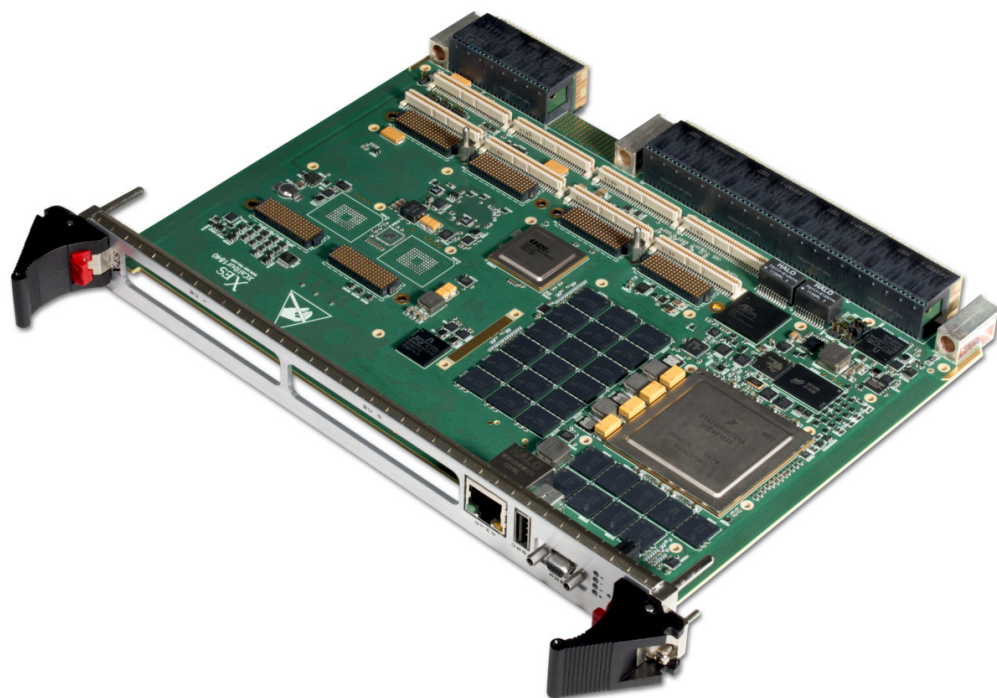


XCalibur1840

NXP QorIQ 12-Core T4240 Processor-Based Conduction- or Air-Cooled 6U VPX Module

- › NXP QorIQ T4240 processor with 12 dual-threaded Power Architecture® e6500 cores at up to 1.8 GHz
- › Alternate NXP QorIQ processors available: T4160 and T4080
- › 6U VPX module
- › Conduction- or air-cooled
- › VITA 46.11 Tier 1 and Tier 2 IPMI Controller (IPMC)
- › Up to 24 GB of up to DDR3-2133 ECC SDRAM in three channels
- › Up to 512 MB of NOR flash (with redundancy)
- › Up to 64 GB of CPU NAND flash
- › Up to 64 GB of SATA NAND flash (optional)
- › Gen2 (5 GHz) PCI Express
- › x4 PCI Express lanes from CPU to switch
- › PCI Express to XMC sites (x4 to XMC 0, x8 to XMC 1)
- › Four x4 (x16 total) PCI Express lanes from switch to P1
- › 10GbE XAUI to P2 (optional)
- › Two 10GbE ports to front panel using I/O mezzanine card (optional)
- › Two SATA ports
- › Two USB 2.0 ports
- › Four Gigabit Ethernet ports
- › Four serial ports
- › Two XMC/PrPMC interfaces
- › NXP hypervisor support for secure partitioning
- › Wind River VxWorks BSP
- › Linux BSP
- › Green Hills INTEGRITY-178 BSP
- › Contact factory for availability of QNX Neutrino and LynxWorks LynxOS BSPs



XCalibur1840

The XCalibur1840 is a high-performance, 6U VPX, single board computer supporting NXP (formerly Freescale) QorIQ T4 processors. With 12 dual-threaded Power Architecture® e6500 cores running at up to 1.8 GHz, the T4240 delivers enhanced performance and efficiency for today's embedded computing applications.

The T4240 brings raw multi-core power, along with three-channel DDR3 memory and a high-performance 128-bit AltiVec unit per core to deliver unparalleled performance. For more power-conscious applications, the T4160 processor offers eight dual-threaded e6500 cores and the T4080 processor offers four dual-threaded e6500 cores, both running at up to 1.8 GHz with two-channel DDR3 memory and all within a significantly reduced power envelope.

The XCalibur1840 is a powerful, feature-rich solution for the next generation of compute-intensive embedded applications. Wind River VxWorks, Linux, and Green Hills INTEGRITY-178 tuMP Board Support Packages (BSPs) are available. Wind River VxWorks and Linux BSPs may optionally be paired with the NXP hypervisor software to facilitate secure partitioning.



Extreme Engineering Solutions

...Always Fast

Extreme Engineering Solutions

9901 Silicon Prairie Parkway • Verona, WI 53593
 Phone: 608.833.1155 • Fax: 608.827.6171
sales@xes-inc.com • <https://www.xes-inc.com>

Processor

- NXP QorIQ T4240 processor
- 12 dual-threaded PowerPC e6500 cores at up to 1.8 GHz
- 2 MB L2 cache per quad
- 512 kB platform cache per channel (3)
- IEEE 754 Floating-Point Unit (FPU) support
- 128-bit Altivec engine per core

Alternate Processor Configurations

- T4160 processor with eight dual-threaded Power Architecture® e6500 cores at up to 1.8 GHz
- T4080 processor with four dual-threaded Power Architecture® e6500 dual cores at up to 1.8 GHz

Memory

- Up to 24 GB of up to DDR3-2133 ECC SDRAM in three channels
- Up to 512 MB of NOR flash (with redundancy)
- Up to 64 GB of CPU NAND flash
- Up to 64 GB SATA NAND flash (optional)

VPX

- VITA 46.0
- VITA 46.11 (System Management on VPX)
- VITA 46.4 (Four x4 PCIe lanes to P1)
- VITA 46.7 (Two 1000BASE-BX Ethernet ports to P4)
- VITA 46.9 (XMC and PMC I/O to P3, P4, P5, P6, mapping P3w1P4-P64s+X12d+X8d)

Back Panel I/O

- Two SATA ports capable of 3 Gb/s
- Up to two USB 2.0 ports
- Two RS-232/422/485 serial ports
- Two 10/100/1000BASE-T Ethernet ports
- Up to two 1000BASE-BX Ethernet ports
- XMC and PMC I/O
- 10GbE XAUI (optional)
- Four x4 PCI Express Gen2 interfaces

Front Panel I/O (Optional)

- Dual RS-232 serial ports
- Gigabit Ethernet port
- USB 2.0 port
- General-purpose LEDs
- Two 10GBASE-T Ethernet ports to front panel using I/O mezzanine card

XMC/PrPMC

- PCI-X (64/32-bit, 100/66 MHz)
- PCI (64/32-bit, 66/33 MHz)
- PCI Express to XMC sites (x4 to XMC 0, x8 to XMC 1)

IPMI

- Onboard management controller
- VITA 46.11 Tier 1 and Tier 2 IPMI Controller (IPMC)

Software Support

- Wind River VxWorks BSP with optional NXP hypervisor support for secure partitioning
- Linux BSP with optional NXP hypervisor support for secure partitioning
- Green Hills INTEGRITY-178 tuMP BSP
- Contact factory for availability of QNX Neutrino and LinuxWorks LynxOS BSPs

Physical Characteristics

- 6U VPX-REDI conduction- or air-cooled form factor
- Dimensions: 233 mm x 160 mm
- 0.8 in. pitch
- 1.0 in. pitch Two-Level Maintenance (2LM)

Environmental Requirements

Contact factory for appropriate board configuration based on environmental requirements.

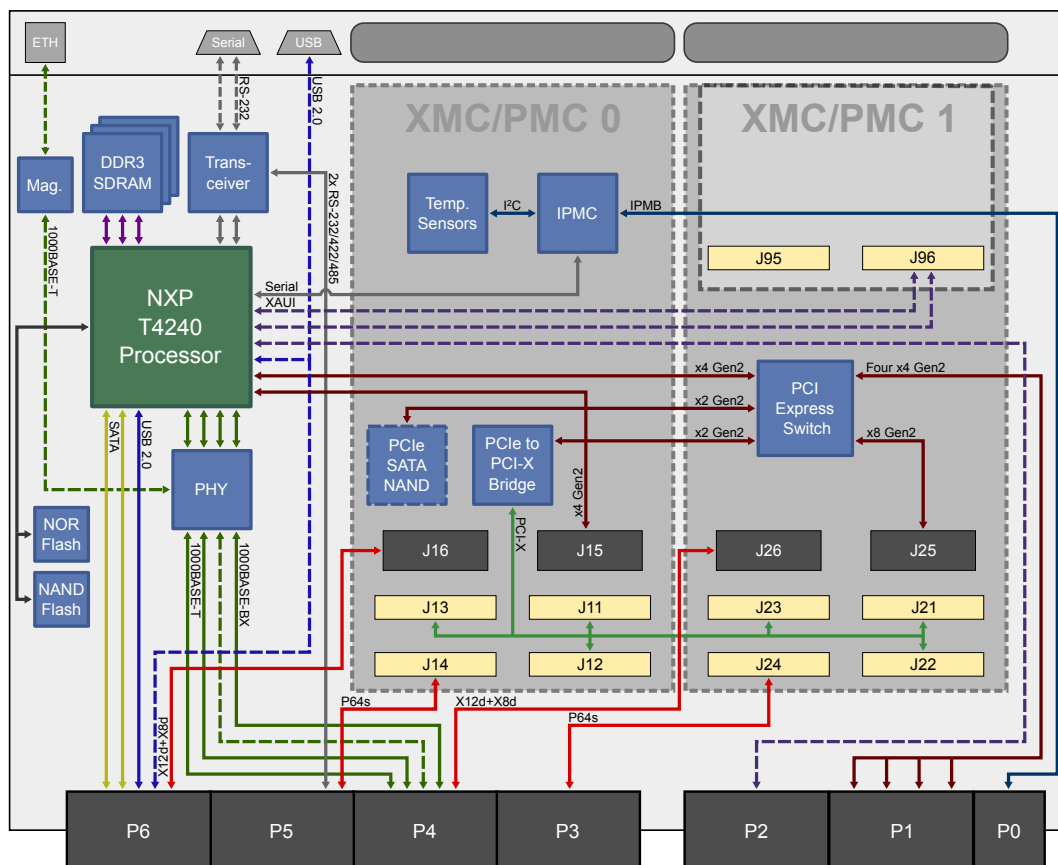
- Supported ruggedization levels (see chart below): 1, 3, 5
- Conformal coating available as an ordering option
- Thermal performance will vary based on CPU frequency and application

Power Requirements

- Power will vary based on configuration and usage. Please consult factory.

Ruggedization Level	Level 1	Level 3	Level 5
Cooling Method	Standard Air-Cooled	Rugged Air-Cooled	Conduction-Cooled
Operating Temperature	0 to +55°C ambient †	-40 to +70°C ambient †	-40 to +85°C (board rail surface)
Storage Temperature	-40 to +85°C ambient	-55 to +105°C ambient	-55 to +105°C (maximum)
Vibration	0.002 g ² /Hz (maximum), 5 to 2000 Hz	0.04 g ² /Hz (maximum), 5 to 2000 Hz	0.1 g ² /Hz (maximum), 5 to 2000 Hz
Shock	20 g, 11 ms sawtooth	30 g, 11 ms sawtooth	40 g, 11 ms sawtooth
Humidity	0% to 95% non-condensing	0% to 95% non-condensing	0% to 95% non-condensing

† Contact factory for airflow rate details.



XCalibur1840