**Huawei GPON OLT Specifications summary:**

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| Specification | **MA5600T** | **MA5603T** | **MA5608T** |
| Dimensions (H x W x D) | 447 mm x 490 mm x 275.8 mm | 263 mm x 442 mm x 283.2 mm | 88 mm x 442 mm x 233.5 mm |
| Operating Environment | –25°C to +55°C  5% RH to 95% RH | –40°C to +65°C  5% RH to 95% RH | –40°C to +65°C  5% RH to 95% RH |
| Power | –48V DC power input  Dual-power supply protection  Operating voltage range of –38.4V to –72V | –48V DC power input  Dual-power supply protection  Operating voltage range of –38.4V to –72V | –48V DC power input  Dual-power supply protection  Operating voltage range of –38.4V to –72V |
| Switching Capacity — Backplane Bus | 3.2 Tbit/s | 1.5 Tbit/s | 720 Gbit/s |
| Switching Capacity — Control Board | 1,920 Gbit/s | 960 Gbit/s | 512 Gbit/s |
| Access Capacity | 64 x 10G GPON  256 x GPON  768 x GE | 24 x 10G GPON  96 x GPON  288 x GE | 8 x 10G GPON  32 x GPON  96 x GE |
| Port Type | Upstream ports: 10 GE optical and GE optical/electrical ports  Service ports: GPON optical port, P2P FE optical port, P2P GE optical port, and Ethernet optical port | | |
| System Performance | Layer 2/Layer 3 line-rate forwarding  Static route, RIP, OSPF, and MPLS  Clock synchronization schemes: BITS, E1, STM-1, Ethernet clock synchronization, 1588v2, and 1PPS + ToD  Maximum split ratio of 1:256  Maximum logical distance between devices: 60 km | | |

**Huawei MA5600T OLT:**

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**MA5600T Specifications:**

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| **Item** | **MA5600T(ETSI)** | | **MA5600T(IEC)** |
| Board configuration | 2 slots for control boards 16 slots for service boards 1 slot for the universal interface board 2 slots for upstream interface boards 2 slots for power interface boards. | | 2 slots for control boards 14 slots for service boards 1 slot for the universal interface board 2 slots for upstream interface boards 2 slots for power interface boards. |
| Switching capacity of the backplane bus | 3.2 Tbit/s | | |
| Supported control board and its switching capacity | SCUN: 480 Gbit/s in active/standby mode or 960 Gbit/s in load-sharing mode SCUH: 960 Gbit/s in active/standby mode or 1920 Gbit/s in load-sharing mode SCUB: 48 Gbit/s SCUF: 128 Gbit/s | | |
| System Layer 2 packet forwarding rate | SCUN: 480 Gbit/s in active/standby mode or 960 Gbit/s in load-sharing mode SCUH: 960 Gbit/s in active/standby mode or 1920 Gbit/s in load-sharing mode SCUB: 48 Gbit/s SCUF: 128 Gbit/s | | |
| Switching/Forwarding delay | Short forwarding delay: The 100 Mbit/s Ethernet port sends the 64-byte Ethernet packets at a delay shorter than 20 μs. | | |
| BER in full load | BER of a port when the port transmits data in full load < 10 e-7 | | |
| System reliability specifications | System: redundant configuration. System availability for the typical configuration: > 99.999% Mean time between failures (MTBF): about 45 years.  NOTE Due to different network environments and a different board used by devices, the above-mentioned MTBF (45 years) of this 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. | | |
| Maximum number of ADSL2+ ports in a subrack | 1024 | 896 | |
| Maximum number of VDSL2 ports in a subrack | 1024 | 896 | |
| Maximum number of EFM SHDSL ports in a subrack | 512 | 448 | |
| Maximum number of TDM SHDSL ports in a subrack | 256 | 224 | |
| Maximum number of POTS ports in a subrack | 1024 | 896 | |
| Maximum number of ISDN BRA ports in a subrack | 512 | 448 | |
| Maximum number of ISDN PRA ports in a subrack | 64 | 56 | |
| Maximum number of GPON ports in a subrack | 256 | - | |
| Maximum number of 10G GPON ports in a subrack | 128 | - | |
| Maximum number of EPON ports in a subrack | 256 | 224 | |
| Maximum number of 10G EPON ports in a subrack | 128 | 112 | |
| Maximum number of P2P FE ports in a subrack | 768 | | |
| Maximum number of P2P GE ports in a subrack | 768 | - | |
| Maximum number of upstream ports (GE ports in the GIU slot) in a subrack | 8 | | |
| Maximum number of upstream ports (10GE ports in the GIU slot) in a subrack | 4 | | |
| Maximum number of upstream ports (PON ports in the GIU slot) in a subrack | 2 (in the active/standby mode) | | |
| Maximum number of extended subracks connected to a master subrack | 32 | | |
| Operating environment | Operating temperature (indoor cabinet):  1. A cabinet configured with a subrack: -25°C to +65°C 2. A cabinet configured with 2 subracks: -25°C to +55°C  Operating humidity: 5% RH to 95% RH Atmospheric pressure: 61 kPa to106 kPa Altitude: ≤ 4000 m | | |

**MA5600T Features:**

| **Classification** | **Feature** |
| --- | --- |
| Access features | * 10G GPON access * GPON access * P2P access * ADSL/ADSL2/ADSL2+ access * VDSL2 access (supporting vectoring) * ATM SHDSL/EFM SHDSL access * TDM SHDSL access |
| Multicast | * PIM-SSM * IGMP snooping * IGMP proxy * Multicast VLAN management * Multicast program management * Multicast user management * Multicast CAC * VPLS multicast |
| Layer 3 features | * VLAN Layer 3 interface * ARP * ARP proxy * DHCP relay * DHCP option 60 * Static routing * RIP dynamic routing * OSPF dynamic routing * IS-IS dynamic routing * BGP dynamic routing * DHCP proxy * ECMP * VRF * VRRP snooping |
| IPv6 | * IPv6 basic feature * IPv6 QoS * IPv6 Layer 2 forwarding * BGP4+ * \*OSPF v3 |
| Voice service | * VoIP   + SIP   + H.248   + ISDN BRA/PRA access * FOIP * MOIP * POTS voice service * Issuing voice configurations through OMCI * R2 PBX access * H.248/SIP dual upstream transmission |
| OAM features | * Remote operation and user management * Version and data management * Device exception management * Service overload control * ETH OAM(Y.1731) * RING check * ANCP * \*Intelligent site management * \*Centric Management for GE Remote Extended Subracks in FTTB or FTTC Scenarios * \*GE upstream commission outside of the site |
| Clock features | * BITS access clock synchronization * Synchronous Ethernet clock * System internal clock * Network time synchronization * Line recovered clock (E1/STM-1/SAToP) |
| Control board redundancy | * Load-balancing mode * Active/Standby mode |
| MPLS | * Basic MPLS functions * MPLS RSVP-TE * MPLS OAM * Graceful restart (GR) function of the LDP, RSVP-TE, and PW * As a P device * MPLS PW traffic label * VPLS |
| Broadband Layer 2 features | * MAC address management * MAC address learning * VLAN attribute management * Service stream processing * Layer 2 forwarding policy * Traffic classification * VLAN switching policy * Bridging |
| Layer 2 tunnel emulation technology | * TDM PWE3 * ATM PWE3 * ETH PWE3 * Terminating the SAToP service and transmitting the service upstream through the STM-1/E1 port * Terminating the native TDM service and transmitting the service upstream through the E1/STM-1 port |
| QoS | * Priority processing * Traffic management * ACL policy * Congestion management * HQoS |
| Network protection features | * MSTP * RRPP * Smart link and monitor link * Inter-board aggregation * Ethernet link aggregation (through the LACP protocol) * BFD * STM-1 port protection switching * Redundancy protection * GPON Type C |
| Environment monitoring | * Monitoring parameters: temperature, humidity, water, smoke, MDF, and door status sensor * Temperature control unit (TCU) management * Battery online status monitoring and alarm reporting * SMU power management |
| Security | * User security * System security * OAM security * Line security |
| System energy conservation | * Energy conservation control * Energy consumption monitoring |

**MA5600T Boards Descriptions:**

| **Board Type** | | **Board** | **Full Name** | **Function** |
| --- | --- | --- | --- | --- |
| Control board | | H801SCUH | Super Control Unit Board | * System control and management unit * Local and remote maintenance * Active/standby switchover * Load balancing * Ethernet synchronization * Built-in 2GB CF card * GE/10GE/20GE channel to the service board * Environmental monitoring parameters * Supports the function of reading the temperature and the high-temperature alarm. * Four SFP GE/10GE ports for upstream transmission or cascading |
| H801SCUN | super control unit board | * System control and management unit * Local and remote maintenance * Active/standby switchover * Load sharing * GE or 10GE channel to the service board * Environmental monitoring parameters * H801CKMC daughter board * Four GE upstream optical ports with the SFP optical module |
| Upstream interface board | | H801GICK | 2-port GE optical interface board | * Upstream transmission and cascading * Two SFP GE optical/electrical ports (auto-adaptation) * Ethernet clock synchronization |
| H801X2CS | 2-port 10GE upstream interface board | * Two 10GE upstream ports * 10GE synchronous Ethernet |
| Universal interface board | | H801CITB | combo interface transfer board | * Input and output of external alarms * Two BITS inputs (this function requires the support of an H801BITSB daughter board) |
| Power interface board | | H801PAIC | power board | * One -48 V power input * Current filtering and transient high voltage protection for input power * Under-voltage detection, input power detection (whether exists or not), and fault detection * Alarm, board type signal, and presence signal reporting * ALARM indicator |
| Service board | GPON interface board | H802GPBD | 8-port GPON OLT interface board | * Eight GPON SFP ports (one-fiber bi-directional port) * A maximum of 128 ONTs for each GPON port * Class B+ and class C+ optical modules * Received signal strength indicator (RSSI) detection and controlled optical signal transmission of the optical module * Temperature query and board power-off in case of a high temperature |
| H805GPBD | 8-port GPON OLT interface board | * Eight GPON SFP ports (one-fiber bi-directional port) * A maximum of 128 ONTs for each GPON port * Class B+ and class C+ optical modules * Received signal strength indicator (RSSI) detection and controlled optical signal transmission of the optical module * ONU-based shaping * Temperature query and board power-off in case of a high temperature |
| Combo board | H85BCVME | 48-port VDSL2&POTS combo board | * 48-channel VDSL2 and POTS access service * Built-in splitter * Configurable impedance for the POTS port; working with the built-in splitter to support 600-ohm or 900-ohm impedance * Port protection * Polarity-reversal accounting, and pulse accounting * Balanced ringing (unbalanced ringing is not supported) * POTS metallic loop test (MELT) * Single-ended loop test (SELT) and dual-ended loop test (DELT) * ITU-T G.711, ITU-T G.723.1, and ITU-T G.729 codec * ITU-T T.30 fax and ITU-T T.38 fax * G.992.1 Annex A/B, G.992.2 Annex A, G.992.3 Annex A/B/L(RE-ADSL2)/M/J, and G.992.5 Annex A/B/M/J * VDSL2 8a, 8b, 8c, 8d, 12a, 12b, and 17a profiles * G.INP physical layer retransmission * VLAN based user bridging |
| SPU board | H801SPUB | service processing unit board | * 10 Gbit/s (unidirectional 10 Gbit/s, bidirectional 5 Gbit/s) MPLS switching capability * One 10GE attachment unit interface (XAUI) to each control board * Active/standby switchover of the control boards |
| Voice board | H802EDTB | 16-port T1 service board | * 16 channels of E1/T1 access services * Independent upstream and downstream transmission of each channel of E1/T1 clock signals * Configuration of the Tx clock source of an E1/T1 port * Specifying the line clock of an E1/T1 port as the system clock source * Timeslot binding * TDM PWE3 service * CPE mode |
| P2P interface board | H802OPGD | 48-port GE/FE optical interface board | * 48 (CSFP) or 24 (SFP) channels of GE/FE P2P optical access services * Cascading and aggregation of DSLAMs or MxUs * Synchronous Ethernet clock issuing * Two-channel one-fiber bi-directional CSFP, one-channel two-fiber bi-directional SFP, and one-channel one-fiber bi-directional SFP optical modules |
| H802OPGE | 48-port GE/FE optical interface board | * 48 (CSFP) or 24 (SFP) channels of GE/FE P2P optical access services * Cascading and aggregation of DSLAMs or MxUs * Synchronous Ethernet clock issuing * Two-channel one-fiber bi-directional CSFP, one-channel two-fiber bi-directional SFP, and one-channel one-fiber bi-directional SFP optical modules * 1588v2 * Jumbo frame |
| Ethernet service access board | H801ETHB | Ethernet service access board | * Ethernet upstream transmission * Ethernet cascading * Eight SFP GE optical modules * Intra-board aggregation |