XPedite7570

4th Generation Intel® Core™ i7 Haswell Processor-Based Conduction- or Air-Cooled 3U VPX-REDI Module

- Supports 4th generation Intel® Core™ i7 processors
- 3U VPX (VITA 46) module
- OpenVPX™ standards based
- Ruggedized Enhanced Design Implementation (REDI) per VITA 48
- Conduction or air cooling
- Up to 16 GB of DDR3 ECC SDRAM in two channels
- Up to 32 GB of NAND flash
- PMC/XMC interface
- Two PCI Express Fat Pipe P1 fabric interconnects
- Four Gigabit Ethernet ports
- Four SATA ports
- Two HDMI/DVI-D or Dual-Mode DisplayPort interfaces
- One XMC (P16) SATA port for storage mezzanine
- Intel® vPro™/AMT support
- Wind River VxWorks BSP
- Linux BSP
- Microsoft Windows drivers
- Contact factory for availability of Green Hills INTEGRITY, QNX Neutrino, and LynuxWorks LynxOS BSPs

XPedite7570

The XPedite7570 is a high-performance, 3U VPX-REDI, single board computer based on the 4th generation Intel® Core™ i7 Haswell processor. The XPedite7570 maximizes network performance with four Gigabit Ethernet interfaces, configured as two 1000BASE-BX/KX (SerDes) ports and two 10/100/1000BASE-T ports. An integrated PCI Express switch with Non-Transparent Bridging support enables direct communication with other Intel® processors without the need for a separate switch module within the system, further reducing SWaP-C for the system integrator.

The XPedite7570 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 plethora of COTS options for additional I/O, storage, or processing while minimizing total system SWaP-C. Additionally, the XPedite7570 provides significant maintenance and diagnostics advantages by enabling the remote configuration and management capabilities of Intel® vPro™ with Intel® Active Management Technology (Intel® AMT) support.

The XPedite7570 accommodates up to 16 GB of DDR3 ECC SDRAM in two channels to support memory-intensive applications. The XPedite7570 also hosts numerous I/O ports, including PCI Express, Gigabit Ethernet, USB, SATA, graphics, and RS-232/422/485 through the backplane connectors. Wind River VxWorks and Linux Board Support Packages (BSPs) are available, as well as Microsoft Windows drivers.

X-ES
Extreme Engineering Solutions

...Always Fast

Processor

- 4th generation Intel® Core™ i7
- Integrated high-performance 3D graphics controller

Memory

- Up to 16 GB of DDR3 ECC SDRAM in two channels
- Up to 32 GB of NAND flash
- 64 MB NOR boot flash
- 64 kB EEPROM

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
- XMC P16 I/O, mapping P1w9-X12d per VITA 46.9

VPX (VITA 46) P2 I/O

- Two 10/100/1000BASE-T Gigabit Ethernet ports
- Four SATA ports capable of 6.0 Gb/s
- Two USB 2.0 ports
- Two HDMI/DVI-D or Dual-Mode DisplayPort interfaces
- Up to two RS-232/422/485 serial ports
- 3.3 V GPIO signals

PrPMC/XMC Site

- 32-bit, 33/66 MHz PCI bus (PMC interface)
- x8 PCI Express Gen3-capable port (XMC interface)
- One SATA port capable of 6.0 Gb/s (XMC interface)

Additional Features

- Non-volatile memory write protection
- Optional Trusted Platform Module (TPM)
- IEEE 1588 support on three Gigabit Ethernet ports
- Intel® Active Management Technology (AMT) supported by Intel® vPro™ Technology

Software Support

- Wind River VxWorks BSP
- Linux BSP
- Microsoft Windows drivers
- Contact factory for availability of Green Hills INTEGRITY, QNX Neutrino, and LynxWorks 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
- Thermal performance will vary based on CPU frequency and application

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 g²/Hz, 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

XPedite7570 block diagram