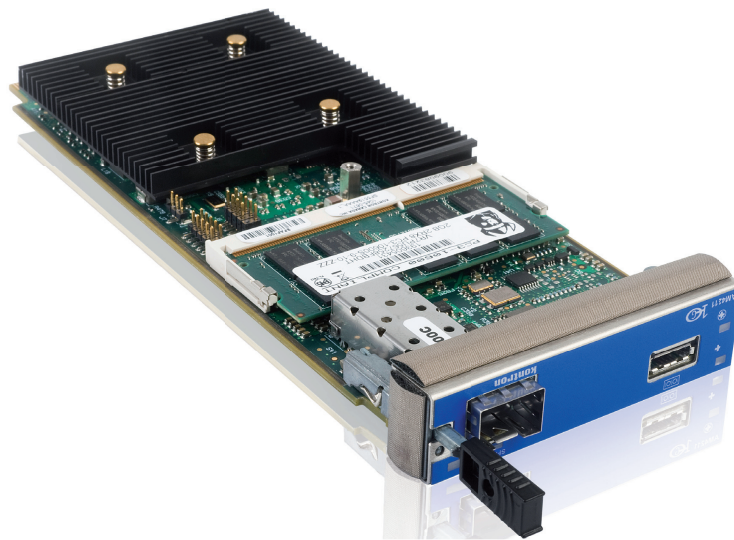


» AM4211 «



Next Gen 10-Core Packet Processor AMC Module

- » Cavium OCTEON® II CN6645 cnMIPS64® II multi-core processor
- » Versatile and high perf. AMC module for 4G LTE, WiMAX and security applications
- » Ideal eNodeB and LTE network element component on MicroTCA platforms.
- » Leverage as a co-processor Network Interface Card (NIC) on ATCA node blades
- » Best performance per watt compared to other multicore processors.
- » Unmatched deterministic, low latency 3rd generation DPI performance with unlimited rules and a rich featureset on a single chip.
- » 1x 10GbE to the front; software configurable interfaces to the Fabric with port 4-7 as PCIe x4 or SRIO and port 8-11 as PCIe x4, XAUI or 4x SGMII
- » The SRIO interface ensures interoperability with 3rd party Digital Signal Processing (DSP) AMCs

AM4211

Designed with OCTEON II MIPS64 10-core Packet Processor

The key differentiators of the Kontron AM4211 with the Cavium CN6645 processor is the support of SRIO, which is in addition to PCI-e Gen 2 and XAUI. The OCTEON II CN6645 processor features a set of advanced hardware acceleration capabilities that include: 10Gbps+ for security, TCP packet processing and QoS; 4Gbps for 3rd generation DPI; 10Gbps+ for compression; 80Gbps+ for RAID/ XOR/DeDup; and a schedule/synch/ordering engine for unlimited flows. It also incorporates SGMII with IEEE 1588 timestamp for Ethernet time synchronization, and is ideal

for all-IP network infrastructure synchronization implementations in the 4G network. The Kontron AM4211 AMC supports GbE on Ports 0 and 1 connected to the CN6645 processor for control plane functions, and is a compatible evolution from the existing Kontron AM4204, AM4210 and AM4220 Cavium-based packet processor modules. This makes the AM4211 an ideal candidate for the Kontron MicroTCA™ 1U platform OM6061 for eNodeB and base station systems.

Technical Information	
Multicore Processor Unit	10-Core Cavium OCTEON II CN6645 MIPS64 processor at 1.1 GHz 6-Core Cavium OCTEON II CN6335 MIPS64 processor at 1.3 GHz
Memory	1 to 8 Gigabyte DDR3 Memory support with ECC Up to 1333 MHz ECC SO-DIMM
Flash Memory	1Gb NOR Flash Boot sector protection
eUSB Storage	Single Port USB 2.0 interface (Optional)
IPMI	IPMI 2.0 compliant Voltage and Temperature Sensors ATCA LED control FRU data storage for AMC Firmware Update handling for field upgrades, rollbacks and watchdog functions
I/O Interfaces	Front: 1 SFP+ cage to support multi-rate fiber SFP+ modules Front: HIROSE for RS232 access to processor AMC TCLKA and TCLKC support AMC FCLKA input with 100Mhz AMC Port 0 and Port 1: 1000Base-BX AMC Ports: port 4-7 as PCIe x4 or SRIO and port 8-11 as PCIe x4, XAUI or 4x SGMII. AMC Port 15: RS232 (proprietary mapping)
Standards Compliance	This board is compatible to the following standards: AMC.0 R2.0 Advance Mezzanine Card Base Specification AMC.1 R2.0 PCI Express and Advance Switching AMC.2 R1.0 Ethernet Specification AMC.4 R1.0 Serial RapidIO Specification MTCA.0 R1.0 Micro Telecommunication Computing Architecture Base Specification IPMI v2.0. RoHS compliant
Mechanical Characteristics	4HP single Mid-size AMC Module (Full size on demand) Board is compliant with AMC.0 R2.0
Operating Voltages	Management: 3.3V +/-0.3V Payload: 10VDC to 14VDC
Operation Power	Management: 0.495 Wmax., TBD W typ. Payload: 40 W max., TBD W typ.
Temperature	Operates from -5°C to 55°C ambient air temperature with forced convection. Based on B.4. chassis. Operating @ 8.0 CFM: up to 25°C Operating @ 11.4 CFM 26°C to 40°C Operating @ 18.0 CFM 41°C to 55°C Non-Operating: -40°C to 85°C
Humidity	Designed to meet Bellcore GR63, Section 4.1 Operating: 5%-93% (non-condensing) at 40°C Non-Operating: 5%-93% (non-condensing) at 40°C
Altitude	Designed to meet the following requirements according to Belcore GR-63, section 4.1.3: Operating: -300 m to 4,000 m (13123 ft) (GR63 4.1.3), may require additional cooling above 1800m (5905ft) Non-Operating: -300 m to 14,000 m (45931.2 ft)
Shock and Vibration	Designed to meet EN 300 019 and Telcore GR-63 Designed to meet NEBS Level 3, Earthquake Zone 4

Technical Information

Safety

Low Voltage Directive 2006/95/EC
Complies with IEC/EN/CSA/ UL 60950-1.
The board meets flammability requirements, as specified in Telcordia GR-63-CORE

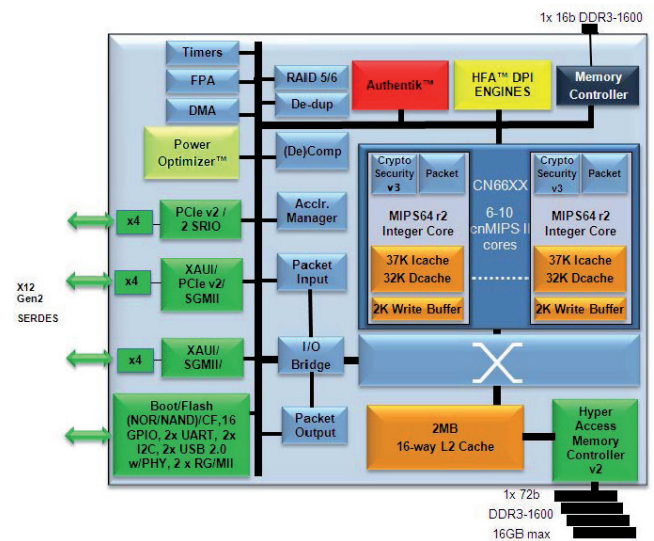
Electromagnetic Compatibility

Meets or exceeds the following specifications (assuming an adequate chassis):
EMC Directive (Europe) 2004/10B/EC
EN55022 (Europe); EN55024 (Europe); CISPR22; VCCI (Voluntary Japan Electromagnetic Compatibility requirement)
EN 300 386, Electro-Magnetic Compatibility (EMC) Requirements for Public Telecommunication Network Equipment;
Electromagnetic Compatibility (EMC) Requirements
FCC 47 CFR Part 15, (USA)
Telcordia GR-1089

BLOCK DIAGRAM

10-Core Cavium OCTEON II CN6645 MIPS64 processor

- » Packet I/O processors and hardware application acceleration manager
- » New security acceleration engine with expanded algorithm support (3GSNOW)
- » Third-generation pattern search capability with new Hyper Finite Automata (HFA) engines
- » Latest memory and I/O Interfaces: DDR3, SRIIO PCIe Gen2
- » 2 x10GbE & 8GbE
- » 12W to 28W max power and power optimizer technology
- » Powerful DMA, RAID, and De-dup engines
- » Foot print and software compatibility with 63XX providing a seamless upgrade path to provide 2x performance



Software Compatible with Kontron AM42xx Series and OM6061 MicroTCA NEBS-compliant Platform

The Kontron AM4211 AMC supports GbE on Ports 0 and 1 connected to the CN6335 processor for control plane functions, and is fully software compatible with the existing Kontron AM4204, AM4210 and AM4220 packet processor modules, ensuring it is an ideal candidate for configurations in the Kontron MicroTCA™ 1U platform OM6061.

4G network equipment vendors seeking a faster time to deployment using standards based hardware platforms such as AdvancedTCA® and MicroTCA™ can use the AM4211 as part of a system design of eNodeB, MME, Serving Gateway, and Packet Data Network (PDN) Gateway systems, among others. The Kontron OM6061 1U MicroTCA platform can be configured with the AM4211 along with any other Kontron processor, IO and storage modules, as well as any 3rd party AMC modules.



AM42xx PP IO Series
AM4204, AM4210, AM4220

AM42020 PrAMC

AM4530 NAS AMC



OM6061 1U
MicroTCA Platform

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