ATCA 40GbE 64-Core Packet Processor Blade:

Dual Cavium Networks OCTEON® II CN68xx cnMIPS64® v2 (up to 32-core) processors

» Offers high compute performance and service features for demanding 4G/LTE Evolved Packet Core Gateways, DPI, IPTV and content delivery platforms, Video Optimization, and GPON and EPON elements

» Market leading application acceleration of packet processing, Deep Packet Inspection (RegEx), Compression/decompression, De-duplication, RAID, and Multi-core scaling

» 64-bit compute with unmatched L2-L7 data acceleration to deliver 40Gbps of throughput while reducing power consumption

» Supported by Cavium Network’s 3rd generation multi-core OCTEON II software development kit (SDK)

» Validated with Kontron 14-slot, OM9141-40G and OM9141-10G ATCA platforms
AT8242

Market-leading packet processor performance per Watt

The AT8242 is Kontron’s third generation packet processor product and is perfectly targeted for system designs dedicated to the L2 to L7 network processing of LTE EPC infrastructure elements, as well as Deep Packet Inspection (DPI), IPTV, and QoS applications.

Based on the OCTEON II MIPS64 32-core packet processor from Cavium Networks, the Kontron AT8242 offers a superior performance per Watt, power optimization, embedded virtualization, and a multitude of hardware acceleration features, including DPI acceleration with integrated HFA (RegEx Engine), TCP and ROHC, packet processing, compression, RAID 5/5 and de-dup, and multi-core scaling. OCTEON II processor also combines over 85 L3-L7 application acceleration engines, virtualization features, 100Gbps of connectivity, and a new Real Time Power Optimizer™ that dynamically adjusts power depending upon the application-level processing requirement.

Clients may consider using the AT8242 40G packet processor blade in combination with the new Kontron OM9141-40G and OM9141-10G ATCA 14-slot platforms, featuring market-leading switch management software and up to four times the I/O switching bandwidth than the previous platform generation.

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### Technical Information

#### Mechanical Characteristics
- Single slot ATCA blade

#### Operation Power
- Management: TBD Wmax., TBD W typ.
- Payload: TBD W max., TBD W typ.

#### Temperature
- Meets test profile based on GR-63, EN 300 019-2-3 Class 3.1E, EN 300 019-2-2 Class 2.3
- Air Flow: TBD
- Operating short term: 0°C to +55 °C
- Operating long term: 0°C to +45 °C
- Non-operating: -40 °C to +85 °C

#### Humidity
- The product meets test profile based on GR-63, EN 300 019-2-3 Class 3.1E, EN 300 019-2-2 Class 2.3 and EN 300 019-2-1 Class 1.2
- 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) at aisle-ambient temperature of 40 deg C; may require additional cooling above 1800m (5905ft)
  - Non-Operating: -300 m to 14,000 m (45931.2 ft)

#### Shock and Vibration and Bump
- Test profile based on EN 300 019-2-3, class 3.2
- Shock profile: 11 ms half sine, 3 g, 3 shocks in each direction.
- Meets Operational Swept Sine Vibration: test profile based on GR-63, clause 5.4.2, and ETSI EN 300 019-2-3, class 3.2. (5 to 200 Hz at 0.2 g)
- Meets Operational Random Vibration: test profile based on ETSI EN 300 019-2-3, class 3.2
  - 5 Hz to 10 Hz @ +12 dB/oct (slope up)
  - 10 Hz to 50 Hz @ 0.02 m2/s3 (0.0002 g2/ Hz) (flat)
  - 50 Hz to 100 Hz @ -12 dB/oct (slope down)
  - 30 minutes per each 3 axes
- Free Fall: designed to meet Bellcore GR-63, Section 5.3.
  - Packaged -1000 mm, six surfaces, three edges and four corners
  - Unpackaged - 100 mm, two sides and two bottom corners

#### Compliance / Regulatory
- Designed to meet the following environmental, safety and EMC requirements:
  - EN 300 019; Telcordia GR-63; Telcordia SR-3580 level 3; Telcordia GR-1089; Designed to meet Class B emissions limits, for a system-level goal of Class A with 6 dB margin
  - Meets all emission and immunity requirements of FCC Part 15, GR-1089, EN 300 386, EN 55022 and EN 55024
  - Meets GR-1089 (3.1.2) radiated emissions requirements from 10 kHz to 10 GHz, class A
  - Meets GR-1089 conducted emissions requirements from 10 kHz to 30 MHz, class A
  - Meets all requirements of UL/CSA/EN/IEC 60950-1
- Meets electric strength requirements (5.2): Primary to Chassis 1 kV, Primary to secondary 1kV. (May be higher if maximum working voltage of converter is greater than 72 Vdc)
- Meets the Telcordia GR-63 material flammability requirement UL 94V-0, or V-1 with oxygen index of 28 % or greater

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