XPedite7470

End of Life

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

Please contact X-ES Sales

- 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 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 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
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

- 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 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

- 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)
- 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): 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 †	-40 to +70°C ambient †	-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 g²/Hz (maximum), 5 to 2000 Hz	0.04 g²/Hz (maximum), 5 to 2000 Hz	0.1 g²/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

† Contact factory for airflow rate details.