The XPedite5970 is a 3U OpenVPX™ REDI single board computer based on the NXP (formerly Freescale) QorIQ T2080 processor. The XPedite5970 provides a rugged, feature-rich processing solution that maximizes the performance-per-watt capabilities of a Power Architecture®-based processor module. The T2080 processor offers eight virtual (four dual-threaded) e6500 cores, running at up to 1.8 GHz, and integrates a 128-bit AltiVec technology-based SIMD engine per core. The integrated AltiVec SIMD engines enable the XPedite5970 to support DSP-level Floating-Point performance and an extensive inventory of software libraries.

The XPedite5970 also supports up to 8 GB of DDR3-1600 SDRAM and provides a plethora of I/O options to the backplane, including 10 Gigabit Ethernet, PCIe Gen3, and Gen2 SRIO. The XPedite5970 provides superior growth and expansion capabilities by including an XMC or PMC site with full 10 mm I/O envelope support while maintaining a 0.8 in. VPX slot pitch, providing the system integrator with a wide variety of COTS options for additional I/O, storage, or processing while minimizing total system SWaP-C.

Wind River VxWorks, Linux, Green Hills INTEGRITY, and DDC-I's DO-178 Certifiable Deos 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.
**Processor**
- NXP (formerly Freescale) QorIQ T2080 processor
- Eight virtual (four dual-threaded) Power Architecture® e6500 cores at up to 1.8 GHz
- 2 MB L2 cache
- 512 kB platform cache
- IEEE 754 Floating-Point Unit (FPU) support
- 128-bit Altivec technology-based SIMD engine

**Memory**
- Up to 8 GB of up to DDR3-2133 ECC SDRAM
- Up to 512 MB of NOR flash (with redundancy)
- Up to 64 GB of NAND flash

**XMC/PrPMC Site**
- 32-bit, 66 MHz PCI bus (PMC interface)
- x4 PCIe port (XMC interface)
- P64s P14 I/O support (optional)
- X12d P16 I/O support

**Front Panel I/O**
- Front panel RJ-45 Ethernet, micro-DB-9 RS-232 serial ports, and USB 2.0 available via optional plugover module

**VPX (VITA 46) P0 I/O**
- I²C port

**VPX (VITA 46) P1 I/O**
- x4 PCI Express, Serial RapidIO or 10 GbE XAUJ Fat Pipe to P1.A
- x4 PCI Express or Serial RapidIO Fat Pipe to P1.B
- Two SerDes Gigabit Ethernet ports (or one 10/100/1000BASE-T port to P1 and one 10/100/1000BASE-T port to P2)
- X12d XMC P16 I/O

**VPX (VITA 46) P2 I/O**
- One 10/100/1000BASE-T port (when two SerDes Gigabit Ethernet P1 ports are not used)
- Two RS-232/422/485 serial ports
- Two USB 2.0 ports
- I²C port
- 3.3 V GPIO signals
- Two SATA ports capable of 6 Gb/s

**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 BSP
- DDC-Ts DO-178 Certifiable Deos BSP
- Contact factory for availability of QNX Neutrino and LynuxWorks LynxOS BSPs

**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): 1, 3, 5
- Conformal coating available as an ordering option

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

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![XPedite5970 Diagram](image-url)