

XPedite6370

End of Life

NXP QorIQ LS2088A-Based 3U VPX-REDI SBC Module with Eight ARM® Cortex®-A72 Cores

Please contact X-ES Sales

- ▶ NXP QorIQ LS2088A processor with eight ARM® Cortex®-A72 cores at up to 1.8 GHz
- ▶ 128-bit NEON™ SIMD engine
- ▶ Compatible with multiple VITA 65 OpenVPX™ slot profiles
- ▶ 3U VPX (VITA 46) module
- ▶ Ruggedized Enhanced Design Implementation (REDI)
- ▶ VITA 46.11 Tier 1 and Tier 2 IPMI Controller (IPMC)
- ▶ Conduction or air cooling
- ▶ Up to 16 GB of DDR4 ECC SDRAM
- ▶ Up to 256 MB of NOR flash (with redundancy)
- ▶ Up to 32 GB of NAND flash
- ▶ Hardware write protection for non-volatile memory
- ▶ XMC interface
- ▶ Two x4 PCI Express backplane fabric interconnects
- ▶ x4 PCI Express to Fat Pipe P1.B fabric interconnect
- ▶ Two SerDes Gigabit Ethernet Thin Pipe P1 fabric interconnects
- ▶ Two 10/100/1000BASE-T Ethernet ports
- ▶ Two SATA ports to P2 (optional)
- ▶ Up to four RS-232/422/485 serial ports to P2
- ▶ Two USB 2.0 ports to P2
- ▶ Linux BSP
- ▶ Wind River VxWorks BSP
- ▶ Green Hills INTEGRITY BSP



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The XPedite6370 is a 3U VPX-REDI single board computer based on the NXP (formerly Freescale) QorIQ LS2088A processor. It is compatible with multiple VITA 65 OpenVPX™ slot profiles. The XPedite6370 provides a rugged, feature-rich, processing solution that maximizes the performance-per-watt capabilities of an ARM-based processor module. The LS2088A processor offers eight ARM® Cortex®-A72 CPUs, running at up to 1.8 GHz and integrates a 128-bit NEON™-based SIMD engine for each core. The integrated NEON™ SIMD engines allow the XPedite6370 to support DSP-level Floating-Point performance and an extensive inventory of software libraries.

The XPedite6370 also supports up to 16 GB of DDR4 ECC SDRAM and provides a plethora of I/O options to the backplane, including multiple including multiple Gigabit Ethernet and PCIe Gen3 interfaces. The XPedite6370 provides superior growth and expansion capabilities. It includes an XMC site with full 10 mm I/O envelope support, while maintaining a 0.8 in. VPX slot pitch. This gives system integrators a wide variety of COTS options for additional I/O, storage, or processing and minimizes total system SWaP-C.

Wind River VxWorks, Linux, and Green Hills INTEGRITY Board Support Packages (BSPs) are available.

X-ES

Extreme Engineering Solutions

*“Fast, Flexible, Customer-Focused
Embedded Solutions”*

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Processor

- NXP (formerly Freescale) QorIQ LS2088A processor
- Eight ARM® Cortex®-A72 cores at up to 1.8 GHz
- 1 MB L2 cache shared between two CPUs
- 1 MB platform cache with ECC
- IEEE 784 Floating-Point Unit (FPU) support
- 128-bit NEON™ SIMD engine

Memory

- Up to 16 GB of DDR4 ECC SDRAM
- Up to 256 MB of NOR flash (with redundancy)
- Up to 32 GB of NAND flash

XMC Site

- x2 PCI Express interface
- X12d P16 I/O support

VPX (VITA 46) P0 I/O

- I²C port
- VITA 46.11 Tier 1 and Tier 2 (System Management on VPX)

VPX (VITA 46) P1 I/O

- x4 PCI Express Gen3-capable interface to P1.A
- x4 PCI Express Gen3-capable interface to P1.B
- Two 1000BASE-X Ethernet ports
- XMC P16 I/O, mapping P1w9-X12d per VITA 46.9

VPX (VITA 46) P2 I/O

- Two 10/100/1000BASE-T Ethernet ports
- Up to four RS-232/422/485 serial ports
- Two USB 2.0 ports
- 3.3 V GPIO signals
- Two SATA ports capable of 6 Gb/s (optional)

Physical Characteristics

- 3U VPX-REDI conduction- or air-cooled form factor
- Dimensions: 100 mm x 160 mm
- 0.8 in. pitch without solder-side cover
- 0.85 and 1.0 in. pitch with solder-side cover

Environmental Requirements

- Contact factory for appropriate board configuration based on environmental requirements.
- Supported ruggedization levels (see chart below): 3, 5
 - Conformal coating available as an ordering option

Power Requirements

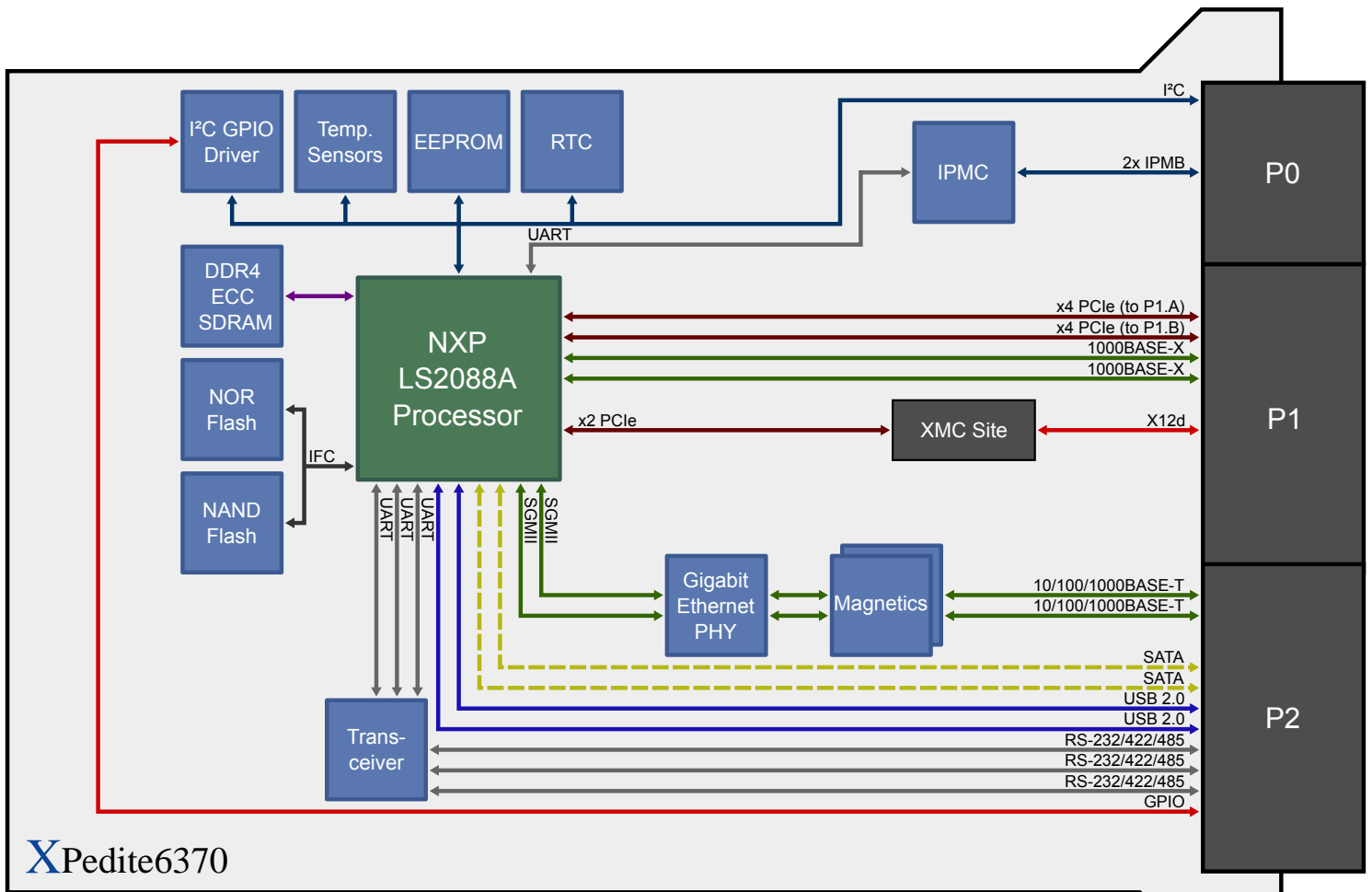
- Power will vary based on configuration and usage. Please consult factory.

Software Support

- Linux BSP
- Wind River VxWorks BSP
- Green Hills INTEGRITY BSP
- QNX Neutrino BSP (contact factory)
- LynuxWorks LynxOS BSP (contact factory)

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

† Contact factory for airflow rate details.



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