

XPedite6370

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

- ▶ NXP QorIQ LS2088A processor with eight ARM® Cortex®-A72 cores at up to 2.0 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 DDR4-2100 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



XPedite6370

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 2.0 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 DDR4-2100 ECC SDRAM and provides a plethora of I/O options to the backplane, including multiple 10 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.

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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 (formerly Freescale) QorIQ LS2088A processor
- Eight ARM® Cortex®-A72 cores at up to 2.0 GHz
- 1 MB L2 cache shared between two CPUs
- 1 MB platform cache with ECC
- IEEE 754 Floating-Point Unit (FPU) support
- 128-bit NEON™ SIMD engine

Memory

- Up to 16 GB of up to DDR4-2100 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 10GBASE-KR 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

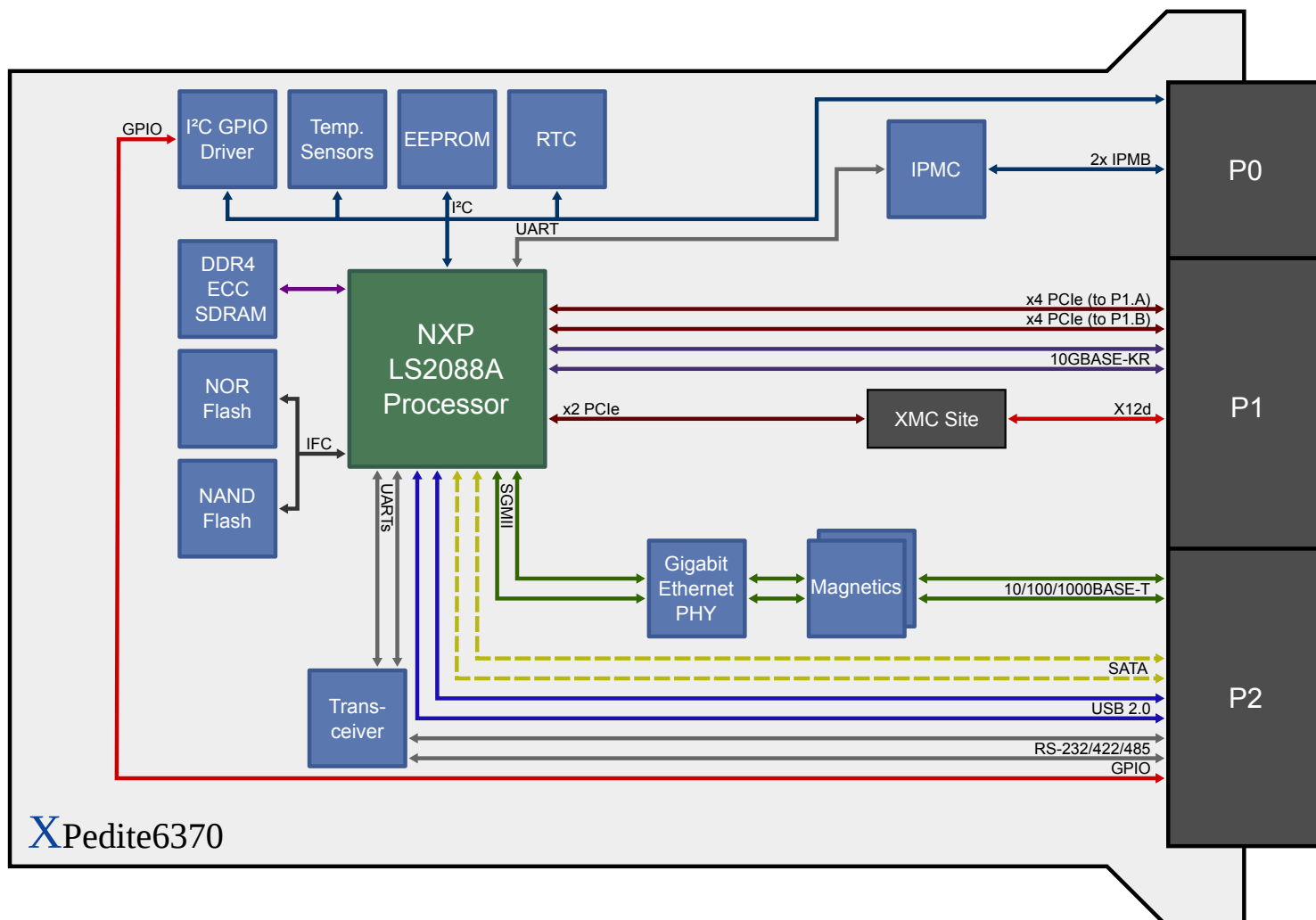
Power Requirements

- 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)
- LynxWorks LynxOS BSP (contact 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 (300 LFM)	-40 to +70°C (600 LFM)	-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



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