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**GL-G8021U-WF-D EPON ONU**  
**Specifications**  
**1GE+1FE+POTS+WIFI**

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# 1.OVERVIEW

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## 1.1 Product Introduction

GL-G8021U-WF-D terminal devices are designed for fulfilling FTTH and triple play service demand of fixed network operators or cable operators. The box is based on the mature EPON technology, which have high ratio of performance to price, and the technology of 802.11 ac/n WiFi (2T2R), Layer 2/3, and high quality VoIP as well. They are highly reliable and easy to maintain, with guaranteed QoS for different service. And It is fully compliant with technical regulations such as IEEE802.3ah and technical requirement of EPON Equipment (V2.1 and above version) from China Telecom.

## 1.2 Network Mode

GL-G8021U-WF-D is the FTTH mode terminal equipment which designed for indoor applications. Specific application refers to Picture 1-1



Picture 1-1 GL-G8021U-WF-D Products Network diagram

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# 2.HARDWARE FEATURES

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## 2.1 Interface of device

GL-G8021U-WF-D product figure as Picture 2-1



Picture 2-1 GL-G8021U-WF-D product figure

Table 2-1 Description GL-G8021U-WF-D equipment Interface

Port Type	Function
PON port	Connect PON port with internet by SC type, single mode optical fiber cable
FXS port	Connect the telephone with FXS port by telephone wire
LAN 2/1 port	RJ45 Port connects to local internet,1 GE port and 1 FE port automatically
Reset button (RST)	Press down reset button and keep 5 seconds to make the device restart and recover from the factory default Settings.
PWR port (DC12 V)	Connect with power adapter
Power turn on/off	Power turn on/off

## 2.2 Indicators of device

Table 2-2 GL-G8021U-WF-D LED statement

Indicators	status	Description
POWER	Light on	ONU power supply normally
	Light off	ONU no power supply
PON	Light on	ONU link active

	Blink	ONU manage to link
	Light off	ONU receiving power rate lower than optical receiver sensitivity
LOS	Blink	Device does not receive optical signals.
	Light off	Device has received optical signal.
2.4G	Light on	WiFi turn on
	Light off	Device is power off or WiFi turn off
	Blink	WiFi turn on and with ongoing data transmission
5G	Light on	WiFi turn on
	Light off	Device is power off or WiFi turn off
	Blink	WiFi turn on and with ongoing data transmission
INTERNET	Light on	Internet is effective.
	Light off	internet is ineffective.
LAN1	Light on	network port linked, but no data transmitting
	Blink	network port data pass
	Light off	ONU no power supply or internet cable unlink
LAN2	Light on	network port linked, but no data transmitting
	Blink	network port data pass
	Light off	ONU no power supply or internet cable unlink
FXS	Light off	VOIP account is not used
	Every 1s blink	SIP server is not registered
	Light on	Registered to the SIP server and can be used
	Every 0.25s blink	Send and receive voice data

### 3. TECHNICAL SPECIFICATIONS

#### 3.1 Physical structure, Environment and Electrical parameter

Table 3-1 GL-G8021U-WF-D specification and working environment

Parameter	Nominal
Dimension	226mm×148mm×30mm (L×W×H)
Net weight	0.25kg
Typical power consumption	<7W
Noise	None
Cooling style	Naturally cooling
Power supply	12V DC (By external AC/DC adapter)
Installation style	Support PC, wall mount or put inside of information box.
Environment	-5~50°C
Atmospheric pressure	70~106Kpa
MTBF	50,000hours

MTTR	30minutes
Parameter	Nominal

### 3.2 EPON Interface Specifications

Table 3-2 GL-G8021U-WF-D EPON Interface

Parameter	Nominal
Connector style	SC/PC
PON quantity	1
Fiber style	Single mode
Wavelength	TX: 1310 +/-20nm RX: 1490 +/-10nm
PON interface standard	IEEE802.3-2005 1000BASE-PX20+
PON interface receiving rate	1.25Gpbs
PON interface transmitting rate	1.25Gpbs
Output optical power	Min: 0dBm                      Max: +4dBm
Optical receiver sensitivity	Precede -28dBm
The length of the optical link	Max 20km

### 3.3 WIFI Specifications

Table 3-3 GL-G8021U-WF-D WIFI Specifications

Standard		IEEE 802.11 ac/b/g/n
WiFi parameter	Frequency	2.4~2.4835GHz 5GHz: Low frequency 5.15GHz~5.25GHz、 Middle frequency 5.25GHz~5.35GHz、 High frequency 5.725GHz~5.825GHz
	Transmission speed	2.4GHz Frequency: IEEE 802.11b : 11/5.5/2/1M(Auto) IEEE 802.11g: 54/48/36/24/18/12/9/6(Auto) IEEE 802.11n: 270/243/216/162/108/81/54/27Mbps,up to 300Mbps
		5GHz Frequency: IEEE 802.11n: Highest transmission speeds up to 300Mbps IEEE 802.11ac : Highest transmission speed up to 867Mbps
	Channel number	2.4GHz : 13                      5GHz: 4
	Spread-spectrum Technique	DSSS(Direct sequence spread spectrum)
	Data Modulation	DBPSK、DQPSK、CCK and OFDM(BPSK/QPSK/16-QAM/64-QAM)

Sensitivity@PER (Package error rate)	270M: -68dBm@10% PER; 130M: -68dBm@10% PER; 108M: -68dBm@10% PER; 54M: -68dBm@10% PER 11M: -85dBm@8% PER; 6M: -88dBm@10% PER 1M: -90dBm@8% PER;
Transmission distance	Indoor Maximum 120 meters; Outdoor Maximum 360 meters(The distance depends on the environment)
RF power	20dBm EIRP
Antenna	5dBi Antennas

### 3.4 POTS Specifications

- support SIP voice protocol
- support H.248 voice protocol
- SIP protocol: ISP provide the port number of the main SIP proxy server and terminal VOIP
- Value range is 1-65535, system default value is 5060
- H.248 protocol: ISP provide port number of the spare MGC server and VOIP terminal
- Value range is 1~65535, system default value is 2944
- Port ringing current voltage: 50±10VAC, 30±10H
- Port type POTS(VOIP)
- Support G.711 A-Law/u-Law, G729A/B, G.723.1-5.3/6.3, G.726.etc.voice coding/compressed technology

### 3.5 Special function

- Support TR069, NAT, DMZ, DNS features
- Support Multiple ssid
- Support Multiple VLAN
- Support IPV6, PPPoE, DHCP and Static IP configuration for WAN Interface
- Support IP, MAC filtering, Firewall Functionality in routed mode