XPedite7478

End of Life

Intel® Core™ i7 Processor-Based 3U VPX-REDI Module with Integrated MIL-STD-1553B and CAN Bus   Please contact X-ES Sales

- Supports 3rd generation Intel® Core™ i7 processors
- Dual-core processor with Intel® Hyper-Threading Technology
- 3U VPX (VITA 46) module
- VITA 46.11 Tier 1 and Tier 2 IPMI Controller (IPMC)
- Compatible with multiple VITA 65 OpenVPX™ profiles
- Ruggedized Enhanced Design Implementation (REDI) per VITA 48
- Conduction cooling
- Up to 8 GB of DDR3 ECC SDRAM in two channels
- Up to 32 GB of NAND flash
- Two Gen2 Fat Pipe P1 fabric interconnects
- One dual-redundant MIL-STD-1553B interface
- Two CAN bus channels
- Four serial ports
- One DisplayPort video interface
- Wind River VxWorks BSP
- Linux BSP
- Microsoft Windows drivers
- Contact factory for availability of Green Hills INTEGRITY, QNX Neutrino, and LynuxWorks BSPs

XPedite7478

The XPedite7478 is a high-performance, low-power, 3U VPX-REDI, single board computer based on the 3rd generation Intel® Core™ i7 processor. With an integrated dual-redundant MIL-STD-1553B interface and two CAN bus channels, the XPedite7478 maximizes native I/O while minimizing SWaP and cost. Additionally, the XPedite7478 integrates further expansion capabilities by including support for an XMC module.

The XPedite7478 also maximizes memory density with up to 8 GB of DDR3 ECC SDRAM across two channels. With two PCI Express Fat Pipe P1 interconnects and two Gigabit Ethernet ports, the XPedite7478 is ideal for processing-intensive applications requiring high-throughput communication.

Wind River VxWorks and Linux Board Support Packages (BSPs) are available, as well as Microsoft Windows drivers.

Processor

- Quad- or dual-core Intel® Core™ i7
- Intel® Turbo Boost Technology
- Intel® Hyper-Threading Technology
- AVX instruction set extensions
- Integrated with Intel® QM77 chipset
- Dual-channel integrated memory controller

Quad-Core Processor Configurations

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

Dual-Core Processor Configurations

- 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 32 GB of NAND flash
- 16 kB EEPROM
- 4 MB MRAM

Graphics

- Integrated high-performance 3D graphics controller
- One DisplayPort video interface

VPX (VITA 46) P0 I/O

- IPMI I²C port
- VITA 46.11 (System Management on VPX)

VPX (VITA 46) P1 I/O

- x4 PCI Express Fat Pipe interface to P1.A
- x4 PCI Express Fat Pipe interface to P1.B
- One 10/100/1000BASE-T Gigabit Ethernet port

VPX (VITA 46) P2 I/O

- One 10/100/1000BASE-T Gigabit Ethernet port
- One dual-redundant MIL-STD-1553B interface
- Two CAN bus channels
- Two SATA ports capable of 3 Gb/s
- Two USB 2.0 ports
- Two RS-232 serial ports, two RS-422/485 serial ports
- One DisplayPort video interface
- Isolated mono audio

Additional Features

- Non-volatile memory write protection
- IEEE 1588 support on two Gigabit Ethernet ports
- VITA 46.11 Tier 1 and Tier 2 IPMI Controller (IPMC)

Software Support

- Wind River VxWorks BSP
- Linux BSP
- Microsoft Windows drivers
- Contact factory for availability of Green Hills INTEGRITY, QNX Neutrino, and LynuxWorks 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
- 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 †	-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.