness and customer satisfaction. Additional supports to the latest TR-181 issue-2 data model also enhances service providers' visibility on subscriber LAN networks for improved customer assistance.



## Zyxel OPAL for better flexibility and faster time to market

With same OPAL firmware trunk applied in the Zyxel CPE, the PX7511-B0 inherits a rich, field-proven feature set such as TR-069, VoIP and more. Service providers can expect the same user experience when migrating to new devices. Moreover, the lab qualification time can be greatly reduced with the same OPAL firmware trunk. As a flexible software platform, OPAL offers a modular software architecture and open framework that provides the flexibility for easy feature tailoring to assure smooth resolution of all the application requests.



## Specifications

### System Specifications

#### Wireless Standard

- 802.11 b/g/n/ax 2.4 GHz, link rate 1147 Mbps
- 802.11 a/n/ac/ax 5 GHz, link rate 4800 Mbps

#### XGS-PON Compliance

- Comply XGS-PON ITU-T G.9807.1 standard
- Comply with class N2 type PMD
- DS/US speed: 9953/9953 Mbps
- Wavelength: 1575~1580 nm (DS) / 1260~1280 nm (US)
- Physical distance reach up to 60 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
- PPPoE (Point-to-Point Protocol over Ethernet, RFC 2516)
- MAC encapsulation routing/IPoE
- Network Address Translation (NAT)
- Static/dynamic route setting for RIP
- DHCP client/server/relay with DHCP option 43/60/61/125

- DNS proxy/dynamic DNS
- Static/policy route
- Interface grouping
- IGMP v2/v3
- IPv4/IPv6

#### VLAN/QoS

- 802.1Q VLAN tagging/un-tagging
- 802.1p priority
- Support flexible traffic classification

#### WLAN

- Wireless Protected Setup (WPS)
- WiFi Multimedia (WMM)
- WEP data encryption 64/128 bit
- WPA2/WPA2-PSK with TKIP & AES
- WPA3-SAE
- Multi SSID: up to 4
- MU-MIMO support
- OFDMA support

#### Security

- Static Packet Inspection (SPI) Firewall
- MAC/IP addresses filtering
- Cyber home security support (option)

#### VoIP

- SIP (Session Initiating Protocol, RFC 3261)

- Codec: G.711 a/μ (64K), G.726 (24/32K), G.722, G.729
- G.168 echo cancellation up to 32 ms
- Fax/modem detection and pass-through
- Fax T.38 support
- Voice Active Detector (VAD) (Silence Suppression, Comfort Noise Generation (CNG))
- Dynamic jitter buffer
- DTMF detection and generation
- DTMF relay by in-band and out-of-band (RFC 2833, SIP INFO)
- SIP account (URL type included)
- MWI (Message Waiting Indication)
- Caller ID
- Call forwarding (No condition, Busy, No answer)
- Call transferring (Attended, Unattended)
- Call hold/call retrieve
- Three way conference (local mixer)
- Call waiting

#### Management

- Web/HTTP
- CLI (Command Line Interpreter) via SSH or Telnet
- Firmware upgrade via web/TFTP/FTP/TR-069 RPC method

- Text based configuration
- Configuration backup/update/restore default via Web
- Configurable access control for remote management (interface and/ port number)
- OMCI (G.988)
- Broadband Forum TR-069, TR-098
- TR-111 and TR-181 i2
- Rom-D support
- UPnP port forwarding rules on page

### Hardware Specifications

#### PON

- One SC/APC connector

#### Wireless:

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

#### Ethernet LAN

- One 10GbE LAN: 10000/1000/100 Mbps with RJ-45 port
- Four GbE LAN: 1000/100 Mbps with RJ-45 ports
- Ethernet ports RJ-45

#### VoIP

- Two FXS ports RJ-11

#### USB

- One USB 3.0 host

#### UPS

- One UPS connector for UPS power supply

#### Button

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

#### Status LEDs indicators

- UPS
- Power
- PON
- Internet
- WiFi 2.4G
- WiFi 5G
- Phone
- WPS

### Power Consumption

- 12 V DC 3.5 A
- 35 watt max.

### Physical Specifications

- Item dimensions (WxDxH): 155 x 153 x 243 mm (6.1" x 6.02" x 9.56")
- Item weight: 1030 g (2.271 lb.)
- Packing dimensions (WxDxH): 281 x 179 x 179 mm (11.06" x 7.04" x 7.04")
- Packing weight: 1277 g (2.815 lb.)

### Environment Specification

#### 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 90% RH (non-condensing)

### Certification

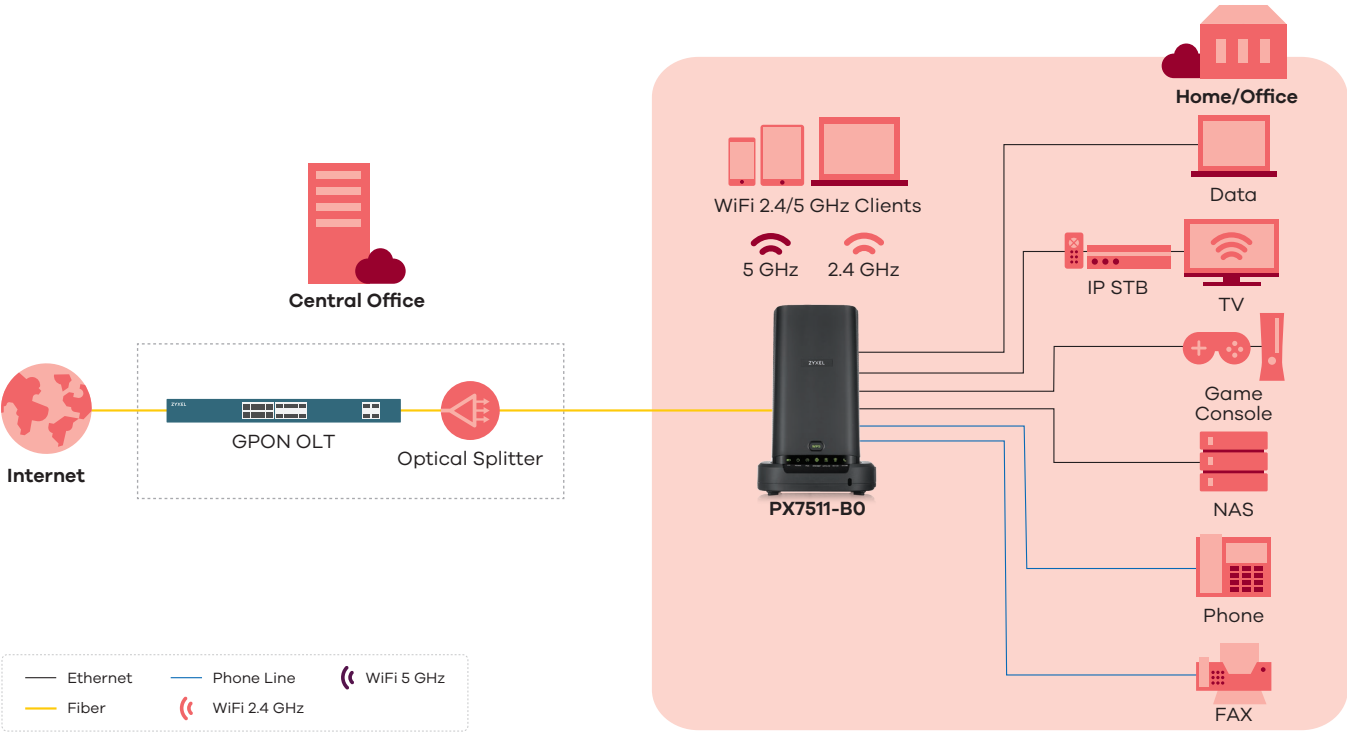
- FCC/IC

### Package Contents

- 10G PON gateway
- Power adapter
- Ethernet cable
- Quick start guide
- Mounting kit

\* The maximum wireless data transfer rate is derived from IEEE Standard 802.11. Actual data transfer rate will vary from network environment including: distance, network traffic, building site materials/construction, interference from other wireless devices, and other adverse conditions.

## Application Diagram



Interface description



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Datasheet **PX7511-B0**



02/09/19