MityDSP®: enhanced support for industrial applications with OMAP-L138, AM1808, and C6748, processors from Texas Instruments

Next-generation, low-power modules for the most demanding applications

The MityDSP family of highly-configurable, embedded CPU engines includes support for TI's OMAP -L , Sitara, and C6000 devices - the OMAP-L138, AM1808, and C6748 processors built for applications with requirements for low-power consumption. With MityDSP modules for these processors, you can replace obsolescence-prone inboard and outboard PC's. This will help you bring your most demanding scientific and industrial applications to market more quickly and cost-effectively – applications that require robust operating systems, rich user interfaces, and industrial-strength processing power – all configured to meet the particular needs of your applications. And with the MityDSP's long term product availability, you won't have to worry about forced yearly PC upgrades.

The most fully-featured of the new modules, the MityDSP-L138, combines DSP, ARM, and FPGA processing power. The CPU features dual-core architecture, providing the benefits of both DSP and Reduced Instruction Set Computer (RISC) technology – the advanced performance and user interface capability that today's applications demand. The MitySOM-1808 combines ARM processing with an FPGA; the MityDSP-6748 includes DSP and FPGA. With all of these modules, the FPGA can be used for I/O expansion, co-processing and signal processing, or to support high speed data acquisition. For the most cost sensitive applications, CPU-only versions are offered for each of the processor options. All of these modules have been specifically designed to be interchangeable, allowing designers to develop a single solution that takes advantage of a highly scalable CPU subsystem.

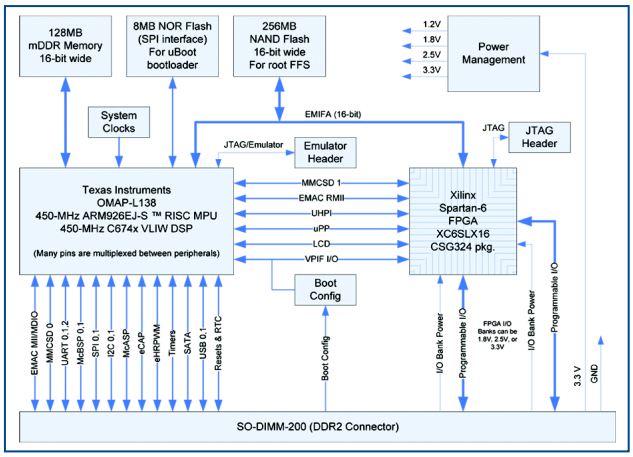
KEY Features

- ARM9 CPU (L138, 1808)
- C674x™ Floating Point DSP (Ll38, 6748)
- Xilinx Spartan-6 FPGA (optional)
- 128 MB DDR2 RAM
- 256 MB NAND FLASH
- 8 MB NOR FLASH
- Integrated Power Management
- Real-Time Embedded Linux
- QNX, DSP/BIOS

TAKE ADVANTAGE OF THE MityDSP for your applications:

- Build rich user interfaces
- Dedicated DSP for real-time processing
- Interchangeable modules for a scalable CPU platform
- FPGA available for I/O expansion and co-processing

Block Diagram for MityDSP-L138



BENEFITS

- Rapid development / deployment
- Reduced technical risk
- Increased product stability
- Eliminate forced yearly embedded PC

Critical Link ▪ 6712 Brooklawn Parkway ▪ Syracuse NY 13211 ▪ 315.425.4045 ▪ info@CriticalLink.com

MityDSP® for OMAP-L138, AM1808, & C6748 Overview

The MityDSP family: options across the processing, performance, and cost continuums

The MityDSP is a family of highly-configurable, very small form-factor DSP-plus-FPGA modules optimized for custom data collection and processing. With multiple versions, the MityDSP family meets a broad range of processing requirements.

	DSP	ARM	FPGA	SO-DIMM
MityDSP	250 MHz		Spartan-3	144
MityDSP-XM	250 MHz		Spartan-3	144
MityDSP-Pro	1.2 GHz		Spartan-3	200
MityDSP-L138	450 MHz	450 MHz		200
MityDSP-L138F	450 MHz	450 MHz	Spartan-6	200
MitySOM-1808		456 MHz		200
MitySOM-1808F		456 MHz	Spartan-6	200
MityDSP-6748	450 MHz			200
MityDSP-6748F	450 MHz		Spartan-6	200

I/O OPTIONS

- Data converters – ADCs & DACs
- Ethernet, USB, RS-232,
- RS-485, RS-422, CAN
- Industrial protocols
- Motor control
- General purpose I/O
- Mass storage
- Display

BUILT FOR INDUSTRIAL APPLICATIONS

- Industrial Automation
- Scientific Instrumentation
- Industrial Instrumentation
- Medical Instrumentation
- Network Enabled Data Acquisition
- Test and Measurement
- Machine Vision

Industrial Interface Board

Critical Link also offers production-ready carrier boards, including the Industrial Interface Board, specifically designed for the MityDSP-L138(F), MitySOM-1808(F), and MityDSP-6748(F) modules. In addition to a number of unique features, the Industrial Interface Board is designed to support a number of protocols generally required for industrial applications: CAN, RS-485, PROFIBUS, PROFINET, EtherCAT Master. CAN, RS-485, and PROFIBUS interfaces are on isolated power supplies.

Clients can work with Critical Link engineers to customize this board to meet specific application requirements, or take advantage of *Critical Link's MityDSP Carrier Board Design Guide* for guidance on the design of a custom interface board.

Full technical datasheets are available for the MityDSP-L138(F), the MitySOM-1808(F), and the MityDSP-6748(F), as well as for other members of the MityDSP family, at www.criticallink.com.

About Critical Link

Since 1997, Critical Link has been helping our customers in a broad range of industries bring winning products to market faster and more cost-effectively than possible through in-house efforts alone. Critical Link is an embedded systems engineering firm providing end-to-end product engineering, custom off-the-shelf platforms – the MityDSP and the MityCCD family of scientific cameras - used as product building blocks, and ongoing production services. When it comes to embedded systems, Think Critical.