

XPedite7470

Intel® Core™i7 Processor-Based 3U Conduction- or Air-Cooled VPX-REDI Module

- ▶ Intel® next generation embedded Sandy Bridge processor
- ▶ Dual- or quad-core processor with hyper-threading technology
- ▶ 3U VPX (VITA 46) module
- ▶ OpenVPX™ standards based
- ▶ Ruggedized Enhanced Design Implementation (REDI) per VITA 48
- ▶ Conduction or air cooling
- ▶ Up to 8 GB of DDR3-1333 ECC SDRAM in two channels
- ▶ 32 MB NOR boot flash
- ▶ Up to 16 GB of NAND flash
- ▶ PrPMC/XMC interface with rear and front panel I/O support
- ▶ Two Gen2 Fat Pipe P1 fabric interconnects
- ▶ Two optional 10/100/1000BASE-T or 1000BASE-BX Ethernet ports
- ▶ Two optional rear-panel USB 2.0 high-speed ports
- ▶ Two optional rear-panel SATA 3.0 Gb/s ports
- ▶ Two rear-panel RS-232/RS-422/RS-485 serial ports
- ▶ Two rear-panel DVI graphics ports
- ▶ Linux BSP
- ▶ Wind River VxWorks BSP
- ▶ QNX Neutrino BSP
- ▶ Green Hills INTEGRITY BSP
- ▶ Windows drivers



XPedite7470

The XPedite7470 is a high-performance, low-power 3U VPX-REDI single-board computer based on the Intel® Core™i7 processor (Sandy Bridge) and Intel QM67 (Cougar Point) chipset. With two PCI Express Fat Pipe P1 interconnects and two Gigabit Ethernet ports, the XPedite7470 is ideal for the high-bandwidth and processing intensive applications of today's military and avionics applications. Floating-point intensive applications such as radar, image processing, and signals intelligence will benefit from the performance boost provided by the Intel® Advanced Vector Extensions (Intel® AVX) incorporated into the Intel Core™i7 processor.

The XPedite7470 accommodates up to 8 GB of DDR3 ECC SDRAM on two channels to support memory-intensive applications. The XPedite7470 also hosts numerous I/O ports including Gigabit Ethernet, USB 2.0, SATA, graphics, and RS-232/RS-422/RS-485 through the backplane connectors.

The XPedite7470 can be used in either the system slot or peripheral slot of a VPX backplane. Wind River VxWorks, QNX Neutrino, Green Hills INTEGRITY, and Linux Board Support Packages (BSPs) are available, as well as Windows drivers.

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Processor

- Intel® Core™i7 dual- or quad-core processor
- Hyper-threading technology
- Dual channel integrated memory controller
- Integrated graphics controller

Memory

- Up to 8 GB of DDR3-1333 ECC SDRAM on two channels
- 32 MB NOR boot flash
- Up to 16 GB of NAND flash

Graphics

- Integrated high performance 3D graphics controller
- Two DVI-D or dual-mode DisplayPort

VPX (VITA 46) P0 I/O

- I²C port

VPX (VITA 46) P1 I/O

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

VPX (VITA 46) P2 I/O

- One 10/100/1000-Mbps Gigabit Ethernet port (optional)
- Two SATA ports (optional)
- Two USB 2.0 ports (optional)
- Up to two RS-232/RS-422/RS-485 serial ports
- 3.3V GPIO signals (optional)
- Two DVI graphics ports (optional)

PrPMC/XMC Site

- 32-bit, 33-MHz PCI bus (PMC interface)
- x4 PCIe port (XMC interface)
- Two 6.0 Gb/s SATA ports (XMC interface)
- X12d P16 I/O support

Software Support

- Linux BSP
- Wind River VxWorks BSP
- QNX Neutrino BSP
- Green Hills INTEGRITY BSP
- Windows drivers

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 CPU frequency and application. Please consult factory.

Supported 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	0 to +85 °C ambient	-40 to +105 °C ambient	-55 to +105 °C ambient
Vibration	0.002 g ² /Hz, 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

