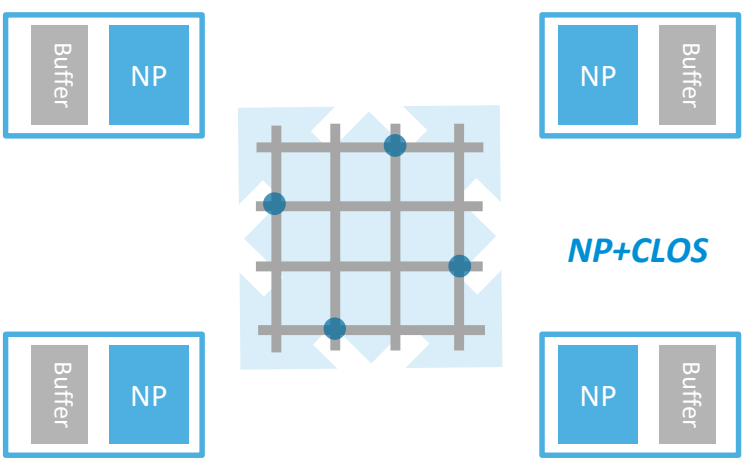
ZXA10 C650 Datasheet

The ZXA10 C600 is a medium-capacity optical access equipment based on the 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 architecture
- Support control and forwarding planes separate.
- Support ISSU and NSR.
- SDN ready, support Netconf/YANG, VXLAN.



Access Features

- 112 GPON, 10G PON, Any-PON or Combo PON ports.
- Three generations of PON technologies and directions in one platform, and two generations PON(GPON and 10G GPON) in one card.

Hardware Features

Shelf configuration

- Total 13 slots
- 7 slots for universal line cards
- 2 slots for switch & control cards
- 2 slots for power cards
- 1 slot for clock synchronization card

System capability

- Switching capacity of backplane bus: 6 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
- Any-PON card: 16 Any-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/C 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/C optical link protection
- Support FEC
- Support AES-128

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/C 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, 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
- 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 (±20%), or -60 V (±20%)

Dimensions

- 263.9 mm (H) * 482.6 mm (W) * 285.3 mm (D)
- Shelf weight (empty): 12 kg
- Full configuration: <30 kg