

4 GE ports
2 FXS ports

1200Mbps
Wi-Fi



ITU-T G.984.x GPON
IEEE802.3ah GEAPON
Standard

1.25G upstream
2.5G/1.25
downstream

RTL9607C
900MHz CPU

Multi-WAN
Route/Bridge

VLAN, QoS
Firewall, ACL
IPv4/IPv6

Datasheet V1.1.7

SDN7758VACG4-V2 XPON HYBRID ONU:

The SDN7758VACG4-V2 is a series of ITU-T G.984.x based and IEEE802.3ah based XPON HYBRID 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 and supports 1.25G downstream and 1.25G upstream bandwidth for GEAPON. It can access GEAPON / GPON OLTs. It offers 4 Gigabit Ethernet ports for LAN. The SDN7758VAG4 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 GEAPON / GPON ONU for ISPs deploying Triple Play networks over single fiber.

Main Characters

- Both ITU-T G.984.x GPON and IEEE802.3ah GEPON 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 / GEPON WAN port, supports 1.25G upstream and 2.5G / 1.25G 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
- Max 1:64 Fiber ratio for GEPON, 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.
- Support 253 on LAN cable (DHCP Limit) but only 64 in each wifi (64 for 2.4G + 64 for 5G).

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)

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

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

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

GEPON Parameters

IEEE802.3ah GEPON standard, support standard OAM

CTC 2.1, 3.0 China Telecom GEPON standard

GEPON BOSA built on board,

SC/APC or SC/UPC connector optional

1310nm wavelength at upstream

1490nm wavelength at downstream

GEPON transceiver sending power: 0-4dBm,

Optical receiving sensitivity: -28dBm

1:64 Fiber Ratio at 20km transmission distance.

Fiber Transmission cable: G.652 Single mode optical fiber cable

Support 1 LLID (Logical Link Identifier)

Support 1 LOID (Logical ONU Identifier)

Support Triple Churning Encryption algorithm

Support NSR/SR Dynamic Bandwidth Allocation (DBA)

Support Forward Error Correction (FEC)

4 QoS queues & SP Dispatching Algorithm over PON

Maximum 1.25Gbps Downlink / 1.25Gbps 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

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

Hardware Parameters

Built on powerful GPON SoC, Realtek RTL9607C ,900Mhz

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.

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

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
ZXYEL GPON OLT V4.02(AAVA.7)C0_210108 | 2021-01-08

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

Interoperable GEAPON OLT Models

CHIMA SNA8800, SNA9000T series
Huawei MA5680T, MA5683T OLTs
[Huawei R11/R13/R15/R17/R18 versions interoperable\]](#)
ZTE C200, C220, C300 series OLTs
[\[All ZTE OLT firmware versions interoperable\]](#)
Fiberhome AN5506, AN5516 OLTs
[\[Fiberhome RP700, RP1000 versions interoperable\]](#)
Furukawa, Corecess GEAPON OLTs

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	IEEE 802.3, IEEE 802.3u, IEEE802.3ab, IEEE 802.3x, IEEE802.1Q, IEEE802.1P, IEEE802.1D, IEEE802.11b/g/n, IEEE802.11ac, 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*GEPON / 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
	SON7754G4: 4GE GEPON ONU	
	SGN7754G4: 4GE GPON ONT	
	SDN7754G4: 4G XPON HYBRID ONU	
	Realtek RTL9607C 900Mhz CPU Power Supply: DC12V,1A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 6.5w for GEPON ONU Power Consumption: 6.7w for GPON ONU	
	SON7755VG4: 4GE+1FXS GEPON ONU	
	SGN7755VG4: 4GE+1FXS GPON ONT	
	SDN7755VG4: 4GE+1FXS XPON HYBRID ONU	
	Realtek RTL9607C 900Mhz CPU Power Supply: DC12V,1.5A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 7.7w for GEPON ONU Power Consumption: 7.9w for GPON ONU	
	SON7756VG4: 4GE+2FXS GEPON ONU	
	SGN7756VG4: 4GE+2FXS GPON ONT	
	SDN7756VG4: 4GE+2FXS XPON HYBRID ONU	
	Realtek RTL9607C 900Mhz CPU Power Supply: DC12V,1.5A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 8.9w for GEPON ONU Power Consumption: 9.1w for GPON ONU	
	SON7755WG4: 4GE+300M Wi-Fi GEPON ONU	
	SGN7755WG4: 4GE+300M Wi-Fi GPON ONT	
	SDN7755WG4: 4GE+300M Wi-Fi XPON HYBRID ONU	
	Realtek RTL9607C 900Mhz CPU Power Supply: DC12V,1A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 8.1w for GEPON ONU Power Consumption: 8.3w for GPON ONU	

	SON7756VWG4: 4GE+1FXS+300M Wi-Fi GEPON ONU SGN7756VWG4: 4GE+1FXS+300M Wi-Fi GPON ONT SDN7756VWG4: 4GE+1FXS+300M Wi-Fi XPON HYBRID ONU Realtek RTL9607C 900Mhz CPU Power Supply: DC12V,1.5A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 9.4w for GEPON ONU Power Consumption: 9.6w for GPON ONU	
	SON7757VWG4: 4GE+2FXS+300M Wi-Fi GEPON ONU SGN7757VWG4: 4GE+2FXS+300M Wi-Fi GPON ONT SDN7757VWG4: 4GE+ 2FXS+300M Wi-Fi XPON HYBRID ONU Realtek RTL9607C 900Mhz CPU Power Supply: DC12V,1.5A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 10.2w for GEPON ONU Power Consumption: 10.4w for GPON ONU	
	SON7754ACG2: 2GE+1200M Wi-Fi GEPON ONU SGN7754ACG2: 2GE+1200M Wi-Fi GPON ONT SDN7754ACG2: 2GE+1200M Wi-Fi XPON HYBRID ONU Realtek RTL9607C 900Mhz CPU Power Supply: DC12V,1A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 6.5w for GEPON ONU Power Consumption: 6.7w for GPON ONU	
	SON7755VACG2: 2GE+1FXS+1200M Wi-Fi GEPON ONU SGN7755VACG2: 2GE+1FXS+1200M Wi-Fi GPON ONT SDN7755VACG2: 2GE+1FXS+1200M Wi-Fi XPON HYBRID ONU Realtek RTL9607C 900Mhz CPU Power Supply: DC12V,1.5A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 7.7w for GEPON ONU Power Consumption: 7.9w for GPON ONU	

	SON7756ACG4: 4GE+1200M Wi-Fi GEPON ONU SGN7756ACG4: 4GE+1200M Wi-Fi GPON ONT SDN7756ACG4: 4GE+1200M Wi-Fi XPON HYBRID ONU Realtek RTL9607C 900Mhz CPU Power Supply: DC12V,1A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 10.6w for GEPON ONU Power Consumption: 10.8w for GPON ONU	
	SON7757VACG4: 4GE+1FXS+1200M Wi-Fi GEPON ONU SGN7757VACG4: 4GE+1FXS+1200M Wi-Fi GPON ONT SDN7757VACG4: 4GE+1FXS+1200M Wi-Fi XPON HYBRID ONU Realtek RTL9607C 900Mhz CPU Power Supply: DC12V,1.5A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 11.9w for GEPON ONU Power Consumption: 12.1w for GPON ONU	
	SON7758VACG4: 4GE+2FXS+1200M Wi-Fi GEPON ONU SGN7758VACG4: 4GE+2FXS+1200M Wi-Fi GPON ONT SDN7758VACG4: 4GE+2FXS+1200M Wi-Fi XPON HYBRID ONU Realtek RTL9607C 900Mhz CPU Power Supply: DC12V,1.5A, 4KV Surge protection SC/APC or SC UPC connector optional Power Consumption: 13.1w for GEPON ONU Power Consumption: 13.3w for GPON ONU	