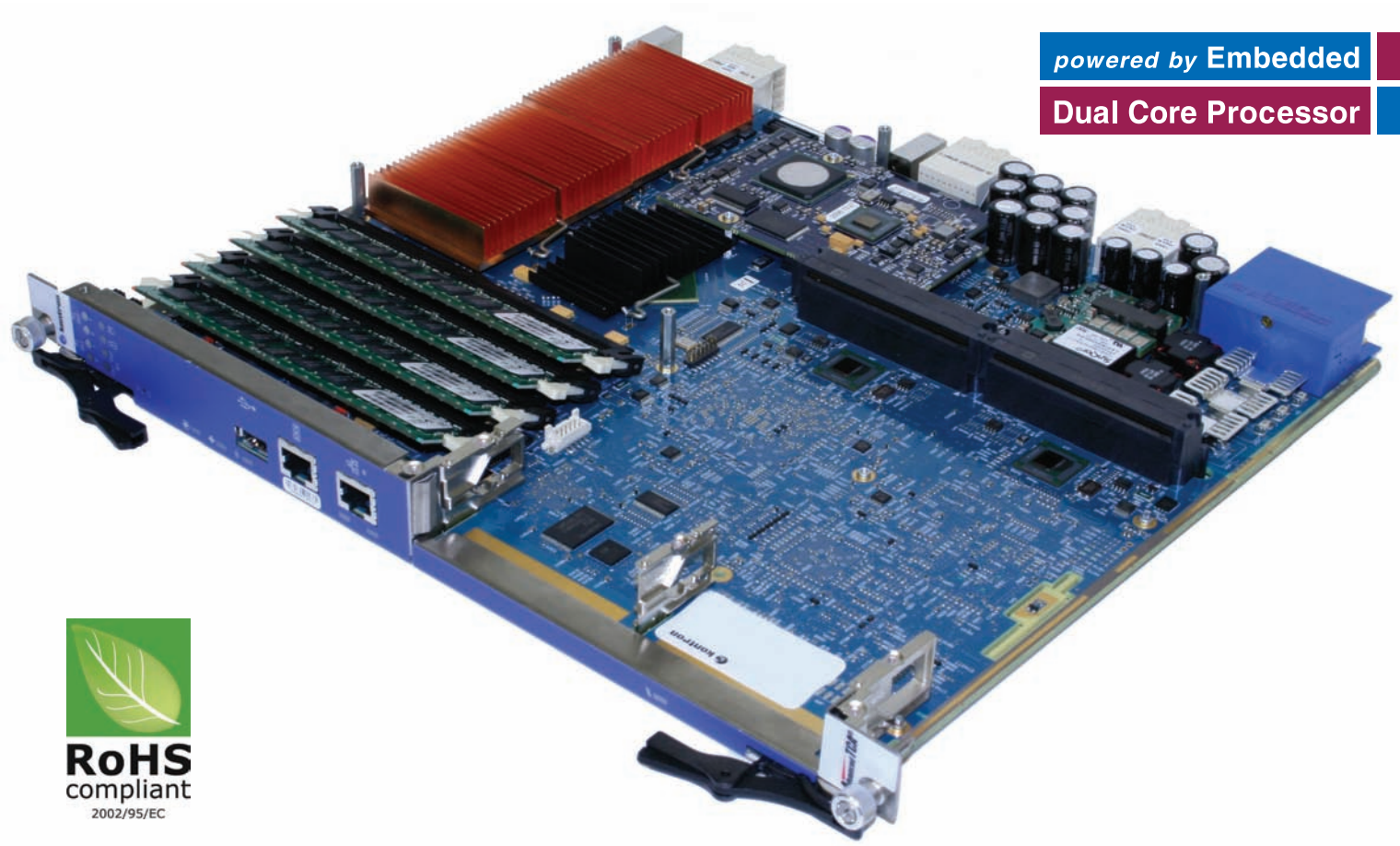
AT8020

Dual Intel® Dual-Core Xeon®

AdvancedTCA®



powered by Embedded

Dual Core Processor

RoHS compliant 2002/95/EC

The new Kontron AT8020 AdvancedTCA processor board features two Intel® Dual-Core Xeon® processors and support for two AdvancedMC modules. The result is an open modular processing platform that will increase the number of deployments of AdvancedTCA solutions at the heart of every compute intensive mobile-IMS network element — from the transcoding of live multimedia mobile content on a Multimedia Resource Function Processor (MRFP) to concurrent processing of subscriber data on Home Subscriber Locator (HLR) systems.

- Dual Intel® Dual-Core Xeon®
- Support for up to 16GB SDRAM
- 2 X Mid-size AdvancedMC bays
- Dual Dual-Gigabit on Fabric
- SAS interface available

Technical Information

Processors
- Two Dual-Core Intel Xeon LV Processors 2.0GHz
- Passive heatsinks

Cache Memory
- 32KB L1 instruction and 32KB L1 data cache dedicated for each core.
- 2MB L2 cache on each processor chip shared by both cores.

Chipset
- North Bridge: Intel E7520 MCH
- South Bridge: Intel 6300ESB

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)
- Six onboard PCI-Express x4
- One onboard 32-bit / 33 MHz for Management Port

Expansion slots
- 2 Mid-size advancedMC bays AMC.1 Type 4 compliant – x4 PCI Express, AMC.2 Type E2 compliant – 2 X1000BaseBX Ports, AMC.3 compliant – dual port SAS/SATA

System Memory
- Up to 16 GB on 4x240-pin latching DDR-2 400MHz SDRAM (PC2-3200)
- ECC support, support S4EC/D4ED when using x4 SDRAM devices
- 2 DDR-2 channels

Flash Memory
- Two redundant 2MB BIOS (Field software upgradeable)
- Roll back functionality controlled by IPMC

Storage
- 4 ports SAS available through each AdvancedMC card or through Rear I/O
- Onboard PATA Flash drive (2GB)

Connectors
Front Panel: Serial (RJ-45), Management Lan (RJ-45), USB

Reliability
- MTBF: >120 000 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
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, Clacc B; CE Mark to EN55022/EN55024

Board Specifications
- PICMG 3.0
- PICMG AMC.0
- PICMG AMC.1
- PICMG AMC.2
- PICMG AMC.3

Warranty
Two years limited warranty

BIOS
- AMI BIOS
- Save CMOS in NVRAM option
- Boot from gigabit Ethernet (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
- HDD S.M.A.R.T. support
- Advanced Configuration and Power Interface (ACPI 1.0, 2.0 & 3.0) (advanced thermal management such as overheat alarm and auto slow down)
- Console redirection to serial port (VT100)with CMOS setup access
- Field updateable BIOS
- Event (SERR, PERR, correctable/uncorrectable ECC, POST errors, PCI-Express) log support to IPMC

OS Compatibility
- Red Hat Enterprise Linux V.4 and V.5, Wind River Linux

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 reprogramming implementation (which includes two firmware images) that could perform automatic or manual rollback if a problem occurs during critical reprogramming 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 trigger 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
- 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
140 W* -38V @ -72V (Not including RTM and AMC modules)
* 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.

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