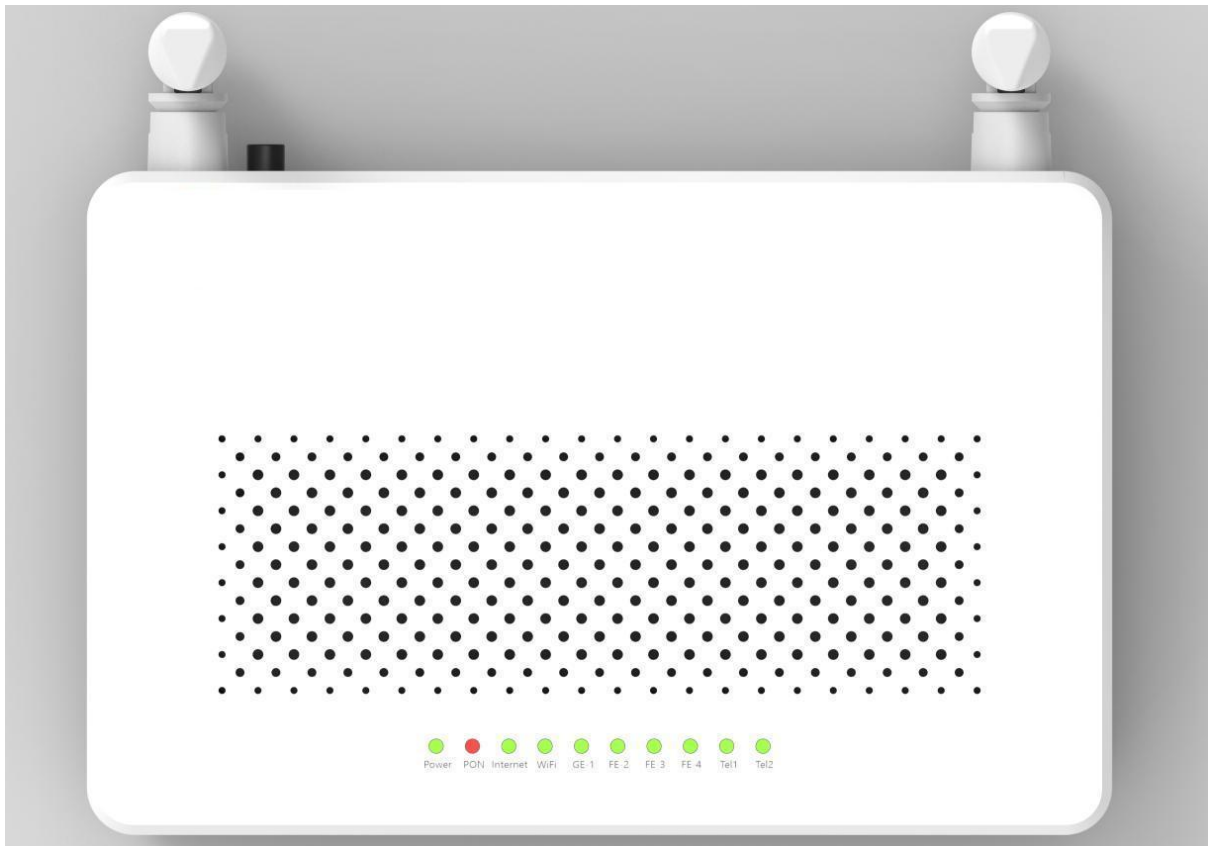


Product Specification

Model: TG2212 Single-Band GPON ONU

(GPON+1GE+3FE+2*FXS+2*2 11N)



1 Introduction

TG2212 is a highly integrated GPON integrated access equipment. The device provides high performance Data, Video services for individual users, SOHO (small office or family office), small businesses, etc.

The TG2212 complies with the ITU-T G.984 standard, provides 2.488Gbps downlink and 1.244Gbps uplink at network side, and provides one GE ports, three FE port and 2T2R 11n WiFi at user side. Especially ,the TG2212 is a highly integrated Single-band GPON ONU with 2.4G WiFi speed is 300Mbps .Supporting WiFi Mesh at the same time gives you a better user experience.

1.1 Applications

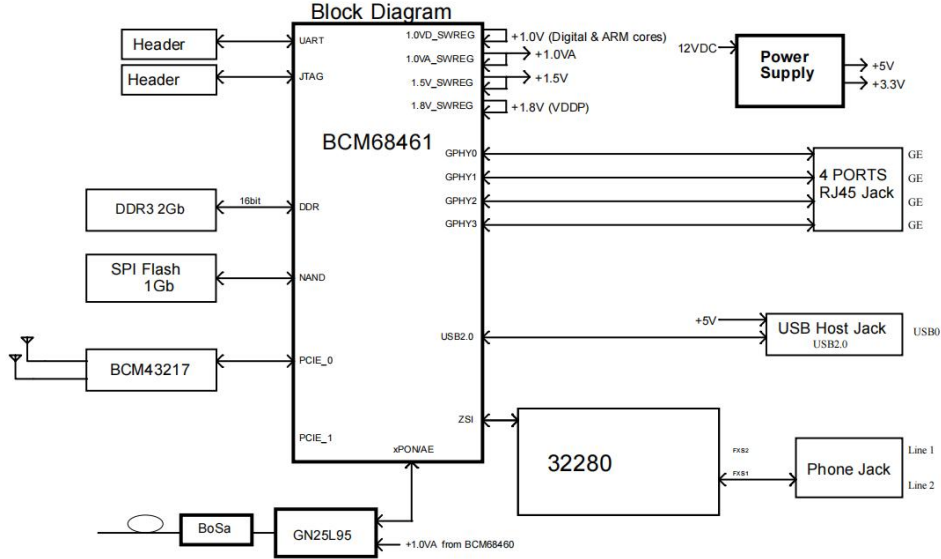
- SOHO
- Small enterprise
- IPTV
- High-speed broadband sharing
- Broadband Internet access
- Audio, video streaming and transmission
- PC files are Shared with applications

- Surfing the internet and online game

1.2 Features

- 1*Gpon port
- 1*GE port
- 3*FE port
- 2*FXS port
- Friendly web configuration interface GUI
- Support IPSec VPN
- Port trigger function is supported to automatically open specific ports of various games and applications
- Configurable DHCP server
- Compatible with standard network applications
- Support Virtual Server, IP Filter, DMZ Host, etc.
- A simple web page for the system configuration status is displayed and connected to the configuration page
- Support AUTO, PAP, CHAP, MS-CHAP authentication.
- Support PPPOE

1.3 Schematic diagram



1.4 Technical Parameters

1.4.1 Wi-Fi Key indicators

Standards	IEEE 802.11a/b/g/n	
Frequency range	- 2.4G: 2.4~2.4835GHz	
Transmission rate	11n (40MH): 300Mbps Max.	
	11n (20MHz): 144Mbps Max.	
	IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps (Adaptive)	
	IEEE 802.11b: 11/5.5/2/1 Mbps (Adaptive)	
Working channels	IEEE 802.11a: 54/48/36/24/18/12/9/6 Mbps (Adaptive)	
	- 2.4G: 13	
	Sensitivity @PER (Corruption)	- 2.4G:
		11n (40MHz): -61dBm@10% PER
11n (20MHz): -64dBm@10% PER		
11g 54M: -65dBm@10% PER		
11b 11M: -76dBm@8% PER		
11b 1M: -95dBm@8% PER		
Transmission distance	- indoor: up to 120 meters	

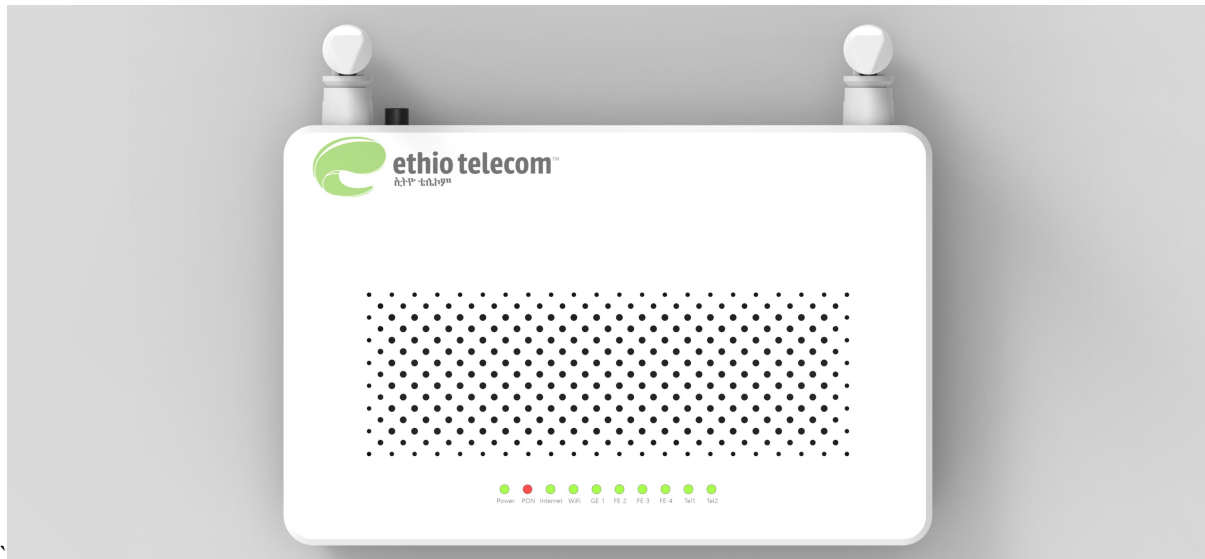
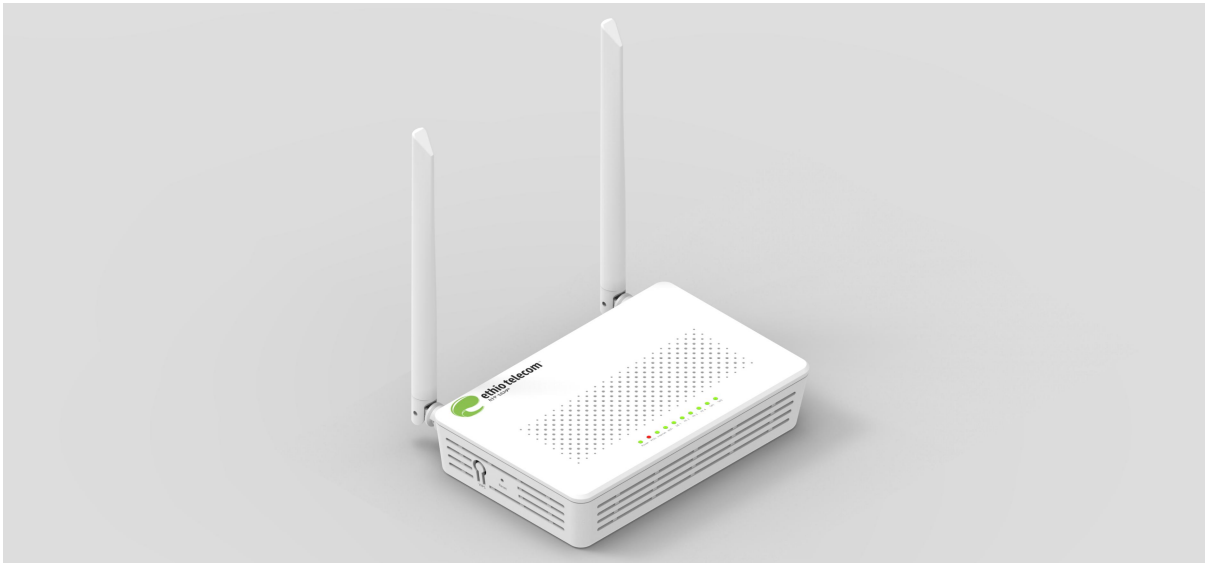


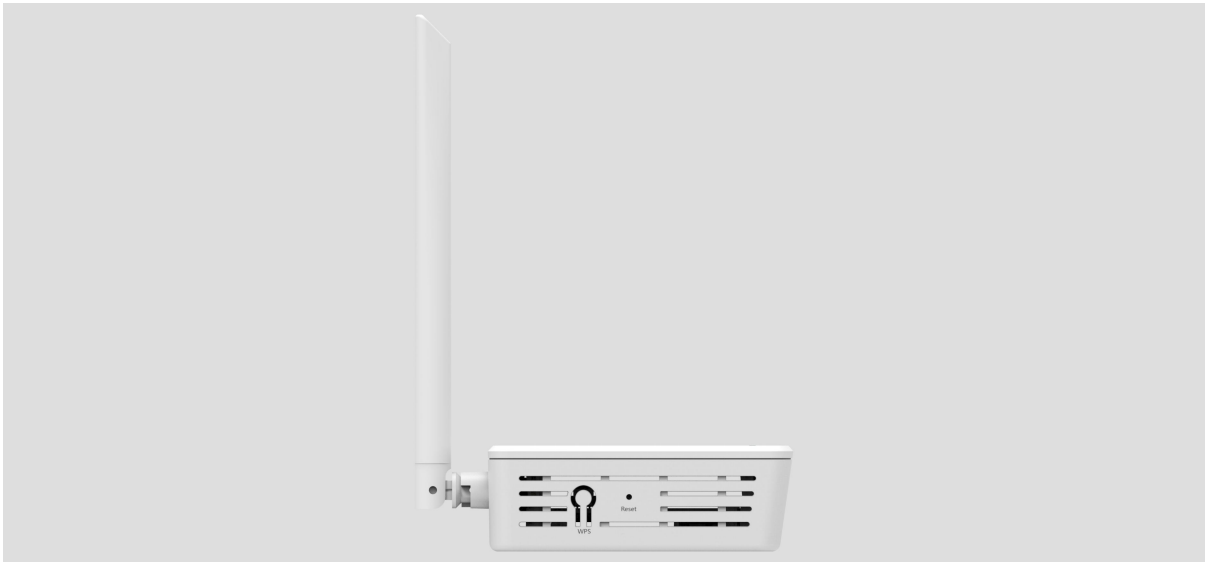
	- outdoor: up to 360 meters (depending on the environment)
Throughput	- 2.4G: >200Mbps
EIRP	- 2.4G: 20dBm Max.
Antenna	- Gain: 5dbi - Directionality: Omni
Mesh	-Easy mesh network by WiFi or cable

1.4.2 Optical interface parameters

Parameter	Nominal value
Connector type	SC/UPC
PON quantity	1
Fiber type	Single mode fiber
Wavelength	Transmission: 1310 +/-20nm Receiving: 1490 +/-10nm
PON interface standard	ITU-T G.984.x IEEE802.3ah 1000BASE-PX20+ Class B+ (GPON)
Optical interface transmission rate	GPON 1.244Gpbs
Optical interface receiving rate	GPON 2.488Gpbs
Output optical power	+0.5dBm~+4dBm
Receiver sensitivity	-6dBm~-28dBm
Optical link length	20km Max.

1.5 Appearance







1.5.1 Interfaces and Buttons indicators

ONU interfaces and buttons are described as the following table:

Interface	Instructions
GPON	The optical port is equipped with a rubber plug and is connected to an optical fiber for transmission
Tel1-2	RJ-11 FXS interface used to connect the telephone
FE2-4	Rj-45 Fast Ethernet interface used to connect the Ethernet interface of the computer
GE1	Rj-45 GE Ethernet interface used to connect the Ethernet interface of the computer.
Power	12 V DC power input interface to connect the power adapter.
ON/OFF	A power switch used to connect or disconnect a device's power supply.
WPS	WPS button, one button free connection function.
Reset	Restore the factory Settings button.

1.5.2 LED indicators



LED from left to right: Power, PON, Internet, WiFi, GE1, FE2-4, Tel1, Tel2

ONU indicator light is explained as follows:

LED Function	LED Mark	Color	LED Status	Description
Power ON/OFF Status	Power	Green	On	The device is receiving power and working properly.
			Off	The power supply is cut off.
			Blink (4HZ)	The device is starting up
PON ONT layer connectivity	PON	Green	On	The device is linked successfully to an OLT.
			Off	The GPON link is down.
			Blink	The device is initializing to an OLT.
		Red	Blink (4HZ)	The device receives optical power below its sensitivity
			Off	Optical signal reception is normal
Internet connectivity (PPP)	Internet	Green	On	The device has a PPP (PPPoA or PPPoE) connection.
			Off	The device does not have a PPP (PPPoA or PPPoE) connection.
WiFi Status	WiFi	Green	On	Wi-Fi Enabled.
			Off	Wi-Fi Disabled.
			Blinking (4Hz)	Wi-Fi is Transmitting / Receiving.
GE Indicator	GE-1	Green	On	GE Ethernet port is connected with cable
			Blink (4Hz)	Traffic on GE Ethernet
			Off	GE Ethernet port 2/3/4 is disconnected



FE2-4 Indicator	FE2-4	Green	On	Fast Ethernet port 2/3/4 is connected with cable
			Blink (4Hz)	Traffic on Fast Ethernet 2/3/4
			Off	Fast Ethernet port 2/3/4 is disconnected
Tel Indicator	Tel1-2	Green	On	The device has successful voice connection.
			Blink (4HZ)	The device is using voice service.
			Off	The voice connection is down.

1.6 Certification conformity

- FDA 21CFR 1040.10 & 1040.11
- EN(IEC) 60825-1
- EN(IEC) 60825-2
- EN300328

1.7 Standard compatibility

- Support FEC coding
- AES-128-bit encryption for uplink and downlink
- Supports CTC technical requirements, including rate limiting modes for uplink and specialized multicast/broadcast frames
- RFC2516 PPP Over Ethernet (PPPoE)
- RFC1332 PPP Internet Protocol Control Protocol
- RFC894 A Standard for the Transmission of IP Datagrams over Ethernet

Networks

- RFC1042 A Standard for the Transmission of IP Datagrams over IEEE 802 Networks
- IEEE802.3
- IEEE802.3u
- TR - 069
- ITU-T G.984.1, G.984.2, G.984.3, G.984.4,G.984.5
- IEC-60728

1.8 Operation environment

- Working temperature: 0°C~45°C (32°F~104°F)
- Storage temperature: -40°C~70°C (-40°F~158°F)
- Working humidity: 10%~95%, non-condensate
- Storage humidity: 5%~95%, non-condensate

2 Abbreviations

DHCP	Dynamic Host Configuration Protocol
DMZ	Demilitarized Zone
DNS	Domain Name Server
EPON	Ethernet Passive Optical Network
FTP	File Transfer Protocol
FTTH	Fiber To The Home
HTTP	Hyper Text Transfer Protocol
ICMP	Internet Control Message Protocol
IGMP	Internet Group Management Protocol
ISP	Internet Service Provider
iTV	Internet Television
LAN	Local Area Network
MAC	Media Access Control
ONU	Optical Network Unit
OLT	Optical Line Terminal
PON	Passive Optical Network
SIP	Session Initiation Protocol
SOHO	Small Office Home Office
UDP	User Datagram Protocol
URL	Uniform Resource Locator
TCP	Transmission Control Protocol
VLAN	Virtual Local Area Network

3 Packing list

- 1* TG2212 ONU
- 1* User manual for TG2212 ONU
- 1*12V 1A Europe Standard Power Adapter
- 1*CAT5e Ethernet cable
- 1*Voice line
- 1*Quick installation manual