

4 GE ports
2 FXS ports

1200Mbps
Wi-Fi



ITU-T G.984.x GPON
Standard

1.25G upstream
2.5Gdownstream

RTL9607C
900MHz CPU

Multi-WAN
Route/Bridge

VLAN, QoS
Firewall, ACL
IPv4/IPv6

Datasheet V1.1.6

SGN7758VACG4-V2 GPON ONU:

The SGN7758VACG4-V2 is a series of ITU-T G.984.x based based GPON ONU designed for home and office users. Its uplink interface is a 1*SC/APC or SC/UPC G/EPON port that supports 2.5G downstream and 1.25G upstream bandwidth for GPON. It can access GPON OLTs.It offers 4 Gigabit Ethernet ports for LAN. The SGN7758VAG4 series also offers 2* FXS ports and a 1200Mbps Wi-Fi Router, providing high quality voice and excellent Wi-Fi experience for subscribers. Built for FTTx deployments, it supports powerful home gateway/CPE features, such as Multiple WAN, QoS, VLAN, Firewall, ACL, etc. It is a high-end Internet Data, Voice and Wi-Fi all-in-one GPON ONU for ISPs deploying Triple Play networks over single fiber.

Main Characters

- ITU-T G.984.x GPON standard,
- Compatible with Huawei, ZTE, Fiberhome, Nokia, CHIMA GPON OLTs.
- IEEE802.11ac 867Mbps + IEEE802.11n 300Mbps Wi-Fi Router for Excellent Wi-Fi experiences
- Offers 1* SC/APC or SC/UPC GPON WAN port, supports 1.25G upstream and 2.5G downstream
- Offers 4 * Gigabit Ethernet LAN ports, wire-speed data transmission
- Offers 2*FXS ports for high quality Voice over IP deployments.
- AES 128-bit encrypted and key switching, enhancing transmission security
- Layer 2 Switching, support 802.1Q VLAN, 802.1P QoS, Bandwidth Control, Spanning Tree, etc
- Layer 3 Home Gateway/CPE features with Hardware NAT, support Multiple WAN, Route/Bridge mode, etc
- Port Binding, different LAN ports can be assigned with different WAN services
- Max 1:128 Fiber ration, max transmission distance can reach 20km
- Support FEC (Forward Error Correction), ensures high reliable and precise data transmission
- Support Dynamic Bandwidth Allocation (DBA), Smarter bandwidth assignment and usage.
- Support OMCI and TR069 Management, manage subscribers remotely.
- Supports IPv4 and IPv6, highly applicable in both IP type based networks.

Technical Parameters

GPON Parameters

ITU-T G.984.x GPON, built-in with a -30dBm Optical BOSA ,
SC/UPC or SC/APC connector optional
1310nm upstream & 1490nm downstream
Support G.984.1 General Characteristics
Support G.984.2 Physical Media Dependent (PMD) layer
Specification
Support G.984.3 Transmission convergence layer Specification
GPON transceiver transmitting power: 0.5-5dbm,
Optical receiving sensitivity: -30dBm
Transmission wavelength: Upstream: 1310nm / Downstream:
1490nm
Support 1:128 Fiber Ratio at 20km transmission distance.
Fiber Transmission cable: G.652 Single mode optical fiber cable
Configurable AES decryption on downstream payload.
Configurable FEC on both upstream and downstream payloads.
Multi-Application Processor queues for dedicated connections
for in-band.
Enhanced GPON debug and diagnostic functions.
Support up to 40 Transmission Container (T-Cons)
Support 256 bidirectional GEM port IDs
Support NSR/SR Dynamic Bandwidth Allocation (DBA)
Support Forward Error Correction (FEC), Support Dying Gasp
Maximum 2.5Gbps Downlink/1.25 Gbps Uplink
Support Dying Gasp

VoIP Parameters

Offers 2* FXS ports for Phone connections
2 Calls can be made/received simultaneously
SIP V1, V2 (RFC3261, RFC3262, RFC3264, RFC3265)
SIP & H.248, support registering 2 SIP accounts
G.711, G.723.1, G.729A-8kbps, G.726, G.722, ILBC voice codes
DTMF Tone Detection, DTMF Tone Relay,
Multiple Calling Tone, FSK Caller ID
Calling line Identification Presentation
Calling line Identification Restriction
Call forwarding, call transfer, call hold, three-way conference,
etc
QoS and TOS to ensure voice packets pass through in priority
Support RFC62 Echo protocol
Support Digital Map configuration

Home Gateway/CPE Features

Multi-WAN, support up to 8 WAN connections
Support Route and/or Bridged WAN
Port Binding, Data/VoIP/IPTV services can be
bound to different LAN ports
Configurable VLAN ID for each WAN
Configurable QoS queues for each WAN
Multi-services bound to the same WAN

QoS

IEEE802.1P QoS, DSCP, TOS:

SP, WRR, SP+WRR dispatching Algorithm

Source & DST-MAC based QoS

VLAN ID, VLAN Priority based QoS

Source DST-IP based QoS

Networking Features

MAC Learning, 2K MAC address table

Bridged or Route network mode

Support RIP v1, v2 for routing

Static Route, Dynamic Route, DNS Proxy,

IPv4 & IPv6 TCP, UDP, RTP, SNTP, NAT, DHCP, DNS

IEEE802.1Q VLAN, port VLAN

IEEE802.1x, MAC, IP, or TCP/UDP based ACLs

Port Bandwidth Control, IEEE802.3x flow control

Storm Control: Broadcast/Multicast/unknown unicast, ARP

Port Isolation, port Mirror, Auto MDI/MDIX

IEEE802.1d STP, port Loop detection

IGMP v2, v3 & IGMP Snooping for IPv4

MLD v2, v3 & MLD Snooping for IPv6

300Mbps + 867Mbps Wi-Fi Router Features

IEEE802.11ac 867M Wi-Fi, 5Ghz

IEEE802.11n 300M Wi-Fi, 2.4Ghz

BandSteering and BeamForming

5GHz and 2.4GHz dual band connections

802.11ac and 802.11n Wi-Fi Clients

2*5dBi directional External antennas for 802.11ac

2*5dBi directional External antennas for 802.11n

4 Gigabit Ethernet ports, wired speed transmission

Support 4-IN-4-OUT, Max 1200Mbps Wi-Fi throughput

Support WDS Wi-Fi bridge

Wi-Fi Transmission Distance: 100m for indoors,

150m for outdoors

WPS one-key protection over your Wi-Fi network

Support DHCP, Static IP and PPPoE

DHCP Server, DHCP Relay, DHCP Client, Static IP assignation

Static Routing from source IP to destination IP

Firewall, NAT, NAPT, UPnP

DDNS, DMZ Host, port Forwarding

64/128 bit WEP, IEEE802.1x, WPA and WPA2 authentications

Max 4 SSID broadcasting, Hidden SSID

Automatically choose the best signal channel

STA mutual isolation and ACL table based on MAC Accesses

Wi-Fi Multimedia (WMM), enhanced QoS for multimedia packets

Hardware Parameters

Realtek RTL9607C

Dual core, MIPS interAptiv™ 900MHz CPU

RLX5281 500MHz CPU

CPU covered with cooling unit.

Support Hardware NAT.

come with a 1Gb 16-bit DDR3 SDRAM

come with a 1Gb Nand Flash

1*GPON SC/APC or SC/UPC port,

2.5G downstream, 1.25G Upstream

4* 10/100/1000Base-Tx Gigabit Ethernet ports

1*300Mbps Wi-Fi Router,

1*867Mbps Wi-Fi Router

4*5dBi directional external antennas

2* FXS ports, support analog phones

IEEE802.3x flow control Full duplex and half duplex,

LED Lights: PWR,PON,Los,Internet,VoIP1-2,GE1-4, 2.4G

Wi-Fi, 5G Wi-Fi, WPS

External power supply, DC 12V,1A- 1.5A.

Management Features

Serial interface maintenance using UART

Web UI Management

OAM & NMS Management

CLI command line management

FTP/TFTP/HTTP Auto Provision Management

TR069 ACS management

Interoperable GPON OLT Models

CHIMA SGT8000A, SGT8016A, SGT8000B,

SGT8016B, SGT9000B series GPON OLTs

HUAWEI MA5680T, MA5606T, MA5683T GPON OLTs

[\[Huawei R11/R13/R15/R17/R18 versions interoperable\]](#)

ZTE C220, C300, C320 GPON OLTs

[\[All ZTE OLT firmware versions interoperable\]](#)

Fiberhome AN5516-01, AN5516-02 GPON OLTs

[\[Fiberhome RP700, RP1000 versions interoperable\]](#)

Alcatel Lucent 7342, 7360 ISAM GPON OLTs

Nokia 7360 ISAM GPON OLT

LSCABLE LST20016 GPON OLT

ERICSSON BM1500 GPON OLT

AURORA Trident7, T7-PIM-8802/COLT GPON OLT

ZHONG HONG MX-180/280, MXK 319, 819, 823, MXK-F1419,

MXK-F1421

Hardware Interfaces

1*GPON SC/APC or SC/UPC port	4*5dBi directional external antennas
4*10/100/1000Base-Tx GE port	1*Reset button
1*PWR On/Off Switch button	1*USB port
2*FXS VoIP port	1*Wi-Fi on/off button
1*Power Supply Jack	1*WPS button
14 LEDs Indicators	Power, PON, LOS, Internet, VoIP1, VoIP2, GE1-GE4, 2.4G/5GWi-Fi, WPS, USB



Specification Table

Standards	ITU-T G.984.1, ITU-T G.984.2, ITU-T G.984.3, ITU-T G.984.4		
Topology	Star Topology		
Uplink port	1* GPON WAN port, SC/UPC Connectors or SC/APC connectors optional		
Transmission distance	Up to 20Km		
Downlink ports	4*10/100/1000Base-Tx Gigabit Ethernet ports		
VoIP Ports	2*FXS ports		
Wi-Fi	IEEE802.11b/g/n 300Mbps + IEEE802.11ac 867Mbps Wi-Fi		
LED Indicators	Power, PON, LOS ,Internet, VoIP1, VoIP2, GE1-GE4, Wi-Fi, WPS		
Ethernet Cable	10Base-Tx: UTP category 3, 4,5, up to 100m 100Base-Tx: UTP category 5, up to 100m 1000Base-Tx: UTP category 5, 5E, 6, up to 100m		
Fiber Cable	8.3μm, 8.7μm, 9μm and 10μm single mode fiber cable		
Power Supply	AC110-240V Input, DC 12V, 1A-1.5A output External Power Supply, 4KV Surge Protection		
Temperature & Humidity		Temperature	Humidity
	Working	0 to 45°C	10% - 90%
	Standby	-40 to 70°C	5% - 90% RH

Order Information

Product Family	Model No. Product Description & Chipset	ANATEL
	SGN7754G4: 4GE GPON ONU	
	Realtek RTL9607C Dual core, MIPS interAptivTM 900MHz CPU RLX5281 500MHz CPU Power Supply: DC12V,1A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 6.7w for GPON ONU	
	SGN7755VG4: 4GE+1FXS GPON ONU	
	Realtek RTL9607C Dual core, MIPS interAptivTM 900MHz CPU RLX5281 500MHz CPU Power Supply: DC12V,1.5A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 7.9w for GPON ONU	
	SGN7756VG4: 4GE+2FXS GPON ONU	
	Realtek RTL9607C Dual core, MIPS interAptivTM 900MHz CPU RLX5281 500MHz CPU Power Supply: DC12V,1.5A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 9.1w for GPON ONU	
	SGN7755WG4: 4GE+300M Wi-Fi GPON ONU	
	Realtek RTL9607C Dual core, MIPS interAptivTM 900MHz CPU RLX5281 500MHz CPU Power Supply: DC12V,1A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 8.3w for GPON ONU	
	SGN7756VWG4: 4GE+1FXS+300M Wi-Fi GPON ONU	
	Realtek RTL9607C Dual core, MIPS interAptivTM 900MHz CPU RLX5281 500MHz CPU Power Supply: DC12V,1.5A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 9.6w for GPON ONU	

	<p>SGN7757VWG4: 4GE+2FXS+300M Wi-Fi GPON ONT</p> <p>Realtek RTL9607C Dual core, MIPS interAptiv™ 900MHz CPU RLX5281 500MHz CPU Power Supply: DC12V,1.5A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 10.4w for GPON ONU</p>	
	<p>SGN7754ACG2: 2GE+1200M Wi-Fi GPON ONT</p> <p>Realtek RTL9607C Dual core, MIPS interAptiv™ 900MHz CPU RLX5281 500MHz CPU Power Supply: DC12V,1A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 6.7w for GPON ONU</p>	
	<p>SGN7755VACG2: 2GE+1FXS+1200M Wi-Fi GPON ONT</p> <p>Realtek RTL9607C Dual core, MIPS interAptiv™ 900MHz CPU RLX5281 500MHz CPU Power Supply: DC12V,1.5A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 7.9w for GPON ONU</p>	
	<p>SGN7756ACG4: 4GE+1200M Wi-Fi GPON ONT</p> <p>Realtek RTL9607C Dual core, MIPS interAptiv™ 900MHz CPU RLX5281 500MHz CPU Power Supply: DC12V,1A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 10.8w for GPON ONU</p>	
	<p>SGN7757VACG4: 4GE+1FXS+1200M Wi-Fi GPON ONU</p> <p>Realtek RTL9607C Dual core, MIPS interAptiv™ 900MHz CPU RLX5281 500MHz CPU Power Supply: DC12V,1.5A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 12.1w for GPON ONU</p>	

	<p>SGN7758VACG4: 4GE+2FXS+1200M Wi-Fi GPON ONT</p> <p>Realtek RTL9607C Dual core, MIPS interAptiv™ 900MHz CPU RLX5281 500MHz CPU Power Supply: DC12V,1.5A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 13.3w for GPON ONU</p>	
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