Raisecom Technology Co., Ltd.

ISCOM5508-GP GPON OLT

Introduction

The ISCOM5508-GP from Raisecom, is a compact Optical Line Terminal (OLT). It's easy for installation, deployment and extension based on the modularized system architecture.

With powerful GPON access capabilities, carrier-grade reliability, it supports strong security (such as ACL and anti-DOS attacks) and selective QinQ, and provides good management, maintenance, and monitoring functions.

The ISCOM5508-GP, with rich features and flexible networking schemes, meets low-density and long-distance fiber access requirements. Through the NNM NView system, it provides a complete solution of comprehensive access and uniform network management for access layer.

ISCOM5508-GP

Features

- High integrity and flexible networking

Be of 1U high, single MCU, 2 GPON subcards, adopt modular design for easy installation and component replacement, and support Layer 2 line speed forwarding.

Provide 8 GPON interfaces, and support 1024 ONUs and up to 10 GE uplink optical interfaces.

Accessing broadband, voice, IPTV, etc. services to meet various accessing applications of carriers, broadcast, radio, and television network, and customer premise network

Cascading OLTs in a link network to be downstream devices in the remote areas, able to meet rural long-distance broadband access scenario requirements and save Trunk fiber resources.

- Carrier-grade reliability

Support 1+1 power supply protection and hot swapping of all cards.

B/C/D class PON protection

Carrier grade protection

Support private Ethernet ring network and a switching time of 50ms.

- Rich features

Support VLAN, including selective QinQ, VLAN mapping and aggregation.

Support complete QoS, including dynamic assignment of bandwidth, priority control, multiple traffic classification modes, multiple queue scheduling modes, etc. to meet different QoS requirements for VoIP, video, and Internet access services.

Complete ACL, including L2, L3, L4, and customized ACLs.

Support static multicast, IGMP Snooping, Proxy, MVR, and controllable multicast.

Support static route.

Support STP/MSTP, link aggregation, DHCP, interface isolation, etc.

Support IPv6.

- Green energy-saving design

Overall power consumption of MCU and service cards is less than 70w .

Adopt intelligent fan which can adjust rotational speed according to temperature, thus prolonging fan life, lowering noise, and saving energy

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▼ Specifications

Hardware features			
Number of slots	3	**Number of MCUs**	1
Number of GPON service cards	Up to 2 (including MCU). Each card supports 4 GPON interfaces.	**Number of uplink cards**	Up to 3. The MCU provides 2 GE electrical interfaces, 2 GE optical interfaces, and two 10GE optical interfaces. The rest 2 cards support 4 GE optical interfaces respectively.
Number of fans	1	**Number of power supplies**	2
GPON optical interface	• Compliant standard: ITU-T 984.2 CLASS B+/C+ • Working wavelength: 1490 nm; uplink rate: 1.25 Gbit/s; downlink rate: 2.5 Gbit/s • Transmission distance: 20/60 km; supporting DDM, complying with RoHS		
GE electrical interface	• Support IEEE 802.3 10/100/1000BASE-TX. • Transmission rate: 10/100/1000M auto-negotiation		
GE optical interface	• Support IEEE 802.3 1000BASE-LX/SX/CX • Transmission rate: 1000 Mbit/s		
10GE optical interface	• Support IEEE 802.3ae-2002 • Transmission rate: 10 Gbit/s		
In-band management interface	Support in-band management. Without specific interface, you can choose any service interface to work as the local Ethernet management interface.		
Out-of-band management interface	• Transmission rate: 10/100M auto-negotiation; interface type: RJ45 • Working mode: full/half duplex, auto-negotiation		
Console interface	Physical interface: RJ45; level: RS232; Baud rate: 9600 Baud		
Power supply (DC)	-48 VDC power module; voltage range: -36 to -72 VDC		
Power supply (AC)	110/220 VAC power module; voltage range: 100–240 VAC (50/60 Hz)		
Lightning protection level	• AC power: 6 kV in differential mode and 6 kV in common mode • DC power: 1 kV in differential mode and 2 kV in common mode		
System performance			
Switching capacity	96 Gbit/s	**Backplane bandwidth**	40Gbit/s
Capacity of the MAC	32K	**PON line rate**	Uplink: 1.25 Gbit/s; downlink: 2.5 Gbit/s

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address table			
Maximum transmission distance	20 km	**Maximum optical splitting ratio**	1:128
Maximum number of PON interfaces	8	**Maximum number of ONUs**	1024
Reliability	• Support 1+1 hot backup of power supplies and hot swapping of all cards. • Support B/C/D-class PON protection (inter-card), able to meet carrier-grade switching time. • Support private Ethernet ring protection with 50ms switching time (does not support G.8032).		
Software features			
Interface	• Support port mirroring in both the ingress and egress directions. • Support point-to-multipoint mirroring.	**Transparent transmission**	• BPDU transparent transmission. • LACP transparent transmission. • LLDP transparent transmission. • STP transparent transmission.
VLAN and QinQ	• 4K VLANs. • Basic QinQ, able to add SVLAN based on MAC address, CVLAN, IP address, and protocol type. • Selective QinQ: 8K rules based on CVLAN and 1K rules based on ACL. • VLAN mapping: 8K 1:1 or N:1 VLAN mapping rules based on CVLAN and 1K 1:1 VLAN mapping rules based on ACL.	**Multicast**	• Static multicast. • IGMP Snooping (v1/v2/v3). • MVR (inter-VLAN copy) and MVR Proxy. • Controllable multicast. • 1K multicast entries.
ACL	• ACL based on MAC address, IP address, and customized ACL. Support ACL MAP. • 2K ACL rules.	**Link aggregation**	• Up to 32 link aggregation groups. Support 8GE by each group. • 6 load balancing modes based on MAC address, IP address, etc.
Route	• Support static route and up to 128 pieces.	**Security**	• IP Source Guard, dynamic ARP inspection, anti-DoS attack, and storm control.
QoS	• Interface-based queue scheduling. Each interface supports 8 priority queues. • SP, WRR, DRR, and SP+WRR queue scheduling modes. • Trust CoS and DSCP priority. Support flexible mapping from CoS to queue and DSCP to queue. • CoS (802.1p) priority remark.		

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	• Configuring CoS or DSCP priority for packets that matching ACL rules. • Modifying 802.1p CoS, DSCP, and IP Precedence based on flow. • Packet filtering, redirection, traffic mirroring, traffic statistics, traffic monitoring, interface queue scheduling, and VLAN modification policies based on traffic rule.
DBA/SLA	Support DBA/SLA.
DHCP	• DHCP Proxy and DHCP Snooping.
IPv6	• IPv6 interface management, ACL, multicast, DHCP.
Management	• Console/Telnet/NMS/SNMP/SSHv2 management modes. • RMON1, 2, 3, and 9. • Bridge MIB (RFC1493). • System log.

Physical features			
Dimensions (mm) (W × D× H)	440 × 266 × 44.5 (1U)	**Standard**	Comply with CE and ROSH. IEEE 802.1Q VLAN IEEE 802.3ad Link Aggregation IEEE 802.1ad QINQ IEEE 802.1D Spanning Tree Protocol IEEE 802.1s MSTP RFC 2131 DHCP RFC 2132 DHCP Options IEEE 802.1p CoS Prioritization IEEE 802.3x Flow Control
Full-configuration weight	5.9 kg		
Overall power consumption	• Maximum: 70 W • Normal: 56 W		
Environment	• Operating temperature: 0–50°C • Storage temperature: -25 to 60°C • Operating humidity: 10%–90% RH (non-condensing) • MTBF: > 100,000h		

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Typical applications

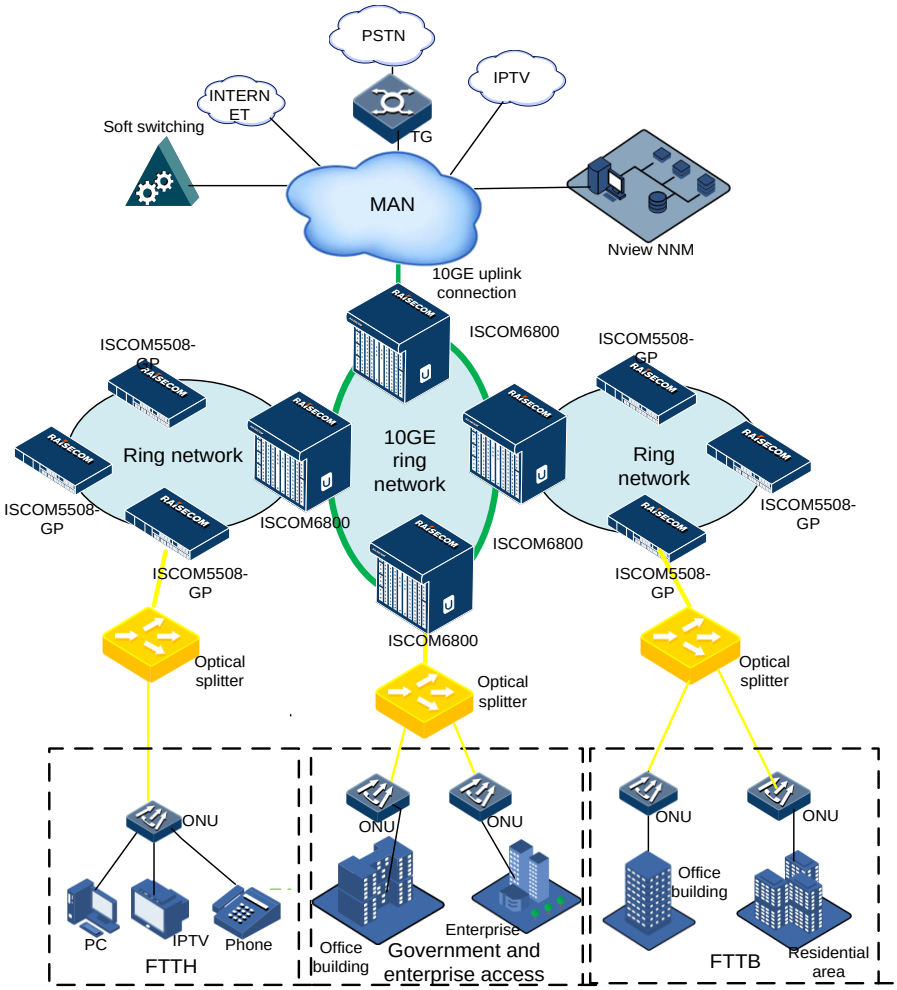

Figure 1 Ring networking with the ISCOM5508-GP and ISCOM6800

In this scenario, the ISCOM5508-GP can network with the Raisecom ISCOM6800 to provide reliable access service for customers. This networking scheme also makes the ISCOM6800 devices on each aggregation node form a 10GE ring network (with less than 50ms switching time), which not only provides ring network protection but also saves Trunk fiber resources and meets high-bandwidth transmission requirements.
The ISCOM5508-GP is suitable for carriers and customer premise network customer to provide typical broadband access, IPTV, leased line access, and video monitoring in areas with sparse users, such as suburban, town, and rural areas.

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▼ Ordering information

Model	Description
ISCOM5508-GP-AC/D	Basic system: 4* GPON SFP ports+ 2 *GE(e) + 4*GE(o) + 2 *AC Power+1 Fan (Slot2&3,vacant) GP4A workable in slot 3 and GE4B workable in slot3&4 8 GPON at Max. Configuration details: 5508-GP Chassis + ISCOM5508-GPSC + 2*RPA1101-SI-220S12 + FANS306 (without SFP modules)
ISCOM5508-GP-DC/D	Basic system: 4* GPON SFP ports + 2 *GE(e) + 4*GE(o) + 2 *DC Power+1 Fan (Slot2&3,vacant) GP4A workable in slot 3 and GE4B workable in slot3&4 8 GPON at Max. Configuration details: 5508-GP Chassis + ISCOM5508-GPSC + 2*RPD1101-48S12 + FANS306 (without SFP modules)
ISCOM5508-GP-AC_DC	Basic system: 4* GPON SFP ports + 2 *GE(e) + 4*GE(o) + 1 *AC Power+1 *DC Power+ Fan (Slot2&3,vacant) GP4A workable in slot 3 and GE4B workable in slot3&4 8 GPON at Max. Configuration details: 5508-GP Chassis + ISCOM5508-GPSC + 1*RPA1101-SI-220S12 + 1*RPD1101-48S12 + FANS306 (without SFP modules)
ISCOM5508-GPSC	MCU, 2 * 10GE(e) , 4 *GE (o), and 4* GPON SFP ports, 1 Console interface for local management and 1 SNMP out-of-band management interface, slot 1 for spare parts ordering (without SFP modules)
ISCOM5508-GP4A	GPON line card, 4 *GPON SFP ports, slot 3, (without SFP modules)
ISCOM5508-GE4B	GE Card, 4* GE SFP ports , slot 2&3 ,(without SFP modules)
RPA1101-SI-220S12	110V/220V AC power module, for spare parts ordering.
RPD1101-48S12	DC -48V power module, for spare parts ordering.
FANS306	intelligent fan(only for ISCOM 5508-GP), for spare parts ordering
GSFP-CLBDM-R	GPON OLT optical module, CLASS B+
GSFP-CLCDM-R	GPON OLT optical standard, CLASS C+

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