

**GL-G8020U-GCW-D**  
**(1\*GE+1\*EF+CATV+Dual-frequency)**  
**GPON ONU Specifications**

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# 1.OVERVIEW

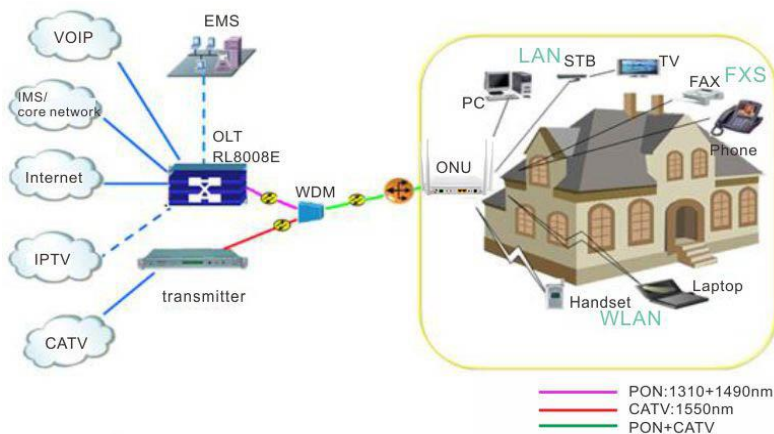
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## 1.1 Product Positioning

GL-G8020U-GCW-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 Gigabit GPON technology, which have high ratio of performance to price, and the technology of 802.11AC/n/g/b WiFi (2T2R), Layer 2/3, CATV support WDM 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 ITU-T G.984.x and technical requirement of GPON Equipment from China Telecom.

## 1.2 Network Mode

GL-G8020U-GCW-D is the FTTH mode terminal equipment which designed for in door applications. Specific application refers to Picture 1-2



Picture 1-2 GL-G8020U-GCW-D Products Network Diagram

# 2.HARDWARE FEATURES

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## 2.1 Interface of device

GL-G8020U-GCW-D equipment interface as Picture 2-1



Picture 2-1 GL-G8020U-GCW-D Back Panel Picture

Table 2-1 Description GL-G8020U-GCW-D Back Panel Interface

Port Type	Function
PON	Connect PON port with internet by SC type, single mode optical fiber cable
LAN	RJ45 Port connects to local internet, speed 10/100Mbps or speed 10/100/1000Mbps
CATV	CATV optical interface, support SC / APC optical pigtail connector for CATV access networks PON + CATV three wavelength signals.
Reset	Press down reset button and keep 5 seconds to make the device restart and recover from the factory default Settings.
Power	Connect with power adapter (DC 12 V/1A)
On/Off	Power turn on/off

## 2.2 Indicators of device



**Table 2-3 GL-G8020U-GCW-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
LAN	Light on	network port linked, but no data transmitting
	Blink	network port data pass
	Light off	ONU no power supply or internet cable unlink
INTERNET	Light on	network port linked
	Light off	Not connected to the Internet
WPS	Light off	Unencrypted data is transmitted through WIFI
	Blink	WIFI transmits encrypted data
CATV	Light on	CATV optical receiver output level normal
	Blink	CATV optical receiver output level lower than normal or failure
RF	Light on	RF output power is normal
	Blink	RF output failure or no RF output

## 3. TECHNICAL SPECIFICATIONS

### 3.1 Physical structure, Environment and Electrical parameter

Table 3-1 GL-G8020U-GCW-D specification and working environment

Parameter	Nominal
Dimension	210mm×130mm×30mm (L×W×H)
Net weight	0.3kg
Typical power consumption	<7W
Noise	None
Cooling style	Naturally cooling
Power supply	12V DC 1A (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

### 3.2 GPON Interface Specifications

Table 3-2 GL-G8020U-GCW-D GPON Interface

Parameter	Nominal
Connector style	SC/PC
PON quantity	1
Fiber style	Single mode
Wavelength	TX: 1310 +/-20nm RX: 1490 +/-10nm
PON interface standard	ITU-T G.984.2/ITU-T G.984.3/ITU-TG.988 Class B+
PON interface receiving rate	2.488Gpbs
PON interface transmitting rate	1.244Gpbs
Output optical power	Min: 0dBm                      Max: +5dBm
Optical receiver sensitivity	Precede -28dBm
The length of the optical link	Max 20km

### 3.3 CATV optical receiver specifications Table 3-3 GL-

G8020U-GCW-D CATV Optical receiver parameter

Item	Unit	Parameter
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Optical parameter	Receiving optical wavelength		nm	1200~1650
	Receiving optical power		dBm	-18~+2
	Reflection loss		dB	≥50
	Connector		-	SC/APC
	Fiber type		-	Single mode
	Isolation (WDM)	Forward channel	dB	≥40
Reflection channel		dB	≥22	
RF parameter	Frequency		MHz	45 ~ 1000
	In-band flatness		dB	±1
	Output reflection loss		dB	≥14
	Nominal output level		dBuV	AGC range : -15 ~ -5dBm 73±1dBuV AGC range: -10~ 0dBm 77±1dBuV
	Attenuation range		dB	-18—0
	C/N		dB	≥ 46
	C/CTB		dB	≥ 65
	C/CSO		dB	≥ 65
Others	Power supply (DC)		V	12
	Power consumption		W	≤1.5
	Working temperature		°C	-5 ~ +50
	Storage temperature		°C	-40~ +75
	Relative humidity		%	Maximum 95% non-condensing

### 3.3 WIFI Specifications

Table3-3 GL-G8020U-GCW-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

END