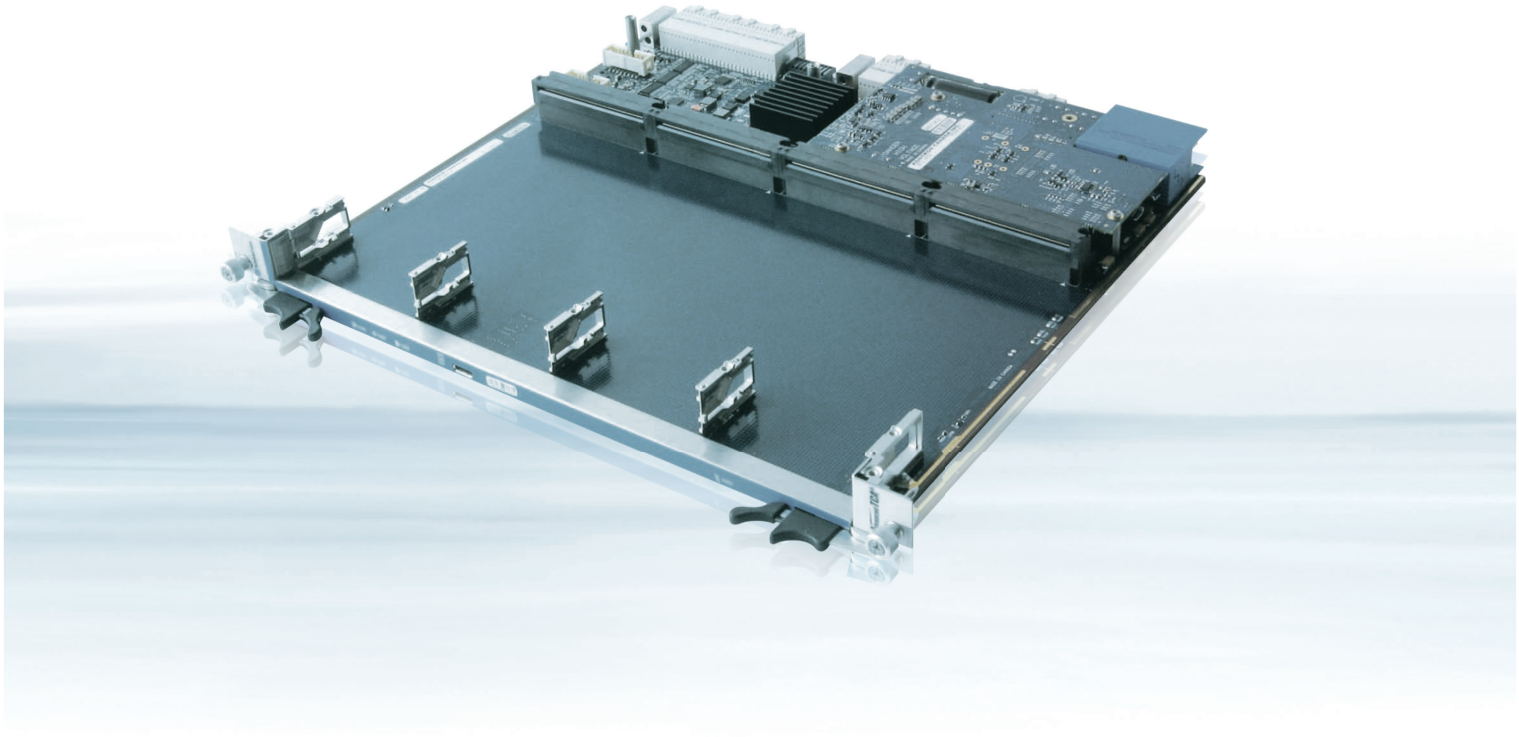
AT8404



AdvancedTCA 10GbE FABRIC CARRIER WITH 4x MID-SIZE AdvancedMC SLOTS

- PICMG 3.0, PICMG 3.1 option 9 compliant carrier board
- four (4) Mid-Size AMC slots that support AMC.0 rev 2, AMC.2, AMC.3
- PCI Express®, SRIO, SAS/SATA or 10GbE direct AMC interconnect
- 10GbE redundant fabric interface
- gigabit ethernet switching

POSSIBILITIES START HERE kontron

Built for Maximum Design Versatility

The Kontron AT8404 is one of three key open modular platform elements that complete Kontron's 10 GbE product portfolio. As a PICMG 3.0/3.1-compliant AdvancedTCA carrier board, the AT8404 sets an industry precedent with 4 Mid-Size AMC slots that support a full range of AMC modules including — TDM interfaces (E1/T1, STM-1, OC3), NPUs, DSPs, PrAMCs and Storage AMCs.

AdvancedMC-Everywhere integration for customization

The Kontron AT8404 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.

Full Redundancy and High Availability

Suitable for dual-star configurations in 14- and 16-slot systems, the AT8404 is hot swappable, supports full redundancy, and provides PCI Express®, SRIO or 10GbE direct AMC interconnects. For storage solutions, the AT8404 additionally provides SAS/SATA direct AMC interconnects. With full IPMI 1.5 support, the AT8404 also implements the HPM.1 protocol to ensure field safe update functionality of the IPMI Controller for field upgrades, rollbacks and watchdog functions.

TECHNICAL INFORMATION

STANDARDS COMPLIANCE	This board is compatible to the following standards: - PICMG 3.0/3.1 option 9 - AMC.0 rev 2, AMC.2, AMC.3 - PCI Express®, SRIO or 10GbE direct AMC interconnect - IPMI v1.5
BUILDING BLOCKS	- Ethernet Switch - Ethernet Switch Controller + Memory - Synchronous Clock Distribution - 4x AMC sites - RTM sites (Zone 3) - IPMI - Power Supply Mezzanine incl. Holdup Circuit
ETHERNET SWITCH	- Broadcom BCM56502 StrataXGS™ Gigabit Switch - 24x 1-GbE ports and 2x 10-GbE ports - 20 ports used for direct connections to each AMC ports 0 and 8 to 11 - 2 ports to the RTM - 2 ports to the base interface - 2x 10GbE ports to FI Channel 1 and 2.
ETHERNET SWITCH CONTROLLER AND SYSTEM MEMORY	- Socketless AMCC PPC405GPr 400 MHz - 256 MBytes SDRAM 133 MHz; 128 MByte Flash (supports multiple OS images); used for switch provisioning and diagnostics
SYNCHRONOUS CLOCK AND PCI EXPRESS CLOCK DISTRIBUTION	- Multi-service Line Card PLL - MLVDS Buffer - FPGA for clock distribution and control - PCI Express® compliant clock source with optional Spread Spectrum Clock

INTERFACES TO AMCS	- 5x GbE to AMCs distributed as follow:
	  - Common region ports 0 from Ethernet switch
	  - Fat pipe region port 8 to 11 from Ethernet switch
	- Port 2 & 3 are direct connect to neighbor AMC, B1 to B3 & B2 to B4
	- Port 4 to 7 are direct connect to neighbor AMC, B1 to B2 & B3 to B4
	- 7x channels from each AMC slot extended connector ports 13-15 and 17 – 20 to the RTM
	- AMC port 12 for Automatic Protection Switching (APS) across redundant Carriers (up to 2.5Gbps)

IPMI	- HPM.1 protocol to ensure field safe update functionality of the IPMI Controller for field upgrades, rollbacks and watchdog functions - PICMG 3.0 / IPMI 1.5 compliant
AMC SITES	- 4 Slot carrier - B+ connectors (pressfit) - AMC.1 type 4E1S2 on B1/B2/B4 and type 4E1S1 on B3 - AMC.2 Type 4E1 on B1, B2, B3, B4 - Telecom clocks and/or PCI Express clock support
RTM SITES	- 3 TYCO/ERNI ZD-F-4-10-2-B-22 Connectors. - Support for 7 RTM lanes from each AMC - 10/100Base-T for management - 12V and 3V3sus Supply Voltage connections - I^2C support - JTAG and production I/O support

TECHNICAL INFORMATION

SERVICES/APPLICATIONS		- NTP client for retrieving accurate time and date information - Onboard event management - Test and trace facilities - POST (power on self tests) diagnostics - The system shall provide a standards based SNMP implementation supporting SNMP v1, v2 and v3 for monitoring and management of Ethernet - IPMI version 1.5 for board management - IPMI based management of the AMC slots - Persistent storage of configuration across restarts - Support for retrieving and installing multiple configurations - Support for hot-plugging of the carrier board as well as AMCs - Two alternative firmware versions shall be stored allowing for rollback after updates
ETHERNET/BRIDGING		- Static link aggregation (IEEE 802.3ad) - Classic, rapid and multiple spanning tree algorithms shall be supported (IEEE 802.1D, IEEE 802.1w); VLAN tagging (IEEE 802.3ac) - Quality Of Service on all ports (IEEE 802.1p) - Full Duplex operation and flow control on all ports (IEEE 802.3x) - Auto negotiation of speeds and operational mode on all external GE interfaces as well as on the base interfaces - Dynamic L2 multicast registration (GMRP)
ENVIRONMENTAL	TEMPERATURE* HUMIDITY* ALTITUDE* SHOCK* VIBRATION*	Operating 0° C to 55° C 15 %-90 % (non-condensing) at 55° C (131° F) 4000 m (13,123 ft) 30G/11 ms half sine 5 to 100 Hz: 1G @ 0.25 Octave/minute Storage and Transit -40 to +70° C / -10 to 158° F* 15 %-90 % (non-condensing) at 55° C (131°F) 15,000 m (49,212 ft) 18G/6 ms Random 0.89 Grms (5-200 Hz)
MECHANICAL		(8U x 280 mm x 30.48 mm)

Targeted MTBF is 150,000h @ 30°C, calculations based on Bellcore/ Telcordia SR-332 Issue 1

CORPORATE OFFICES

EUROPE, MIDDLE EAST & AFRICA

Lise-Meitner-Str. 3-5
86156 Augsburg
Germany
Tel.: + 49 821 4086 0
Fax: + 49 821 4086 111
info@kontron.com

NORTH AMERICA

14118 Stowe Drive
Poway, CA 92064-7147
USA
Tel.: + 1 888 294 4558
Fax: + 1 858 677 0898
info@us.kontron.com

ASIA PACIFIC

1~2F, 10 Building, No. 8 Liangshuihe 2nd Street,
Economical & Technological Development Zone,
Beijing, 100176, P.R.China
Tel.: +86 10 63751188
Fax: +86 10 83682438
info@kontron.cn