

# 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/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 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.

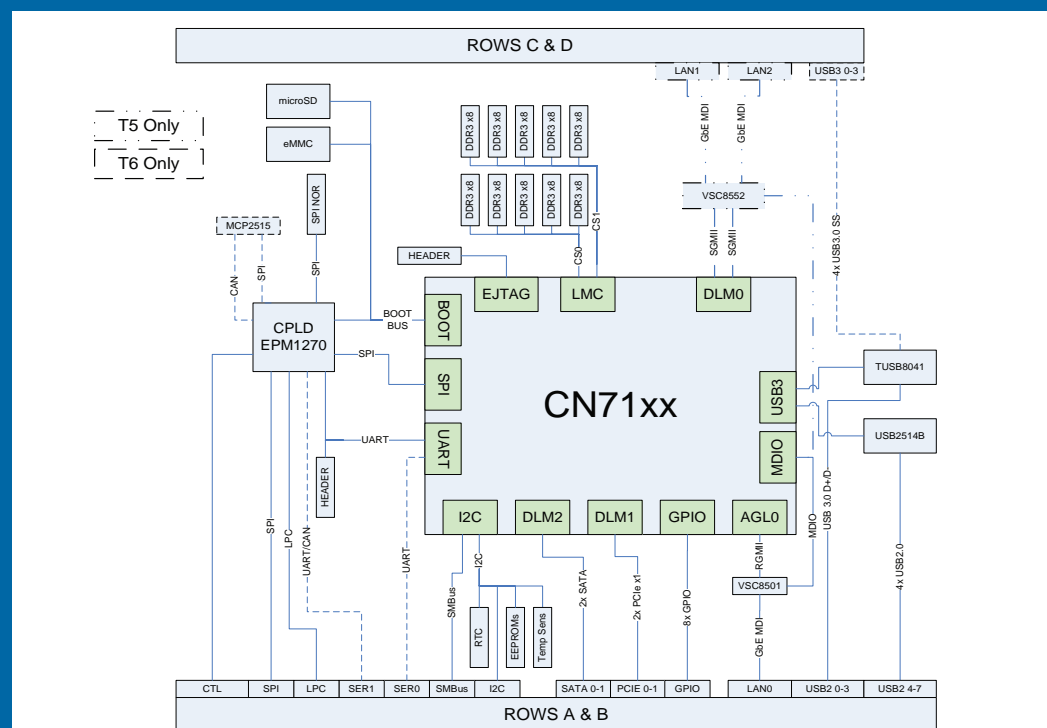


COM Express Development Platform

### 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



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#### 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

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