



## PE5301-01

### Dual-Band Wireless BE7200 XGS-PON VoIP Gateway

The Zyxel PE5301-01 Dual-Band Wireless BE7200 XGS-PON VoIP Gateway delivers the ultimate 10G internet speed for service providers. Compliant with the latest wireless 802.11be (Wi-Fi 7) technology, the PE5301-01 is engineered to boost network capacity with ultra-fast connectivity. It provides superior Wi-Fi service for all their devices – anywhere in their home.

#### Benefits

##### Future-proof deployment with XGS-PON

The PE5301-01, equipped with an integrated XGS-PON, seamlessly fits into existing fiber network infrastructures. This allows service providers to deliver ultra-fast, high-capacity broadband services, ensuring scalable, cost-efficient operations while meeting increasing bandwidth demands.

##### Unleash peak performance with Wi-Fi 7 (802.11be)

Supporting the latest Wi-Fi 7 (802.11be) standard and rated as BE7200\*, the PE5301-01 delivers dual-band Wi-Fi with exceptional performance. With Multi-Link Operation (MLO) technology, the PE5301-01 not only optimizes reliability and maximizes data speeds but also significantly reduces latency. By intelligently utilizing multiple frequency bands simultaneously, MLO provides a smoother, low-latency experience—ideal for real-time applications such as gaming and video streaming. The addition of extra antennas enables Zero-wait DFS, ensuring seamless connectivity by monitoring radar channels without interrupting data transmission. It also increases signal sensitivity and delivers broader coverage, reducing dead zones and improving performance across larger spaces.



Integrated internet services via XGS-PON



Wi-Fi 7 (11be) dual-band 4x4 + 4x4 for superior performance and coverage



Zero-wait DFS for instant channel switching without downtime



Remote management via TR-069/TR-369



Zyxel MPro Mesh® Solutions (Compliant with EasyMesh Standards)



MLO (Multi-Link Operation) optimizes reliability and maximizes data speed



Zyxel-developed OPAL for superior flexibility and faster time to market



Circular economy product design



## Premium MPro Mesh® for whole-home Wi-Fi coverage

Featuring EasyMesh fully compliant Zyxel MPro Mesh® Solutions\*\*, the PE5301-01 enhances your subscribers' experience by providing self-adapting, easy-to-manage whole-home Wi-Fi coverage, while reducing your service OPEX.

## Zyxel OPAL firmware achieves superior flexibility and shortens time to market

Compliant with the same OPAL firmware trunk applied to all Zyxel CPEs, the PE5301-01 inherits a rich, field-proven feature set for guaranteed same user experience after migrating to new devices.

## TR-069/TR-369 remote management for lower OPEX

Compliant with TR-069/TR-369 standards, the PE5301-01 significantly simplifies deployment complexity and lowers operating and maintenance costs with its remote management capabilities. The additional support to the latest TR-181 issue-2 data model also enhances service providers' visibility on subscriber LAN networks to offer improved customer assistance.

## Commitment to sustainability

The PE5301-01 is built with 100% recycled plastics\*\*\* and features an easily removable case, simplifying refurbishment to extend its lifespan. Its packaging is designed with recycled paper and printed using VOC-free vegetable oil ink, minimizing waste and harmful substances while eliminating single-use plastics.

## Specifications

### System specifications

#### XGS-PON compliance

- Comply with ITU-T G.9807.1
- DS/US speed: 9.95328/9.95328 Gbps
- Wavelength:
  - 1577 nm (DS) & 1270 nm (US)
- Comply with class B+ type PMD
- Physical distance reach to 20 km
- Dynamic Bandwidth Allocation (DBA)

#### Wireless standards

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

#### Wireless transfer rates

- Transmit:
  - 802.11be (2.4 GHz): up to 1376 Mbps
  - 802.11be (5 GHz): up to 5764 Mbps

#### Wireless features

- Auto channel selection
- Wi-Fi Multimedia (WMM)
- Wireless output power management
- Multiple SSIDs up to 4
- Wi-Fi Protected Setup (WPS)
- Intra-BSS traffic block
- MAC address filtering
- WPS
- Zero-wait DFS (ZWDFS)

#### Firewall

- IPv4/IPv6 firewall (Stateful Packet Inspection)
- Denial-of-Service (DoS) attack prevention
- ICMP blocking

#### Routing

- IPv4/IPv6
- NAT
- Port forwarding
- WAN connection type: DHCP, PPPoE
- DHCP Option 60/121/125
- DHCP server on LAN
- IGMP v2/v3
- IGMP Proxy
- Dynamic DNS
- QoS support

#### VLAN

- 802.1q tag/tag based VLAN
- VLAN to ETH port mapping
- Bridged/routed VLAN support

#### Management

- Web GUI (HTTP/HTTPS)
- TR-069 via TR-098/TR-181 i2 data model
- TR-369 via TR-181 i2 data model
- Firmware upgrade via web GUI/TR-369/TR-069 protocol

- 2-tier level access and administration
- Zyxel One APP management

#### MPro Mesh® features

- Auto-configuration
- Band steering
- Multi-AP roaming
- Backhaul priority

#### VoIP/Phone features

- Codec: G.711u, G.711a, G.729, G.726-24, G.726-32, G.722
- DTMF tone: detection and generation
- Fax (G.711 Pass-through, T.38 Relay)
- Call waiting (reject waiting call, disconnect existing call, keep existing call)
- Call forwarding (unconditional, busy, no answer)
- Call transferring (attended, unattended)
- Caller-ID display (on the LCD of the telephone set)
- Call hold/recover
- Three-way conference
- Second call (adding an outgoing call)
- Switch between 2 ongoing calls

## Hardware Specifications

### WAN/PON

- One 10G optical interface SC/APC

### LAN

- One 1/2.5/5/10 GbE RJ-45 port
- Three 1GbE RJ-45 ports

### VoIP

- Two FXS ports RJ-11 (6P2C)

### Wireless

- 2.4 GHz: 4x4 internal antenna
- 5 GHz: 4x4 internal antenna

### USB

- One USB 3.0 host

### LED indicators

- Front Panel
  - Power
  - Status
  - Internet
  - WPS and Wi-Fi 2.4 GHz/5 GHz
- Back Panel
  - LAN 1~3
  - 10G LAN

### Button

- WPS
- Power on/off switch
- Power jack
- Reset

### Power consumption

- 12 V DC/3 A
- 36 Watt max

### Physical specifications

- Item dimensions (LxWxH):  
190 x 65 x 200.5 mm  
(7.48" x 2.56" x 7.89")
- Item weight: 681 g (1.50 lb.)
- Packing dimension (LxWxH):  
250 x 238 x 95 mm  
(9.84" x 9.37" x 3.74")
- Packing weight: 1277.6 g (2.82 lb.)

### Environment specification

#### Operating environment

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

### Storage environment

- Temperature: -30°C to 70°C  
(-22°F to 158°F)
- Humidity: 10% to 95%  
(Non-condensing)

### Certification

- CE
- UKCA

### Package contents

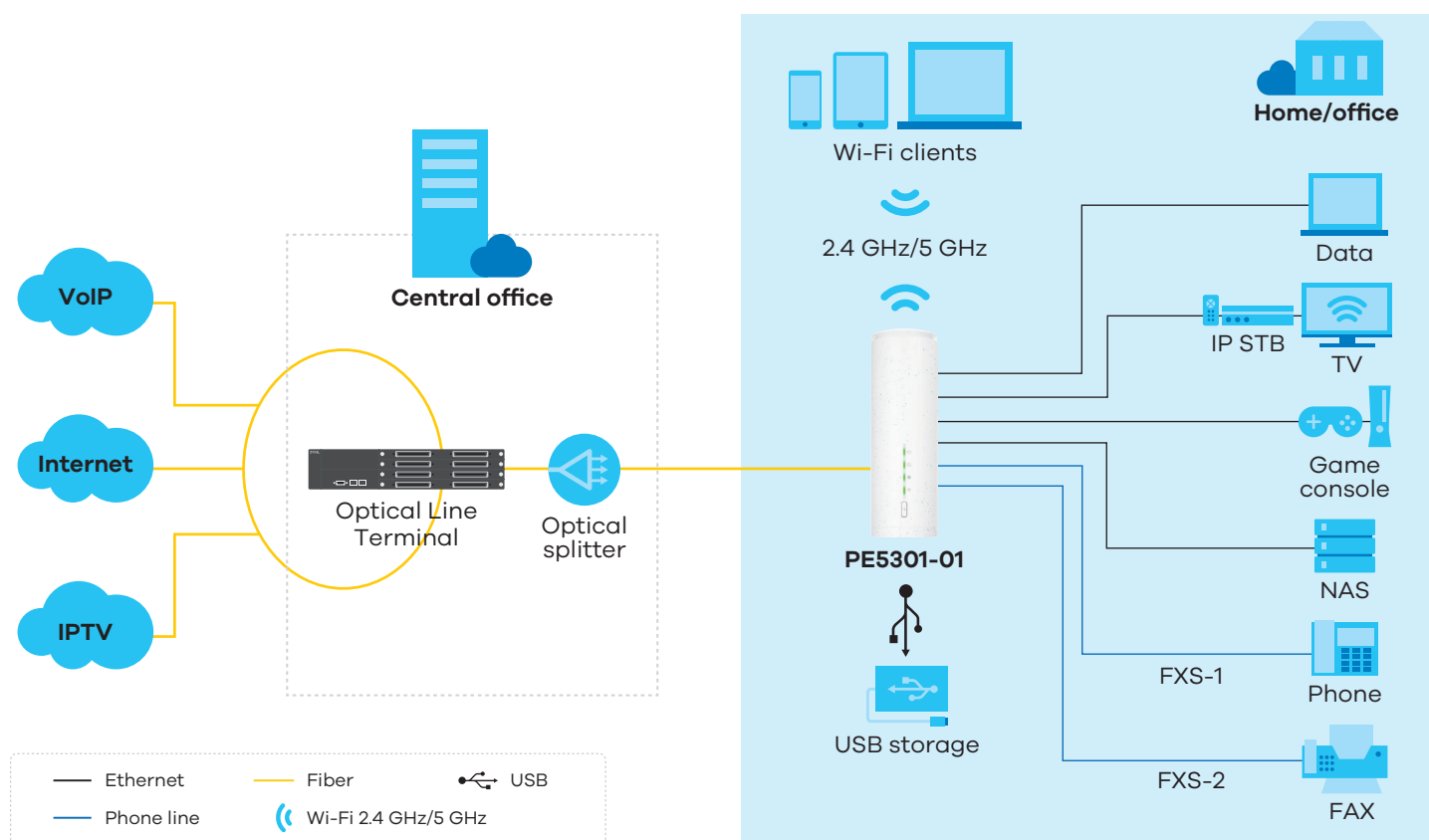
- Device
- Power adapter
- Ethernet cable
- Quick Start Guide
- Safety warning card

\* The maximum data rate is a theoretical value. The actual data rates depend on the network environment.

\*\* Pairing the PE5301-01 with a compatible wireless extender is recommended for optimal mesh network performance.

\*\*\* 5% additives and solvents are necessary to be added to the recycled polymers to achieve the desired technical characteristics of the material.

## Application diagram

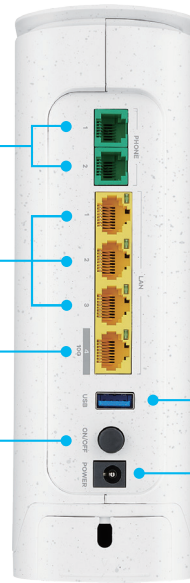


# Hardware description



WPS button

- 2 x FXS ports
- 3 x GbE LANs
- 1 x 10GbE LAN
- Power on/off
- 1 x USB 3.0
- DC jack



Reset button

For more product information, visit us on the web at <https://www.zyxel.com/service-provider>

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Datasheet PE5301-01