

4 GE Ports
2 FXS Ports

1200Mbps WiFi
1CATV



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

1.25G upstream
2.5G/1.25
downstream

RTL9607
600Mhz CPU

Multi-WAN
Route/Bridge

VLAN, QOS
Firewall, ACL
IPv4/IPv6

Datasheet V1.1.5

SDN7759VACG4T Dual Mode ONU:

The SDN7759VACG4T is a series of ITU-T G.984.x based and IEEE802.3ah based dual mode ONU designed for home and Office users. Its uplink interface is a G/EPON SC port that supports 2.5G downstream and 1.25G upstream bandwidth for GPON and supports 1.25G downstream and 1.25G upstream bandwidth for EPON. It can access EPON / GPON OLTs.

It offers 4 Gigabit Ethernet ports for LAN. The SDN7759VACG4T series also offers 2 FXS ports and a 1200Mbps WiFi Router, and 1CATV RF interface, providing high quality voice, TV and excellent WiFi 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, TV and WiFi all-in-one EPON / GPON ONU for ISPs deploying Triple Play networks over single fiber.

Main Characters

- Both ITU-T G.984.x GPON and IEEE802.3ah GE-PON standard, compatible with Huawei, ZTE, Fiberhome, CHIMA GPON OLTs.
- IEEE802.11AC 867Mbps + IEEE802.11N 300Mbps WiFi Router for Excellent WiFi experiences
- Offers 1*GPON / GE-PON 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.

- Offers 1 CATV RF port, support high quality TV image transmissions over 1550nm Fiber.
- 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 ratio, max transmission distance can reach 20km
- Max 1:64 Fiber ratio for EPON, 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 bosch, 2*10 SFF GPON transceiver,
SC/UPC or SC/APC connector
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 sending power: 0.5-5dbm, receiving sensitivity: -27dbm
Transmission wavelength: Upstream: 1310nm / Downstream: 1490nm
Support 1:128 Fiber Optic 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

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

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 Rout, 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

GEPON Parameters

IEEE802.3ah Gepon standard, support standard OAM
CTC 2.1, 3.0 China Telecom Gepon standard
GEPON Bosa built on board, SC/PC connector
1310nm wavelength at upstream & 1490nm wavelength at downstream
GEPON transceiver sending power: 0-4dBm, receiving sensitivity: -27dBm
1:64 Fiber Optic 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 codecs
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

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

Hardware Parameters

Built on powerful GPON/EPON SOC, Built with Realtek RTL9607 Gpon SOC CPU covered with cooling unit.
Support Hardware NAT.
16-bit DDR3 SDRAM, come with a 1Gb DDR3 SDRAM
Nand Flash, come with a 1Gb Nand Flash
1*G/EPON SC Port, 2.5G / 1.25G Downstream, 1.25G Upstream
4* 10/100/1000Base-Tx Gigabit Ethernet Ports
1*300Mbps WiFi Router,
1*867Mbps WiFi Router
4*5dBi directional external antennas
2 FXS ports, support analog phones
1*CATV RF port
IEEE802.3x flow control Full duplex and half duplex,
LED Lights: PWR,PON,Los,Internet,VoIP1-2,GE1-4, 2.4G WiFi, 5G WiFi, WPS,USB

300Mbps + 867Mbps WiFi Router Features

IEEE802.11AC 867M WiFi, 5Ghz
IEEE802.11N 300M WiFi, 2.4Ghz
5GHz and 2.4GHz dual band connections
802.11AC and 802.11n WiFi 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 WiFi throughput
Support WDS WiFi bridge
WiFi Transmission Distance: 100m for indoors, 150m for outdoors
WPS one-key protection over your wifi 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
Wifi Multimedia (WMM), enhanced QOS for multimedia packets

CATV Parameters

CATV Frequency range: 40~1000Mhz
RF 75ohm Coaxial Cable TX port: Metric F or England F
RF output power: 68~ 72dBuV at input optical power 1 dBm
CNR \geq 46dB, CSO \leq -61dBC,
Support Enable or Disable CATV service remotely

Interoperable GPON OLT Models

CHIMA SGT8000A, SGT8016A series GPON OLTs
HUAWEI MA5680T, MA5606T, MA5683T GPON OLT
ZTE C220, C300 GPON OLT
Fiberhome AN5516-01, AN5516-02 GPON OLT
ERICSSON BM1500 GPON OLT
ZHONG HONG MX-180/280,MXK 319, 819, 823,
MXK-F1419,MXK-F1421

Interoperable Gepon OLT Models

CHIMA SNA8800, SNA9000T series
Huawei MA5680T, MA5683T OLTs
ZTE C200, C220, C300 series OLTs
Fiberhome AN5506, AN5516 OLTs
Furukawa, Corecess GEAPON OLTs

Hardware Interfaces

1*G/EPON PON Ports	4*5dBi directional external antennas
4*10/100/1000Base-Tx GE Ports	1*USB port
2*FXS VoIP Ports	1*WPS Button
1*CATV port	1*PWR Port
Power Supply: DC 12V, 1.5A	1*Reset button
LED Indications: Power, PON, LOS, Internet, VoIP1, VoIP2, GE1, GE2, GE3, GE4, 2.4 WIFI, 5G WiFi, WPS, USB, CATV	

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		
WAN Port	1*EPON / GPON WAN Port, SC/UPC Connectors (SC/APC connectors optional)		
LAN Ports	4*10/100/1000Base-Tx Gigabit Ethernet Ports		
VoIP Ports	2*FXS Port		
WiFi	IEEE802.11b/g/n 300Mbps + IEEE802.11AC 867Mbps WiFi		
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		
CATV Interface	1*CATV RF Port		
Fiber Cable	8.3μm, 8.7μm, 9μm and 10μm single mode fiber cable		
Power Supply	AC110-240V Input, DC 12V, 1.5A output		
Temperature & Humidity	Working	Temperature	Humidity
		0 to 50°C	10% - 90%

Standby

-20 to 70°C

5% - 90% RH

Specification Table

Order Information

Model No.	Description
SON7759VACG4T	4GE+2FXS+1CATV+1200M WiFi GEPON ONU, 4*5dBi external antennas
SGN7759VACG4	4GE+2FX+1200M WiFi GPON ONT, 4*5dBi external antennas
SDN7759VACG4T	4GE+2FXS+1CATV+1200M Wi-Fi Dual Mode ONU, 4*5dBi external antennas