

2 GE+2FE Ports  
2 FXS Ports

Turbo WiFi



IEEE802.3ah  
CTC2.1, 3.0  
DBA

1.25Gbps  
GEPON Fiber  
WAN Port

WiFi Amplifier  
25dBm WiFi  
Power output

Multi-WAN  
Route/Bridge

VLAN, QOS  
Firewall, ACL  
IPv4/IPv6

Datasheet V1.1.5

### SON8487FVWG2 GEPON ONU:

The SON8487FVWG2 is a series of IEEE802.3ah based GEPON ONU designed for home and Office users. It offers 2 Gigabit Ethernet ports and 2 Fast Ethernet ports for LAN. Its uplink is a GEPON SC port, supports 1.25G for downstream and 1.25G for upstream. The SON8487FVWG2 series also offers 2 FXS ports and a 300M bps WiFi Router, providing high quality voice 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 and WiFi all-in-one GEPON CPE for ISPs deploying Triple Play networks over single fiber.

### Main Characters

- IEEE802.3ah GEPON standard, compatible with Huawei, ZTE, Fiberhome, CHIMA GEPON OLTs.

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- IEEE802.11N 300Mbps WiFi Router for Excellent WiFi experiences
- 1\*GEPON WAN Port, support 1.25G for downstream and 1.25G for upstream
- 2 \* Gigabit Ethernet and 2 Fast Ethernet ports LAN ports, wire-speed data transmission
- 2\*FXS ports for high quality Voice over IP deployments.
- Layer 3 Home Gateway/CPE features with Hardware NAT, support Multiple WAN, Route/Bridge mode, etc
- Layer 2 Switching, support 802.1Q VLAN, 802.1P QOS, Bandwidth Control, Spanning Tree, etc
- Port Binding, different LAN ports can be assigned with different WAN services
- 1:64 Fiber ratio, max transmission distance can reach 20km
- Support AES encrypted data transmission, enhancing transmission security
- Support FEC (Forward Error Correction), ensures high reliable and precise data transmission
- Support Dynamic Bandwidth Allocation (DBA), Smarter bandwidth assignment and usage.
- Local and Remote Management, support WEB, FTP/TFTP/HTTP Auto Provisioning, TR069, NMS management.
- IPv4 and IPv6, ensuring compatibility and usability in both IP network types.

## Technical Parameters

### GEPON Parameters

IEEE802.3ah Gepon standard, support standard OAM  
CTC 2.1, 3.0 China Telecom Gepon standard  
Built-in with a bosa or 2\*10 SFF packaged GEPON transceiver, SC/PC connector  
1310nm wavelength at upstream & 1490nm wavelength at downstream  
GEPON transceiver sending power: 0.5-5dbm, 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

### 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, 4K 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

### 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

### Interoperable Gepon OLT Models

CHIMA SNA8800, SNA9000T series  
Huawei MA5680T, MA5683T OLTs  
ZTE C200, C220, C300 series OLTs  
Fiberhome AN5516 OLT

### Management Features

Web UI Management  
OAM & NMS Management  
CLI command line management  
FTP/TFTP/HTTP Auto Provision Management  
TR069 ACS management

### 300Mbps WiFi Router Features

Offers an IEEE802.11n WiFi Router, 2.4GHz frequency  
4 LAN Ports, support mixed GE and FE ports  
MIMO, support 2-IN-2-OUT, Max 300Mbps WiFi throughput  
WiFi Transmission Distance: 150m for indoors, 300m 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

### Hardware Parameters

Built on powerful GEAPON SOC, Built with Broadcom  
BCM68488 Gepon 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\*GEAPON SC Port, 1.25G downstream, 1.25G Upstream  
2\* 10/100/1000Base-Tx Gigabit Ethernet Ports  
2\* Fast Ethernet  
1\*300Mbps WiFi Router,  
2\*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,LAN1-4, 2.4G  
WiFi , WPS,USB, Turbo WiFi  
External power supply, DC 12V, 2A.

## Hardware Interfaces

1*GEPON PON Ports	2*5dBi directional external antennas
2*10/100/1000Base-Tx GE Ports+2*FE PORT	1*USB port/1*On/Off button
2*FXS VoIP Ports	Turbo WiFi Button
<b>1*Reset button</b>	1*WPS Button
Power Supply: DC 12V, 2A	1*PWR Port
LED Indications: Power, PON, LOS, Internet, VoIP1, VoIP2, LAN1, LAN2, LAN3, LAN4, 2.4 WIFI, WPS, USB, Turbo WiFi	

## Specification Table

Standards	IEEE 802.3,IEEE 802.3u, IEEE802.3ah, IEEE802.3ab. IEEE 802.3x, IEEE802.1Q, IEEE802.1P, IEEE802.1D, IEEE802.11b/g/n,RFC2543, RFC3261, RFC3262, RFC3264, RFC3265		
WAN Port	1*GEPON WAN Port, SC/PC Connectors		
LAN Ports	2*10/100/1000Base-Tx Gigabit Ethernet Ports+2FE PORT		
VoIP Ports	2*FXS Port		
WiFi	IEEE802.11b/g/n 300Mbps		
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, 2A output		
Temperature & Humidity		Temperature	Humidity
	Working	0 to 50°C	10% - 90%
	Standby	-20 to 70°C	5% - 90% RH

## Order Information

Product family	Model NO	Product description & chipset
	SON8484F	<b>4 FE GEPON ONU</b> Broadcom BCM Dual-core 600Mhz CPU BoB Hardware
	SON8484FG2	<b>2GE+2FE EPON ONU</b> Broadcom BCM Dual-core 600Mhz CPU BoB Hardware
	SON8486FV	<b>4FE+2FXS EPON ONU</b> Broadcom BCM Dual-core 600Mhz CPU BoB Hardware
	SON8486FVG2	<b>2GE+2FE+2FXS EPON ONU</b> Broadcom BCM Dual-core 600Mhz CPU BoB Hardware
	SON8487FVW	<b>4FE+2FXS+WiFi GEPON ONU</b> Broadcom BCM Dual-core 600Mhz CPU BoB Hardware
	SON8487FVWG2	<b>2GE+2FE+2FXS+ WiF GEPON ONU,</b> Broadcom BCM Dual-core 600Mhz CPU BoB Hardware

	SON8484VWG2	<b>2GE+1FXS+ WiF GEPON ONU,</b> Broadcom BCM Dual-core 600Mhz CPU BoB Hardware
	SON8484WG2	<b>2GE+WiF GEPON ONU,</b> Broadcom BCM Dual-core 600Mhz CPU BoB Hardware
	SON8482G2	<b>2GE GEPON ONU,</b> Broadcom BCM Dual-core 600Mhz CPU BoB Hardware
	SON8483VG2	<b>2GE+1FXS GEPON ONU,</b> Broadcom BCM Dual-core 600Mhz CPU BoB Hardware
	SON8485FW	<b>4FE+WIFI GEPON ONU,</b> Broadcom BCM Dual-core 600Mhz CPU BoB Hardware
	SON8485FWG2	<b>2GE+2FE+WIFI GEPON ONU,</b> Broadcom BCM Dual-core 600Mhz CPU BoB Hardware