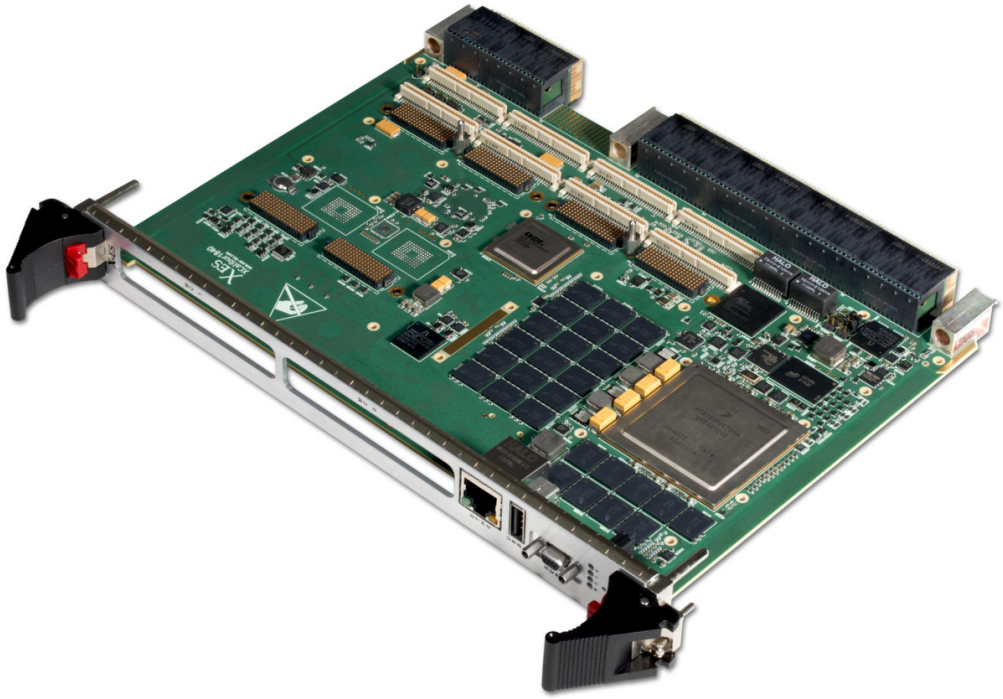
XCalibur1840

End of Life

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

Please contact X-ES Sales

- 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 DDR3 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 LynuxWorks LynxOS BSPs



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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.

X-ES
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...Always Fast

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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 DDR3 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 LynuxWorks 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.

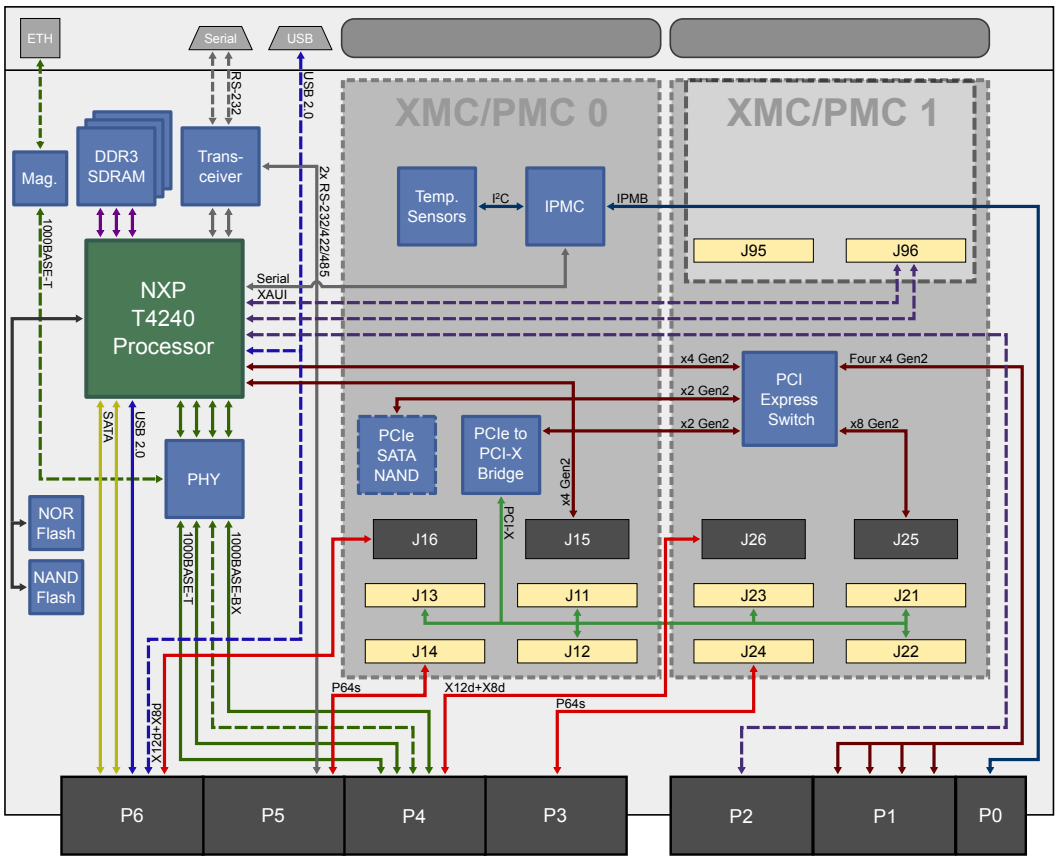
- Supported ruggedization levels (see chart below): 1, 3, 5
- Conformal coating available as an ordering option
- Thermal performance will vary based on CPU frequency and application

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 g²/Hz (maximum), 5 to 2000 Hz	0.04 g²/Hz (maximum), 5 to 2000 Hz	0.1 g²/Hz (maximum), 5 to 2000 Hz
Shock	20 g, 11 ms sawtooth	30 g, 11 ms sawtooth	40 g, 11 ms sawtooth
Humidity	Up to 95% non-condensing	Up to 95% non-condensing	Up to 95% non-condensing

† Contact factory for airflow rate details.



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