**4 FE Port
1 CATV RF**

**300M WiFi
Router**

| **2.5Gbps GPON Fiber WAN Port** | **40 T-CONs 256 GEM Port IDs** | **Multiple WAN Connections** | **Bridge & Route Mode** | **IPv4 & IPv6 QOS & VLAN** |

Datasheet V1.1.5

SGN8668FWT GPON ONT:

The SGN8668FWT is an ITU-T G.984.x based GPON ONT designed for family users. It offers 4 Fast Ethernet and 1 CATV RF Ports for Internet and TV outputs. It is also built in with a 300Mbps WiFi router. The SGN8668FWT supports full Home Gateway features, such as Multiple WAN connections, VLAN, QOS, etc. It is a GPON ONT for CATV Operators integrating high speed Internet and high quality TV services over single fiber.

Main Features:

Fully complies with ITU-T G.984.x GPON standard, compatible with Huawei, ZTE, Fiberhome, CHIMA GPON OLTs.

Offers 1 GPON WAN Port, support 1.25G upstream and 2.5G downstream

Offers 4 *10/100Base-Tx Ethernet ports, can be configured in Route or Bridge mode

Offers 1 CATV RF port, support high quality TV image transmissions over 1550nm Fiber.

Offers a 300Mbps WiFi router, satisfy your WiFi requirement for home & Office

Max 1:128 Fiber ration, max transmission distance can reach 35km

Supports Software based Multiple WAN connections, offers different services on different LAN ports.

Support AES 128-bit encrypted and key switching, enhancing transmission security

Support 40 Tconts and 256 GEM Port IDs, enabling multiple services on a single Subscriber CPE.

Support FEC (Forward Error Correction), ensures high reliable and precise data transmission

Support Dynamic Bandwidth Allocation (DBA), Smarter bandwidth assignment and usage.

Support L2 Switching and L3/4 Home Gateway/CPE features with hardware NAT

Supports IEEE802.1Q VLAN and 802.1P QOS, classify and prioritize services for you.

Support OMCI and TR069 Management, manage subscribers remotely.

Supports IPv4 and IPv6, highly applicable in both IP type based networks.

Technical Parameters

GPON Parameters:

Fully complies with ITU-T G.984.x GPON compliant

Built-in a Class B+ 2*10 SFF packaged GPON transceiver, SC/APC connector

Support 1310nm wavelength at upstream & 1490nm wavelength at 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 35km 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.

Multiple Application Processor queues for dedicated connections for in-band management.

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)

Maximum 2.488 Gbps Downlink/1.244 Gbps Uplink

Support Dying Gasp

CATV Parameters

CATV Frequency range: 40~860Mhz (STV Optional: 40~2200MHZ)

RF 75ohm Coaxial Cable TX port: Metric F or England F

RF output power: ≥ 80dBuV at input optical power =-6dBm

Band Flatness:TV±1dB, (Optional: STV±2dB)

CNR ≥47dB, CSO≤-61dB, CTR≤-61dB

Support Enable or Disable CATV service remotely

Built-in 300Mbps WiFi Router

Built-in with a 4 Port IEEE802.11N 300M WiFi Router, 2.4GHz wireless frequency

Comes with 2*5Db external antennas,

support transmission distance of 150m for Indoors, 200m for outdoors

Support WPS, comes with 1*WPS button and 1*WiFi On/Off switching button

Support DHCP, Static IP and PPPOE

Support DHCP Server, DHCP Relay, DHCP Client

Support Static Routing from source IP to destination IP

Support firewall, NAT, NAPT, UPnP

Support DDNS, DMZ Host, Port Forwarding

Support 64/128 bit WEP, IEEE802.1x, WPA and WPA2 authentications

Support Multiple SSID broadcasting, Hidden SSID and Wifi Protocol Setup (WPS),

Support Automatically choose the best signal channel

Support STA mutual isolation and ACL table based on MAC Accesses

Support Wifi Multimedia (WMM), enhanced QOS for multimedia packets

Network & Home Gateway Features

Support Layer 2 switching & Layer 3/4 Home gateway features

Support Filtering packets and Anti illegal message formats

Software configurable Multiple-WAN interfaces, support Route and Bridge mode

Support Port-Based, Port&Protocol based VLAN and IEEE802.1Q VLAN, max 4K VLAN IDs and 32 enhanced VLANs

Support Layer 2 learning, offers 4K MAC address table

Support IEEE802.1d Spanning Tree, IEEE802.1w Rapid SpanningTree

Support IEEE802.1x, MAC, IP, or TCP/UDP protocol based ACLs (Access Control protocol)

Support IEEE802.1P QOS, can classify traffic with IEEE802.1P/Q priority definition, physical port, DSCP, etc.

Support Loop detection, can terminate the port when a remote loop is found

Support Storm filtering control for broadcast, multicast, unknown unicast, ARP, etc

Support Port Mirror, able to mirror multicast monitored source port to monitoring destination port

Support IGMP V2 and V3, IGMP Snooping for IPV4 / MLD V2 and V3, MLD Snooping for IPV6

Support up to 8 virtual WAN connections that can be bound to different LAN/WiFi interfaces. Each WAN connection can be assigned with VLAN ID and QOS mark to separate services over the same GPON ONT device.

Support Auto MDI/MDIX for Ethernet port

Support Bandwidth Control, Flow control

Advanced Routing, support Static Route, Policy Route, DNS proxy

Support IPv4 & IPv6 TCP, UDP,RTP,SNTP, NAT,DHCP,DNS, DDNS

Management Features

Support serial interface maintenance using UART

Support local http WEB and Telnet management

Support OMCI (ONT Management and Control Interface) management.

Support TR069, can work with a customer appointed ACS

Support Auto Provisioning through FTP/TFTP/HTTP servers.

Hardware Interfaces

1*GPON WAN Port	1*USB port
4*10/100Base-Tx LAN ports, support Auto MDI/MDI-X	1*Power Supply Jack
1*CATV RF Port	1*WiFi Button
1*300Mbps WiFi Router	1*WPS Button
LED Indications: Power, PON, LOS, WAN, TV, LAN1-4, WIFI, WPS, USB	1*Reset button
2*5dB Internal Antennas (2T2R)	Power Supply: DC 12V, 2A

Specification Table

Standards	IEEE 802.3,IEEE 802.3u, IEEE 802.3x, IEEE802.1Q, IEEE802.1P, IEEE802.1D, IEEE802.11b/g/n, ITU-T G.984.1, ITU-T G.984.2, ITU-T G.984.3, ITU-T G.984.4		
WAN Port	1*GPON WAN Port, Class B+, SC/APC Connectors		
LAN Ports	4*10/100Base-Tx Ethernet LAN Ports		
TV Port	1*CATV RF Port		
WiFi	IEEE802.11b/g/n 300Mbps WiFi, 2*5dB internal Antennas		
Ethernet Cable	10Base-Tx: UTP category 3, 4,5, up to 100m 100Base-Tx: UTP category 5, 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℃	10% - 90%
	Standby	-20 to 70℃	5% - 90% RH

Order Information

Model NO.	Description
SGN8668FWT	4FE+1CATV+300M WiFi GPON ONT