ZXA10 C320 Compact OLT - Official Technical Overview & Hardware Datasheet

EXECUTIVE SUMMARY

The ZTE ZXA10 C320 is a next-generation, carrier-grade compact Optical Line Terminal (OLT) engineered to meet the evolving demands of modern fiber access networks. As a key member of the ZXA10 C300 family, this platform delivers an optimal blend of high performance, space efficiency, and operational flexibility, specifically designed for low-density and medium-density FTTx deployment scenarios .

By leveraging a 2U rack-mountable form factor, the C320 significantly reduces equipment room footprint, saving up to 85% installation space compared to traditional large-capacity OLTs, making it ideal for space-constrained central offices, outdoor cabinets, and remote nodes . This platform supports a unified architecture for GPON, XG-PON1, and P2P access technologies, ensuring a seamless evolution path for network operators .



HARDWARE ARCHITECTURE & SILICON

The ZXA10 C320 is built on a modular, high-density chassis architecture designed for carrier-grade reliability and service continuity.

Chassis and Backplane

The 2U chassis features a non-blocking backplane design with a total backplane capacity of 420 Gbit/s, delivering a switching capacity of up to 84 Gbit/s to support high-bandwidth services . The chassis provides five slots for flexible configuration:

- **2 Slots for Line Cards:** Accommodates a variety of service interfaces including GPON, XG-PON1, and P2P cards .

- **2 Slots for Control and Switching Cards:** Supports dual main control boards (SMXA) for 1:1 active/standby redundancy, ensuring high availability .

- **1 Slot for Fan Module:** Intelligent cooling system with speed-adjustable fans for optimal thermal management .

The platform is compatible with service cards from the ZXA10 C300, allowing operators to protect their investment and simplify spare parts management .

Control and Switching

The control and switching subsystem is managed by the SMXA series cards, which integrate control, switching, and uplink functions . These cards provide a centralized switching fabric and sophisticated QoS processing engine. The system supports a variety of uplink interface configurations to suit different network topologies, with a maximum of 2x10GE or 6xGE ports .

KEY FEATURES & ROUTING LOGIC

- **Unified Access Platform:** Supports GPON, EPON, XG-PON1, 10G-EPON, and P2P Ethernet on a single platform, enabling a flexible and future-proof network architecture .

- **High Port Density:** A single frame can support up to 32 GPON ports, 16 XG-PON1 ports, or 96 P2P GE ports . This high line-card density allows a single system to serve up to 4096 GPON subscribers, making it a powerful yet compact access solution .

- **Carrier-Grade Reliability:** Designed for high availability with key

component redundancy, including 1:1 protection for control cards and power supplies. It supports Type B and Type C PON protection and uplink protocols such as LACP, ERPS, STP, and UAPS for link redundancy .

- **Advanced QoS Mechanisms:** Employs Hierarchical-QoS (H-QoS) based on service provider, household, and service levels, ensuring stringent service differentiation for VoIP, IPTV, and high-speed internet . Features include 802.1p, DSCP, and priority queuing to guarantee premium service delivery .

- **Comprehensive Synchronization:** Supports both IEEE 1588V2 and Synchronous Ethernet, providing precise time and clock synchronization for mobile backhaul and other latency-sensitive applications .

- **Intelligent Power Efficiency:** Utilizes a new-generation low-power chipset and intelligent fan speed control. The system automatically reduces power consumption by turning off inactive card ports and supports real-time power monitoring. Compared to large-capacity OLTs with identical user capacity, the C320 reduces power consumption by up to 45% .

- **Embedded OTDR Support:** Integrated OTDR functionality in SFP modules enables real-time optical network diagnostics, simplifying troubleshooting and maintenance .

COMPLIANCE & STANDARDS

The ZTE ZXA10 C320 is designed and certified to meet rigorous international

and industry standards for telecom equipment.

- **Safety:** Fully compliant with CE, RoHS, and FCC standards, utilizing environmentally friendly lead-free materials .

- **Environmental:** Meets the European COC (Code of Conduct) and other global environmental directives for energy efficiency .

- **Network Protocols:** Compliant with key industry standards including IEEE 802.3ah (EPON), ITU-T G.984 (GPON), ITU-T G.987 (XG-PON1), IEEE 1588V2, and Synchronous Ethernet .

- **Security:** Offers robust security features including ONT authentication, port isolation, MAC/IP spoofing prevention, and DoS protection to ensure a secure network environment .

TECHNICAL SPECIFICATIONS

Parameter	**Specification**
Form Factor	2U, 19-inch Standard Rack Mount
Physical Dimensions (H x W x D)	88.1 mm x 482.6 mm x 270 mm
Weight	Approx. 8.5 kg (Chassis with control boards)
Total Backplane Capacity	420 Gbit/s
Switching Capacity	84 Gbit/s
Chassis Slot Configuration	2 x Service Slots, 2 x Control Slots, 1 x

	Fan Slot
Maximum GPON Subscribers	Up to 4096
Maximum GPON Ports	32 (16 ports per line card)
Maximum XG-PON1 Ports	16 (8 ports per line card)
Maximum P2P GE Ports	96
Uplink Interface Options	Up to 2 x 10GE (Optical) + 4 x GE (Optical) or 6 x GE (Optical/Electrical)
Control Board Type	SMxA Series (Active/Standby Redundancy)
Power Supply Options	Dual Hot-Swappable, AC (100-240V) or DC (-48V)
Operating Temperature	-25°C to +65°C
Operating Humidity	5% to 95% RH, non-condensing
Management Interfaces	CLI, SNMP, Telnet, NMS (EMS), TR069

