# ZXA10 C600 PRODUCT DATASHEET

Full-scenario Optical Access Platforms Oriented to AO/CO Re-architecture

ZXA10 C600 Datasheet

ZXA10 C600 is a large-capacity optical access device based on TITAN platform. It meets the full-scenario access needs of ultra-high bandwidth, big video, FMC and network re-architecture, and provides the integration of transmission and access, as well as carrier-class QoS and security.
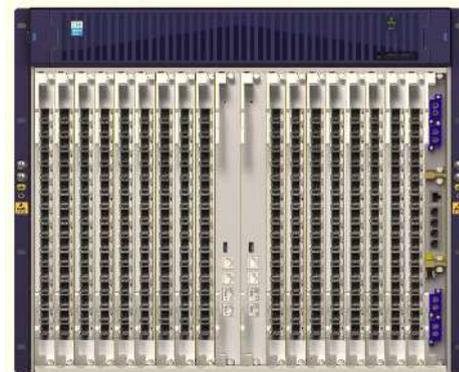
Key Features

System architecture

- ➢ Network Processor(NP) +CLOS switch fabric architecture
- ➢ Support control and forwarding planes separate.
- ➢ Support ISSU and NSR.
- ➢ SDN ready, support Netconf/YANG, VXLAN.

NP+CLOS
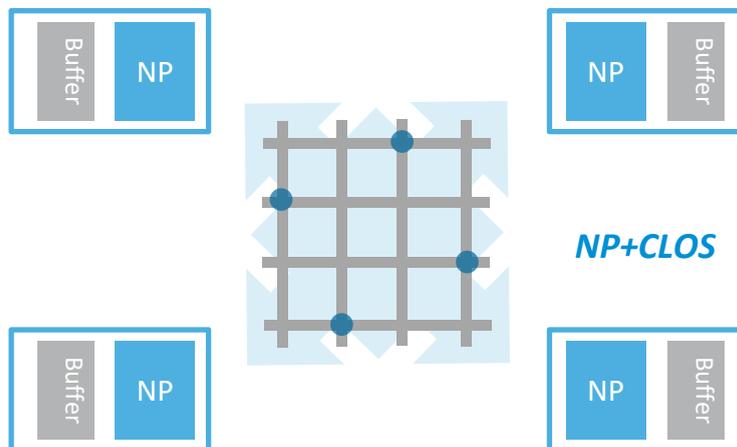
Access Features

- ➢ 272 GPON, 10G PON, or Combo PON ports.
- ➢ Three generations of PON technologies and directions in one platform, and two generations PON(GPON and 10G PON) in one card.
- ➢ Support full services and scenarios access, such as big video, FMC, network re-architecture, etc.

Hardware Features

Shelf configuration

- ETSI 21″ shelf: 23 slots, IEC19″ shelf: 21 slots.
- 17 slots(21″)/15 slots(19″) for universal line cards
- 2 slots for switch & control cards
- 2 slots for power cards
- 1 slot for clock synchronization card
- 1 slot for FAN module

System capability

- Switching capacity of backplane bus: 14 Tbit/s
- Switching and control card: 3.6 Tbit/s
- System switching capacity: 7.2 Tbit/s

Uplink interface card

- 16 * 10GE uplink per card
- 8 * 10GE uplink per card

Subscriber card density

- GPON card: 16 ports per card
- XG-PON card: 16 ports per card
- XGS-PON card: 16 ports per card
- XG-PON & GPON Combo PON card: 16 Combo PON ports per card
- XGS-PON & GPON Combo PON card: 16 Combo PON ports per card
- 10G-EPON card: 16 ports per card
- 10GE P2P card: 16 ports per card
- GE/FE P2P card: 24/48 ports per card

Clock synchronization interfaces

- 2 * 120 Ω BITS clock input interface/1PPS+ToD time input interfaces.
- 1 * 120 Ω BITS clock output interface/1PPS+ToD time output interface.
- 1 * out-of-band NM interface.
- 1 * public/maintenance serial port

PON Features

GPON

- GPON is compliant to ITU G.984.x
- Support up to 1:128 optical split ratio
- Support OLS

XG-PON

- XG-PON is compliant to ITU G.987.x and G.988
- Support up to 1:256 optical split ratio
- Support OLS
- Type B optical link protection
- Support FEC
- Support AES-128

XGS-PON

- XGS-PON is compliant to ITU-T G.9807.1 and G.988
- Support up to 1:256 optical split ratio
- Support OLS
- Type B optical link protection
- Support FEC
- Support AES-128

ZTE

- **Combo PON**
  - Each port integrates GPON optical module, XG-PON/XGS-PON optical module and WDM1r
  - Support up to 1:128 optical split ratio
  - Support OLS
  - Type B optical link protection
  - Support FEC
  - Support AES-128

L2/L3 Features

- **L2 Features**
  - Access control: MAC filtering, ACL
  - L2-port: physical Ethernet ports, logical Vports and aggregation ports, support L2 services and TPID configuration
  - VLAN: 1:1 VLAN, N:1 VLAN, flexible QinQ, VLAN bridge, TLS VLAN, M-VLAN, VLAN reuse
  - 512K MAC address, MAC address management, permanent MAC, MAC address aging/learning/query/number limit
  - Uplink protocol: STP/RSTP/MSTP, LACP

- **L3 Features**
  - Basic routing: unicast routing forwarding, static route, IP based load balance, ECMP
  - Dynamic routing: RIPv1/v2, OSPFv2, BGP4, IS-IS v2, Graceful Restart, MD5, etc.
  - DHCPv4: DHCP relay/proxy/snooping, Option 82, Option 60
  - L3 interfaces: VLAN L3 routing, Loopback
  - ARP: ARP protocol, ARP Proxy
  - IPv6 basic features and ND
  - Support BFD for IPv4/IPv6 routing protocol，including static/OSPF/ISIS/BGP.

QoS Features

- Queue & scheduling mechanism: SP, WRR/DWRR, and SP+WRR
- DSCP labeling and relabeling
- Traffic statistics
- H-QoS
- Stream classification, rate limiting, shaping and priority setting
- Congestion Avoidance: tail drop, color-based RED, WRED
- Configuration of CIR/PIR/CBS/PBS/CM, TrTCM(Two Rate Three Color Marker)

Network Slice

- Supports exclusively occupying the PON card and the P2P Ethernet card.
- Supports exclusively occupying the PON port and Ethernet physical port.
- Supports sharing PON port by multi-slices and assignment based on ONU.
- Supports the same user access/uplink /Ethernet convergence/Multicast/IP convergence/QoS/Security functions as the traditional OLT.

MPLS

- **MPLS basic function**
  - Label distribution using LDP
  - Label distribution mode configuration – DU/DoD
  - Label retention mode – Liberal/Conservative
  - Label control mode – Independent/ Ordered
  - LDP Extension for Inter - Area LSP
  - Explicit null configuration (PHP control)
  - Graceful Restart
  - MD5 encryption on LDP session
- **L2VPN - Ethernet VPLS/VPWS service**
- **MPLS OAM**

- **PWE3 basic function**
  - Dynamic PW
  - PW type configuration negotiation – ETH
  - VCCV configuration negotiation
  - Control word enable negotiation
  - PW ingress MPLS TC to AC VLAN CoS mapping
  - PW egress AC VLAN CoS to MPLS TC mapping
  - PSN VLAN on network side inherits CoS from MPLS label and AC VLAN
- **1:1 PW redundant protection**

Security Features

- **Network security**
  - Broadcast/multicast flooding rate limitation
  - Downstream ARP filtering
  - Forwarding panel protocol packet rate limit
  - DHCP anti-spoofing
  - Anti-DoS attacking
  - ARP/IP anti-spoofing
  - IP Source Guard
  - Basic ACL and IPv6 ACL

- **Service security**
  - DHCP service security
  - MAC address anti-drifting
  - Port isolation: Uplink port/User port
  - Broadcast packets separation based on VLAN

- **System security**
  - L4 port disable
  - CPU protocol packet rate limit and scheduling

OAM Features

- Management protocol and interface: CLI, Telnet/SSHv2, SNMP v1/v2/v3, IGMP/MLD proxy/snooping model, Alarm and performance model
- Performance statistic and Diagnosis

- Remote firmware download and upgrade
- Environment detecting, control and alarm
- Ethernet OAM: 802.1ag
- System fault auto-recovery and performance detection

Multicast

- IGMP snooping, proxy, router (v1/v2/v3)
- MLD v1/v2
- MVLAN: 4K Multicast VLAN
- Multicast snooping/proxy, router modes
- Enabling and disabling protocols globally or based on VLAN.
- ASM/SSM mode based on IGMPv3 and MLDv2
- Less than 20 ms channel zapping delay
- SCB multicast forwarding and L3 multicast forwarding.
- PIM-SM, PIM-SSM

VxLAN

- **Basic VxLAN functions**
  - RFC7348
  - Learning/aging MAC and VTEP IP
  - Multiple AC type: port(PON port, vport), S-Vlan，S-Vlan+C-Vlan.
  - Support IPv6
  - VTEP port associated IGMP
  - ARP suppression

- **Configuration functions**
  - VLAN configuration
  - Status reporting
  - Information Query
  - Static MAC Configuration
  - ARP suppression Configuration

Environment

- Operating temperature: -40 ℃ ~ 65 ℃ for overall unit, -40 ℃ ~ 55 ℃ for 10G PON card
- Starting up temperature: ≥ -25℃
- Operating humidity: 5% ~ 95%, non-condensing
- Altitude: ≤ 4000 m
- Air pressure: 70 kPa~106 kPa

Power Supply

- Working voltage: -48 V ($\pm$20%), or -60 V ($\pm$20%)

Dimensions

- 21" shelf: 486.1 mm (H) * 535 mm(21'') (W) * 288.5 mm (D)
- 19" shelf: 486.1 mm (H) * 482.6 mm(19'') (W) * 288.5 mm (D)
- 21" Empty shelf: 21 kg, full configuration: < 58 kg
- 19" Empty shelf: 18 kg, full configuration: < 52 kg