



1.25Gbps  
Gigabit WAN  
GEPON Fiber

Remote Control  
via FTP, TFTP, HTTP  
Auto Provision, or  
via TR069

300M WiFi  
For Home WiFi  
Application

2 FXS Port  
For Home VoIP  
Application

IPTV Apply  
via 802.1Q VLAN  
Assignment

Home Storage  
with USB Flash  
memories

Datasheet V1.1.4

### OT-4020-VW 4FE+2FXS+WiFi GEPON ONU:

The OT-4020-VW is a Telecom grade GEPON Optical Network Unit (ONU) based on IEEE802.3ah Gigabit EPON Standard. It is a all-in-one GEPON ONU/CPE suitable for Triple play applications in FTTH and FTTO solutions. The OT-4020-VW offers 1 GEPON SC port, 4\*10/100Base-Tx LAN ports, 2 FXS VoIP ports, along with a 300Mbps WiFi Router. It provides 1.25G transmission rate over a single mode gigabit fiber, serves the high bandwidth requirement of subscribers.

Its VoIP, WiFi and LAN interfaces covers all hardware requirements for the services that families will need.

The OT-4020-VW is a CPE. It supports multiple virtual WAN connections, different WAN connections can be associated with physical LAN interfaces and VLAN IDs. You can separate services to different LAN interfaces and configure QOS rules easily for each subscriber device. It also supports TR069 and FTP/TFTP/HTTP Auto provision. Internet Service Providers can maintain and manage subscriber devices remotely in either ways. It is a ONU specially designed for ISPs deploying Internet Data, Voice and IPTV services over GEPON fiber network.

### Main Features:

- Fully complies with IEEE802.3ah GEPON standard, supports most GEPON OLT brands
- Built-in with 4\*10/100Base-Tx LAN ports, can connect 4 LAN clients, such as PC, IP phone, IPTV boxes
- Built-in with a 300Mbps WiFi Router, users can directly access Internet with no need of buying extra WiFi Router
- Built-in with 2 FXS VoIP ports, users can apply both Phone and Fax services

- 
- Support IPv4 and IPv6, ensuring compatibility and usability in both IP network types.
  - Support Multiple WAN connections, each WAN connection can associate with a LAN/WLAN interface and VLAN ID.
  - Enabling separating subscriber services to different LAN/WIFI interfaces and associating with QOS rules
  - Support AES encrypted fiber transmission,enhancing transmission security
  - Support FEC (Forward Error Correction), ensures high reliable and precise data transmission
  - Support Dynamic Bandwidth Allocation (DBA), Smarter bandwidth assignment and usage.
  - Support L2 Switching and L3/4 Home Gateway/CPE features with hardware NAT
  - Transmitting on WDM/Single fiber, saving costs on fiber cables, max transmission distance can reach up to 20Km.
  - Upstreaming works at 1310nm, and Downstream at 1490nm wavelength, avoiding fiber signal conflictions
  - Support IEEE802.1Q VLAN and IEEE802.1P QOS, ensuring customer satisfaction of Internet quality.

### Hardware Parameters:

- Built on powerful GEAPON SOC, Dual Core CPU at 400Mhz. CPU covered with cooling unit.
- Adopting 16-bit DDR2 SDRAM,comes with a 512M DDR2 SDRAM,
- Fully complies with IEEE802.3ah Gigabit Ethernet Passive PON standard
- Providing 1\*GEAPON SC uplink port, Support 1.25Gbps upstream rate and 1.25Gbps downstream rate
- Providing 4\*10/100Base-Tx LAN ports, each port can be associated with IEEE802.1Q VLAN ID.
- Providing a 300M WiFi Router, support multiple SSIDs
- Providing 2 FXS telephone ports, support analog phones and T.38 fax machine.
- Support Layer 2 switching, Layer 3/4 home gateway features with Hardware NAT.
- Support full duplex and half duplex, IEEE802.3x flow control and backpressure
- Support 2.8Gbps backplane bandwidth
- live LED Indicators for Power, PON signal, Los alarm, Phone 1, Phone2, LAN1, LAN2,LAN3,LAN4, WiFi, WPS, USB
- External power supply, DC 12V, 1.5A.
- Offering 1\*Reset button, 1\*Led on/off button, Plastic housing

### Fiber Optic Parameters

- Built-in 2\*10 SFF packaged GEAPON transceiver, SC connector
- GEAPON transceiver sending power: -1-4dbm, receiving sensitivity: -30dbm
- Transmission wavelength: Upstream: 1310nm / Downstream: 1490nm
- Fiber Optic Ratio: 1:32, 1:64, the largest transmission distance is 20Km.
- Fiber Transmission cable: Single mode optical fiber cable

### VoIP Parameters

- Support SIP & H.248 protocols, two SIP accounts can be registered simultaneously
- Built in with 2 FXS VoIP telephone ports, two calls can be made/received simultaneously
- Support G.711,G.723.1,G.729A-8 kbps,G.726,G.722, ILBC voice codecs
- Support DTMF Tone Detection, DTMF Tone Relay, Multiple Calling Tone, FSK Caller ID
- Support Calling line Identification Presentation and Calling line Identification Restriction
- Support call forwarding, call transfer, call hold, three-way conference, etc
- Support QOS and TOS to ensure voice packets pass through in priority
- Support RFC62 Echo protocol, support T.38 fax

- 
- Support SIP V1, V2 (RFC3261, RFC3262, RFC3264, RFC3265)

#### 4 Port WiFi Router Features:

- Built-in with a 4 Port 300M WiFi Router, 2.4GHz wireless frequency
- Comes with 2\*5db external antennas, support transmission distance of 100m for Indoors, 150m for outdoors
- Support WPS, comes with 1\*WPS button and 1\*WiFi On/Off switching button
- Support DHCP, Static IP and PPPOE
- Support DHCP Server, DHCP Relay, DHCP Client
- Support Static Routing from source IP to destination IP
- Support firewall, NAT, NAT, UPnP
- Support DDNS, DMZ Host, Port Forwarding
- Support 64/128 bit WEP, IEEE802.1x, WPA and WPA2 authentications
- Support Multiple SSID broadcasting, Hidden SSID and Wifi Protocol Setup (WPS),
- Support Automatically choose the best signal channel
- Support STA mutual isolation and ACL table based on MAC Accesses
- Support Wifi Multimedia (WMM), enhanced QOS for multimedia packets

#### Software Parameters

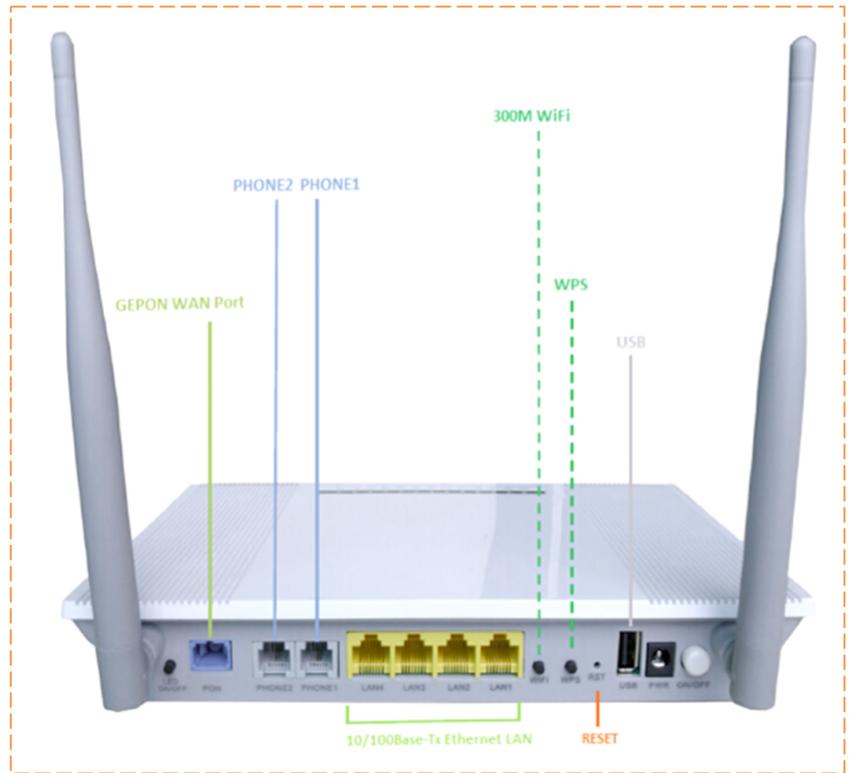
- Support Layer 2 switching & Layer 3/4 Home gateway features
- Support Port-Based, Port&Protocol based VLAN and IEEE802.1Q VLAN, max 4K VLAN IDs and 32 enhanced VLANs
- Support Layer 2 learning, offers 2K MAC address table
- Support IEEE802.1d Spanning Tree, IEEE802.1w Rapid SpanningTree
- Support IEEE802.1x, MAC, IP, or TCP/UDP protocol based ACLs (Access Control protocol)
- Support IEEE802.1P QOS, can classify traffic with IEEE802.1P/Q priority definition, physical port, DSCP, etc.
- Support Loop detection, can terminate the port when a remote loop is found
- Support Storm filtering control for broadcast, multicast, unknown unicast, ARP, etc
- Support Port Mirror, able to mirror multicast monitored source port to monitoring destination port
- Support IGMP V2 and V3, IGMP Snooping for Multicast application over IPV4
- Support MLD V2 and V3, MLD Snooping for Multicast application over IPV6
- Support up to 8 virtual WAN connections that can be bound to different LAN/WiFi interfaces. Each WAN connection can be assigned with VLAN ID and QOS mark to separate services over the same GEPON ONU device.

#### Management and Maintenance:

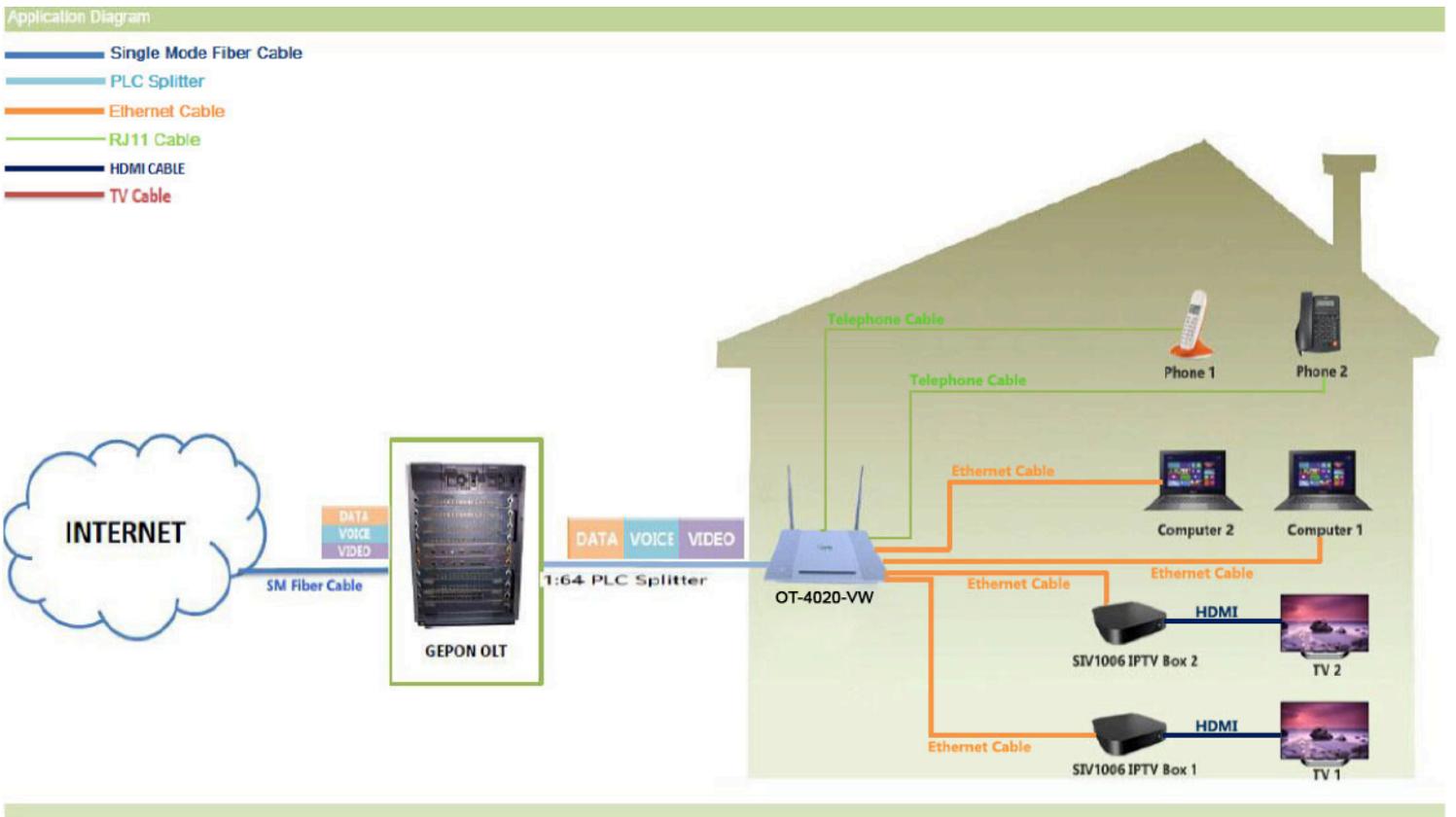
- Support serial interface maintenance using UART
- Support local http WEB and Telnet management
- Support Ethernet OAM based management
- Support TR069, can work with a customer appointed ACS
- Support Auto Provisioning through FTP/TFTP/HTTP servers.

**Specification of Ports:**

- 1.25Gbps GEAPON WAN Port \* 1
- 10/100Base-Tx LAN Ports \* 4
- FXS Telephone Ports \* 2
- WiFi On/Off button \* 1
- WPS Button \* 1
- LED On/Off button \* 1
- Host: 1 USB port
- Power Jack \* 1
- On/Off Switch Button \* 1
- Reset Button \* 1



**OT-4020-VW Application Diagram**



---

## Specifications:

Standards	IEEE 802.3ah, IEEE 802.3, IEEE 802.3u, IEEE 802.3x, IEEE 802.3z, IEEE802.1d, IEEE 802.1P, IEEE 802.1Q, IEEE 802.1X, IEEE802.11b/g/n, RFC1155, RFC1157, RFC1112, RFC1113		
Topology	Star Topology		
Uplink Ports	1 Gepon SC port, 1.25Gbps		
GePON Transmission Rate	1.25Gbps		
GePON Transmission Distance	Up to 20Km		
Downlink Ports	4 Port 10/100Base-Tx LAN		
Wireless Standard	IEEE802.11n		
Wireless Transmission Rate	300Mps		
Wifi Range	Outdoors: 150 meters; Indoors: 100 meters		
VoIP Ports	2 RJ11 FXS Ports		
LED Indicators	Link, activity, Full/half duplex, speed, and power on diagnostic function		
Ethernet Cable	10Base-Tx: UTP category 3, 4,5, up to 100m 100Base-Tx: UTP category 5, up to 100m		
Fiber Cable	8.3µm, 8.7µm, 9µm and 10µm single mode fiber cable		
Power Supply	AC 96-260V, DC 12V, 1.5A, External Power Supply		
		Temperature	Humidity
Temperature Humidity	Working	0°C - 45°C	10% - 90%

---

Standby

-40°C - 70°C

5% - 90% RH