

SPU-E4X0 series EPON ONU

(Includes Wi-Fi series)



Overview

SPU-E4X0 series is Sopto's for broadband access market based on the introduction of EPON technology passive optical network terminal products. It's with EPON OLT are used together to provide a complete broadband access solution.

EPON technology is a kind of emerging technology which takes advantage of PON technology and Ethernet technology also is a kind of point to multi - point network technology. OLT through the passive optical network to connect multiple ONU with single fiber bidirectional technical can rarely used fiber resources to meet the operators of the multi - user access requirements. SPU-E4X0 series fully meet IEEE802.3ah and CTC3.0 standard protocol. It has good third - party compatibility to work with the third party OLT, It supports 1Gbps transmission rate up and down and provides users with good QOS, flexible bandwidth allocation of Ethernet services and IP integrated service.

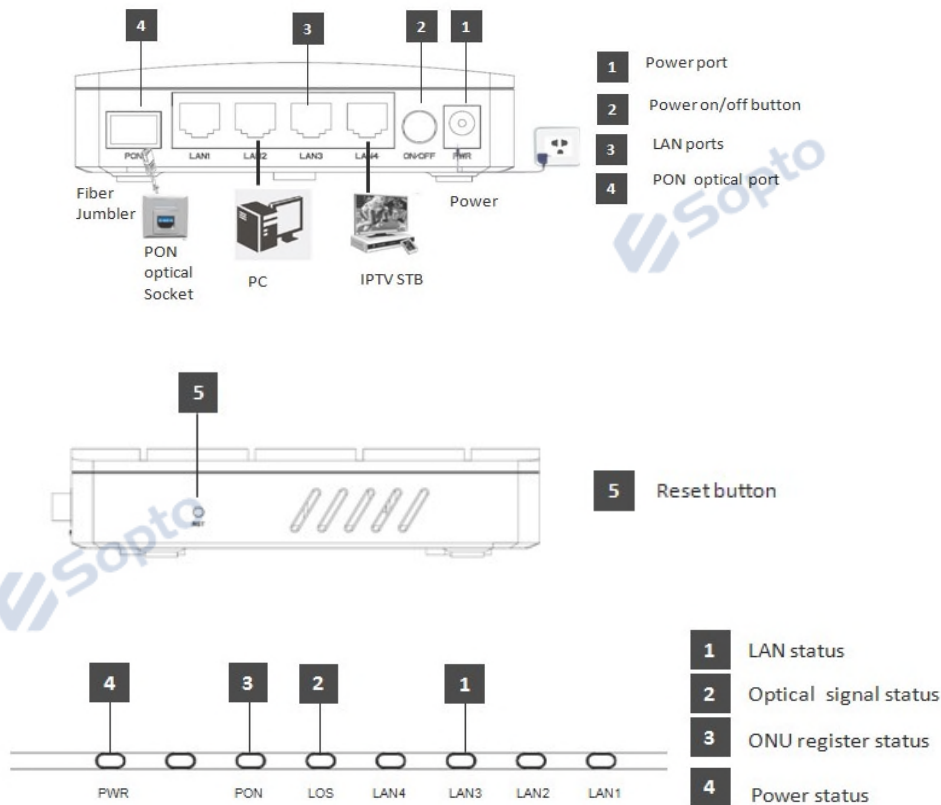
SPU-E4X0 series can integration wireless function with meet 802.11 n/b/g technical standards, It has built - in high gain directional antenna, the wireless transmission rate up to 300Mbps. It has the characteristics of strong penetrating power and wide coverage. It can provide users with more efficient data transmission security.

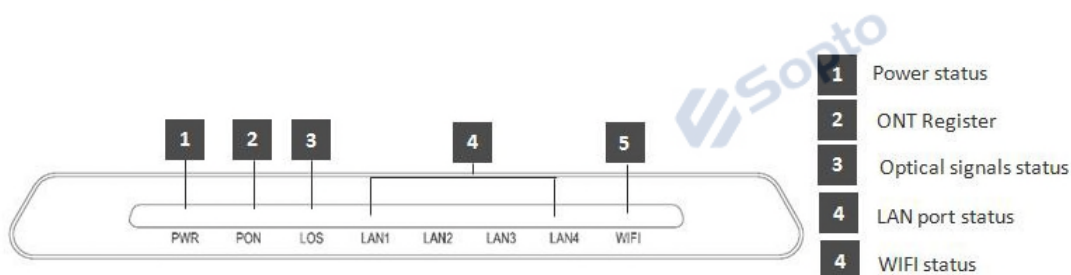
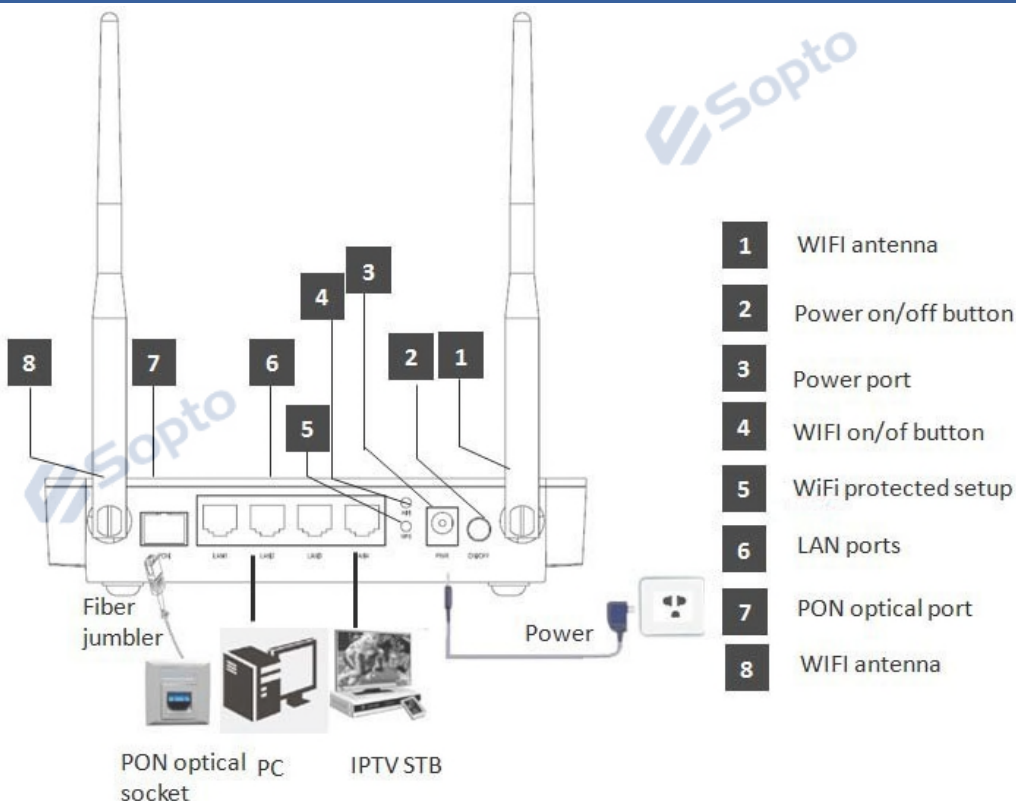
Features

- Support port - based rate limitation and bandwidth control;
- In compliant with IEEE802.3ah Standard
- Wi - Fi series meet 802.11 n/b/g technical standards
- Up to 20KM transmission Distance

- Support data encryption, group broadcasting, port Vlan separation ,etc.
- Support Dynamic Bandwidth Allocation (DBA)
- Support ONU auto - discovery/Link detection/remote upgrade of software;
- Support port mode of VLAN configuration
- Support power - off alarm function ,easy for link problem detection
- Support broadcasting storm resistance function
- Support port isolation between different ports
- Support port flow control
- Specialized design for system breakdown prevention to maintain stable system
- Support software online upgrading

Product interface and LED definitions





Indicator		Description
PWR	Power status	On: The ONU is power on; Off: The ONU is Power off;
PON	ONU Register	On: Success to register to OLT Blinking: In process of registering to OLT; Off: In process of registering to OLT;
LOS	EPON optical signals	On: Optical power lower than receiver sensitivity; Off: Optical in normal
LANn	LAN Port status	On: Ethernet connection is normal; Blinking: Data is being transmitted through the Ethernet port; Off: Ethernet connection is not set up;
WIFI (optional)	WIFI	Blinking : Data is being transmitted On : Wi-Fi function Opens Off : Wi-Fi function Close

Specification

Item	Parameter
PON Interface	1 EPON optical interface Meet 1000BASE - PX20+ standard Symmetric 1.25Gbps upstream/downstream SC single - mode fiber split ratio: 1:64 Transmission distance 20KM
User Ethernet Interface	4*10/100M or 4*10/100/1000M auto-negotiation Full/half duplex mode RJ45 connector Auto MDI/MDI-X 100m distance
Power Interface	12V DC Power supply
PON Optical Parameter	Wavelength: Tx 1310nm, Rx1490nm Tx Optical Power: 0 ~ 4dBm Rx Sensitivity: - 27dBm Saturation Optical Power: - 3dBm Connector Type: SC Optical Fiber: 9/125µm single - mode fiber
Data Transmission Parameter	PON Throughput: Downstream 950Mbps; Upstream 930Mbps Ethernet: 100Mbps or 1000Mbps Packet Loss Ratio: 1×10^{-12} latency: <math>< 1.5\text{ms}</math>
Business Capability	Layer 2 wire speed switching Support VLAN TAG/UNTAG , VLAN conversion Support Port-based speed limitation Support Priority classification Support storm control of roadcast Support loop detection

Network Management	① OAM for PON Related functions: Support OLT query ONU basic information; ONU link fault report; Dynamic Bandwidth Allocation (DBA); etc ② Local Web management , TR069 Remote Management for ONU local setting : ONU Layer 2 switch configuration such as Vlan; WiFi Setting(optional); etc
Management Function	Status monitor, Configuration management, Alarm management, Log management
Shell	Plastic casing
Power	4FE: <3.9W, 12V/0.5A power supply adapter 4FE+WIFI: <4.9W, 12V/0.6A power supply adapter 4GE: <4.3W, 12V/0.5A power supply adapter 4GE+WIFI: <5.3W, 12V/0.6A power supply adapter
Physical	Item Dimension : 160mm(L) x 120mm(W) x 32.5mm (H)
Environmental Specifications	Operating temperature: 0 to 50°C Storage temperature: -40 to 85°C Operating humidity: 10% to 90%(Non-condensing) Storage humidity: 10% to 90%(Non-condensing)

WIFI Specification (Suitable for the WIFI devices)

Item	Parameter	
Performance parameters	Operating Mode	Router or bridge
	WIFI antenna	2 external antennas
	Throughput	IEEE 802.11b: 11Mbps IEEE 802.11g: 54Mbps IEEE 802.11n: 300Mbps
	Frequency	2.412 ~ 2.472 GHz
	Channel	13*Channel, configurable to meet the standard of USA, Canada, Japan and China
	Modulation	DSSS , CCK and OFDM
	Coding	BPSK, QPSK, 16QAM and 64QAM

	RF receive sensitivity	802.11b: -83dBm @ 1 Mbps; -80dBm @ 2 Mbps; -79dBm @ 5.5 Mbps; -76dBm @ 11 Mbps 802.11g: -85dBm @ 6 Mbps; -84dBm @ 9 Mbps; -82dBm @ 12 Mbps; -80dBm @ 18 Mbps; -77dBm @ 24 Mbps; -73dBm @ 36 Mbps; -69dBm @ 48 Mbps; -68dBm @ 54 Mbps 802.11n 20MHz: -74dBm @ 65 Mbps; -70dBm @ 130 Mbps; 802.11n 40MHz: -70dBm @ 135 Mbps; -67dBm @ 300 Mbps;
	RF output lever	802.11b: 17 ±0.5dBm @ 11Mbps 802.11g: 15 ±0.5dBm @ 54 Mbps; 16 ±0.5dBm @ 48 Mbps; 17 ± 1dBm @ 6 ~ 36 Mbps 802.11n 20MHz: 14 ± 0.5dBm @ 130 Mbps; 15 ± 0.5dBm @ 78 Mbps; 18 ± 0.5dBm @ 6.5 Mbps 802.11n 40MHz: 14 ± 0.5dBm @ 300 Mbps; 15 ± 0.5dBm @ 162 Mbps; 18 ± 0.5dBm @ 13.5 Mbps
	Encryption Mode	802.11i security: WEP-64/128, TKIP (WPA-PSK) and AES (WPA2-PSK)

Application

- Typical Solution: FTTH, FTTO
- Typical Business: INTERNET, IPTV, VOD, IP Camera, WIFI

Network Construction

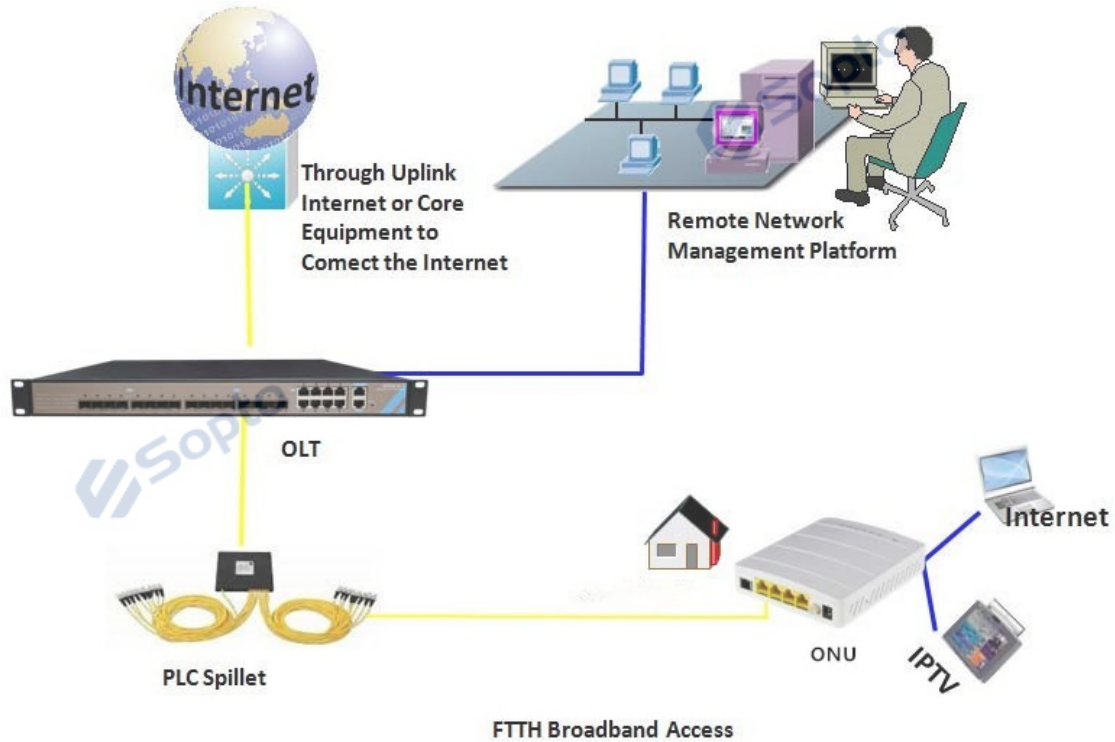


Figure: Application Diagram

Ordering information

Product Name	Product Model	Descriptions
4FE HGU type	SPU-E410-HR	4*10/100M Ethernet interface, 1 EPON interface, plastic casing, external power supply adapter
4GE HGU type	SPU-E420-HR	4*10/100/1000M Ethernet interface, 1 EPON interface, plastic casing, external power supply adapter
4FE+WIFI HGU type	SPU-E410W-HR	4*10/100M Ethernet interface, support Wi-Fi function, 1 EPON interface, plastic casing, external power supply adapter
4GE+WIFI HGU type	SPU-E420W-HR	4*10/100/1000M Ethernet interface, support Wi-Fi function, 1 EPON interface, plastic casing, external power supply adapter

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