

» VX3240 «



VPX

3U VPX Freescale QorIQ™ P2041 Single Board Computer

- » General Purpose 3U VPX SBC
- » 1.2 GHz Freescale QorIQ™ P2041 Processor, Soldered DDR3 SDRAM
- » PCIe (4x), SATA, Gigabit Ethernet on the VPX Backplane
- » Support for PMC or XMC Mezzanines
- » Standard Air- and Rugged Conduction-Cooled Versions

Product Overview

VX3240 is a low-power 3U VPX SBC featuring a quad-core Freescale P2041 QorIQ™ device with quad PowerPC e500mc cores at 1.2 GHz. VX3240 supports up to 8 GB DDR-3 SDRAM and provides a wide range of I/Os including Gigabit Ethernet, GPIOs, PMC/XMC I/Os, USB, SATA and serial ports. With such a feature set, VX3240 is the ideal general purpose solution for SWaP-C constrained embedded applications. Coupled with Kontron Long Term Supply policy, VX3240 is the perfect migration path to a new 10+ year period of deployments for PowerPC-based applications in the Military, Aerospace and Transportation markets.

Target Applications

Console and Rugged Servers

In today's network-centric battlefield, console and high-end servers applications require rugged computers to operate in the most difficult environments. Kontron VX3240 is designed around a high-end Quad Core CPU. Providing up to 8 GB DDR3-SDRAM, multiple Ethernet and an XMC support, the VX3240 offers numerous configuration variants.

Standards

- » 3U VPX VITA 46, OpenVPX VITA 65, VPX REDI VITA 48.
- » Single CPU: compatible with all existing legacy application PowerPC codes.

SWAP-C

Four Execution Threads: compact 4-way SMP solution for parallel computing tasks at low power, low size.

Safety Critical

- » One channel of DDR3 soldered memory with ECC.
- » 1 Mb of permanent Ferroelectric Random Access Memory (F-RAM) allowing permanent retention of application key operational data.
- » 128 MB of System Flash with Recovery Firmware Image and permanent storage of parameters.

Connectivity

- » 4 lanes of gen2 PCIe to the backplane: I/O extensions at peak bandwidth.
- » One XMC site with x4 PCIe interface.

Versatility

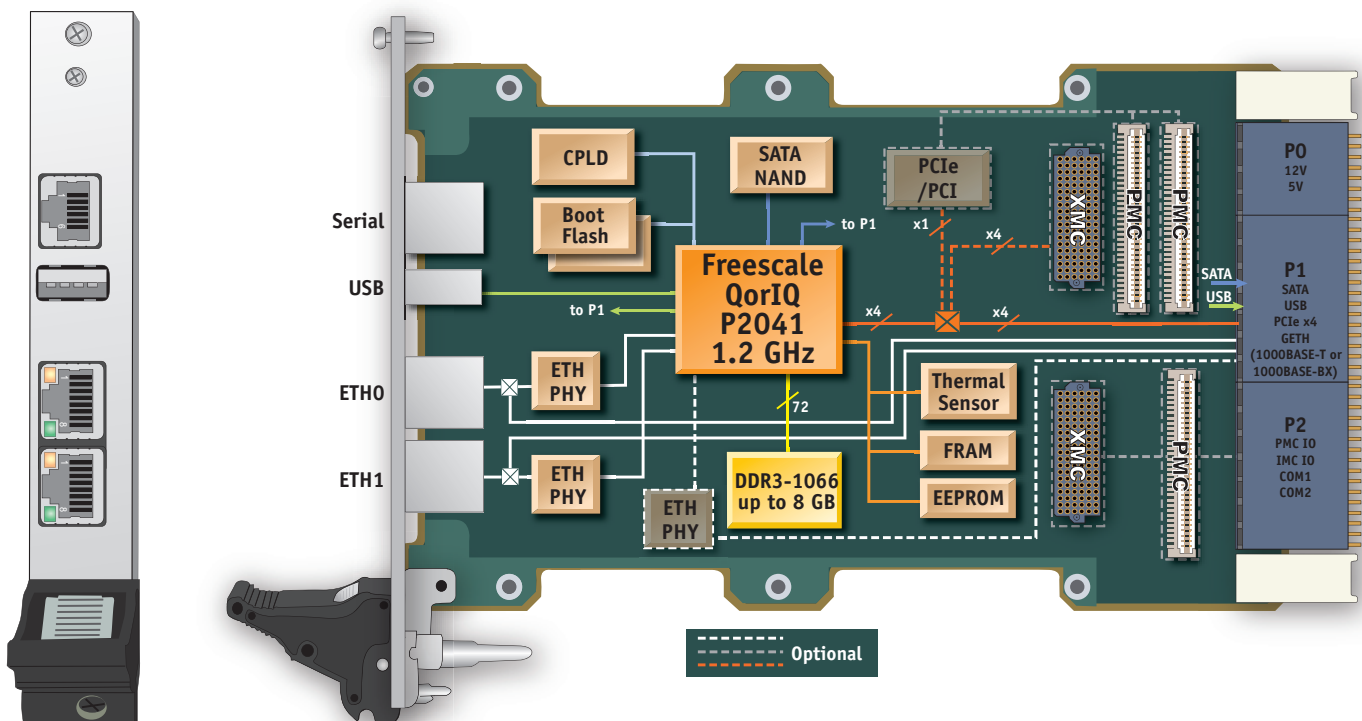
VX3240 is available in Standard Air- (SA) and Rugged Conduction-cooled (RC) versions.

Compatibility: Certified Solution

VX3240 is compatible with all Kontron VPX building blocks (Payload boards, carriers, switches, backplanes, OS and drivers) and offer backward compatibility with the previous product generations (VX3230 SBCs).

Long Term Supply (LTS)

The VX3240 SBC is part of the Kontron Extended Life Cycle product family, which offers a +10 year life cycle organization on top of Freescale product longevity program. Available in Kontron 3U VPX development systems, along with 3U VPX carriers and 3U VPX Ethernet plus PCIe switches, the VX3240 is the ideal candidate for long term programs in search of general purpose solutions.



Technical Information

System processor	<p>Freescale QorIQ™ P2041 operating at 1.2 GHz 4x e500mc cores based on Power Architecture technology 32 KB L1-I cache and 32 KB L1-D cache per core 128 KB L2 cache per core 1 MB CoreNet™ platform cache with ECC 64-bit DDR3/3L Memory Controller with ECC</p>
System Memory	<p>Up to 8 GB of DDR3 SDRAM running at 1066 MHz, with ECC, soldered 128 MB FLASH, with recovery image One 512 Kbits FRAM One 256 Kbits serial EEPROM dedicated to system data One 256 Kbits serial EEPROM dedicated to application data Up to 32 GB SATA Nand Flash storage</p>
Onboard Controller	<p>Board controller for power sequencing, reset handling, monitoring and failure detection. Provides configuration/status registers on Local Bus interface Separated low port RTC with optional onboard battery</p>
Front Panel Interfaces	<p>One USB 2.0 port on 4-pin standard USB connector Two 1000BASE-T ports on RJ-45 connectors One RJ-12 connector for EIA-232/EIA-485 simplified UART interface (with RTS/CTS) Three LEDs reporting the board CPU health status and activity Reset push button</p>
Slot Profiles	<p>SLT3-PAY-2F2U-14.2.3 SLT3-PAY-2F2T-14.2.5 SLT3-PAY-2F-14.2.7 SLT3-PAY-1F1U-14.2.10</p>
Rear I/O via P0/P1/P2	<p>One x4 PCIe port on P1 One SATA II port on P1 Two Gigabit Ethernet ports (1000BASE-T or 1000BASE-BX) on P1 One USB 2.0 port on P1 Two simplified EIA-232/EIA-485 interfaces on P2 (with RTS/CTS) 3 User GPIOs on P1, including OpenVPX GDISCRETE1 and MASKABLE RESET, and 3 additional GPIOs on P0 PMC I/Os on P2 XMC I/Os on P2</p>
Onboard Interfaces	<p>COP interface for CPU debugging 4x PCIe XMC slot PCI 32 bits 33 MHz PMC slot</p>
Power Supplies	<p>On P0: VS1=12V, VS3=5V, 3.3V_AUX optional, +12V_AUX and VS2 (3.3V) not connected</p>
Power Consumption	<p>Lower than 25W typ.</p>

Environmental Specification

	SA - Standard Commercial	RC - Rugged Conduction-Cooled
Conformal Coating	Optional	Standard
Airflow	1.5 m/s without throttling at 55°C	NA
Temperature	VITA 47-Class AC1	VITA 47-Class CC4
Cooling Method	Convection	Conduction
Operating	0° to +55°C	-40° to +85°C
Storage	-45° to +85°C	-45° to +100°C
Vibration Sine (Operating)	20-500 Hz - 2g	22-2,000 Hz - 2g
Random	VITA 47-Class V1	VITA 47-Class V3
Shock (Operating)	20g/11 ms Half Sine	40g/20 ms Half Sine
Altitude (Operating)	-1,640 to 60,000 ft	-1,640 to 60,000 ft
Relative Humidity	90% without condensation	95% without condensation

Ordering Information

Article	Part No.	Description
VX3240	VX3240-SAC2-00000	VX3240 Air-Cooled Commercial Build, QorIQ P2041 1.2 GHz, 2 GB DDR3-SDRAM, no Sata Flash (MLC) on board, no XMC/PMC slot, 1000BASE-T Ethernet interfaces
VX3240	VX3240-SAC2-00001	VX3240 Air-Cooled Commercial Build, QorIQ P2041 1.2 GHz, 2 GB DDR3-SDRAM, no Sata Flash (MLC) on board, no XMC/PMC slot, 1000BASE-BX Ethernet interfaces - Availability: on demand, Q2 2013
VX3240	VX3240-SAC2-00000	VX3240 Air-Cooled Commercial Build, QorIQ P2041 1.2 GHz, 2 GB DDR3-SDRAM, no Sata Flash (MLC) on board, XMC/PMC slot with PMC I/Os, 1000BASE-T Ethernet interfaces - Availability: on demand, Q3 2013

CORPORATE OFFICES

Europe, Middle East & Africa

Oskar-von-Miller-Str. 1
85386 Eching / Munich
Germany

Tel.: +49 8165 77 777
Fax: +49 8165 77 219
info@kontron.com

North America

14118 Stowe Drive
Poway, CA 92064-7147
USA

Tel.: +1 888 294 4558
Fax: +1 858 677 0898
info@us.kontron.com

Asia Pacific

17 Building, Block #1, ABP.
188 Southern West 4th Ring Road
Beijing 100070, P.R.China

Tel.: +86 10 63751188
Fax: +86 10 83682438
info@kontron.cn