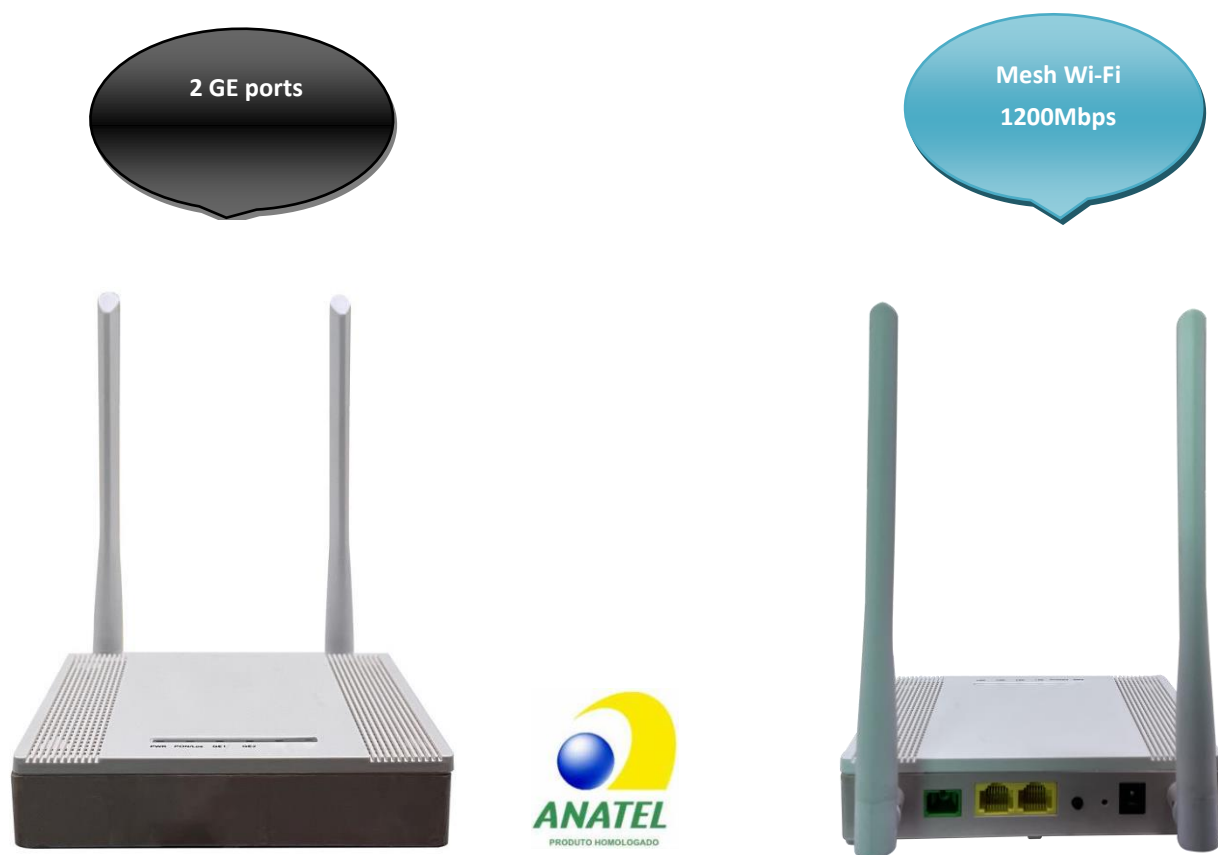




WiFi Mesh
Controller

1.25G upstream
2.5G/1.25
downstream

Dual Core
900MHz CPU

Multi-WAN
Route/Bridge

G/EPON
Hybrid

Datasheet V1.1.8

SDN7754ACG2-V3 XPON HYBRID ONU:

The SDN7754ACG2-V3 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 GE-PON. It can access GE-PON / GPON OLTs. It offers 2 Gigabit Ethernet ports for LAN.

The SDN7754ACG2V3 series also offers a 1200Mbps Wi-Fi Router, providing 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 and Wi-Fi all-in-one GE-PON / GPON ONU for ISPs deploying Triple Play networks over single fiber. 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

- 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
- Mesh controller, support a 1500 square meters of WiFi coverage with multiple Mesh agents
- Offers 1* SC/APC or SC/UPC GPON / GEPON WAN port, supports 1.25G upstream and 2.5G / 1.25G downstream
- Offers 2 * Gigabit Ethernet LAN ports, wire-speed data transmission
- 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 Mesh IEEE802.11 k/v/r, IEEE802.11s protocols
- 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/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
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

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
2* 10/100/1000Base-Tx Gigabit Ethernet ports
2*5dBi dual-band directional external antennas for
802.11ac and 802.11n
IEEE802.3x flow control Full duplex and half duplex,
LED Lights: PWR,PON/Los ,GE1-2, 2.4G Wi-Fi, 5G Wi-Fi,
RESET
External power supply, DC 12V,1A.

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

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

Interoperable 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

Mesh Parameters

- Can support EasyMesh standards, IEEE802.11 k/v/r , IEEE802.11s
- 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*SDN7754ACG2-V3 xPON ONT Mesh Controller + max 6*SWR1200AC agents

Hardware Interfaces

1*GPON SC/APC or SC/UPC port	2*5dBi dual-band directional external antennas
2*10/100/1000Base-Tx GE port	1*Reset button
1*Power Supply Jack	1*Wi-Fi on/off button
6 LEDs Indicators	Power, PON/ LOS, , GE1-GE2, 2.4G/5G

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, IEEE802.11 k/v/r, IEEE802.11s		
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	2*10/100/1000Base-Tx Gigabit Ethernet ports		
Wi-Fi	IEEE802.11b/g/n 300Mbps + IEEE802.11ac 867Mbps Wi-Fi		
LED Indicators	Power, PON, LOS ,Internet, GE1-GE2, 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 output External Power Supply, 4KV Surge Protection		
Product Size	135mm*106mm		
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
	SON7754ACG2V2: 2GE+1200M Wi-Fi GEAPON ONU	
	SGN7754ACG2V2: 2GE+1200M Wi-Fi GPON ONT	
	SDN7754ACG2V2: 2GE+1200M Wi-Fi XPON HYBRID ONU	
	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	