

MVME8110

NXP® QorIQ® P5010 VME320 SBC

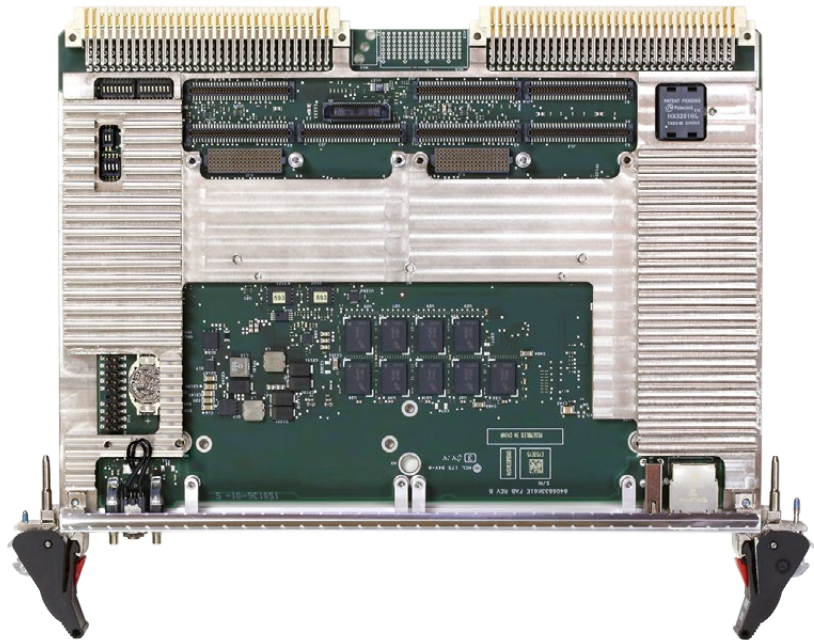
Data Sheet

- 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

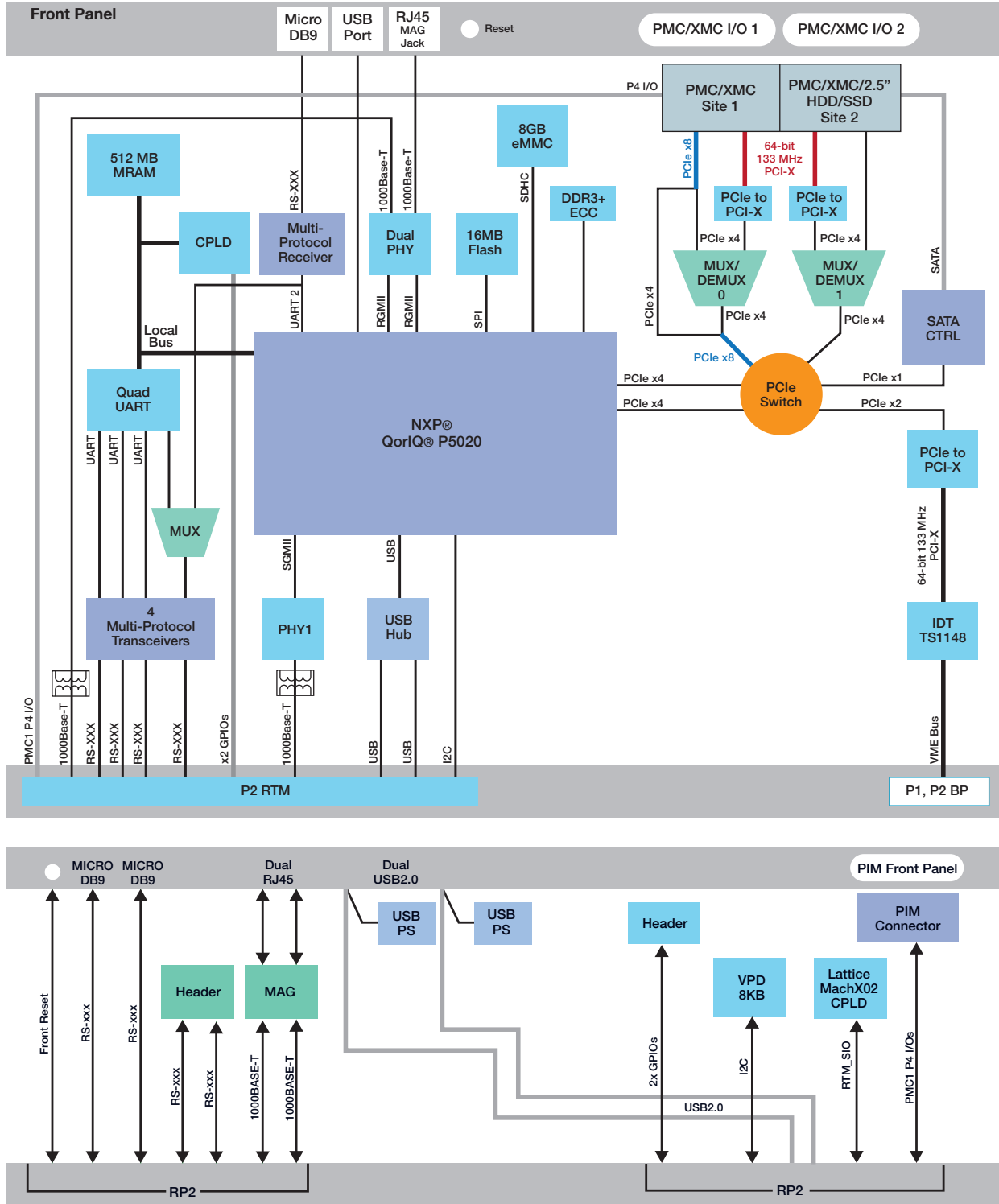
The Artesyn Embedded Technologies MVME8110 is a high performance 6U VME SBC featuring the NXP QorIQ P5010 processor supporting high speed DDR3-1200 MHz with ECC. It offers multiple USB, Serial and Ethernet ports. Memory includes up to 4 GB DDR3, 512 KB MRAM non-volatile memory, and 8 GB eMMC NAND Flash.

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 PO, IEEE
Accessories	
MVME8100-HDMTKIT4	MVME8100/8105/8110 hard drive mounting kit for ENP1 & ENP4

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

United States	+1 888 412 7832	China	+86 400 8888 183
Germany	+49 89 9608 2552	Japan	+81 3 5403 2730
Hong Kong	+852 2176 3540	Korea	+82 2 6004 3268

Artesyn Embedded Technologies, Artesyn and the Artesyn Embedded Technologies logo are trademarks and service marks of Artesyn Embedded Technologies, Inc. NXP and QorIQ are trademarks of NXP B.V. All other names and logos referred to are trade names, trademarks, or registered trademarks of their respective owners. © 2016 Artesyn Embedded Technologies, Inc. All rights reserved. For full legal terms and conditions, please visit www.artesyn.com/legal.



www.artesyn.com

MVME8110-DS 18Nov2016