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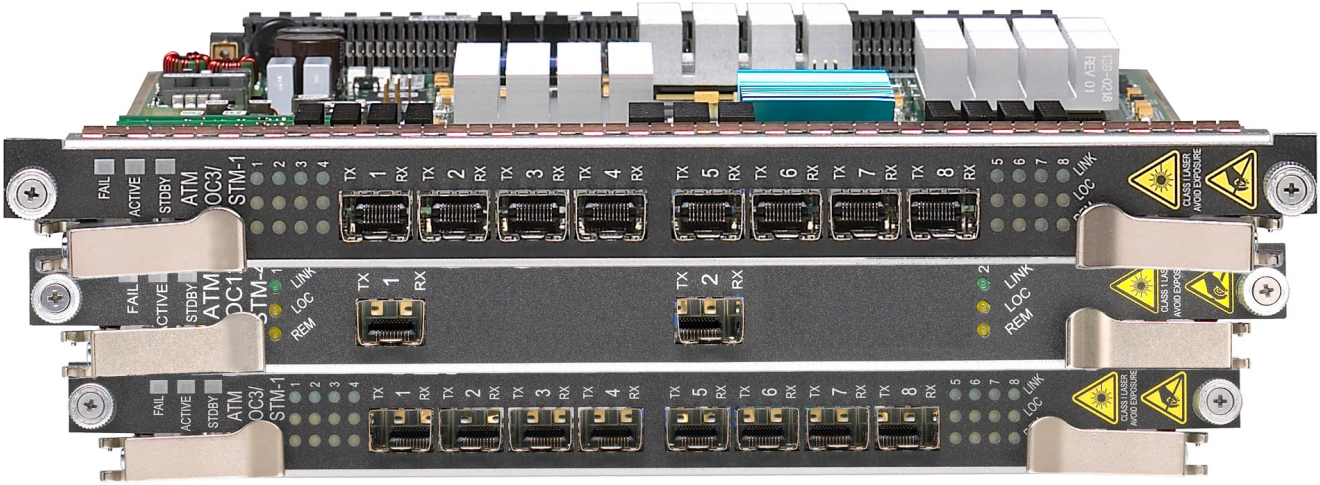

ATM MODULES OC-12C/STM-4C OC-3C/STM-1C

ATM MODULES
OC-12C/STM-4C OC-3C/STM-1C

SmartEdge® ATM modules combine high-performance carrier-class Asynchronous Transfer Mode (ATM) connectivity with Advanced Traffic Management and an extensive foundation of advanced subscriber control capabilities enabling service providers to build cost-effective and highly-scalable next generation Smart Broadband Networks.

Key benefits

- Granular subscriber awareness and control for individual subscribers
- MPLS over ATM for Business Class Services
- Support for Static and Dynamic ATM Profiles
- Circuit Creation on Demand (CCoD) for simplified service provisioning and resource preservation
- High-capacity, efficient multicast replication for high-performance, large scale IP Video deployments
- Advanced Quality of Service capabilities with Extended Access-Control List support for ingress and egress direction
- Distributed processing with no single-point-of-failure
- Local, wire-speed IP services and forwarding including RIP, OSPF, BGP4 and IS-IS
- On-demand reconfiguration and in-service ASIC microcode updates
- Trans-generational interoperability for maximum investment preservation
- Hot swappable for in-service removal and insertion

Product Overview

ATM modules are standards-based and deliver the full range of SmartEdge Mulit-Service Router functionality. Two modules are available including a eight-port OC-3c/STM-1 (155 Mbps), a two-port OC-12c/STM-4 (622 Mbps). Time-proven and deployed in some of the largest and most demanding triple-play broadband networks, these wire-speed modules are ideal for aggregation of high-speed subscriber access systems, such as xDSL, FTTx and wireless, or as high-speed ATM uplinks into the network core.

Advanced ATM services and applications

Each interface module has dedicated ATM packet processors and delivers all standard ATM packet processors and delivers all standard ATM functionality, including support for ATM traffic classes including, Constant Bit Rate (CBR), Variable Bit Rate-Real-Time (VBR-RT), VBR-NRT, Unspecified Bit Rate (UBR) and UBR-Plus. To further optimize service and application delivery, SmartEdge ATM Modules offer sophisticated subscriber-level Advanced Traffic Management services including hierarchical Quality of Service (QoS) with granular scheduling, policing, rate limiting and shaping. Modules can support up to 24,000 PVCs with granular per-VP/VC traffic shaping to minimize data loss and ensuring traffic from one VC does not adversely impact another. Also, the modules can support up to 32,000 PVC without per VC QoS settings. To simplify and automate provisioning for large-scale deployments, SmartEdge ATM Modules offer Circuit Creation on Demand (CCoD) enabling circuit pre-provisioning without consuming system resources until actual traffic is passed within a circuit. CCoD greatly extends the ability to support large-scale and over-subscribed environments while preserving and extending valuable system resources. These capabilities, along with inherent subscriber and application awareness enable SmartEdge Multi-Service Edge Router to become the hierarchical access network control point, providing network-wide control from a consolidated edge/aggregation network.

Management and resiliency

Each interface module offers a set of integrated and comprehensive diagnostic tools for real-time management and troubleshooting. To enable a non-stop operating environment, all modules are hot-swappable and highly resilient, with full state and session maintenance capabilities. Each interface module also supports ASIC-level microcode updates and in-service per-subscriber level reconfigurations without requiring system restarts or impacting active connections. ATM ports may be protected using APS/MSP to ensure the highest availability for customers.

TECHNICAL SPECIFICATIONS

LEDS
- 3 LEDs per module for module status indication: ACTIVE (green or off), FAIL (red or off), STDBY
- 3 LEDs per port for port-level indications:
  - -LNK (green or off) indicates ATM link status
  - -LOC (yellow or off) indicates whether local port is in alarm state
  - -REM (yellow or off) indicates whether remote port is in alarm state

PHYSICAL SPECIFICATIONS
- Dimensions (H x W x D): 16.0 x 1.12 x 9.97 inches (40.64 x 2.83 x 25.32 cm)

ENVIRONMENTAL SPECIFICATIONS
- Operating temperature, nominal: 41° to 104°F (5° to 40°C)
- Operating temperature, short term: 23° to 131°F (-5° to 55°C)
- Storage temperature: -38° to 150°F (-40° to 70°C)
- Operating relative humidity: 5% to 90% RH
- Storage relative humidity: 5% to 95% RH
- Operating altitude: 60 to 4000 meters

NETWORK EQUIPMENT BUILDING SYSTEM
- SR-3580: Network Equipment Building Systems (NEBS): Criteria Levels (Level 3-compliant)
- GR-1089-Core: Electromagnetic Compatibility and Electrical Safety – Generic Criteria for Network Telecommunications Equipment
- GR-63-Core: Network Equipment Building System (NEBS) Requirements: Physical Protection

REGULATORY COMPLIANCE
- UL 60950-1: Safety of information technology equipment
- CSA 22.2 No. 60950-1-03 1st Ed, April 1, 2003 - Safety of information technology equipment
- EN 60950-1: 2001 + IEC 60950-1: 2001 - Safety of information technology equipment

EMISSIONS CERTIFICATION
- FCC CFR 47 Part 15 Class A
- EN55022: Class A
- AS/NZS CISPR 22:Class A
- VCCI: Class A
- AS/NZS 60950-1
- CNS-13438 Class A - BSMI in Taiwan

IMMUNITY
- EN61000-4-2 ESD immunity
- EN61000-4-3 Radiated RF field immunity
- EN61000-4-4 Immunity to electrical fast transients
- EN61000-4-5 Surge immunity
- EN61000-4-6 RF conducted immunity

EUROPEAN TELECOMMUNICATION STANDARDS INSTITUTE
- ETSI EN 300 386 : Electromagnetic compatibility and radio spectrum Matters (ERM); Telecommunication network equipment; electromagnetic Compatibility (EMC) requirements

ATM FEATURES
- Supports CBR, UBR, UBR+, VBR-rt, and VBR-nrt ATM traffic management services
- Multicast with PIM dense and sparse mode, IGMP
- 5-level hierarchical QoS with rate limiting, shaping, and queuing
- AAL5 & AAL2
- RFC 2684 Bridged & Routed PVCs
- ATM UNI 3.1 R4.0 PVCs
- UBR, UBRc, CBR, rt-VBR & nrt-VBR
- ATM OAM ITU-T 1610
- Timing
- SE600/1200
- NEBS compliant
- Max 32,000 Sub Sessions
- PPP

SUBSCRIBER RELATED SERVICES (PER MODULE)
- 2,000 – 16,000 subscribers per module
- Up to 16,000 PVCs supported per module
- Granular rate limiting per subscriber in 64Kb increments

SFP TABLE OC3 & OC12 OPTICS

Line Cards	Operating Power (Watts)
ATM	
8-port ATM OC-3c/STM-1c (PPA2)	143.04
2-port ATM OC-12c/STM-4c (PPA2)	143.04
SONET/SDH	
8-port POS OC-3c/STM-1c	101.28
4-port POS OC-12c/STM4c	103.68

Ericsson is shaping the future of Mobile and Broadband Internet communications through its continuous technology leadership.

Providing innovative solutions in more than 180 countries, Ericsson is helping to create the most powerful communication companies in the world.

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