

**COGENT***"ALWAYS COMPLETE"*

Cogent Computer Systems, Inc.

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CSB1726 - ArmadaXP System On a Module (SOM)

The CSB1726, designed, developed and manufactured by Cogent Computer Systems, Inc., is a high performance, network oriented, ARMv6/7 based System on a Module (SOM). The CSB1726 provides a small, powerful and flexible engine for embedded Linux based 10/100/1000 networking and storage applications.

Specifications and Features

- **CPU** - 1.6Ghz Quad ARMv6/7 Cores (MV78460), 1Ghz Dual Core Option (MV78260)
- **CACHE** - 32KByte Instruction and Data Caches; 2MByte L2 Cache (1MByte on MV78260)
- **FPU** - IEEE 754 Compliant Single/Double Precision Floating Point Unit
- **SDRAM** - 2GByte 64-Bit Wide DDR3-1600 Memory with 8-Bit ECC
- **FLASH** - On-Board 8MByte SPI NOR and 512MByte SLC NAND
- **PCI EXPRESS** - One x4 and Two x1 Ports
- **1.0 GIGABIT ETHERNET** - Two 10/100/1000 Auto Select Copper/SGMII/1000-Base-X ports
- **2.5 GIGABIT ETHERNET** - Two 2.5G Capable SGMII Ports
- **SECURITY** - Dual On-Chip Cryptographic and Security Acceleration Engines Support Various Encryption/Decryption Algorithms: AES128; DES/3DES; MD-5 and SHA1 hashing; and others
- **XOR/RAID** - Four High Speed XOR DMA Engines for RAID Storage Applications
- **SATA** - Two SATA Gen 2 (1.5Gbit or 3Gbit/sec) Channel
- **USB** - Two 480Mbit USB 2.0 Host Ports (may also be used as device on carrier)
- **SD/MMC** - 4-Bit SD/MMC Controller (4-Bit SDIO Compliant)
- **SERIAL I/O** - Two 4-wire and One 2-Wire TTL Serial Ports; Two I2C Ports; One SPI Port
- **VIDEO** - On-Chip 24-bit LCD Controller up to 1024 x 768 via LVDS Output
- **OPERATING VOLTAGE** - 12V Input Rail; On-Board 3.3V (for I/O with 3 Amp available to off board devices), 1.5V (SDRAM) and 1.0V (CPU Core) Power Supplies
- **POWER MANAGEMENT** - On-Board ATXMEGA Microcontroller for Power Sequencing, Boot Configuration, FAN Control and Thermal Monitoring
- **OPERATING TEMPERATURE** - 0C to +70C Standard
- **POWER CONSUMPTION (DUAL CORE)** - 8W typ., 12W Max and <10mw Power Down
- **COGENT MXM SOM COMPLIANT** - Common, Interchangeable Footprint across Multiple CPU Architectures (x86, PowerPC, MIPS and ARM); Uses Low Cost Industry Standard MXM-II Socket
- **COMPACT SIZE** - 70mm x 75mm x 8mm (with standard 5.6mm socket, excluding heatsink)

Introduction and Overview

The Quad Superscalar ARMv6/7 Architecture Cores, multiple PCI Express links, high speed USB, Gen II SATA, 1G and 2.5G Ethernet, and highly efficient on-board regulators all combine to make the CSB1726 the ideal engine for size restricted, high performance, Network and Storage applications. For the lowest power consumption, the IPM Micro can power the board down completely while remaining on standby power. In this mode the board power consumption drops to <10milliwatts with IPM bus wakeup events still active. The IPM Micro also controls power sequencing; thermal and voltage monitoring; FAN Control; and boot configuration.

The CSB1726 is constructed using state of the art PCB layout and packaging technology such as: 1333Mhz DDR3 balanced routing; 5GHZ+ high-speed differential signaling; 18 Amp peak switching regulators; and 8-layer, low EMI, impedance controlled PCB stackup. The CSB1726 gives you access to this technology without the learning curve or the risk. You can integrate the CSB1726 using a simple, low cost 4-layer PCB, in just weeks, not months! We can even do it for you through our custom design services group.