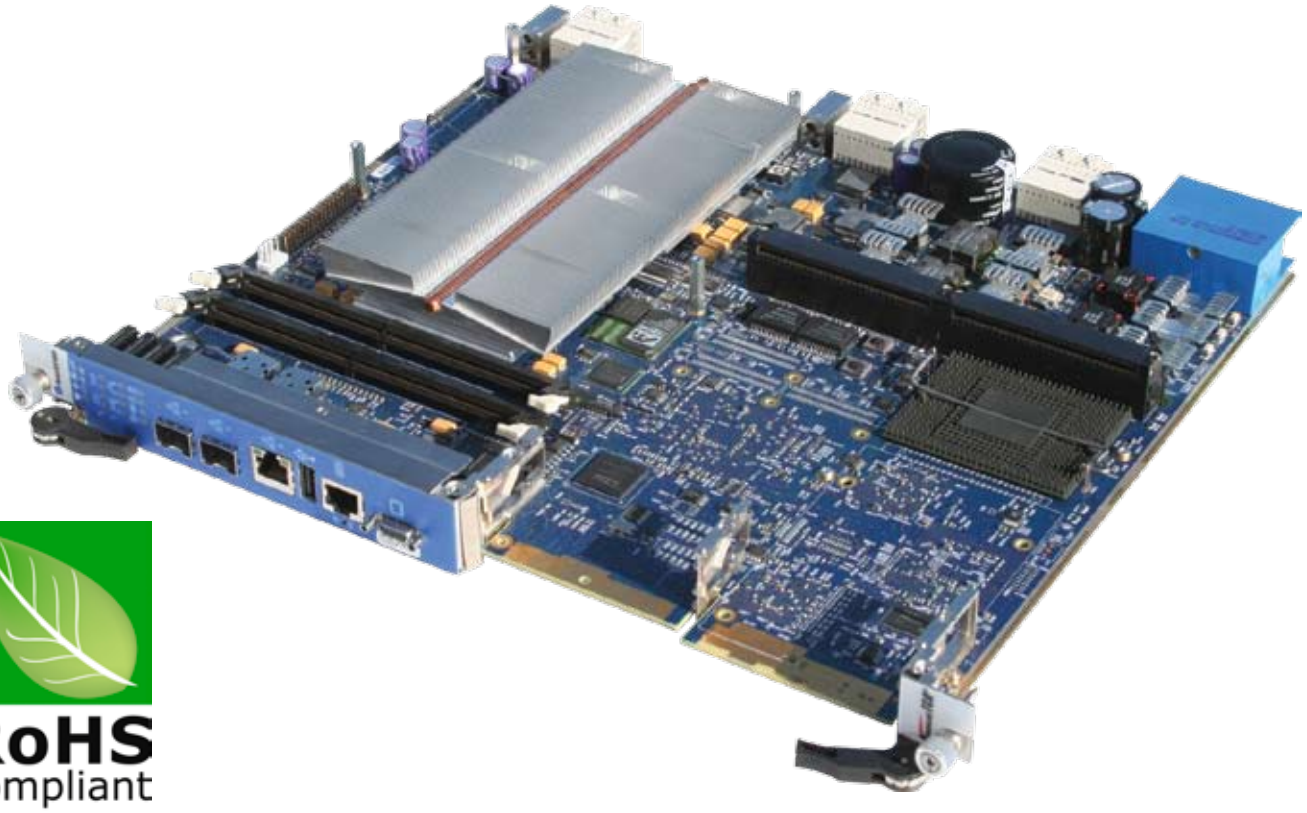
AT8010

AdvancedTCA processor board with dual AdvancedMC support



RoHS compliant
2002/95/EC

AT8010 — high performance with the flexibility of dual AdvancedMC module support

The Kontron AT8010 AdvancedTCA processor board is fully RoHS compliant and is an ideal building block for multiple wireless, IMS and wireline network applications. With its support for two AdvancedMC modules, the Kontron AT8010 enables designers a higher number of design options for open modular-based systems.

Powered by a LV, high performance Intel® Xeon™ processor up to 2.8 GHz, the Kontron AT8010 features dual Gigabit Ethernet and dual Fiber Channel on the fabric interface. The base interface offers dual Gigabit Ethernet. With up to 4 GB of DDR-II 400 SDRAM, IPMI v1.5 support, this node board provides high interconnect performance that is ideally suited to support any number of high throughput I/O communication applications.

Kontron pre-integrated open modular solutions offer best-in-class carrier-grade hardware platforms, combined with carrier-grade OS and middleware solutions. Kontron offers a diverse selection of AdvancedTCA processor, switch and carrier boards plus complementary field-replaceable AdvancedMC processor, storage, and I/O modules.

- AdvancedTCA PICMG 3.0/3.1 Processor Board
- Intel® Xeon™ 2.8 GHz; 800 MHz FSB
- Dual AMC.1/.2/.3 (SATA) module support
- Dual DDR-II DIMM for 4 GB of PC2-3200 registered 400 SDRAM
- Dual Gigabit Ethernet base interface
- Dual Gigabit Ethernet plus dual Fibre Channel on fabric interface
- IPMI v1.5 support

Technical Information AT8010

Processor
- Intel® LV Xeon™ 2.8 GHz Processor; 800 MHz FSB
- Passive heatsink

Cache Memory
- 1 M L2 on-die cache

Chipset
- Intel E7520 MCH, Intel 6300 ESB ICH, and Intel 6700 PXH

Bus Interface
- CPU Front side bus at 800 MHz, 64-bit data, 32-bit address
- Memory bus at 400 MHz, 144-bit data (2 channel)
- Three onboard PCI-Express busses
- Two onboard 64-bit/133 MHz PCI-X busses
- One onboard 32-bit/33MHz bus for VGA and LAN management port

Expansion Slots
- AMC Slot B3: PCI-Express, Ethernet*, SATA, Fibre Channel*
- AMC Slot B4: PCI-Express, Ethernet*, SATA, Fibre Channel*

System Memory
- Up to 4GB on 2x240-pin latching DDR-II 400 SDRAM (PC2-3200)
- ECC support, support S4EC/D4ED when using x4 SDRAM
- Two DDR chanels 72-bit/200 MHz for Interleave operation

Flash Memory
- Two Redundant 1MB BIOS (Field software upgradeable)
- Roll back functionality controlled by IPMC

Storage
- Hard Disk SATA interface available through each AMC mezzanine card
- SCSI Hard drive can be provided through a PMC module; no rear access
- Fibre Channel hard drive access via front access SFP modules or using proper fabric interface switches.

Connectors
Front Panel: CRT (1x micro-VGA), ethernet (1x RJ-45 with link/activity indicators), COM1 (1x RJ45), USB (1x USB), Fibre Channel (2x Optical SFP), Optional ethernet (2x RJ45)

Reliability
- MTBF: > 107,000 hours @ 40°C / 104°F (Telcordia SR-332, Issue 1)
- Whole board protected by active breaker
- USB voltage protected by an active breaker

Safety / EMC
Meet or exceed:
- Safety: UL 60950 -1: 2003; CSA C22.2 No 60950--1-03; EN 60950-1:2001; IEC60950-1
- EMI/EMC: FCC 47 CFR Part 15, Class B; CE Mark to EN55022/EN55024/ EN300386

Board Specifications

Description	Front Plate	Rear I/O	AMC	Total
Video	1	1	-	1
USB	1	1	-	2
Serial	1	1	-	1
Ethernet Management	1	1		1
Ethernet Base	-	2 (back-plane)	-	2
Ethernet Fabric	2*	2* (back plane)	2*	2
Reset Button	1	1	-	2
FC (Optional)	2*	2*	2*	2

* Various combinations through cross point switches

BIOS
- AMI BIOS
- Save CMOS in Flash option
- Boot from gigabit Ethernet (Base and Fabric Interface)
- Boot from Fibre Channel
- Boot from USB 2.0 (Floppy, CD-ROM, Hard Disk)
- Auto configuration, extended setup and VGA disable by jumper
- Diskless, Keyboard less, and video less operation extensions
- System, video and LAN BIOS shadowing
- Programmable memory wait states
- HDD S.M.A.R.T. support
- Advanced Configuration and Power Interface (ACPI 1.0) (advanced thermal management such as resume, overheat alarm and auto slow down)
- Setup console redirection to serial port(VT100) with CMOS setup access
- Field updateable BIOS
- Event (SERR, PERR, Memory SBE, POST errors) log support to IPMC

OS Compatibility
- Red Hat Enterprise Linux v.4

IPMI Features
- Management Controller compliant to PICMG 3.0, AMC.0 and IPMI v1.5 rev 1.1.
- Management Controller is run time field reprogrammable without payload impact.
- Robust fail safe reprograming implementation (which includes two firmware images) that could perform automatic or manual rollback if a problem occurs during critical reprograming phase.
- Remote upgrade capability from all IPMI interfaces (CPU Host Interface/ IPMB-0/LAN).
- Management Controller self test which can detect failure under its code integrity and trig an automatic rollback.
- Can initiate a Host CPU reboot on a redundant BIOS image base on a BIOS-IPMC handshake result.
- Fast interrupt driven SMS host interface compliant to IPMI-KCS v1.5 rev 1.1
- Serial Over LAN (SOL) redirection of the Host CPU serial controller traffic to enable asynchronous serial-based OS and pre-OS communication via standard RMCP LAN application through the Management Controller.
- Standard Management Controller message bridging to AMC via IPMB-L
- Management Controller support standard PCI Hot Plug for PCI-Express AMC.
- Management Controller can initiate standard graceful OS shutdown via ACPI support.
- Hardware config that allows activation of the blade or AMC without Shelf Manager intervention.

Supervisory
- Support a system management interface via an IPMI V1.5 compliant controller
- Watchdog for BIOS execution and OS loading (through IPMI watchdog)
- Hardware system monitor (voltages, temperature), CPU temperature monitor / alarm; board temperature sensor, power failure, current monitoring through IPMC

Power Requirements
125W* -38V @ -72V

* The power consuption will vary depending on your product configuration

Environmental

	Operating	Storage and Transit
Temperature*:	0 to 55°C / 32 to 131°F*	-40 to +70°C / -10 to 158°F*
Humidity*:	5% to 90% @ 40°C /104°F non-condensing	5% to 95% @ 40°C /104°F non-condensing
Altitude*:	4,000m / 13,123 ft	15,000m / 49,212 ft
Shock*:	5G each axis*	Belcore GR-63-CORE Section 4.3
Vibration*:	5-500Hz, 1G, each axis	5-50Hz, 2G; 50-500Hz, 3G each axis
Airflow:	Min. 34 cfm	

* Designed to meet or exceed.

Warranty
Two years limited warranty

AdvancedTCA® AdvancedMC™ PICMG® intel Communications Alliance Premier

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