

4GE Ports
2 FXS Ports

Mesh Wi-Fi
1200Mbps



WiFi Mesh
Controller

1.0G Download
1.0G Upload

Dual Core
900MHz CPU

Multi-WAN
Route/Bridge

G/EPON
Hybrid

Datasheet V1.1.7

SDN7758VACG4 V3 Mesh WiFi XPON ONU family

The SDN778VACG4 V3 is a series of 1200M AC Mesh Wi-Fi supported XPON HYBRID ONUs designed for FTTx applications. Optical network equipment, type customer terminals presented in plastic cabinets, with 04 (four) RJ45 Ethernet LAN ports, 01 (one) XPON optical port (EPON/GPON) with capacity of up to 1 Gbps for "downlink" and up to 1 Gbps for "uplink", integrated wireless interface "Wi-Fi" in 1.0GHz or Dual 1.0/5GHz band, containing 02 (two) POTS ports for fixed telephony, 01 (one) USB port, suitable for providing access to the internet and digital TV and/or telephony services in FT TH ("Fiber To The Home") network architecture, hosts the XMPP-CLIENT and EasyMesh (Controller and Agent) protocols, accompanied by 01 (one) power supply 01 (one) Ethernet cable and 01 (one) user manual, New, brand: Valenet, model: SGN7758VACG4 V3.

Main Characters

- Support 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
- Mesh controller, support a 1500 square meters of WiFi coverage with multiple Mesh agents
- 4 * Gigabit Ethernet LAN ports max, wire-speed data transmission
- Max 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.
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Technical Parameters

GPON Parameters

ITU-T G.984.x GPON, built-in with a -30dBm Optical BOSA , SC/UPC or SC/APC connector optional

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: 1000nm / Downstream: 1000nm

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

Support Dying Gasp

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

Support DHCP, Static IP and PPPoE

DHCP Server, DHCP Relay, DHCP Client, Static IP assignment

Static Routing from source IP to destination IP

Firewall, NAT, NAPT, UPnP

DDNS, DMZ Host, port Forwarding

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
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
Support Dying Gasp

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

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

Hardware Parameters

Realtek RTL9607C
Dure Core 900Mhz processor for PON
Single Core 500Mhz processor for VoIP
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,
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, 1.0G Wi-Fi, 5G Wi-Fi, WPS
External power supply, DC 12V,1A- 1.5A.

1200M Mesh Wi-Fi Router Features

IEEE802.11ac 867M Wi-Fi, 5Ghz
IEEE802.11n 300M Wi-Fi, 2.4Ghz
BandSteering and BeamForming
5GHz and 1.0GHz 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 1000Mbps 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
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

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

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

Mesh Parameters

Can use as a Mesh Controller only
 Can mesh with Chima Mesh WiFi Routers [serve as Mesh agents] only.
 Support mesh up to 6 agents
 WiFi coverage up to 1500 square meters
 Mesh Backhaul through WiFi or Ethernet cable
 Mesh Kits/Capacity:
 a. 1*SWR1200AC Mesh Controller+ max 6*SWR1200AC Agents
 b. 1*SDN7758VACG4 V3 xPON ONT Mesh Controller + max 6*SWR1200AC agents

Interoperable OLTs

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
 ZYXEL OLT2406 V4.02(AAVA.7)C0_210108 | 2021-01-08

GEPON 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 GEPON 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, 1.0G/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*GPON /GEPON 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 Pictures	Model No. Product Description & Power Consumption	ANATEL
	SON7758VACG4-v3: 4GE+2FXS+1200M Mesh Wi-Fi GEPON ONU	Yes
	SGN7758VACG4-v3: 4GE+2FXS+1200M Mesh Wi-Fi GPON ONT	
	SDN7758VACG4-v3: 4GE+2FXS+1200M Mesh Wi-Fi XPON HYBRID ONU	
	SC/APC or SC UPC connector optional Power Consumption: 13.1w for GEPON ONU Power Consumption: 13.3w for GPON ONU	