

# XPedite7470

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

- ▶ Supports 2nd and 3rd generation Intel® Core™ i7 processors
- ▶ Quad- or dual-core processor with Intel® 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 DDR3-1600 ECC SDRAM in two channels
- ▶ 32 MB of NOR boot flash
- ▶ Up to 16 GB of NAND flash
- ▶ XMC/PMC interface with rear I/O and limited front-panel I/O support
- ▶ Two Gen2 Fat Pipe P1 fabric interconnects
- ▶ Two RS-232/422/485 serial ports
- ▶ Two HDMI/DVI-D or Dual-Mode DisplayPort interfaces
- ▶ Two XMC (P16) SATA ports capable of 6 Gb/s for storage mezzanine
- ▶ Two SATA ports capable of 3 Gb/s and two USB 2.0 ports
- ▶ Wind River VxWorks BSP
- ▶ Linux BSP
- ▶ Microsoft Windows drivers
- ▶ Contact factory for availability of Green Hills INTEGRITY, QNX Neutrino, and LynuxWorks LynxOS BSPs



## XPedite7470

The XPedite7470 is a high-performance, low-power, 3U VPX-REDI, single board computer based on the 2nd and 3rd generation Intel® Core™ i7 processor and the Intel® QM67 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 demands 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 DDR3-1600 ECC SDRAM in 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-232/422/485 through the backplane connectors.

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

# X-ES

Extreme Engineering Solutions

*...Always Fast*

### Extreme Engineering Solutions

3225 Deming Way, Suite 120 • Middleton, WI 53562

Phone: 608.833.1155 • Fax: 608.827.6171

sales@xes-inc.com • <http://www.xes-inc.com>

**Processor**

- Quad- or dual-core Intel® Core™ i7
- Intel® Turbo Boost Technology
- Intel® Hyper-Threading Technology
- AVX instruction set extensions
- Integrated with Intel® QM67 chipset
- Dual-channel integrated memory controller
- Integrated high-performance 3D graphics controller

**Quad-Core Processor Configurations**

- Core™ i7-3612QE: 2.1 GHz, 6 MB cache

**Dual-Core Processor Configurations**

- Core™ i7-2655LE: 2.2 GHz, 4 MB cache
- Core™ i7-2610UE: 1.5 GHz, 4 MB cache
- Core™ i7-3555LE: 2.5 GHz, 4 MB cache
- Core™ i7-3517UE: 1.7 GHz, 4 MB cache

**Memory**

- Up to 8 GB of DDR3-1600 ECC SDRAM in two channels
- 32 MB of NOR boot flash
- Up to 16 GB of NAND flash

**Graphics**

- Integrated high-performance 3D graphics controller
- Two HDMI/DVI-D or Dual-Mode DisplayPort interfaces

**VPX (VITA 46) P0 I/O**

- I<sup>2</sup>C 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)
- XMC P16 I/O, mapping P1w9-X12d per VITA 46.9

**VPX (VITA 46) P2 I/O**

- One 10/100/1000BASE-T Gigabit Ethernet port
- Two SATA ports capable of 3 Gb/s
- Two USB 2.0 ports
- Up to two RS-232/422/485 serial ports
- 3.3 V GPIO signals
- Two HDMI/DVI-D or Dual-Mode DisplayPort interfaces
- Optional I/O can be replaced by a subset of P2w1-P64s I/O, Wafer 1-8 is NC

**XMC/PMC Site**

- 32-bit, 33 MHz PCI bus (PMC interface)
- x4 PCIe port (XMC interface)
- Two SATA ports capable of 6 Gb/s (XMC interface)

**Security and Management**

- Optional Trusted Platform Module (TPM)
- Non-volatile memory write protection

**Software Support**

- Wind River VxWorks BSP
- Linux BSP
- Microsoft Windows drivers
- Contact factory for availability of Green Hills INTEGRITY, 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 in. 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 ambient
Vibration	0.002 g <sup>2</sup> /Hz, 5 to 2000 Hz	0.04 g <sup>2</sup> /Hz (maximum), 5 to 2000 Hz	0.1 g <sup>2</sup> /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

