The ZXA10 C650 is a piece of 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, as well as carrier-class QoS and security. The ZXA10 C600 has been commercialized since Q3, 2018.

ZXA10 C650 is 6U high optical access equipment, which has 7 line card slots and can support 112*GPON/10G PON ports

- **State-of-the-art architecture meets future requirements**
  High-end route and fully distributed programmable architecture.
  Separated control and forwarding planes make the system more reliable.

- **The largest capacity meets multiple services access**
  The industry's highest integration of line cards.
  The industry's highest level of switching capacity and slot bandwidth.
  Fully compatible with multiple generations of PON and multiple technology directions.

- **SDN ready, support smooth migration to SDN/NFV**
  Support Netconf/YANG, migrate to SDN smoothly.
  Supports built-in blade as NFVI for experience-sensitive services.

- **Supports Combo PON, industry's first 3-in-1 combination**
  The WDM1r is embedded in the optical module without affecting existing GPON services.
  Supports on-demand deployment of GPON and 10G PON ONUs according to service development.

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.

- **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

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

PON Features

- **GPON**

GPON is compliant to ITU G.984.x

Support up to 1:128 optical split ratio

Support OLS

- **XGPON**

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

- **XGSPON**

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

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

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

Card Type	Card Code	Card Name	Function Description
Switch & control card	SFUQ	Type-Q switch & control card	ZXA10 C600/C650 switch & control card • Provides four 10GE/GE SFP+/SFP uplink interfaces. • Supports load balancing • Hot swappable.
Service card	GFGO	8-port GPON subscriber card	• Supports 8 GPON SFP interfaces. • Supports split ratio of 1: 2, 1: 4, 1: 8, 1: 16, 1: 32, 1: 64, 1: 128 • Hot swappable.
	GFGL	16-port Type-L GPON subscriber card	• Supports 16 GPON SFP interfaces. • Supports split ratio of 1: 2, 1: 4, 1: 8, 1: 16, 1: 32, 1: 64, 1: 128 • Hot swappable.

Type	Single Fiber Bidirectional Optical Module, Class B+	Single Fiber Bidirectional Optical Module, Class C+
Operating wavelength	Tx: 1490 nmRx: 1310 nm	Tx: 1490 nmRx: 1310 nm
Encapsulation mode	SFP	SFP
Bandwidth	Tx: 2.488 Gb/sRx: 1.244 Gb/s	Tx: 2.488 Gb/sRx: 1.244 Gb/s
Minimum output optical power	1.5 dBm	3.0 dBm
Maximum output optical power	5.0 dBm	7.0 dBm
Minimum receiver sensitivity	-28.0 dBm	-32.0 dBm

Parameter	GE Optical Module					
Standard model	1000BASE-SX	1000BASE-LX	1000BASE-ZX	1000BASE-XD	1000BASE-ZX	1000BASE-EZX
Operating wavelength	850 nm	1310 nm	1310 nm	1550 nm	1550 nm	1550 nm
Encapsulation mode	SFP	SFP	SFP	SFP	SFP	SFP
Rate	1.25 Gb/s	1.25 Gb/s	1.25 Gb/s	1.25 Gb/s	1.25 Gb/s	1.25 Gb/s

Parameter	10GE Optical Module				
Standard model	10GBASE-SR	10GBASE-LR10	10GBASE-ER40	10GBASE-ER	10GBASE-ZR
Operating wavelength	850 nm	1310 nm	1310 nm	1550 nm	1550 nm
Encapsulation mode	SFP+	SFP+	SFP+	SFP+	SFP+
Rate	10.3125 Gb/s	10.3125 Gb/s	10.3125 Gb/s	10.3125 Gb/s	10.3125 Gb/s