ATCA-C121

AdvancedTCA AMC Carrier Blade

Embedded Computing for Business-Critical Continuity™

The ATCA-C121 provides application developers the ultimate flexibility in defining and allocating compute resources, telecom I/O and network connectivity

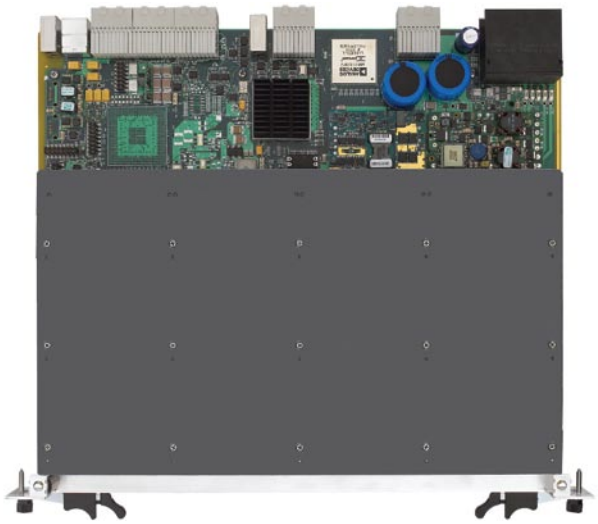
- Modular design – four mid-size, single wide AdvancedMC™ (AMC) sites
- Enables scalable and distributed computing
- Mixed data plane and control application on the same blade
- On-board service processor
- Multiple software packages available including OS
- PICMG 3.0 Gigabit Ethernet base interface
- PICMG 3.1, Option 1, and 9 fabric interface support
- AMC.0, AMC.1, AMC.2 compliant
- Service Availability Forum™ (SA Forum) compliant HPI
- Designed for NEBS and ETSI compliance

The Emerson Network Power ATCA-C121 is a 10 Gigabit AdvancedTCA AMC carrier blade and is available for the Centellis™ 2000 and 4000 series of platform cores. It is the ideal solution for almost any control or dataplane application within the telecom infrastructure market.

Sporting four mid-size, single wide AMC slots, the ATCA-C121 is the basis of a scalable compute complex. The modular design also enables flexible I/O options within an AdvancedTCA® shelf or even mixed with compute resources within the same ATCA-C121 blade. With the addition of AMC storage options, the ATCA-C121 blade is a platform within a platform providing the ultimate flexibility, scalability and fault isolation to the AMC level.

The ATCA-C121 blade is RoHS (6 of 6) compliant, eliminating the need for customers to incur the time, resource and expense associated with creating and/or converting existing product to meet this international requirement.

The ATCA-C121 is a powerful AMC carrier with premium network features securing the investment into the future. Redundant Gigabit Ethernet interfaces to the PICMG® 3.0 base interface and the PICMG 3.1 fabric interface in a dual star configuration are standard. Having two parallel Gigabit Ethernet networks allows, for example, the base interface to be used for control, signaling, or management while the fabric interface can be used for high performance data transport, providing control and data traffic separation.

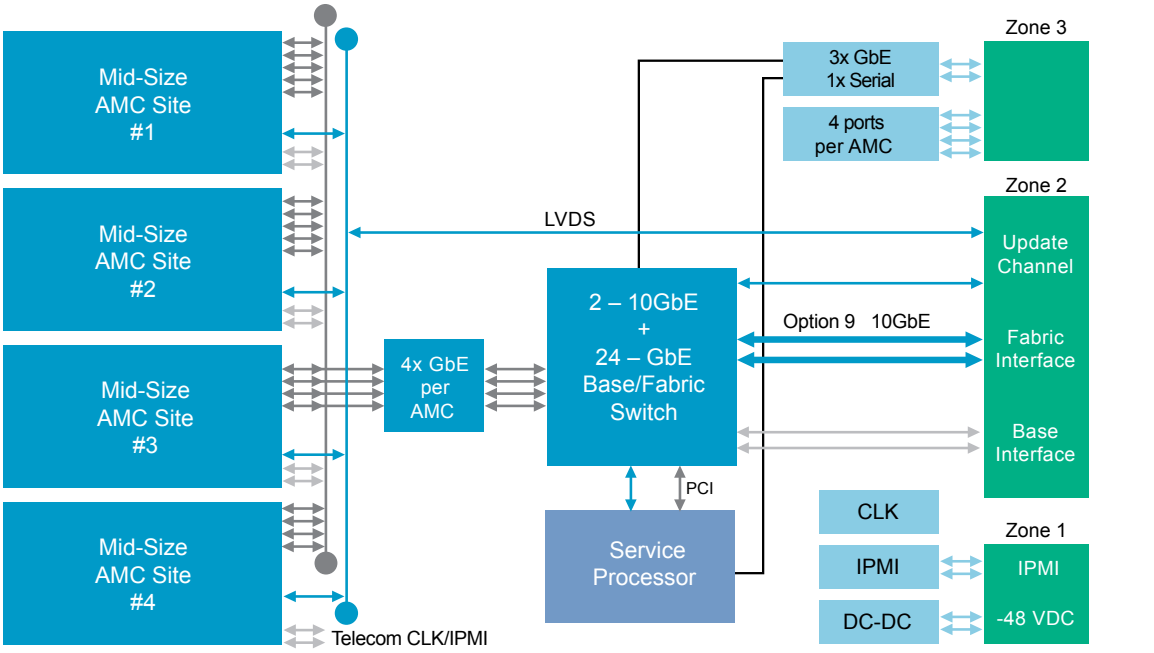


RoHS 6/6 COMPLIANT

AdvancedTCA®

EMERSON™ Network Power

ATCA-C121 Block Diagram



Standard Networking Support

The ATCA-C121 AMC carrier blade provides PICMG 3.0 base interface connectivity in a dual star configuration using standard Gigabit Ethernet technology. The PICMG 3.1 fabric interface is also supported at 10 Gigabit Ethernet speed.

- PICMG 3.1, Option 1 – Single, redundant Gigabit Ethernet pair (1.0Gbps)
- PICMG 3.1, Option 9, Single redundant 10 Gigabit Ethernet pairs (10.0Gbps)

Processor Complex

A powerful service processor is included with the ATCA-C121 AMC carrier blade to handle all management and maintenance functions including:

- General management of the blade and peripherals
- Boot-up and operational management of the switch infrastructure (base/fabric interfaces)
- Mechanism to download FW to boot flash, IPMC, etc.

SOFTWARE SUPPORT

All Emerson ATCA blades can be configured with optional software that, when combined with the hardware, create a fully integrated and verified telecom platform. Software available comprises:

- Wind River PNE on carrier blade service processor
- Basic Blade Services

The Centellis 4000 platforms come complete with, and is verified to, a standard carrier Grade Linux distribution. Wind River Platform for Network Equipment Linux Edition 1.4 (PNE-LE 1.4) includes all required Linux Support Packages (LSPs) to support Emerson ATCA blades.

Basic Blades Services (BBS) software is provided to enable a set of ATCA hardware and software components into a fully integrated and verified telecom platform – the Centellis 4000 platform. This platform is ready for customers HA middleware and application environment.

Basic Blade Services (generic to all ATCA blades):

- Hardware Platform Management including local IPMC, LED, EKeying and blade extraction software
- Switch Management
- Firmware upgrade utility
- Local management access (SNMP, CLI)
- Time Sync (NTP)

RELEVANT STANDARDS

- Open Source Development Labs (OSDL), rev. 1.0
- SA Forum
  - Hardware Platform Interface (HPI) – B.01.01
  - HPI to ATCA mapping HPI-B.01.01-ATCA

For more information on the Centellis 4000 platforms, please refer to the Centellis 4000 series data sheets.

Intelligent Platform Management Control

The PICMG 3.0 AdvancedTCA standard specifies a low-level, environmental management architecture referred to as intelligent platform management interface (IPMI). The ATCA-C121 blade implements this functionality using an off the shelf hardware and software based IPM controller that monitors all local, blade-specific environmental information. Management access to this information is provided through the SA Forum defined HPI interface.

Hardware

PROCESSOR/MEMORY

- Freescale PowerQUICC II (633 MHz)
- Up to 1.0 GB, ECC-protected DDR main memory
- 16MB redundant primary boot flash
- 256MB user flash
- 16MB reset persistent memory

COUNTERS/TIMERS

- Real-time clock
- Programmable watchdog timer

AMC SLOTS

- Four (4) mid-size AMC slots (AMC.0, AMC.1 and AMC.2 compliant)
- Connectivity – Four (4) Gigabit Ethernet interfaces

BASE AND FABRIC INTERFACES

- Dual star configuration
- PICMG 3.0 base interface compliant, Gigabit Ethernet (1.0Gbps)
- PICMG 3.1 fabric interface compliant, Gigabit Ethernet
  - PICMG 3.1, Option 1 – Single, redundant Gigabit Ethernet pair (1.0Gbps)
  - PICMG 3.1, Option 9, Single redundant 10 Gigabit Ethernet pairs (10.0Gbps)

POWER REQUIREMENTS

- Dual-redundant –48V rail
- Input range: 39.5 – 72V DC
- Typical power: 120 – 140W

THERMAL CHARACTERISTICS

- Operating range: –5° C to 55° C

BLADE SIZE

- 8U form factor, 280 mm X 322.5 mm, single slot

RELEVANT STANDARDS

- PICMG 3.0 (form factor, IPMI, base interface, hot swap, RTM)
- PICMG 3.1, Options 1 and 9
- AMC.0, AMC.1 and AMC.2

Regulatory Compliance

Item	Description
Designed to comply with NEBS	GR-63-CORE, NEBS Physical Protection, Level 3
	GR-1089-CORE, Electromagnetic Compatibility and Electrical Safety — Generic Criteria for Network Telecommunications Equipment. Level 3, Equipment Type 2
Designed to comply with ETSI	ETSI Storage, ETS 300 019-2-1, Class 1.2 equipment, Not Temperature Controlled Storage Locations
	ETSI Transportation, ETS 300 019-2-2, Class 2.3 equipment, Public Transportation
	ETSI Operation, ETS 300 019-2-3, Class 3.2 equipment, Partly Temperature Controlled Locations
Designed to comply with Acoustic	ETS-300-753, Equipment Engineering (EE); Acoustic noise emitted by telecommunications equipment
EMC	EN-300-386 Electromagnetic compatibility and Radio spectrum Matters (ERM); telecommunication network equipment; ElectroMagnetic Compatibility (EMC) requirements, Telecommunication equipment room (attended)
	FCC 47 CFR Part 15 Subpart B (US), Class A
	EMC Directive 89/336/EEC (EU)
	AS/NZS 3548 (Australia/New Zealand), Limits and Methods of Measurement of Radio Disturbance Characteristics of Information Technology Equipment
	VCCI Class A (Japan), Voluntary Control Council for Interference by Information Technology Equipment
Safety	Compliance to UL/CSA 60950-1, EN 60950-1 and IEC 60950-1 CB Scheme. Marked with U.S. NRTL, Canadian Safety and CE Mark.
	Safety of information technology equipment, including electrical business equipment
	ETS 300-132-2 Environmental Engineering (EE); Power supply interface at the input to telecommunications equipment; Part 2: Operated by direct current (dc)
RoHS/WEEE compliance	DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)
	DIRECTIVE 2002/96/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on waste electrical and electronic equipment (WEEE)

SOLUTION SERVICES

Emerson Network Power provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include global 24x7 technical support. Renewal services enable product longevity and technology refresh.

Emerson Network Power.
The global leader in enabling *Business-Critical Continuity™*.

- AC Power
- Connectivity
- DC Power
- **Embedded Computing**
- Embedded Power
- Infrastructure Management & Monitoring
- Outside Plant
- Power Switching & Controls
- Precision Cooling
- Racks & Integrated Cabinets
- Services
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ATCAC121-D3 11/08