OLT HUAWEI SmartAX MA5800

Overview:

The MA5800 is the industry's first smart aggregation OLT with a distributed architecture. It is positioned as the next-generation OLT for NG-PON. The product is designed to help carriers build networks with larger bandwidths, higher speeds, and smarter connectivity to deliver better service experience

Providing GPON, 10G GPON, P2P GE, and 10GE access, the MA5800 supports deployment on FTTH, FTTD, FTTB, FTTC, and distributed converged cable access platform (D-CCAP) networks. This makes it applicable to home access, enterprise access, mobile backhaul, and Wi-Fi hotspot backhaul scenarios to aggregate all services on one fiber network

The MA5800 functions as a large-capacity aggregation device on the network to aggregate the traffic from ONTs, MDUs, and campus switches, thereby simplifying the network architecture and reducing the OPEX

Access features:

- The MA5800 uses the distributed architecture (the same as the router). Under such an architecture, service processing on the control board is distributed to every service board, improving system switching capacity and performance, and reliability
    - Centralized: switching and service processing are implemented on the control board (for low traffic scenarios)
    - Distributed: switching is implemented on the control board and service processing is implemented on service boards (for heavy traffic scenarios)



Specifications

1. Physical specifications

Item	MA5800-X17	MA5800-X15	MA5800-X7	MA5800-X2
Supported cabinet	N63E-22, configured with one or two MA5800- X17 subracks	No cabinet supports MA5800-X15 subrack	N63E-22 and N66E-22, configured with one MA5800-X7 subrack	N63E-22, configured with one or two MA5800-X2 subracks
Maximum weight (including mounting brackets)	45 kg	35 kg	26 kg	9.4 kg
Maximum input current	60 A	60 A	40 A	DC power supply: 20 A AC power supply: 8 A
Power supply mode	DC power support (dual for backup)			DC power support (dual for backup) AC power supply + battery for backup
Working voltage range	-38.4 V DC to -72 V DC			DC power supply: -38.4 V to -72 V AC power supply: 100 V to 240 V
Rated voltage	-48V/-60V			DC power supply: -48 V/-60 V AC power supply: 110V/220 V
Ambient temperature	-40°C to +65°C* * The MA5800 can start up at a lowest temperature of -25°C and run at -40°C. The 65°C temperature refers to the highest temperature measured at the air intakevent.			
Ambient humidity	5% RH to 95% RH			
Atmospheric pressure	70 kPa to 106 kPa			
Altitude	< 4000m** **The air density varieswith the altitudeand will affect the heat dissipation of a device. Therefore, the working environment temperature of the MA5800varies with the altitude			

2. Maximum Number of Ports in a Subrack

Item	MA5800-X17	MA5800-X15	MA5800-X7	MA5800-X2
GPON ports	272	240	112	32
10G GPON ports	136	120	56	16
GE/FE ports	816	720	336	32
10GE ports	136	120	56	16
E1 ports	544	480	224	64

Specifications

1. System specifications

Item	MA5800-X17	MA5800-X15	MA5800-X7	MA5800-X2
Switching capacity of the control board	H901MPLA/H901MPLB: 7 Tbit/s			H901MPSC: 480 Gbit/s
Maximum bandwidth per service slot (load sharing mode)	H901MPLA: 100 Gbit/s H901MPLB: 200 Gbit/s			H901MPSC: 80 Gbit/s
Maximum number of concurrent 4K video users	16000		8000	2000
Maximum number of MAC address	262143			
Maximum number of ARP/routing entries	65536			
Switching/Forwarding delay	Small forwarding delay: The 100 Mbit/s Ethernet port sends 64- byte Ethernet packets at a delay shorter than 20 μs.			
Bit error rate (BER) in full load	A BER smaller than 10 e-7 for a port that transmits data in full load			
System reliability specifications	System availability for the typical configuration: > 99.999% Mean time between failures (MTBF): about 45 years. * *Due to different network environments and different boards used by devices, the preceding MTBF (45 years) of the MA5800 is only for reference. The average repair time for field replaceable units (FRUs) is about 2 hours. The preceding values are only for reference. For details, contact the related Huawei engineers			

2. Primary Features

Layer 2 features

- VLAN+MAC forwarding
- SVLAN+CVLAN forwarding
- PPPoE+
- DHCP option82

Layer 3 features

- Static route
- RIP/RIPng
- OSPF/OSPFv3
- IS-IS
- BGP/BGP4+
- ARP
- DHCP relay
- VRF

QoS

- Traffic classification
- Priority processing
- trTCM-based traffic policing
- WRED
- Traffic shaping
- HQoS
- PQ/WRR/PQ+WRR
- ACL

Specifications

Multicast
• IGMP v2/v3 • IGMP proxy/snooping • MLD v1/v2 • MLD Proxy/Snooping • VLAN-based IPTV multicast
D-CCAP
• DOCSIS 3.1 • RF access • CM management • Centralized management • PacketCable • DOCSIS multicast • EQAM • Admission control • Built-in optical transceiver • SAV • PNM • RF switch
System reliability
• GPON type B/type C protection • 10G GPON type B protection • BFD • ERPS (G.8032) • MSTP • Intra-board and inter-board LAG • In-service software upgrade (ISSU) of the control board • 2 control boards and 2 power boards for redundancy protection • In-service board fault detection and rectification • Service overload control
MPLS&PWE3
• MPLS LDP • MPLS RSVP-TE • MPLS OAM • MPLS BGP IP VPN • Tunnel protection switching • TDM/ETH PWE3 • PW protection switching
IPv6
• IPv4/IPv6 dual stack • IPv6 L2 and L3 forwarding • DHCPv6 relay
Eco-friendly and energy-saving
• In compliance with the Code of Conduct v5 released by the European Commission
VAN
• vOLT multi-service isolation and separate management