

XPedite5570

NXP QorIQ P2020 Processor-Based Conduction- or Air-Cooled 3U VPX-REDI Module

- ▶ NXP QorIQ P2020 processor with dual Power Architecture® e500v2 cores at up to 1.2 GHz
- ▶ Alternate NXP QorIQ processors: P1011, P1020, P2010
- ▶ 3U VPX (VITA 46) module
- ▶ Ruggedized Enhanced Design Implementation (REDI)
- ▶ Conduction or air cooling
- ▶ Up to 8 GB of DDR3-800 ECC SDRAM
- ▶ Up to 512 MB of NOR flash (with redundancy)
- ▶ Up to 32 GB of NAND flash
- ▶ XMC/PrPMC interface
- ▶ x4 PCI Express P1.A fabric interconnect
- ▶ x4 PCI Express P1.B fabric interconnect
- ▶ Two SerDes Gigabit Ethernet P1 fabric interconnects
- ▶ Two 10/100/1000BASE-T Ethernet ports (optional)
- ▶ Up to two RS-232/422/485 serial ports to P2
- ▶ One USB 2.0 port to P2
- ▶ Front I/O available via plugover module
- ▶ Linux BSP
- ▶ Wind River VxWorks BSP
- ▶ QNX Neutrino BSP
- ▶ Green Hills INTEGRITY-178 BSP



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The XPedite5570 is a high-performance, 3U VPX, single board computer supporting NXP (formerly Freescale) QorIQ P1 and P2 processors. With dual Power Architecture® e500v2 cores running at up to 1.2 GHz, the P2020 delivers enhanced performance and efficiency for today's embedded computing applications.

The XPedite5570 supports up to 8 GB of up to DDR3-800 ECC SDRAM, as well as up to 32 GB of NAND flash and up to 512 MB of NOR flash (with redundancy). The XPedite5570 provides two PCI Express interconnects, as well as two SerDes Gigabit Ethernet P1 fabric interconnects. The XPedite5570 also supports dual Gigabit Ethernet, GPIO, I²C, PMC I/O, XMC I/O, USB 2.0, and up to two RS-232/422/485 serial ports through the P2 connector.

The XPedite5570 provides a ruggedized, high-performance, feature-rich solution to support the next generation of rugged embedded applications. Linux, Wind River VxWorks, QNX Neutrino, and Green Hills INTEGRITY-178 Board Support Packages (BSPs) are available.

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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 DDR3-800 ECC SDRAM
- Up to 512 MB of NOR flash (with redundancy)
- Up to 32 GB of NAND flash

VPX (VITA 46) P1 I/O

- x4 PCI Express to P1.A
- x4 PCI Express to P1.B
- Two SerDes Gigabit Ethernet ports (or one 10/100/1000BASE-T port out P1 and one 10/100/1000BASE-T port out P2)
- X12d XMC P16 I/O

VPX (VITA 46) P2 I/O

- One 10/100/1000BASE-T Ethernet port (when two SerDes Gigabit Ethernet P1 ports are not used)
- Up to two RS-232/422/485 serial ports
- I²C port
- 3.3 V GPIO signals
- P64s PMC P14 I/O
- One USB 2.0 port

XMC/PrPMC Site

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

Front Panel I/O

- Dual RJ-45 Ethernet, micro-DB-9 RS-232 serial port, and USB 2.0 port available via optional plugover module

Software Support

- Linux BSP
- Wind River VxWorks BSP
- QNX Neutrino BSP
- Green Hills INTEGRITY-178 BSP

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.

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

