1.25Gbps Upstream

2.5Gbps Downstream

| ITU-T G.984.XGPON ONT | 1* 1.25G GPON SC Uplink port | 1*1GE LAN PPPOE/DHCP | 1:128 Fiber Splitting Ratio | 802.1Q VLAN,802.1P QOS DBA |

Datasheet V1.1.6

SGN6511GZ 1GE GPON ONT Description:

The SGN6511GZ is an ITU-T G.984.x based GPON ONT that supports 2.5G downstream and 1.25G upstream bandwidth. It offers 1*GPON SC port for uplink and provides 1*Gigabit Ethernet LAN port for downlink. The SGN6511GZ is a single family ONU, it supports 32 T-counts and up to 256 Gemport IDs. It also supports router functions, such as PPPOE, Static IP, Firewall, etc. 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
- Comes with 1*1.25Gbps Gepon SFF Transceiver built on-board (Optional : GPON Bosa on board, BOB hardware), 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
- Built with the ZTE chipset, supports router functions, e.g. PPPOE, Static IP, Firewall, etc.
- Max 1:128 Fiber ration, max transmission distance can reach 35km
- Support AES 128-bit encrypted and key switching, enhancing transmission security
- Support 32 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 Rich layer 2 Management features, applicable to the biggest ISP networks

- Support FBA (Flexible Bandwidth Assignation), 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 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+ 2*10 SFF GPON transceiver (Optional : GPON Bosa on board, BOB hardware), SC/APC

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 32 Transmission Container (T-Cons), 256 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,
- Built with ZTE ZX279125 600Mhz processor, 64Mb Flash, 256Mb RAM
- 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 WAN connection in Route or Bridge mode
- Support Static IP, PPPOE, Firewall
- 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 and10µmsingle 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		Temperature	Humidity
	Working	0℃ - 45℃	10% - 90%
	Standby	-30℃ - 60℃	5% - 90% RH

Order Information

Model NO.	Description
SGN6511GZ	1GE GPON ONT, GPON SFF Transceiver built on board
SGN6501GZ	1GE GPON ONT, GPON Bosa on Board (BOB)