



Features and Benefits

The Intercept™ EDGE2500 Ethernet switch Remote OLT is an outdoor, efficient low power solution for edge switching and Open XGS PON deployments. With the resident TiBit PON Controller these switches are designed for broadband service providers who desire a flexible and easily implemented PON delivery solution. The EDGE2500 delivers all the benefits of a carrier class edge switch in a temperature hardened strand or pedestal mount and in a secure housing that can be quickly and reliably deployed for efficient subscriber acquisition and exceptional time to market. Meeting the industry demand of multiple 25Gb ports, the EDGE2500 is future ready and can accept 1G, 10G or 25G SFP OLT modules, as well as standard SFP28 modules. This implementation is capable of providing multiple value and revenue generating services such as P2P Ethernet and mobile backhaul from a single versatile backplane, while also enabling market leading 25G capable data rates to conventional residential FTTH markets.

Like all of Intercept's EDGE R-OLT and edge server portfolio, the EDGE2500 is optimized for TiBit Microplug OLT functionality and distributed layer 2 OLT management and provisioning. The EDGE2500 is a true Open PON white box solution which can be cascaded from any TiBit server for rapid deployment of revenue generating PON and backhaul services.

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- **5x or 8x SFP28 Ethernet ports** (typically 1x 25G Uplink, up to 4 or 7 XGS-PON ports)
 - **Resident PON Controller optimizes layer 2 timing loops and reduces network congestion**
 - **The switch allows multiple configurations of ports, redundancy, other OLT modules, “vanilla ENET ports”**
 - **Hardened -40°C to 65°C operating temperature**
 - **Optimized for TiBit Microplug OLT's**
 - **200 Gbps switching bandwidth**
 - **Compact size, low power consumption**
 - **Fully featured enterprise level switch capabilities for management and configuration**
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The Intercept EDGE2500 switch family provides a rich set of Enterprise switching features such as advanced TCAM-based VLAN and QoS processing, enabling delivery of differentiated services, and security through TCAM-based frame processing using versatile content aware processor (VCAP).

IPv4/IPv6 Layer 3 (L3) unicast and multicast routing is supported with up to 18K IPv4/9K IPv6 unicast LPM entries and up to 9K IPv4/3K IPv6 (S,G) multicast groups. L3 security features include source guard and reverse path forwarding (uRPF) tasks. Additional L3 features include VRF-Lite and IP tunnels (IP over GRE/IP).

The device integrates a powerful 1 GHz dual-core ARM® Cortex®-A53 CPU enabling full management of the switch and advanced Enterprise applications.

The EDGE2500 Switch family targets managed Layer 2 and Layer 3 equipment in SMB, SME, and Enterprise where high throughput switching with multiple 25G aggregation links is required.

Interface

EDGE2508	EDGE2505
8x25G single SFP28 Ports SCIAPC - LCIAPC - Duplex-LC	5x25G single SFP28 Ports SCIAPC - LCIAPC - Duplex-LC

SPECIFICATIONS

Layer 2 and Layer 3 Forwarding

802.1Q Switch with 4 K VLANs and 32 K MAC Table Entries
Push/pop/translate up to Three VLAN Tags on Ingress and Egress
RSTP and MSTP Support
Fully Nonblocking Wire-speed Switching Performance for all Frame Sizes
Link Aggregation and DRNI per IEEE 802.1AX
External Bridge Port Extender Role per IEEE 802.1BR
IPv4/IPv6 Unicast and Multicast Layer 2 Switching with up to 32 K Groups and 2 K Port Masks
IPv4/IPv6 Unicast and Multicast Layer 3 Forwarding (routing) with Reverse Path Forwarding (RPF) Support
IGMPv2, IGMPv3, MLDv1, and MLDv2 Support
IPv4 Tunnels Including GRE, 6 to 4, 6rd, 6 Over 4, ISATAP, and 6 in 4

Quality of Service

Four Megabytes of Integrated Shared Packet Memory
Eight QoS Classes with a Pool of up to 32 K Queues
TCAM-based Classification with Pattern Matching Against Layer 2 Through Layer 4 Information
Dual-rate Policers Selected by VCAP IS2, Eight Dual-rate Priority Policers per Port, and Four Single-rate Port Policers for Each Port
Flexible 4K Ingress QoS Mappings and 8K Egress QoS Mappings for VLAN Tags and DSCP Values
4K Egress VLAN Tag Operations
Low Latency Cut-through Forwarding Mode
Priority-based Flow Control (PFC) (IEEE 802.1Qbb)

Security

Versatile Content Aware Processor Packet Filtering Engine Using ACLs for Ingress and egress
Packet Inspection with Four Ingress Lookups per Frame and Two Egress Lookups per Egress Frame Copy
Hierarchical VLAN ACLs and Router ACLs
Storm Controllers for Flooded Broadcast, Flooded Multicast, and Flooded Unicast Traffic
Per-port, Per-address Registration for Copying/redirecting/discarding
64 Single-rate Policers for Ingress ACLs
64 Single-rate Policers for Egress ACLs

Power

Power Consumption System (TBC)
- 20 Watts (typical)
- 30 Watts (maximum)
Power Supply CATV 60-90 VAC or 90-240 VAC or -48 VDC, redundant supplies available

Management
CPU System with Integrated Dual-core 1 GHz ARM Cortex-A53 CPU with MMU and DDR3/DDR4 SDRAM Controller
Integrated ARM Cortex-M3 CPU Core for Dedicated PCIe Bootup and POE Management
CPU Frame Extraction (8 queues) and Injection (2 queues) Through DMA, which Enables Efficient Data Transfer Between Ethernet Ports and CPU
1 GB of DDR4 SDRAM Memory
256MB of Non-volatile NAND Memory
Rich Set of GPIOs and LEDs - Two LEDs per Port - Debug UART - SFP Loss of Signal Inputs
Per-port Counter Set with Support for the RMON Statistics Group (RFC 2819) and SNMP Interfaces Group (RFC 2863)
Hardware highlights
VCore-IV™ CPU system with integrated dual-core 1 GHz ARM Cortex-A53 CPU with MMU and DDR3/DDR4 SDRAM controller
Integrated ARM Cortex-M3 CPU core for dedicated PCIe bootup and POE management.
CPU frame extraction (eight queues) and injection (two queues) through DMA, which enables efficient data transfer between Ethernet ports and CPU/PCIe
Applications
Enterprise L2 Managed
Enterprise L2/L3 (L3-Lite) Managed
XGS-PON Deployments
Enterprise Edge
Wi-Fi Aggregation
High-end SMB/net Café
Embedded and Control Plane Switches
Security Appliances
Base Stations and Baseband Processor Interconnect
Service Provider CPEs
Environmental
Storage and Operating Temperature -40 °C to 65 °C (-40 °F to 149 °F)
Operating Humidity 20% to 85 % RH, Non-condensing
Non-Operating Humidity 5 % to 95 % RH, Non-condensing
Physical Size
295.8 x 242 x 182.5 mm 11.64 x 9.5 x 7.19 inches 18 lbs.
Compliance
CE
RoHS