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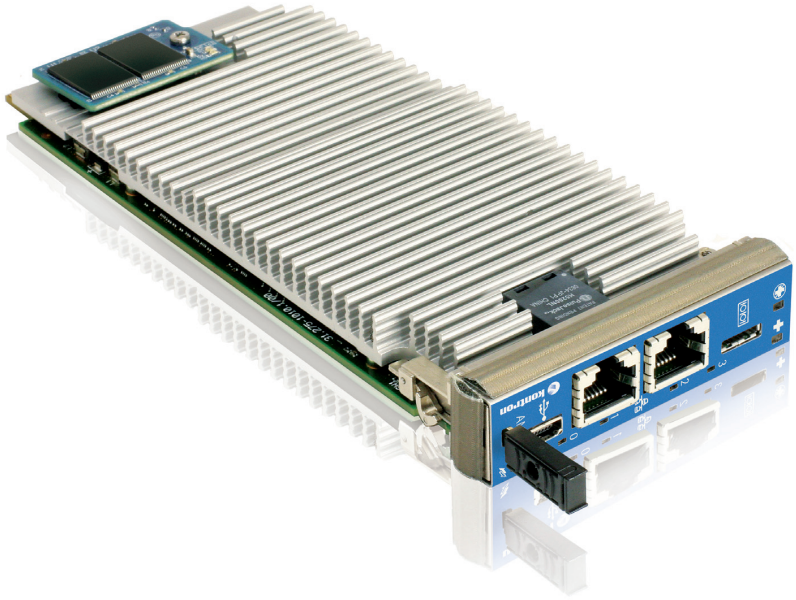
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Find the *Kontron AM4011* at our website: ***Click HERE***

» AM4011 «



Ultra Performance

» Intel® Core™2 Duo with 1.5 GHz

Ultra Capacity

» Up to 4 GB memory DDR2 400 MHz

» Up to 8 GB NAND Flash

Ultra Flexibility

» Flexible Gigabit and PCI Express® fabric interface

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First class performance AMC module

High performance and comprehensive AMC interconnect capabilities

Ultra Performance

The AM4011 is a highly integrated CPU board implemented as a Single Mid-size or Full-size Advanced Mezzanine Card (AMC) Module. The design is based on the Intel® Core™2 Duo processor in 65 nm technology with 64 kB L1 and 4 MB L2 cache in a 479 FCBGA package combined with the Intel® 3100 server-class chipset providing a front side bus (FSB) of 667 MHz.

Ultra Capacity

The board includes up to 4 GB registered Double Data Rate (DDR2) memory with Error Checking and Correcting (ECC) running at 400 MHz. Two dual Gigabit Ethernet controllers each utilizing a x4 lane PCI Express interconnection to the Intel® 3100 chipset ensure maximum data throughput between processor and memory. The AM4011 further provides up to 8 GB Flash memory via an USB 2.0 NAND Flash Controller.

Ultra Flexibility

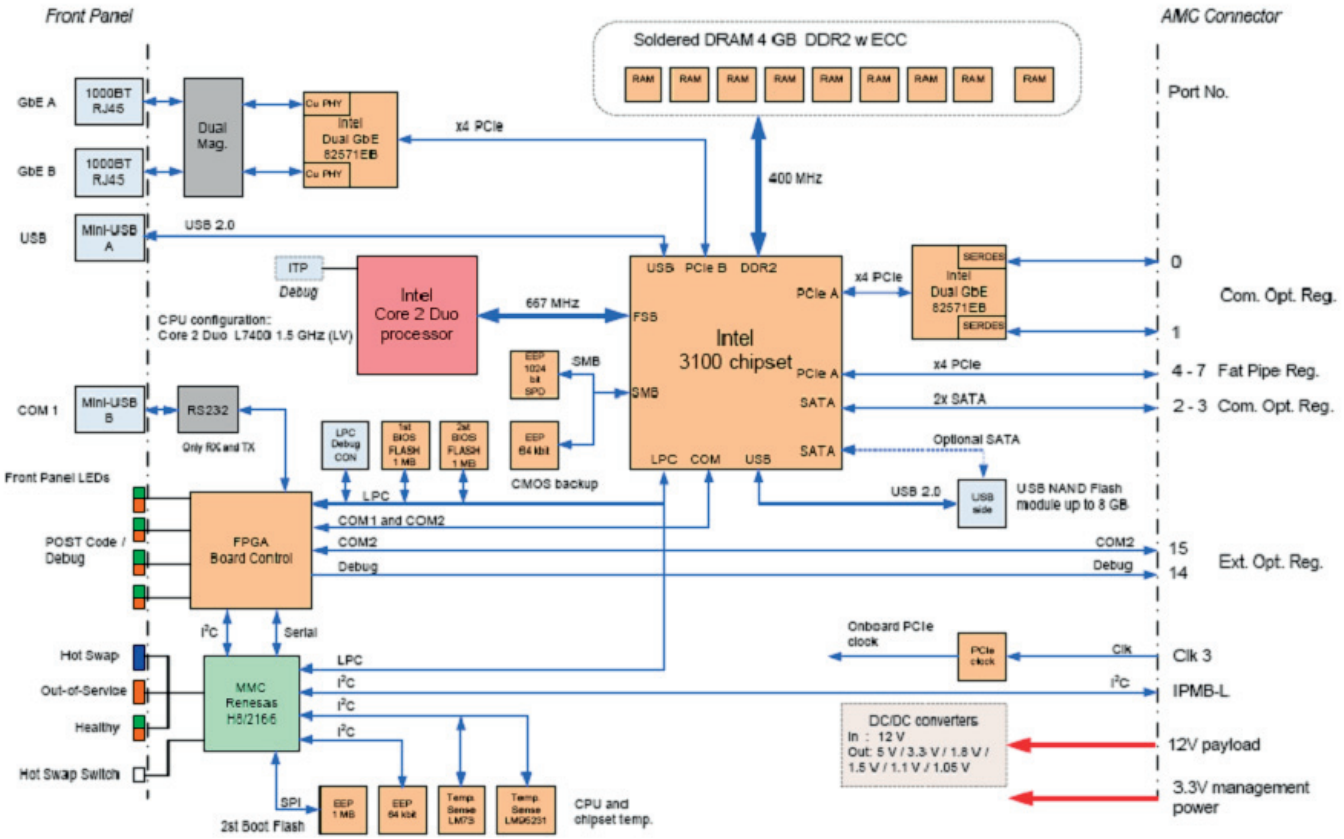
Supporting the PICMG sub-specifications AMC.1/.2/.3 the AM4011 ensures a comprehensive set of interconnecting capabilities to the AMC Carrier. A x4 PCI Express lane according to AMC.1 guarantees high throughput for I/O intensive applications. The dual Gigabit Ethernet controller realizing the AMC.2 interconnect utilizes a x4 lane PCI Express interface to the 3100 chipset ensuring maximum packet performance. Two SATA ports compliant to AMC.3 allow flexible usage models of the AM4011 depending on the application requirements. The AM4011 offers comprehensive front panel connectivity by 2x GbE RJ45 ports, 1x USB port, an RS232 interface realized via a mini 10-pin connector.

AMC everywhere

A comprehensive range of 'AMC everywhere' ATCA boards, such as ATCA carrier boards, CPU and hub boards are complementing Kontron's AMC product portfolio including the AM4011 module. Optimized for high-performance, packetbased telecom systems, the AM4011 is targeted towards, but not limited to telecom applications such as radio network controllers, storage control, routing and switching solutions in ATCA systems. Beyond the usage in ATCA systems the AM4011 complies to the MicroTCA standard dedicated for cost optimized communication applications.

Reliability

The careful design and selection of high temperature resistant components together with the elaborated heat sink construction ensures a high product availability. This, along with a high level of scalability, reliability, and stability, makes this state-of-the-art product a perfect core technology for long-life embedded applications.



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Technical Information

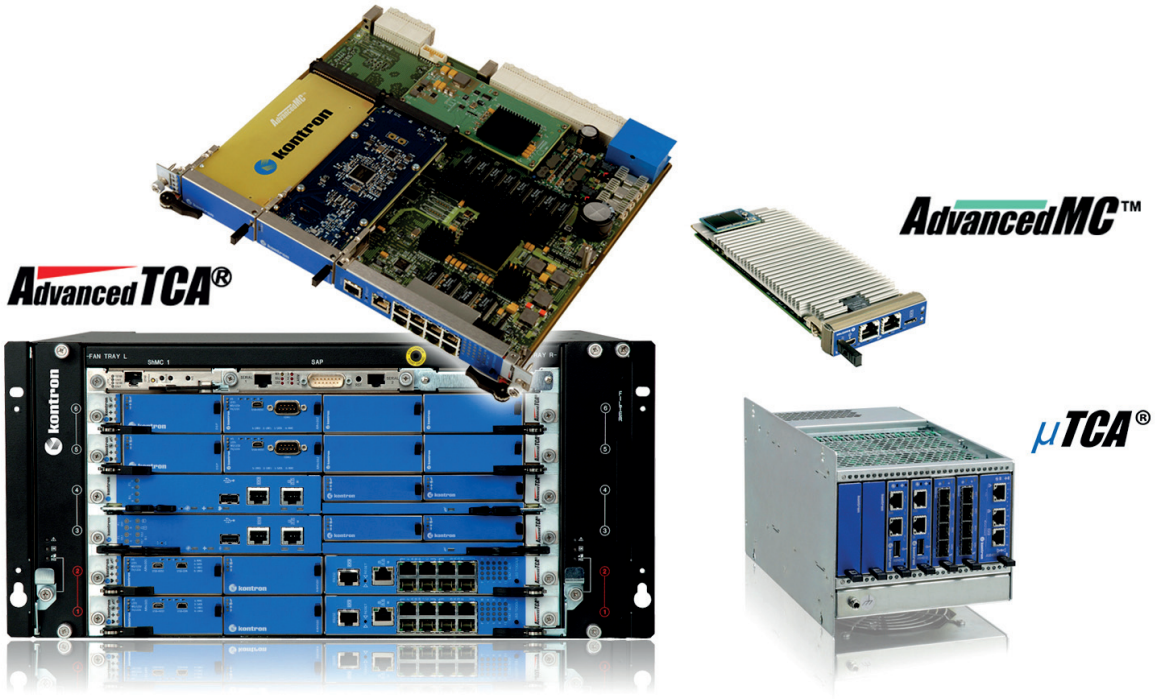
System Processor	Intel® Core™2 Duo L7400 (LV), 1.5 GHz, 667 MHz FSB, 4 MB L2 cache The processor is passive cooled with a fanless heatsink. Forced air cooling at a specific flow rate is required.
Memory	
System memory	Up to 4 GByte (soldered) registered DDR2 400 MHz with ECC
NAND Flash	Up to 8 GByte NAND Flash via onboard USB 2.0 Flash controller
Flash (BIOS)	Two redundant 1 MB Firmware hubs (FWH)
EPROM	Serial EEPROM (24LC64) 64 kbit
Onboard Controller	
Intel® 3100 chipset with integrated Memory and I/O Controller Hub	Three x4 PCI Express® ports, DDR2 SDRAM memory controller with ECC, six SATA 150 ports, four USB 2.0 ports, two UARTs, RTC, Interrupt Controller, Timer
Gigabit Ethernet	Two Intel® 82571EB dual Gigabit Ethernet PCI Express® bus controller
Watchdog	FPGA based, software configurable, two-stage Watchdog with programmable timeout ranging from 125 msec to 256 sec in 12 steps.
MMC	Microcontroller with on-chip 512 kB Flash and 40 kB RAM, ext. 1 MB SPI Flash, 64 kbit EEPROM
AMC System Interconnect	
PCI Express	One x4 PCI Express® interface AMC fat pipes region port 4-7
Gigabit Ethernet	2x 1000BASE-BX (SerDes) on AMC ports 0-1 (Common Options Region)
Serial ATA	2x Serial ATA 150 ports on AMC ports 2-3 (Common Options Region)
Serial Interface	1x Serial Port (COM2) on AMC port 15 (Extended Options Region)
Front Panel	One USB 2.0 port on a 5-pin, mini USB type A connector One Serial port (COM1) with RS-232 signal level on a mini 10-pin connector Two Gigabit Ethernet ports on two RJ-45 connectors Three Module Management LEDs Four User-Specific LEDs
MMC Module Management Controller	Microcontroller with 40 kB RAM and redundant 512 kB Firmware Flash with automatic roll-back strategy. The MMC carries out IPMI commands such as monitoring several onboard temperature conditions, board voltages and the power supply status, and managing hot swap operations. The MMC is accessible via a local IPMB (IPMB-L) and two host Keyboard Style Interfaces (KCS).
Compliancy	
ATCA	PICMG 3.0 AdvancedTCA Base Specification R2.0
MicroTCA	PICMG MTCA.0 Micro Telecommunications Comp. Architecture R1.0
AMC	PICMG AMC.0: Advanced Mezzanine Card Specification R2.0 PICMG AMC.1: PCI Express® and Advanced Switching R1.0 PICMG AMC.2: Gigabit Ethernet R1.0 PICMG AMC.3: Storage Interfaces R1.0
IPMI	IPMI Intelligent Platform Management Interface Spec. V2.0 IPMI - Platform Management FRU Information Definition V1.0
PCI Express®	PCI Express® Base Specification Revision 1.0a
Serial ATA	Serial ATA 2.5 Specification
CE	EN55022, EN55024, EN61000-6-2/-6-3, EN300386, EN60950-1
Vibration/Shock	IEC60068-2-6 / IEC60068-2-27
Climatic Himidity	IEC60068-2-78
WEEE	Directive 2002/96/EC
RoHS	Directive 2002/95/EC
Power Consumption	
AM4011 w. Core™2 Duo, 1.5 GHz, 2 GB	max. 36 W
General	
Dimensions	181.5 mm x 73.5 mm x 18.96 mm (Mid-size/Single-width), 181.5 mm x 73.5 mm x 28.95 mm (Full-size/Single-width)
MTBF	223,951 h acc. Bellcore Issue 6, Ground Benign, Controlled, 30° C
Software Support	AMI BIOS, BIOS parameters saved in EEPROM, Boot order defined via MMC Serial over Lan, Support for Redhat Linux, WRLinux PNE 2.0 (Q3/2008), VxWorks 6.6 SMP (Q3/2008)
Environmental	
Operating temp.	-5°C to +55°C (depending on system environment)
Storage temp.	-40°C to +70°C
Humidity	Operational: 5%-90% (non-condensing) / Non-Operating: 5%-95% (non-condensing)

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Ordering Information

Article	Description
AM4011-1.5D-2GS	Intel® Core™2 Duo 1.5 GHz, 2 GB Memory, full-size
AM4011-1.5D-4GS	Intel® Core™2 Duo 1.5 GHz, 4 GB Memory, full-size
AM4011M-1.5D-2GS	Intel® Core™2 Duo 1.5 GHz, 2 GB Memory, mid-size
AM4011M-1.5D-4GS	Intel® Core™2 Duo 1.5 GHz, 4 GB Memory, mid-size
FLASH-USB-xxx	USB NAND-Flash in various capacities
CABLE-USB	Adapter for 5-pin Mini USB Type A to USB Type A Connectors
CABLE-SERIAL	Adapter for 10-Pin Mini Connector to 9-Pin D-Sub Female Connector
LIN-BSP-WR-AM4011- PNE2.0	LIN-BSP WindRiver PNE2.0, CD-R, incl. AM4011 hardware docu
LIN-BSP-AM4011	LIN-BSP, CD-R, incl. AM4011 hardware docu

AM4011 Platforms



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Datasheet – AM4011 #01272015WMH
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