

4GE Ports  
2 FXS Ports



Mesh Wi-Fi  
1200Mbps



WiFi Mesh  
Controller

2.5G Download  
1.25G Upload

Dual Core  
900MHz CPU

Multi-WAN  
Route/Bridge

G/EPON  
Hybrid

Datasheet V1.1.6

### SDN775X-V3 Mesh WiFi XPON ONU family

The SDN775x-V3 is a series of 1200M AC Mesh Wi-Fi supported XPON HYBRID ONUs designed for FTTx applications. The family of ONUs support both GPON and GEPON features on the same device. It supports 2.5G download speed and 1.25G upload speed. The family of ONUs also support the latest Mesh technology, a Mesh kit at its max capacity can cover an entire area of 1500 Square meters with high density Wi-Fi signals.

### 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
- 1\* SC/APC or SC/UPC GPON / GEPON WAN port, 2.5G download and 1.25G upload
- 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 ratio, 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.

## 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)

### 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 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  
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  
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

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.

### 1200M Mesh 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  
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

## 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\*SDN775x-V3 xPON ONU 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

### 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, 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*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
	SON7754ACG2-v3: 2GE+1200M Mesh Wi-Fi GEPON ONU	Yes
	SGN7754ACG2-v3: 2GE+1200M Mesh Wi-Fi GPON ONU	
	SDN7754ACG2-v3: 2GE+1200M Mesh Wi-Fi XPON HYBRID ONU	
	Realtek RTL9607C Dual core, MIPS interAptiv™ 900MHz CPU RLX5281 500MHz CPU SC/APC or SC UPC connector optional Power Consumption: 6.5w for GEPON ONU Power Consumption: 6.7w for GPON ONU	
	SON7755VACG2-v3: 2GE+1FXS+1200M Mesh Wi-Fi GEPON ONU	Yes
	SGN7755VACG2-v3: 2GE+1FXS+1200M Mesh Wi-Fi GPON ONU	
	SDN7755VACG2-v3: 2GE+1FXS+1200M Mesh Wi-Fi XPON HYBRID ONU	
	Realtek RTL9607C Dual core, MIPS interAptiv™ 900MHz CPU RLX5281 500MHz CPU SC/APC or SC UPC connector optional Power Consumption: 7.7w for GEPON ONU Power Consumption: 7.9w for GPON ONU	
	SON7756ACG4-v3: 4GE+1200M Mesh Wi-Fi GEPON ONU	Yes
	SGN7756ACG4-v3: 4GE+1200M Mesh Wi-Fi GPON ONU	
	SDN7756ACG4-v3: 4GE+1200M Mesh Wi-Fi XPON HYBRID ONU	
	Realtek RTL9607C Dual core, MIPS interAptiv™ 900MHz CPU RLX5281 500MHz CPU SC/APC or SC UPC connector optional Power Consumption: 10.6w for GEPON ONU Power Consumption: 10.8w for GPON ONU	
	SON7757VACG4-v3: 4GE+1FXS+1200M Mesh Wi-Fi GEPON ONU	Yes
	SGN7757VACG4-v3: 4GE+1FXS+1200M Mesh Wi-Fi GPON ONU	
	SDN7757VACG4-v3: 4GE+1FXS+1200M Mesh Wi-Fi XPON HYBRID ONU	
	Realtek RTL9607C Dual core, MIPS interAptiv™ 900MHz CPU RLX5281 500MHz CPU SC/APC or SC UPC connector optional Power Consumption: 11.9w for GEPON ONU Power Consumption: 12.1w for GPON ONU	

	SON7758VACG4-v3: 4GE+2FXS+1200M Mesh Wi-Fi GEPON ONU	<p>Yes</p>
	SGN7758VACG4-v3: 4GE+2FXS+1200M Mesh Wi-Fi GPON ONU	
	SDN7758VACG4-v3: 4GE+2FXS+1200M Mesh Wi-Fi XPON HYBRID ONU	
	<p>Realtek RTL9607C</p> <p>Dual core, MIPS interAptiv™ 900MHz CPU</p> <p>RLX5281 500MHz CPU</p> <p>SC/APC or SC UPC connector optional</p> <p>Power Consumption: 13.1w for GEPON ONU</p> <p>Power Consumption: 13.3w for GPON ONU</p>	