AT8030

Triple Intel® Core 2 Duo® plus 10GbE fabric and AdvancedMC support

powered by **Embedded**
Dual Core Processor

RoHS compliant
2002/95/EC
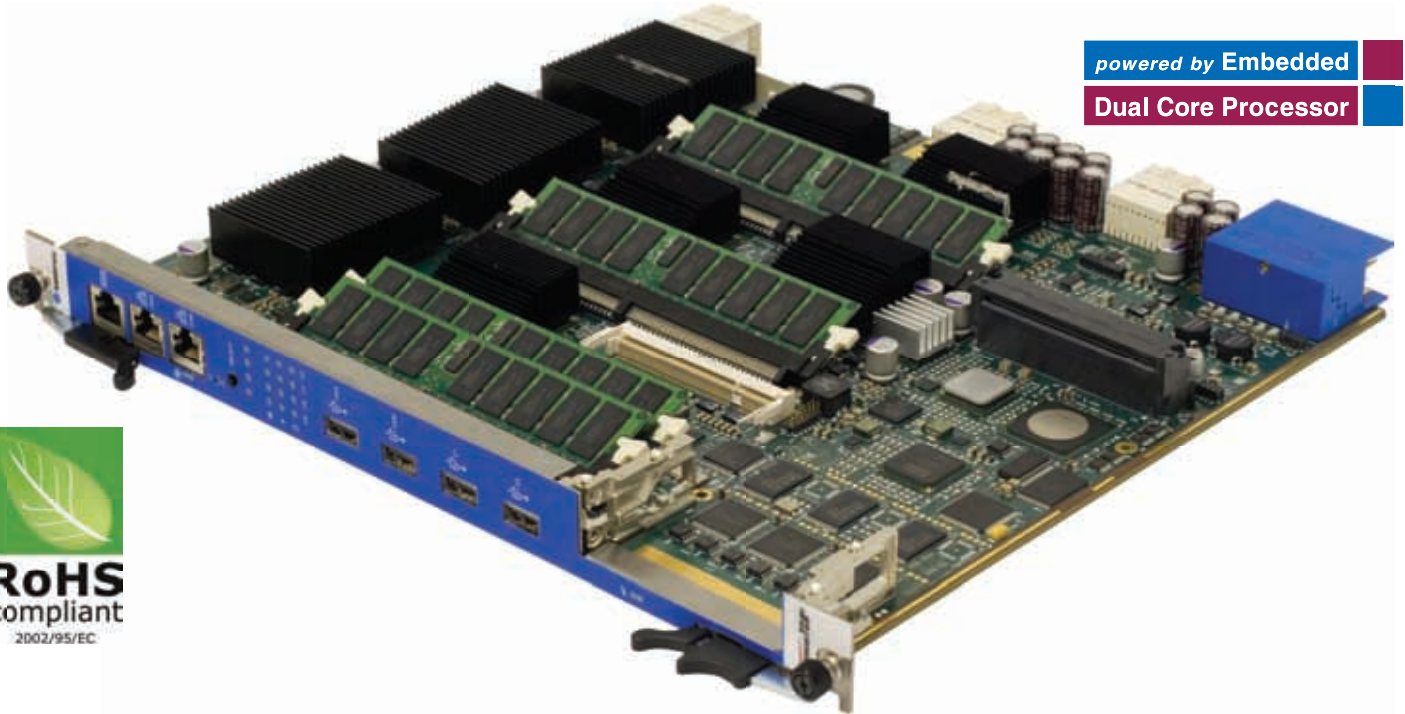
AdvancedTCA / AdvancedMC Open Modular Solutions

An ideal processor node for IMS clustering applications, the Kontron AT8030 AdvancedTCA processor board is designed with three Intel® Core 2 Duo ® processors each with dedicated memory, plus 10 GbE on the fabric and one AdvancedMC slot.

The Kontron AT8030 is one of three key open modular platform elements that complete Kontron's 10 GbE product portfolio. The Kontron AT8030 provides equipment manufacturers the flexibility to customize the design of their network system solutions, especially for various 10 GbE-based systems that drive IMS-based broadband applications that require the seamless delivery of video and data content in IPTV or VoD networks.

For further customization, the AT8030 is available with the RTM8030, a SAS-1.1 Revision 10-compliant rear transition module (RTM) incorporating 1x onboard SAS HDD and IPMI support.

- Triple Intel® Core 2 Duo®
- Dedicated SDRAM memory per CPU core
- 10 GbE on the fabric
- 1 X Mid-Size AdvancedMC bay
- PCI Express x4 and dual GbE connectivity
- Optional 2.5-inch SATA or SAS HDD via AMC or RTM
- Onboard XAUI/Gigabit Ethernet switch
- Onboard Flash Disk with up to 4 GB dedicated for each CPU
- Full IPMI support and remote management of each CPU engines via any IPMI channels

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> Technical Information

Processors
- 3x Intel Core 2 Duo L7400 LV Processor (3 separate engines)
- Core frequency >1.5GHz
- Automatic Thermal Management Intelligence for CPU 0/1/2

Cache Memory
- 4 MB of L2 cache dedicated for each core.

Chipset
- Intel® 3100 MCH

Bus interface
- CPUs Front Side bus at 667 MHz, 64-bit data, 36-bit address
- Memory bus at 400 MHz, 144-bit data (2 channel)

Expansion slots
- CPU 0 supports 1 Mid-Size AdvancedMC bay AMC.1 Type 4 compliant – x4 PCI Express, AMC.3 compliant – dual port SAS/SATA

System Memory
- CPU 0 : Up to 8GB DDR2 400 MHz, ECC, SDRAM on 2 DIMM sockets
- CPU 1&2 : Up to 4GB DDR2 400 MHz, ECC, SDRAM on 1 DIMM socket
- Up to 4GB of Flash Disk for each CPU engine

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

Storage
- CPU 0 supports 2 ports SAS available via AdvancedMC card or through Rear I/O
- Onboard PATA Flash drive (2GB)

Connectors
- 2x 10/100/1000 Base-T RJ45 on CPU 0
- 1x serial RJ45
- 4x USB 2.0 Front (2x CPU 0 & 1x CPU 1 & 1x CPU 2)
- Push-button on Front for serial port

Reliability
- MTBF: >TBD hours
- Whole board protected by active breaker
- USB voltage protected by an active breaker

Safety / EMC - Designed to meet or exceed
- Safety: UL 60950-1; CSA C22.2 No 60950-00; EN 60950-1:2001; IEC60950-1
- EMI/EMC: FCC 47 CFR Part 15, Class A; CE Mark to EN55022/EN55024

Board Specifications
- PICMG3.0 R2.0 - ATCA (upcoming R3.0 targeted)
- PICMG3.1 R1.0 - Ethernet/Fiber Channel ATCA
- AMc.0/1/3

XAUI/Gigabit Ethernet Switch
- On board Ethernet Switch (24-Port GbE Multilayer)
- 10-Gigabit XAUI fabric connection to Fabric Interface
- Optional "Small Mesh" configuration, i.e. full mesh topology for smaller 5 or 6-slot chassis
- Power PC Processor for switch management
- Core frequency >1GHz
- External memory on SO-CDIMM (512MB DDR2 400 MHz with ECC support)

Target Certifications
- UL, CE, NEBS Level 3 (designed for), FCC B; CP-TA

Warranty
Two years limited warranty

BIOS
- AMI BIOS
- Warm reset support with memory protection for post-mortem analysis
- Save CMOS in SEEPROM option
- Boot from gigabit Ethernet (CPU 1/CPU2 Base and Fabric interfaces and management Lan)
- Boot from SAS
- Boot from USB 2.0 (Floppy, CD-ROM, Hard Disk)
- Auto configuration and extended setup
- Diskless, Keyboard less, and battery less operation extensions
- System, video and LAN BIOS shadowing
- Robust BIOS flash Update with rollover capability of each CPU engine
- Advanced Configuration and Power Interface (ACPI 1.0, 2.0 & 3.0)
- Console redirection to serial port (VT100)with CMOS setup access, and SOL (Serial over LAN)
- Field updateable BIOS
- Event (SERR, PERR, correctable/uncorrectable ECC, POST errors, PCI-Express) log support to IPMC

OS Compatibility
- Red Hat Enterprise Linux V.5, Wind River Linux PNE 1.4

IPMI Features
- Management Controller compliant to PICMG 3.0, AMC.0, Rev 2.0 and IPMI v1.5 rev 1.1.
- SMHC: AT8030 behave exactly like Carrier AMC that includes 3 processors AMC + 1 AMC Bay
- Remote control capability of each CPU engines via any IPMI channels (power cycle / warm reset / cold reset)
- Robust IPMI flash Update with rollover capability and without any payload impact of each management controller (HPM.1 ready)
- Extensive sensors monitoring and event generation on thresholds, including overheat alarms
- Standard IPMI host interface with IPMI watchdog for each CPU engine Serial over LAN (+LAN access to BIOS menu setup) and IPMI over LAN (IPMI v2.0) from each CPU engine
- Management Controller self test which can detect failure under its code integrity and trigger an automatic rollback.
- CPU Remote warm/cold reset via standard PICMG FRU control command
- Fast interrupt driven SMS host interface compliant to IPMI-KCS v1.5 rev 1.1
- Hardware config that allows activation of the blade or AMC without Shelf Manager intervention.

Supervisory
- Supports 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 through IPMC

Power Requirements
TBD W* -38V @ -72V
* The power consumption 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:	TBD	

* Designed to meet or exceed.

> Corporate Offices

Europe, Middle East & Africa
Kontron AG
Oskar-von-Miller-Straße 1
85386 Eching/Munich - Germany

Tel.: +49 (0)8165 77 0
Fax: +49 (0)8165 77 279

sales@kontron.com

North America
Kontron America
Corporate Office
14118 Stowe Dr
Poway, CA 92064-7147

Tel.: (858) 677-0877
Fax: (858) 677-0898

sales@us.kontron.com

Asia Pacific
Asia Pacific
4F, No. 415, Ti-Ding Blvd.,
Sec.2, NeiHu District
Taipei, Taiwan 114
Tel. +886-2-2799-2789
Fax +886-2-2799-7399

sales@kontron.com.tw

kontron