



Datasheet V1.1.5

### SGN8601GR1B 1GE GPON ONT Description:

The SGN8601GR1B is an ITU-T G.984.x based GPON ONT that supports 2.5G downstream and 1.25G upstream bandwidth. It offers 1\*Gigabit Ethernet LAN port for Internet outputs. The SGN8601GR1B is a single family ONU, it supports 8 T-counts and up to 32 Gempport IDs. It is a 1GE GPON ONT for ISPs integrating high speed Internet services over single fiber.

### Main Features:

- Complies with ITU-T G.984.x GPON standard, interoperable with Huawei, ZTE, Fiberhome, CHIMA GPON OLTs.
- Offers 1 GPON WAN Port, support 1.25G upstream and 2.5G downstream
- Offers 1\*10/100/1000Base-Tx Gigabit LAN port, support Network bridge
- Max 1:128 Fiber ration, max transmission distance can reach 35km
- Support AES 128-bit encrypted and key switching, enhancing transmission security
- Support 8 Tconts and 32 GEM Port IDs, enabling multiple services on a single Subscriber CPE.
- Support FEC (Forward Error Correction), ensures high reliable and precise data transmission
- Support Rich layer 2 Management features, applicable to the biggest ISP networks
- Support FBA (Flexible Bandwidth Assignment), dynamic assign bandwidth automatically
- Support Dynamic Bandwidth Allocation (DBA), Smarter bandwidth assignment and usage.
- High security, data encrypted at upstream and downstream directions
- Support L2 Switching features, such as IEEE802.1Q VLAN, 802.1P QOS,etc
- Support OMCI and TR069 Management, manage subscribers remotely.
- Supports IPv4 and IPv6, highly applicable in both IP type based networks.

### GPON Parameters

ITU-T G.984.x GPON, Class B+ BoB hardware  
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  
Support G.988 OMCI protocol  
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.  
Multi-Application Processor queues for dedicated connections for in-band.  
Enhanced GPON debug and diagnostic functions.  
Support up to 8 Transmission Container (T-Cons), 32 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

### Hardware Features:

- ITU-T G.984.x GPON standard,
- Realtek RTL9601B Single Core 550Mhz processor
- Offers 1\*GPON SC port, support 2.5G at downstream and 1.25G at upstream
- Offers 1\*10/100/1000Base-Tx Gigabit Ethernet LAN port
- Support 2Gbps Backplane bandwidth
- live LED Indicators for Power, PON, LOS and LAN
- Desktop design, Plastic housing,
- Plug and Play operation
- External Power Supply
  - Impulse Power Supply, AC 96V-260V input, DC 12V, 0.5A output
  - Support Asia, Europe, U.S, U.K, AU standard power plugs

### Software Features:

- Support IEEE802.1Q VLAN, Port Based VLAN
- Support IEEE802.1P QOS, TOS, COS
- Support IEEE802.1d Spanning Tree
- Support IEEE802.1W Rapid Spanning Tree
- Support MAC address translation and MAC addresses limitation
- Support IGMP V1, V2 and IGMP Snooping for multicast

- Support IEEE802.3X full duplex, half duplex backpressure flow control
- Support MAC, IP, or TCP/UDP protocol based ACLs (Access Control protocol)
- Support Bandwidth Control
- Support CLI management, SNMP based NMS management and Monitor

#### Interoperable GPON OLT Models

- **CHIMA** SGT8000A, SGT8016A series GPON OLT
- **HUAWEI** MA5680T, MA5606T, MA5683T GPON OLT
- **ZTE** C220, C300 GPON OLT
- **Alcatel Lucent** 7342, 7360 ISAM GPON OLT
- **Fiberhome** AN5516-01, AN5516-02 GPON OLT
- **Ericsson** BM1500 GPON OLT
- **Aurora** Trident7, T7-PIM-8802/COLT GPON OLT
- **Dlink** DPN-3012-E GPON OLT
- **Ubiquoss** C9500, C9516, C9016, C9264 GPON OLT
- **Raisecom** ISCOM5508, ISCOM5800E, ISCOM6800 GPON OLT
- **H3C** S3600-2P-OLT, S7502E, S7503E, S7506E, S7510E, S7506E-V GPON OLT

#### Specifications:

Standards	ITU-T G.984.1, 984.2, 984.3, 984.4 GPON, ITU-T G.988 OMCI, IEEE 802.3, IEEE 802.3u, IEEE802.3ab, IEEE 802.3x, IEEE 802.3z, IEEE802.1d, IEEE802.1P, IEEE 802.1Q, IEEE 802.1X
Topology	Star Topology
Uplink Ports	1 GPON port, SC/UPC connector
Downlink Ports	1* 10/100/1000Base-Tx Gigabit LAN Port
Transmission Rate	1.25Gbps at upstream, 2.5Gbps at downstream
Transmission Distance	Maximum 35Km
LED Indicators	Power, PON, Loss, LAN
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
Product Measurement	9.2*7.5*2.7 cm
Packaging Box Size	10*13.8*7 cm
Power Supply	AC 96-260V, DC 12V, 0.5A, External Power Supply

	Temperature	Humidity
Working	0°C - 45°C	10% - 90%
Standby	-30°C - 60°C	5% - 90% RH