

Multi-Core MIPS64[®] Processors

Qseven Standard Size Module with the Cavium OCTEON quad-core CN7130 Processor

Product Brief



OVERVIEW

The Cavium OCTEON III based Qseven modules target general-purpose embedded computing systems in industrial, military and aerospace markets as well as control-plane applications in networking, telecom/datacom and wireless infrastructure. Powered by the OCTEON III CN7130 with four powerful 64-bit MIPS CPU cores, hardware accelerated packet processing, security, and deep packet inspection engines, the OCTEON III based Qseven modules deliver multiple-fold increase in networking intelligence and security performance, meeting the growing need for high packet processing throughput and robust security capabilities in a very compact and low-power footprint.

The OCTEON III CN70XX/CN71XX families of multi-core cnMIPS64 processors integrate single to quad cnMIPS64 v3 cores with virtualization capabilities and hypervisor support. These highly-integrated SoCs include a rich set of I/O's and Cavium's advanced hardware acceleration for packet processing, security, deep packet inspection (DPI), offering a power, performance, and price-optimized solution for next-generation platforms.



CN71XX based Qseven module

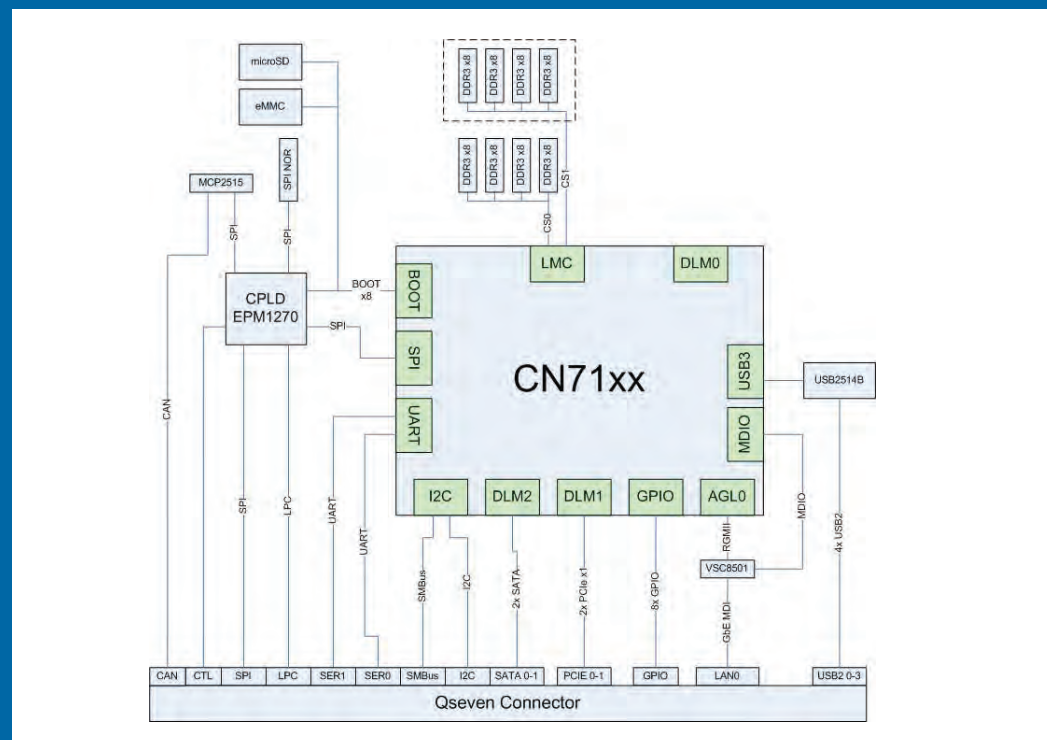


Qseven Module Develop platform

FEATURES

- OCTEON 64-bit MIPS quad 1.5GHz core processor
- Up to 8 GB DDR3L at 1066/1333 MHz
- Standard Qseven Form Factor (70mm x 70mm)
- Carrier grade Linux environment
- eMMC Flash or MicroSD card slot for on-board storage
- DDR-3 memory with ECC support
- RoHS compliancy

OCTEON[®] III CN71XX - Block Diagram



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Technical Specification

Form Factor

Qseven (70mm x 70mm)

Physical

- Compact Module (95mm x 95mm)
- PIGMG R2.0 COM Express Module Base Specification
- RoHS 6/6 Compliance

Processor

- Cavium OCTEON III CN7130 quad-core 1.5GHz processor
- L1 cache: 78KB Icache; 32KB Dcache
- L2 cache: 512KB

Bootloader

U-boot

Operating Environment

Linux 3.10

Memory

Upto 8GB 32-bit DDR3 with 4-bit ECC

On-board storage

- MicroSD card slot
- 4GB eMMC (bootable)
- SPI EEPROM (optional)

I/O Features

- 1x PCI Express interface (x2 lane)
- 1x Gigabit Ethernet (10/100/1000BASE-T)
- 4x USB2.0 ports
- 2x SATA 3.0 ports
- 8x GPIO
- SPI Bus
- I2C Bus

Serial

- 1x UART
- 1x CAN

Power

12V and 5V standby (option)

Power Consumption

Max: 12W

Thermal Range

- Commercial Operating: 0C to +55C
- Industrial Operating: -40C to +85C

Ordering Information

| Ordering Part Number | Supplier | Description |
|----------------------|-------------------------------|--|
| CN7000-Q7-CDK | Cavium | Qseven Development Kit, including Qseven module, development carrier board and SDK |
| N834Q7-MOD-2GB* | Interface Master Technologies | Qseven module with 2GB SRAM |

* Production quantities of Qseven modules are sold by Interface Master Technologies through its distribution network, including our mutual channel partners Future Electronics and Phoenix Electronics.