

ATCA-S201

ATCA In-shelf, Shared Storage Blade

■ Embedded Computing for
Business-Critical Continuity™

PRELIMINARY DATA SHEET

The ATCA-S201 is a high performance, shared storage solution for in-shelf ATCA applications

- ATCA storage blade with four (4) mid-size AMC slots
- Additional storage via RTM mounted hard disk drives (HDDs)
- Up to 876GB of storage per blade/RTM combination
- Hardware-based RAID 0, 1 and 1E
- iSCSI target and NAS file sharing
- SAS and SATA media support
- Diskless boot support
- PICMG 3.0 and 3.1, option 9 compliant
- Designed for NEBS/ETSI compliance

The Emerson Network Power ATCA-S201 is an AdvancedTCA® (ATCA®) carrier blade specifically designed to satisfy in-shelf, shared storage requirements using IP services including iSCSI and NAS protocols (NFS and CIFS) over a standard Ethernet network. Functions like diskless server boot, storage virtualization and LUN zoning are supported and easily configured and monitored. Communication from processing blades and devices (host) to the ATCA-S201 (target) utilize the PICMG® 3.0 (1GbE) base interface or the PICMG 3.1, option 9 (10GbE) fabric interface.

Storage media supported includes SAS and SATA based rotating media as well as SATA based solid state devices (SSD). The ATCA-S201 has four (4) AdvancedMC™ (AMC) sites for hot-swap storage as well as an option for two (2) direct mount storage devices on the companion rear transition module (RTM). Additional storage capacity is possible via external SAS connectivity to bladed or external JBOD (Just a Bunch Of Disks) products.

Excellent storage performance is accomplished using hardware-based SAS controller offering RAID 0, 1 and 1E. Providing hardware RAID on the storage target off-loads the CPU devices/blades for better application performance.

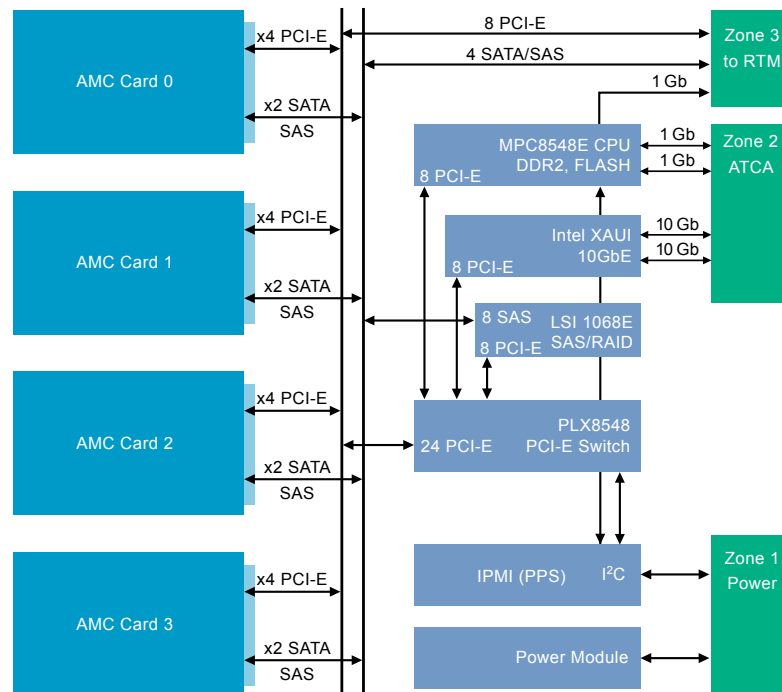


AdvancedTCA®

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ATCA-S201 Block Diagram



Standard Networking Support

The ATCA-S201 blade provides PICMG 3.0 base interface connectivity in a dual star configuration using standard Gigabit Ethernet (GbE) technology. The PICMG 3.1 fabric interface is also supported at 1 and 10 Gigabit/s.

- PICMG 3.1, option 1 – Redundant 1GbE
- PICMG 3.1, option 9 – Redundant 10GbE

Processor Complex

Complementing the high performance SAS controller is a processing complex:

- Freescale PowerQUICC III MPC8548 (1.2 GHz)
- 32KB L1 cache
- 512KB L2 cache
- Up to 2GB DDR2 memory (1GB standard)

Software Support

The processing complex for the ATCA-S201 is supported by a hardened, Linux operating system specifically compiled for storage applications. Additional software includes:

- iSCSI boot
- Storage target support for Windows, Solaris and Linux
- CIF/SAMBA client

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-S201 blade implements this functionality using an off-the-shelf hardware and software solution that monitors all local, blade-specific environmental information. Management access to this information is provided through the Service Availability Forum™ (SA Forum) defined HPI interface.

Hardware

PROCESSOR/MEMORY

- Freescale PowerQUICC III MPC8548 (1.2 GHz)
 - ▲ 32KB, L1 cache
 - ▲ 512KB L2 cache
- Up to 2GB DDR2 memory (1GB standard)
- 256KB NAND flash
- 8KB non-volatile EEPROM

COUNTERS/TIMERS

- Real-time clock
- Programmable watchdog timer

AMC SITES

- Four (4) mid-size AMC slots (AMC.0, AMC.1, and AMC.3 compliant)
- Connectivity
 - ▲ Four (4) PCI Express (x4) to each AMC slot
 - ▲ Two (2) SAS (x2) to each AMC slot

BASE AND FABRIC INTERFACES

- Dual star configuration
- PICMG 3.1, option 1 – Redundant 1GbE
- PICMG 3.1, option 9 – Redundant 10GbE

EXTERNAL INTERFACES

- Front panel
 - ▲ Four (4) mid-size AMC slots
- Rear transition module
 - ▲ One (1) external SAS connector (SFF-8470)
 - ▲ One (1) Ethernet “pass through” to ATCA-S201 (RJ-45)
 - ▲ One (1) Serial “pass through” to ATCA-S201 (RJ-45)

POWER REQUIREMENTS

- Dual-redundant –48V rail
- Input range: 39.5 – 72V DC
- Typical power: 60 Watts without AMCs

THERMAL CHARACTERISTICS

- Operating range: –5° C to 55° C

BLADE SIZE

- 8U form factor, 280 mm X 322 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.3

Ordering Information

Part Number	Description
ATCA-S201	ATCA iSCSI blade with four (4) AMC sites
ATCA-S120	ATCA JBOD blade with four (4) AMC sites
RTM-ATCA-SXXX-0	RTM for ATCA-S120-S201, single connector, two (2) SFF storage bays
RTM-ATCA-SXXX-2	RTM for ATCA-S120-S201, single connector, two (2) SFF 146GB HDD installed
AMC-S402-M-146G	Storage AMC with 146GB HDD - 10K - SAS interface
CABLE-SAS-1M	SAS cable, 4X, SFF-8470, 1 meter
CABLE-SERIAL-S201	Serial cable for the ATCA-201, RJ-45 to DB-9
CABLE-Y-SAS SAS	"Y" CABLE, 4X, SFF-8470, 1 meter

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.

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