Introduction

1.1 Product Description

G/EPON 1GE+1FE+WiFi+CATV ONU meets telecom operators FTTO (office), FTTD (Desk) ,FTTH(Home) broadband speed, SOHO broadband access, video surveillance and other requirements to design an EPON/GPON Gigabit Ethernet products. It is based on mature and stable, cost-effective EPON/GPON technology, high reliability, easy management, configuration flexibility and good quality of service (QoS) guarantees to meet the technical performance of IEEE802.3ah and ITU-TG.984.x , China Telecom EPON/GPON equipment technical requirements and other specifications.

Figure 1 1GE+1FE+1POTS

Figure 2 1GE+1FE+1POTS+WiFi Figure 3 1GE+1FE+1POTS+WiFi+CATV

1.2 Product categories

Product model	Product specification	Chipset	SDRAM Memory
HG323R	1 G/EPON+1GE+1FE+1POTS	Realtek	64MB
HG323RW	1 G/EPON+1GE+1FE+1POTS+WiFi		
HG323RWT	1 G/EPON+1GE+1FE+1POTS+WiFi+CATV		

Table 1 Product categories

1.3 Application Chart

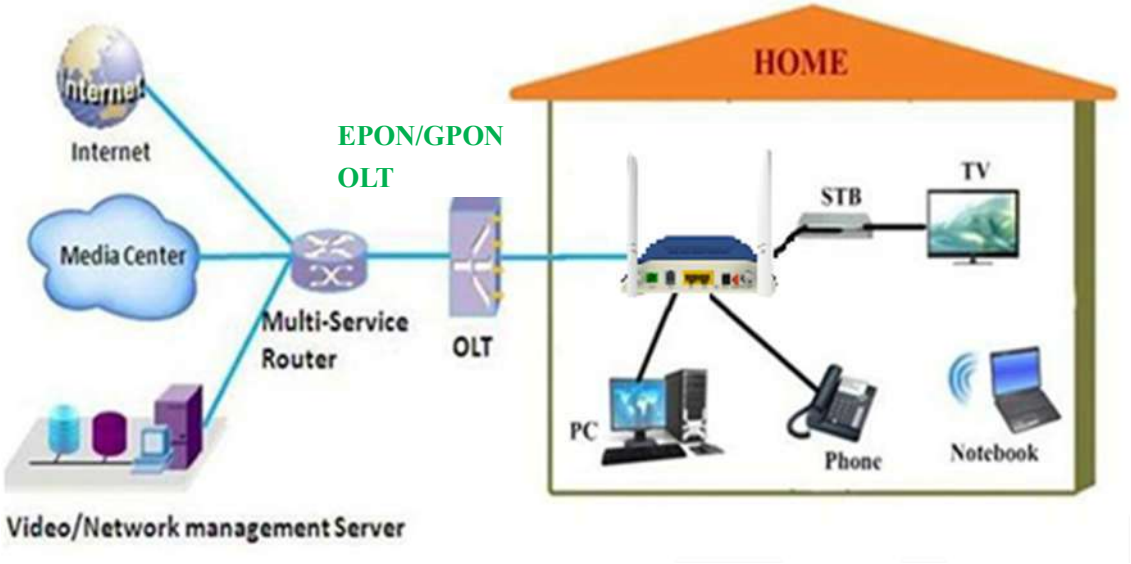


Figure 4 Application Chart

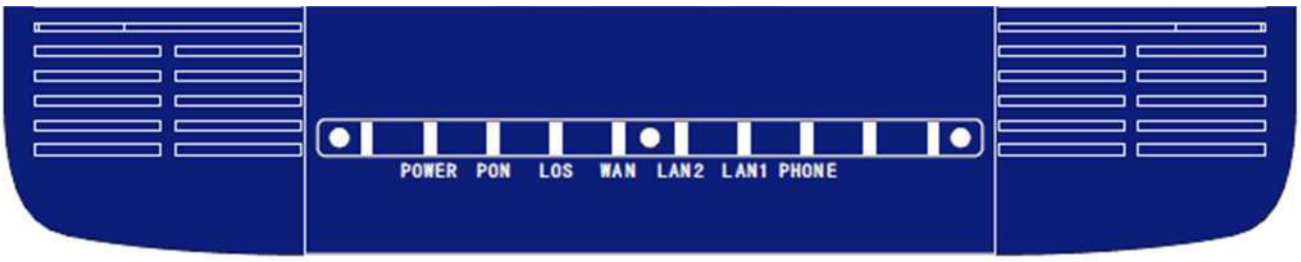
1.4 Technical parameters

Technical item	1GE+1FE+1POTS+WiFi(option)	1GE+1FE+1POTS+WiFi+CATV
PON interface	1 G/EPON port(EPON PX20+ and GPON Class B+) Receiving sensitivity: ≤-28dBm Transmitting optical power: 0~+4dBm Transmission distance: 20KM	
Wavelength	Tx1310nm,Rx 1490nm	Tx1310nm,Rx 1490nm and 1550nm
Optical interface	SC/UPC connector	SC/APC connector(signal fiber with WDM)
LAN interface	1 x 10/100/1000Mbps and 1 x 10/100Mbps auto adaptive Ethernet interfaces. Full/Half, RJ45 connector	
POTS interface	1 FXS, RJ11 connectors Support: G.711/G.723/G.726/G.729 codec Support: T.30/T.38/G.711 Fax mode, DTMF Relay Line testing according to GR-909	
WiFi interface	Compliant with IEEE802.11b/g/n, Operating frequency: 2.400-2.4835GHz support MIMO, rate up to 300Mbps, 2T2R,2 external antenna 5dBi, Support: multiple SSID Channel:13 Modulation type: DSSS、CCK and OFDM Encoding scheme: BPSK、QPSK、16QAM and 64QAM	

CATV interface	RF, optical power : +2~-18dBm Optical reflection loss: ≥45dB Optical receiving wavelength: 1550±10nm RF frequency range: 47~1000MHz, RF output impedance: 75Ω RF output level: ≥ 82dBuV（-7dBm optical input） AGC range: +2~-7dBm/-4~-13dBm/-5~-14dBm MER: ⩾32dB(-14dBm optical input), ＞35(-10dBm)	
LED	8, For Status of POWER、LOS、PON、LAN1、LAN2、PHONE、Pair、WiFi	8, For Status of POWER、LOS、REG、GE、FE、FXS、CATV、WiFi
Operating condition	Temperature: 0℃～+50℃ Humidity: 10%～90%（non-condensing）	
Storing condition	Temperature: -30℃～+60℃ Humidity: 10%～90%（non-condensing）	
Power supply	DC 12V/1A	
Power supply	⩽6W	⩽8W
Dimension	185mm×120mm×34mm（L×W×H）	
Net weight	0.24Kg	0.29Kg

Table 2 Technical parameters

1.5 Panel lights



HG323R

HG323RW

HG323RWT

LED	Mark	Status	Description
Power	PWR	On	Device is powered up.
		Off	Device is powered down.
Optical signal loss	LOS	Blink	Device does not receive optical signals.
		Off	Device has received optical signal.
Registration	REG/PON	On	Device is registered to the PON system.
		Off	Device is not registered to the PON system.
		Blink	Device is registering.
Interface	GE、FE/ LAN1~2	On	Port is connected properly.
		Off	Port connection exception or not connected.
		Blink	Port is sending or/and receiving data.
POTS	FXS/PHONE	On	Device has registered to the soft-switch, but without ongoing data transmission.
		Off	Device is power off or not registered to the soft-switch.
		Blink	The port is with ongoing data transmission.
Wireless(for HG323RW/RWT)	WiFi	On	WiFi turned on.
		Off	Device is power off or WiFi turned off.
		Blink	WiFi data transmission.
CATV(for HG323RWT)	CATV	On	1550nm wavelength power of input is in normal
		Off	1550nm wavelength power of input is too low or no input.
		Blink	1550nm wavelength power of input is too high.
Pair(for HG323RW)	Pair	On	WPS client is connected. (LED turn off after 5 minutes of successful connection)
		Off	Does not use WPS or WPS client is connected.(LED turn off after 5 minutes of
		Blink	WPS client is connecting.

Table 3 Panel lights on

1.6 Interface description

Port Type	Function
PON	HG323RW: SC/UPC type, single mode optical fiber cable HG323RWT: SC/APC type, single mode optical fiber cable with WDM
GE、FE	Connect device with ethernet port by RJ-45 cat5 cable.
FXS	Connect the telephone with FXS port by telephone wire.
RST	Press down reset button and keep1-5seconds to make the device restart and recover from the factory default settings.
DC12V	Connect with power adapter.
Pair☆	Press down WiFi pair button to begin pairing.

WiFi☆	WiFi on/off.
CATV★	RF connector.
Power On/OFF★	Power turn on/off.

Table 4 Interface description

Note:

1. With ☆ tags, it is only for HG323RW, With ★ tags, it is only for HG323RWT.

1.7 Software feature

Software Key Feature	
EPON/GPON mode	Dual Mode , Can access EPON/GPON OLTs(HUAWEI、ZTE、FiberHome, etc).
Software mode	Bridging and Routing Mode.
Layer2	802.1D&802.1ad bridge,802.1p Cos,802.1Q VLAN.
Layer3	IPv4/IPv6 , DHCP Client/Server , PPPoE ,NAT , DMZ ,DDNS.
Multicast	IGMPv1/v2/v3 , IGMP snooping.
Security	Flow & Storm control, Loop Detection.
CATV management	Support CATV management.
WiFi	IEEE802.11b/g/n (TX power:17dBm/16dBm/15dBm),Up to 300Mbps Authentication : WEP/WAP-PSK(TKIP)/WAP2-PSK(AES).
POTS	VoIP protocol: SIP、IMS-SIP Voice enhancement: Local exchange Dynamic voice jitter buffering Silence detection Echo offset Loss compensation
Firewall	Filtering Based on ACL/MAC/URL.
O&M	WEB/TELNET/OAM/OMCI/TR069, Support private OAM/OMCI protocol and Unified network management of VSOL OLT.

Table 5 Software Key Feature