

Multi-Core MIPS64® Processors

COM Express Module with the Cavium OCTEON quad-core CN7130 CPU

Product Brief



OVERVIEW

The Cavium OCTEON III based COM Express modules target general-purpose embedded computing systems in industrial, military and aerospace markets as well as control-plane applications in networking, telecom/data-com 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 COM Express 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.



COM Express Module

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.

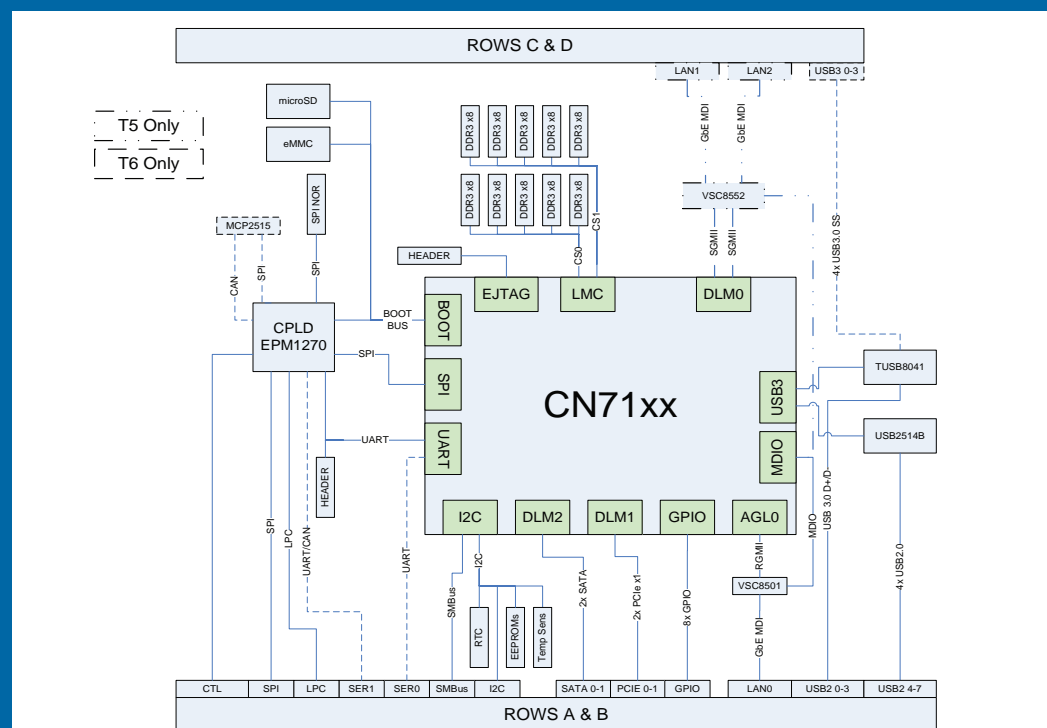


COM Express Development Platform

FEATURES

- OCTEON 64-bit MIPS quad 1.5GHz core processor
- COM Express 95mm x 95mm compact Form Factor
- Compatible with Type 5 and Type 6 pinout
- 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



Multi-Core MIPS64® Processors

COM Express Module with the Cavium OCTEON quad-core CN7130 CPU

Product Brief

Technical Specification

Form Factor

COM Express Compact (95mm x 95mm)

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

Type 5 Pinout:

- 1x PCI Express interface (x2 lane)
- 3x Gigabit Ethernet (10/100/1000BASE-T)
- 8x USB2.0 ports
- 2x SATA 3.0 ports
- 8x GPIO
- SPI Bus
- I2C Bus

Type 6 Pinout:

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

Serial

- 1x UART
- 1x CAN on SER1

Power

12V and 5V standby (option)

Power Consumption

Typical: 12W; Max: 15W;

Thermal Range

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

Ordering Information

Ordering Part Number	Supplier	Description
CN7000-COMX-T5-CDK	Cavium	COM Express Type 5 Development Kit, including Type5 module, development carrier board and SDK
CN7000-COMX-T6-CDK	Cavium	COM Express Type 6 Development Kit, including Type5 module, development carrier board and SDK
N830T5-MOD-2GB*	Interface Masters Technologies	COM Express Type 5 module with 2GB SRAM
N830T6-MOD-2GB*	Interface Masters Technologies	COM Express Type 6 module with 2GB SRAM

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

Reference:

- CN71XX HRM
- COM Express Module HRM
- COM Express Carrier Product Brief
- COM Express Carrier Board HRM

2015 Cavium, Inc. All Rights reserved. NITROX and OCTEON are registered trademarks of Cavium, Inc. All other brands and product names are registered trademarks of their respective owners.