

PrAMC-7311 Advanced Mezzanine Cards

Data Sheet

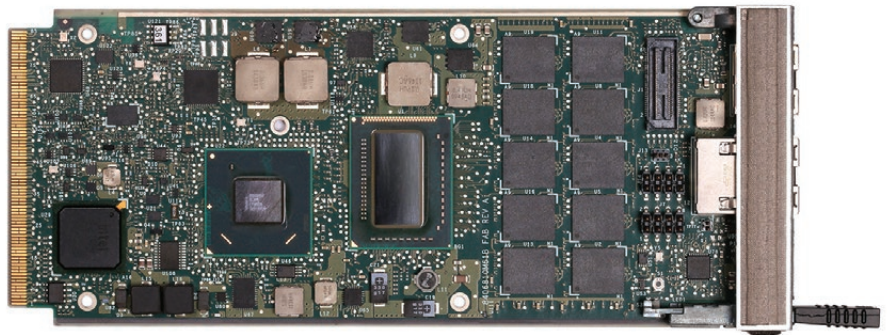
Processor AdvancedMC™ solution for ATCA blade products

- Single Intel® Core™ i7 processor running at 2.2 GHz
- Intel® BD82QM67 Platform Controller Hub
- 4GB and 16GB memory options, ECC protected, DDR3
- Complete Basic Blade Software package including Wind River Linux operating system
- AMC front panel support for USB, 10/100/1000 Ethernet and serial console port
- 8MB of BIOS flash, dual-bank architecture
- AMC mid-size form factor
- AMC.0, 1, 2, 3 compliant
- Design for NEBS/ETSI compliance

The Artesyn Embedded Technologies PrAMC-7311 is designed to the AdvancedMC™ (AMC) specifications in a mid-size form factor, making it ideal for ATCA® switch blade such as the Artesyn ATCA-F140 and payload blade applications. As an accessory for ATCA blades, it is a perfect fit for applications looking to separate control and data plane applications on a single ATCA blade, HA application, logging and co-processing.

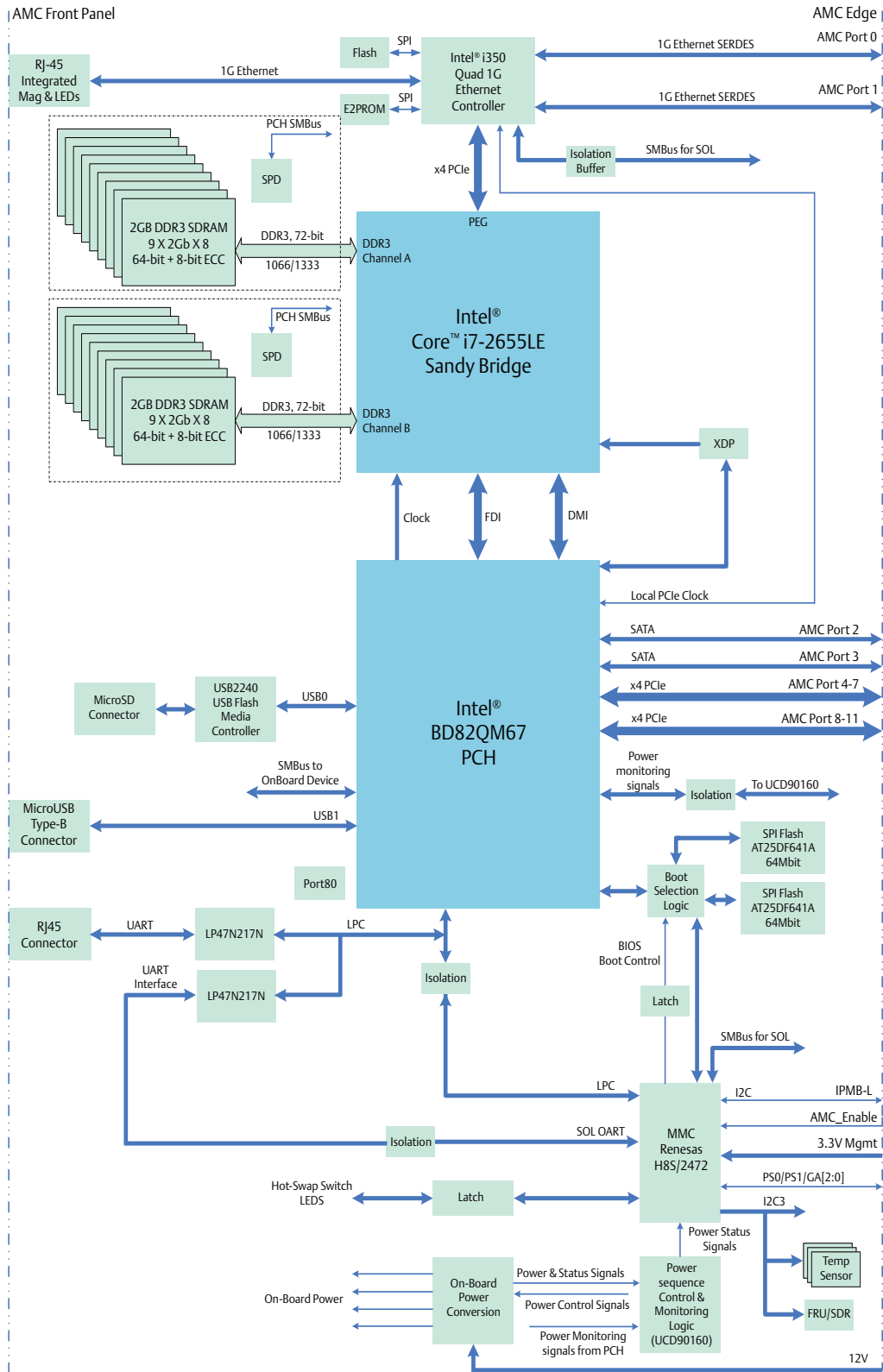
The PrAMC-7311 utilizes the low power Intel® Core™ i7 processor running at 2.2 GHz with up to 16GB of ECC protected, DDR3 memory. The Intel® BD82QM67 Platform Controller Hub (PCH) is used to integrate many functions and saves product real estate for additional features like USB, additional memory, etc. A dual-bank firmware architecture is employed for system reliability and availability.

The module management controller (MMC) implementing IPMIv2.0 based management and hot-swap feature allows for module replacement or field upgrades, reducing the system down time to almost zero. A full software package is available for the PrAMC-7311 including Carrier Grade Linux and Basic Blade Services (BBS) software.



AdvancedMC™

PrAMC-7311 Block Diagram



Hardware

PROCESSOR COMPLEX

The Intel® Core™ i7 2655LE processor and the PCH provide the connectivity to memory and I/O resources. The I/O subsystem consists of:

- Intel® i350 quad Gigabit Ethernet controller
- BD82QM67 Platform Controller Hub (PCH), USB, SATA

Further I/O located on AMC carrier can be utilized via PCIe express on AMC ports 8 to 11.

PROCESSOR/CHIPSET

- Low power Intel® Core™ i7 2655LE processor, 2.2 GHz
- Intel BD82QM67 Platform Controller Hub (PCH)

MEMORY

- 4GB and 16GB options, ECC-protected SDRAM, DDR3
- 8MB boot flash, dual-bank architecture (4MB + 4MB)
- Persistent memory via microSD connector (microSD modules optional)

COUNTERS/TIMERS

- Real-time clock (RTC), embedded in the PCH chip
- Two stage, programmable Watchdog Timer
 - Interrupt driven, reset driven

AMC PORT MAPPING

- Port 0: 1.0 GbE
- Port 1: 1.0 GbE
- Port 2: SATA
- Port 3: SATA
- Ports 4-7: PCI Express (x4)
- Ports 8-11: PCI Express (x4)

STANDARD NETWORKING SUPPORT

The PrAMC-7311 provides PICMG AMC.2 compliant networking interfaces that can be attached to networks available on AMC carrier cards such as ATCA-F140. A 10/100/1000Base-T compliant Ethernet connection is provided via RJ-45 connector on the faceplate.

FRONT PANEL INTERFACES

- One (1) 10/100/1000 Ethernet, RJ-45
- RS-232 serial, RJ-45
- USB 2.0, Micro B connector

MODULE DIMENSIONS

- 73.5 mm x 181.5 mm

STATUS LEDS

- IS (In Service), green
- OOS (Out Of Service), red
- H/S (Hot Swap), blue

RELEVANT STANDARDS

- PICMG AMC.0
- PICMG AMC.1
- PICMG AMC.2
- PICMG AMC.3

POWER CHARACTERISTICS

- Input range: 10 VDC to 14 VDC
- Power draw: 30/50 watts (typical/maximum)

OPERATING ENVIRONMENT

- Operating temperature range: -5 °C to +55 °C @ 90% non-condensing humidity
- Storage temperature range: -40 °C to +70 °C @ 95% relative humidity

Software

The PrAMC-7311 comes complete with all required firmware and can be configured with an optional, integrated and verified software operating environment.

FIRMWARE

The PrAMC-7311 includes two firmware packages; BIOS and MMC. The BIOS firmware includes support for:

- Unified Extensible Firmware Interface (UEFI)
- Multiple boot options including:
 - HDD connected to the AMC
 - On-board flash disk
 - External USB boot media
 - PXE boot via AMC Port 0, 1 and front panel Ethernet interface
- BIOS upgrade via local CPU

MODULE MANAGEMENT CONTROLLER

The PrAMC-7311 features an Module Management Controller (MMC). The MMC is a management subsystem providing monitoring, event logging, and recovery control. The MMC serves as the gateway for management applications to access the platform hardware. Features include:

- Compliance with AMC.0
- Rollback capability if MMC image upgrade failed
- Firmware (BIOS and MMC) upgradeable from IPMI interface (IPMB-L) and/or locally, PICMG HPM.1 support or via Basic Blade Services (BBS) firmware upgrade utility

SUPPORTED OPERATING SYSTEMS

The PrAMC-7311 is designed to operate with:

- Wind River PNE 3.0
- VMware ESXi 5.5 certified

OPTIONAL SOFTWARE

The PrAMC-7311 can be configured with optional software that includes a complete operating system and Basic Blade Services (BBS) software; a set of software components to facilitate a fully integrated and verified telecom platform.

An operating system for the PrAMC-7311 with all required device drivers is provided in binary form for a simple out-of-the box operation. The PrAMC-7311 operating system is a Carrier Grade Linux (CGL) distribution based on Wind River PNE 3.0. This distribution comes with all the Linux Support Packages (LSPs) to support the PrAMC-7311 as well as user applications.

Basic Blade Services include:

- Hardware Platform Management (HPM) including local MMC, LED, E-Keying and blade extraction software
- Firmware upgrade utility
- HPI client library
- SRstackware client library

Ordering Information

Marketing Number	Description
PRAMC-7311	AMC with Intel® Core™ i7-2655LE Processor, 2.2GHZ, 4GB DDR3 - mid size
PRAMC-7311-16GB	AMC with Intel® Core™ i7-2655LE Processor, 2.2GHZ, 16GB DDR3 - mid size
MICROSD-FLASH-2GB	MicroSD Flash card, 2GB
SW-WR-PRAMC-7311	CD with WR PNE 3.0 and BBS for the PRAMC-7311, single blade license

Regulatory Compliance

Item	Description
Designed to comply with NEBS	Telcordia GR-63-CORE, NEBS Physical Protection, Level 3
	Telcordia 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, Weatherprotected, not Temperature Controlled Storage Locations
	ETSI Transportation, ETS 300 019-1-2, Class 2.3 equipment, Public Transportation
	ETSI Operation, ETS 300 019-1-3, Class 3.1(E) equipment, Partly Temperature Controlled Locations
	ETSI EN 300-132-2 Environmental Engineering (EE); Power supply interface at the input to telecommunications equipment; Part 2: Operated by direct current (dc)
	ETS-300-753, Equipment Engineering (EE); Acoustic noise emitted by telecommunications equipment
EMC	ETSI 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
	ECISPR 22, Limits and Methods of Measurement of Radio Disturbance Characteristics of Information Technology Equipment
	AS/NZS CISPR 22 (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
	Industry Canada ICES-003 Class A
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.
RoHS 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)
CE Conformity	Directive 2004/108/EC, Directive 2006/95/EC

SOLUTION SERVICES

Artesyn Embedded Technologies 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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