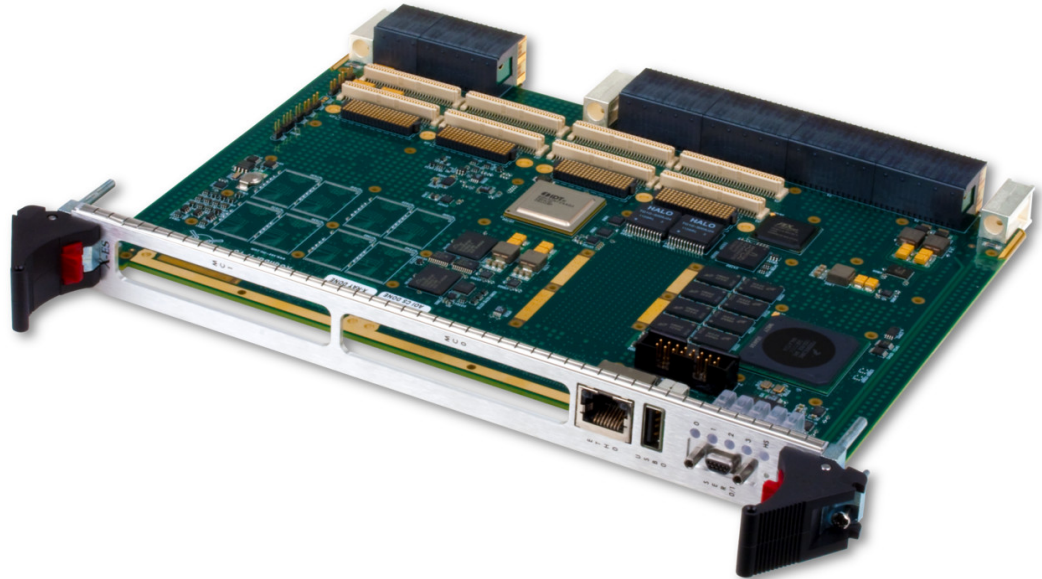# XCalibur1740

End of Life

NXP QorIQ P2020 Processor-Based Conduction- or Air-Cooled 6U VPX Module

Please contact X-ES Sales

- NXP QorIQ P2020 processor with dual Power Architecture® e500v2 cores at up to 1.2 GHz
- Alternate NXP QorIQ processors available: P1011, P1020, and P2010
- 6U VPX module
- Conduction or air cooling
- VITA 46.11 Tier 1 and Tier 2 IPMI Controller (IPMC)
- Up to 8 GB DDR3 ECC SDRAM
- Up to 512 MB of NOR flash (with redundancy)
- Up to 32 GB of CPU NAND flash
- x4 PCI Express lane from CPU to switch
- x4 PCI Express to XMC sites
- Four x4 (x16 total) PCI Express lanes from switch to P1
- One USB 2.0 port
- Three Gigabit Ethernet ports
- Two RS-232/422/485 serial ports
- Two XMC/PrPMC interfaces
- Linux BSP
- Wind River VxWorks BSP
- QNX Neutrino BSP
- Green Hills INTEGRITY-178 BSP

XCalibur1740

The XCalibur1740 is a high-performance, multiprocessing, 6U VPX, single board computer that is ideal for ruggedized systems requiring high-bandwidth processing and low power consumption. With dual Power Architecture® e500v2 cores running at up to 1.2 GHz, the NXP (formerly Freescale) QorIQ P2020 delivers enhanced performance and efficiency for today's embedded computing applications.

The XCalibur1740 provides up to 8 GB of DDR3 ECC SDRAM, two XMC/PMC slots, and 512 MB of NOR flash (with redundancy). The XCalibur1740 also supports three Gigabit Ethernet ports, XMC I/O, PMC I/O, and two RS-232/422/485 serial ports out the front panel and/or VPX backplane connectors.

The XCalibur1740 is a powerful, feature-rich solution for the next generation of compute-intensive embedded applications. For customers seeking a lower power option, the XCalibur1740 can be designed with the NXP P1020 processor, offering a reduction of approximately 7 W. Operating system support for Wind River VxWorks, Green Hills INTEGRITY-178, QNX Neutrino, and Linux is available.

X-ES
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...Always Fast

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Processor

- NXP (formerly Freescale) QorIQ P2020 processor
- Dual Power Architecture® e500v2 cores at up to 1.2 GHz
- 512 kB of shared L2 cache

Alternate Processor Configuration

- P1011 processor with one Power Architecture® e500v2 core at up to 800 MHz
- P1020 processor with two Power Architecture® e500v2 cores at up to 800 MHz
- P2010 processor with one Power Architecture® e500v2 core at up to 1.2 GHz

Memory

- Up to 8 GB of DDR3 ECC SDRAM
- Up to 512 MB of NOR flash (with redundancy)
- Up to 32 GB of NAND flash

XMC/PrPMC

- PCI-X (64/32-bit, 100/66 MHz)
- PCI (64/32-bit, 66/33 MHz)
- x4 PCIe port to P15 and P25 (XMC)

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 (PMC and XMC I/O to P3, P4, P5, P6, mapping P3w1P4-P64s+X12d+X8d)

Front Panel

- Two RS-232 serial ports
- One Gigabit Ethernet port
- One USB 2.0 port
- General-purpose LEDs

Back Panel

- Two RS-232/422/485 serial ports
- Two Gigabit Ethernet ports
- One USB 2.0 port

IPMI

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

Software Support

- Wind River VxWorks BSP
- Linux BSP
- Green Hills INTEGRITY-178 BSP
- Contact factory for availability of QNX Neutrino and LynuxWorks LynxOS BSPs

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

Power Requirements (Estimate)

- 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.

XCalibur1740