

COMPUTING

MVME8110

NXP® QorIQ® P5010 VME320 SBC

Data Sheet

- NXP QorIQ P5010 1.2GHz
- Up to 4 GB DDR3-1200 MHz ECC Memory
- 512 KB MRAM
- 2 PMC/XMC sites
- Embedded NAND Flash (8GB eMMC)
- Up to 3 USB 2.0 ports
- Up to 3 Ethernet ports
- Up to 5 Serial ports
- 2 GPIO

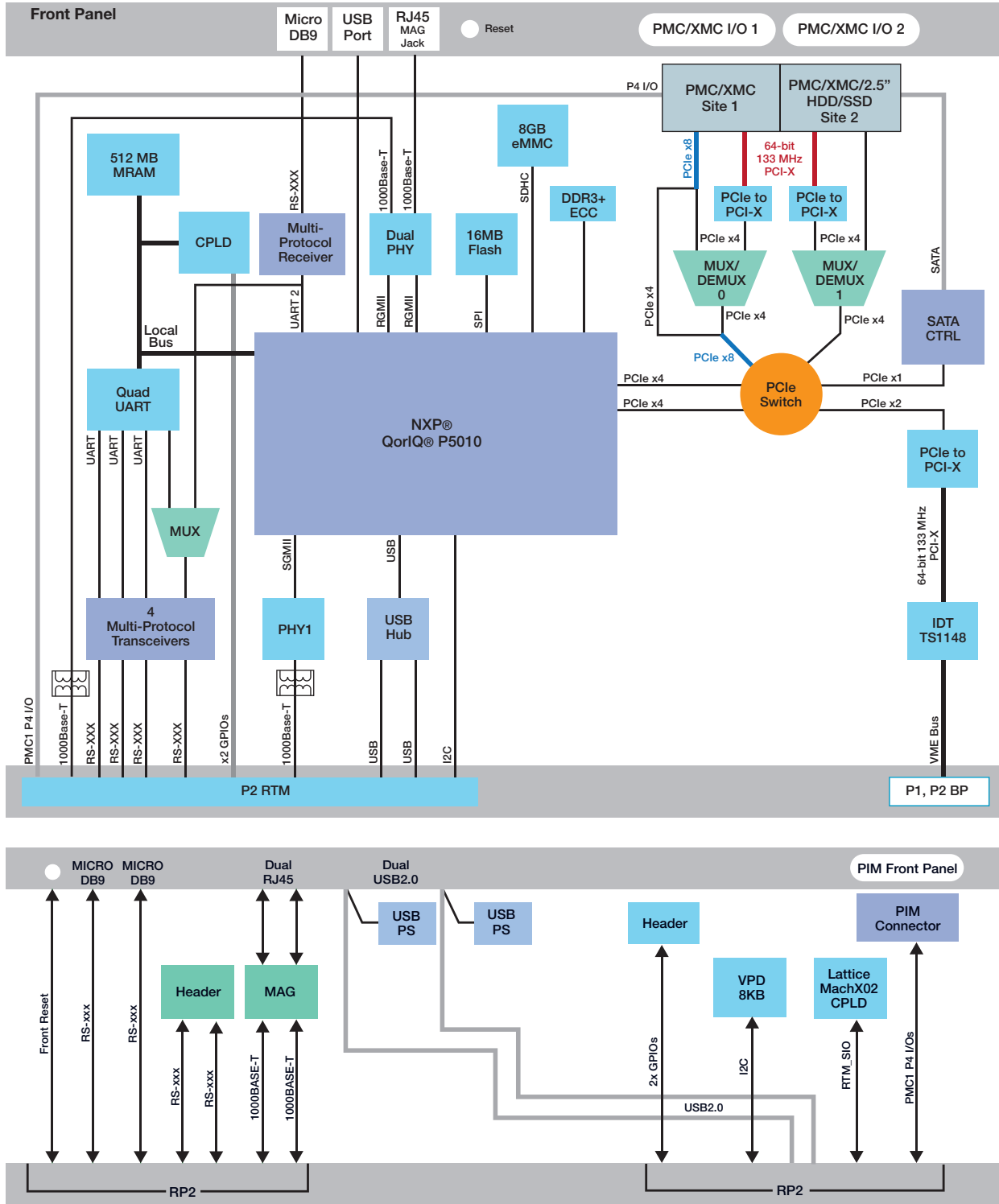
The Artesyn Embedded Technologies MVME8110 is a high performance 6U VME SBC featuring the NXP QorIQ P5010 processor supporting high speed DDR3-1200 MHz with ECC. It offers multiple USB, Serial and Ethernet ports. Memory includes up to 4 GB DDR3, 512 KB MRAM non-volatile memory, and 8 GB eMMC NAND Flash.

It is designed for a range of high end industrial control such as SPE and photo lithography and C4ISR, including Radar/Sonar. It will provide technology insertion to prolong current programs while providing more computing performance and data throughput.

The MVME8110 supports a full range of BSPs including Linux, Wind River VxWorks, and Green Hills Integrity.



MVME8110 Block Diagram



Hardware Specifications

PROCESSOR

- NXP QorIQ P5010
- 1.2GHz: ENP1 variants

MEMORY

- Designed for 4GB of 64 bit DDR3-1200 ECC SDRAM soldered down
- 16MB SPI ROM for boot code (in 1+1 redundant 8MB banks/devices)
- 512 KB MRAM for data storage
- 8GB NAND Flash with SD/EMMC interface

BACKPLANE I/O

- P1
 - VME64x & 2eSST
- P2
 - PMC1 I/O (64 signals)
 - Two USB 2.0
 - VME64x & 2eSST
 - Four RS232/422/485
 - Two 10/100/1000BaseT Ethernet
 - Two GPIO

OTHER FEATURES

- Real Time Clock with battery backup
- Real time counters
- Watchdog

EXPANSION MODULE

- Site 1 supports PMC or XMC (PCI-X/PCIe x8)
- Site 2 supports PMC or XMC (PCI-X/PCIe x4) or alternatively supports a mounting kit for a 2.5" SATA HDD or SSD

FRONT PANEL CONNECTIVITY

- One GbE (RJ-45)
- One RS232/422/485 console (Micro-BD9)
- One USB 2.0 (Type A)

REAR TRANSITION MODULE

- MVME8110-RTM or VXS1-RTM1
 - Two USB 2.0 ports (Type A)
 - Two RS232/422/485 ports (Micro-DB9)
 - One port is switchable between a console and standard COM port
 - Two RS232/422/485 ports (internal headers)
 - Two 10/100/1000BASE-T Ethernet ports (RJ-45)
 - One PMC Interface Module (PIM) site
 - 2 GPIO to (internal header)
 - Reset switch

POWER REQUIREMENTS

- ENP1: 38 W idle, 42 W typical, 54 W max

Software and Firmware Specifications

BOOT

- UBoot binary and source code

BOARD SUPPORT PACKAGES

- Wind River VxWorks
- Linux

Estimated MTBF

MTBF estimated per Telcordia SR-332, issue 2, ground fixed, controlled environment, unit ambient air temperature of 40 °C is 639,000 hours at 60% confidence level. Contact Artesyn for alternative environments or temperatures.

All Modules

ENVIRONMENTAL

Ruggedization Level	ENP1
Cooling Method	Forced Air
Operating Temperature	0 °C to +55 °C
Storage Temperature	-40 °C to +85 °C
Vibration Sine (10min/axis)	2G, 5 - 500 Hz
Vibration Random (1hr/axis)	.002 g ² /Hz, 15 to 2000 Hz ¹
Shock	20 g/11 mS
Humidity	to 95% RH
Conformal Coating	No

Note 1: Flat 15-1000 Hz, -6 db/octave 1000 Hz – 2000 Hz [MIL-STD 810F Figure 514.5C-17]

ELECTROMAGNETIC COMPATIBILITY (EMC)

- Artesyn board products are tested in a representative system to the following standards:
 - U.S.: FCC Part 15, Subpart B, Class A (non-residential)
 - Canada: ICES-003, Class A (non-residential)
 - CE Mark per European EMC Directive 2004/108/EC with Amendments; Emissions: EN55022 Class A; Immunity: EN55024
 - KCC Mark (ENP1) - in process

DOCUMENTATION

- Installation and Use Manuals
- Programmers Reference Manual
- Release Notes
- OS Release Notes and User Guide

Ordering Information

Part Number	Description
Boards	
MVME8110-01E	P5010 1.2GHz, 2GB DDR3, 2PMC/XMC, ENP1, IEEE
MVME8110-01S	P5010 1.2GHz, 2GB DDR3, 2PMC/XMC, ENP1, SCANBE
Rear Transition Modules	
MVME8110-RTM	RTM FOR MVME8100/8105/8110 without P0, IEEE
Accessories	
MVME8100-HDMTKIT4	MVME8100/8105/8110 hard drive mounting kit for ENP1 & ENP4
SERIAL-MINI-D2	Serial cable - Micro D sub connector to standard DB-9
ACC/CABLE/SER/DTE/6E	Serial cable, RD 009, 2M, 2 DTE MD/D, RJ45 to DB9

SOLUTION SERVICES

Artesyn Embedded Technologies provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include global 24x7 technical support. Renewal services enable product longevity and technology refresh.

WORLDWIDE OFFICES

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