8 GPON Ports

Support 1024 ONTs

V1.1.6

ITU-T G.984 GPON OLT

2.5Gbps Downstream

Enhanced Layer 2-7 Switching

384 T-conts 4096 Port IDs

IPv6 Ready

SGT8000A V2 8 Ports GPON OLT:

The SGT8000A V2 is an ITU-T G.984.x based GPON OLT. It offers 8 GPON downstream ports that supports 1024 subscriber GPON ONTs at 1:128 splitting ratio. It supports 4 *GE combo ports and 2* 10G SFP+ ports. The SGT8000A V2 is IPv6 ready, It supports advanced Layer 2-7 switching features that make it capable of applying in the most complex FTTX networks.

Main Characters

- ITU-T G.984.x standard, interoperable with Chima and most popular GPON ONTs
- Offers 8*GPON SC ports, support 1024 subscriber ONTs at 1:128 splitting ratio
- Offers 8*Gigabit SFP and 4 *GE combo ports and 2*10G SFP+ uplink ports
- Support Dual DC, Dual AC or 1*AC+1*DC
- Comprehensive GPON DBA capabilities, dynamic assignment of bandwidth
- IPv4 and IPv6 ready, suitable for applying in both IPv4 and IPv6 based networks
- IEEE802.1Q VLAN, QinQ, VLAN translation, GVRP, highly applicable in HFC networks
- Enhanced L2-7 switching features support STP, RSTP, MSTP, QoS, ACL, etc.
- IGMP Snooping and Proxy for IPv4, MLD Snooping and Proxy for IPv6 multicast
- EAPS and GERP loop protection, recovering in less than 50ms
- Anti-ARP spoofing/flooding, IP Source Guard, port Isolation, etc, enhancing security levels
- 384 T-conts, support 5 Types of T-cont based bandwidth assignment
- 4096 port IDs per GPON MAC, in both upstream and downstream directions
- Support OMCI, Telnet, sFlow, NMS management

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Technical Parameters

GPON Parameters

ITU-T G.984.x GPON standard, 1310nm upstream & 1490nm downstream
Support G.984.1, G.984.2, G.984.3, G.984.4, G.988 GPON & OMCI protocols
TR-101 compliant solution for GPON OLT applications
1:128 splitting ratio, support max 1024 subscriber GPON ONTs
384T-conts, support 5 Types of T-cont bandwidth assignment
Max transmission distance: 20Km
FEC (Forward Error Correction) in upstream and downstream directions
SN or SN+ Password methods for ONT identifier and authentication
T-cont bandwidth, static bandwidth and dynamic bandwidth allocation
4096 port-IDs per GPON MAC in upstream and downstream directions
1024 allocated IDs per Gpon MAC in upstream direction
Fiber Transmission cable: G.652 Single mode optical fiber cable
Enhanced GPON debug and diagnostic functions
Support NSR/SR Dynamic Bandwidth Allocation (DBA), 1Kbit/s
Support Forward Error Correction (FEC)
128bit triple churning encryption for both upstream and downstream
Verification of legal subscriber ONT, illegal subscriber ONT report
ONT Firmware upgrade: massive upgrade, timed upgrade, real-time upgrade
Transmission and receiving optical power detection at PON port
Support Dying Gasp

Hardware Parameters

Model NO. SGT8000A V2
Offers 8* GPON downstream ports
Offers 4*GE COMBO ports , 2*10GE SFP+ upstream ports
Dual DC, Dual AC or 1*AC+1*DC
AC: Input 90～264V 47/63Hz
DC: Input -36V～-72V
Switching Capacity: 78Gbps
IPv4 & IPv6 Switching Throughput: 58Mpps
Power consumption: 50W
Product Measurement: 437mm×44mm×280mm
Product Weight: ≤4kgs
LED indicators for all interfaces

Layer 2 Switching Features

Layer 2 Features	MAC	MAC Black Hole Port MAC Limitation
	VLAN	IEEE802.1Q VLAN, 1-4096 VLAN IDs Portbased / MACbased /IP subnetbased VLAN Port-based QinQ and Selective QinQ (Stack VLAN) VLAN Swap and VLAN Remark and VLAN Translate GVRP Generic VLAN registration Based on ONU service flow VLAN add, delete, replace
	Spanning Tree	IEEE 802.1D Spanning Tree Protocol (STP) IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) IEEE 802.1s Multiple Spanning Tree Protocol instances (MSTP)
	Port	Bi-directional bandwidth control Static link aggregation and LACP(Link Aggregation Control Protocol) Port mirroring and traffic mirroring

Layer 2 Features	ACL	Standard and extended ACL Time Range ACL Packet filter providing filtering based on source/destination MAC address, source/destination IP address, port, protocol, VLAN, VLAN range, MAC address range, or invalid frame. System supports concurrent identification at most 50 service traffic Support packet filtration of L2～L7 even deep to 80 bytes of IP packet head
	QoS	Rate-limit to packet transmitting/receiving speed of port or self-defined flow and provide general flow monitor and two-speed tri-color monitor of self-defined flow Priority remark to port or self-defined flow and provide 802.1P, DSCP priority and remark CAR(Committed Access Rate)、traffic shaping and flow statistics Packet mirror and redirection of interface and self-defined flow Super queue scheduler based on port and self-defined flow. Each port/ flow supports 8 priority queues and scheduler of SP, WRR and SP+WRR. Congestion avoid mechanism，including Tail-Drop and WRED
	IPv4 & IPv6 Multicast	IGMPv1/v2/v3 IGMPv1/v2/v3 snooping IGMP Filter MVR and cross VLAN multicast copy IGMP fast leave IGMP Proxy PIM-SM/PIM-DM/PIM-SSM PIM-SMv6、PIM-DMv6、PIM-SSMv6 MLDv2/MLDv2 Snooping
	MPLS	MPLS LDP

Security Features

	Port Security	Bi-directional bandwidth control Static link aggregation and LACP(Link Aggregation Control Protocol) Port mirroring and traffic mirroring

Security Features	User Security	Anti-ARP-spoofing Anti-ARP-flooding IP Source Guard create IP+VLAN+MAC+Port binding Port Isolation MAC address binds to port and port MAC address filtration IEEE 802.1x and AAA/Radius authentication TACACS+ authentication DHCP anti-attack flood attack automatic suppression ONU isolation control
	OLT Security	Anti-DOS attack(such as ARP，SYN Flood, Smurf, ICMP attack), ARP detection, worm and MSBlaster worm attack SSHv2 Secure Shell SNMP v3 encrypted management Security IP login through Telnet Hierarchical management and password protection of users
	Network Security	User-based MAC and ARP traffic examination Restrict ARP traffic of each user and force-out user with abnormal ARP traffic Dynamic ARP table-based binding Supports IP+VLAN+MAC+Port binding L2 to L7 ACL flow filtration mechanism on the 80 bytes of the head of user-defined packet Port-based broadcast/multicast suppression and auto-shutdown risk port URPF to prevent IP address counterfeit and attack DHCP Option82 and PPPoE+ upload user's physical location Plaintext authentication of OSPF、RIPv2 and MD5 cryptograph authentication

IP Route Features

	IPv4	ARP Proxy DHCP Relay DHCP Server Static route

IP Route Features	IPv6	ICMPv6 ICMPv6 redirection DHCPv6 ACLv6 Configured Tunnel 6to4 tunnel IPv6 and IPv4 Tunnels

Reliability Features

Reliability Features	Loop Protection	EAPS and GERP (recover-time <50ms) Loopback-detection
	Link Protection	FlexLink (recover-time <50ms) RSTP/MSTP (recover-time <1s) LACP (recover-time <10ms) BFD
	OLT Protection	VRRP host backup Double fault-tolerant backup of host program and configuration files 1+1 power hot backup

Maintenance Features

Maintenance	Network maintenance	Real-time port flow, Usage rate, Packet statistics through CLI, Telnet RFC3176 sFlow flow analysis, support Flow monitoring and statistics based on protocol or IP address LLDP Link Layer Discovery protocol Ethernet OAM Data log and RFC 3164 Syslog Support Ping and Traceroute

	Device Management	Console, CLI, Telnet G.988 OMCI management protocol SNMP V1/V2/V3, RMON 1/2/3/9 Groups of MIB NTP Network Time NMS Network Management System

Specification Table

Standards	IEEE 802.3, IEEE 802.3u, IEEE802.3ab, IEEE802.3z, IEEE802.3ae, IEEE 802.3x, IEEE802.1Q, IEEE802.1P, IEEE802.1D, IEEE802.1w, IEEE802.1s, ITU-T G.984.1, ITU-T G.984.2, ITU-T G.984.3, ITU-T G.984.4, ITU-T G.988, RFC3164, RFC3176		
GPON Ports	8* GPON SC Ports		
Uplink Ports	8*PON ports , 4*GE COMBO ports, 2*10GE SFP+ ports		
Redundant Power Supplies	Dual DC, Dual AC or 1*AC+1*DC: AC: Input 90～264V 47/63Hz; DC: Input -36V～-72V;		
Switching Capabilities	Switching Capacity: 78Gbps IPv4 & IPv6 Switching Throughput: 58Mpps		
Power consumption	50W		
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		
Measurement & Weight	437mm×44mm×280mm Product Weight: ≤4kgs		
Temperature & Humidity		Temperature	Humidity
	Working	-10℃ to 55℃	10% - 90%
	Standby	-40 to 70℃	5% - 90% RH

Order Information

Model No.	Product Description
SGT8000A V2	SGT8000A V2 GPON OLT, with 8*GPON Ports, 4*GE Combo ports, 2*10GE SFP+ ports
SGTP01PWR150AC	SGT8000A V2 AC Power Supply Module, 90～264V
SGTP01PWR72DC	SGT8000A V2 DC Power Supply Module, -36～-72V
SFP-GPON-T20	GPON SFP Transceiver, 1310Tx/1490Rx, SC/UPC, 20Km, Class C+ SGT8000A V2 supports universal GPON SFPs of B+, C+, C++ standards. But It's highly suggested to use a Chima supplied GPON SFP transceiver as it has been sophisticatedly tested. In our experience, using a Chima supplied C+ GPON SFP transceiver with -5dB optical power often achieves the best stability of an ISP network.

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