kontron

» AM4301 «

AdvancedTCA / AdvancedMC

Open Modular Solutions

» Mid-Size/Full-Size form factor
» 4x Gigabit Ethernet (GbE) via RJ45
» Full fast path buffer for QoS
» Virtual LANs 802.3q VLAN tagging
» Manages hot-swap control, power and temperature

The Kontron AM4301 Quad GbE module is the ideal AdvancedMC unit for network applications that require multiple ports directly from an AdvancedTCA processor blade. As a Mid-Size or Full-Size form factor, the AM4301 features 4x 10Base-T/100Base-Tx/1000Base-T ports, each providing dedicated Input/Output (I/O) bandwidth of PCIe x4 links for maximum performance. Built with an Intel 82571EB Gibabit Controller, the AM4301 delivers expanded bandwidth for slot-constrained AdvancedTCA systems and, as a hot-swappable, field replaceable unit (FRU), it also follows the same stringent carrier grade RASM feature set, namely - Reliability, Availability, Serviceability, Maintainability. The AM4301 supports remote management via IPMI v1.5, and features a Management Controller that is run-time field reprogrammable without any payload impact.

AMC Everywhere

Kontron makes all of its AdvancedTCA platforms 'AMC Everywhere' enabled, offering support for AdvancedMC modules with its processor, hub and carrier Advanced-TCA products. This is a major factor in providing TEMs with unprecedented flexibility in the design of new, IMS/FMC-based applications, as well as increase economies of scale by freeing up valuable AdvancedTCA system slots for other payload blades. AdvancedMC modules are the smallest Field Replaceable Units (FRU) on the market that are hot swappable and support the RASM concept of "Reliability, Availability, Serviceability, and Maintainability". Ultimately for Service Providers and Carriers, this translates into a significantly lower OPEX with easy upgrades in the field, reduced risk for the introduction of new subscriber services, and the ability to expand networks.

Technical Information

PCI Express® Features	» One (1) x4 upstream port » PCI Express® 1.0a compliant	» Hot pluggable (The PCI Express® Hot Plug feature is dependant of the Carrier AMC support)
Intel 82571EB Ethernet Controller Features	» Four (4) 10/100/1000 Base-T connection provided on four (4) RJ-45 connectors » Optimized transmit queues » IEEE 802.3x compliant flow control » Caches up to 64 packet descriptions » Separate transmit queues per port » Support for transmission and reception of packets up to 9 Kbytes	» IEEE 802.3ab PHY compliance and compatibility » Transmit and receive IP, TCP and UDP checksum offloading capabilities » IEEE 802.1q VLAN support with VLAN tag insertion stripping and packet filtering for up to 4096 VLAN tags » 9Kbytes jumbo frame suppor
Compliancy	AMC.0 R2.0 / AMC.1 R1.0	
OS Compatibility	RedHat Linux Enterprise 4, 5	
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 reprogrammation implementation (which includes two firmware images) that could perform automatic or manual rollback if a problem occurs during critical reprogramation phase. » Remote upgrade capability from all IPMI interfaces (via IPMB) » Management Controller self test which can detect failure under its code integrity and trig an automatic rollback.	
Supervisory	Hardware system monitor through IPMI (voltage, currents, temperature), temperature monitor / alarm; board temperature sensor, power failure.	
Mechanical	» 181.5 x 75 x 19 mm, Mid-Size; 181.5 x 75 x 30.16 mm, Full-Size » Weight: 133 g	
Power Requirements	» Management power is less than 150 mA	» Payload power < 15W
Environmental		
Temperature*	0°C to 55 °C / 32 to 131°F Operating; -40 to 70°C / -10 to 158°F Storage and Transit	
Humidity* non condesing	5% to 90% @55°C / 131°F Operating; 5% to 95% @40°C / 104°F Storage and Transit	
Altitude*	4 000m / 13,123 ft Operating, 15 000m / 49,212 ft Storage and Transit	
Shock*	30G, half-sine 11ms each axis Operating, Belcore GR-63-CORE Section 4.3 Storage and Transit	
Vibration*	5-500Hz. 1G, each axis Operating, 5-50Hz, 2G; 50-500Hz, 3G each axis Storage and Transit	
Reliability	MTBF: > 566 000 hours @ 40 C / 104 F (Telcordia SR-332, Issue 1)	
Safety / EMC	Designed to meet or exceed: » Safety: UL60950 3rd ED.; CSA C22.2 Ho 60950-00; EN 60950:2000; IEC60950-1 » EMI/EMC: FCC 47 CFR Part 15, Class B; CE Mark to EN55022/EN55024	
Warranty	Two years limited warranty	

* Designed to meet or exceed.

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