XPedite6101

Freescale T2081, T1042, or T1022 Processor-Based Conduction-Cooled XMC/PrPMC

- ❯ Freescale T2081 processor with eight virtual Power Architecture® e6500 cores at up to 1.8 GHz
- ❯ Freescale T1042 processor with four Power Architecture® e5500 cores at up to 1.4 GHz
- ❯ Freescale T1022 processor with two Power Architecture® e5500 cores at up to 1.4 GHz
- ❯ 128-bit SIMD AltiVec engine per e6500 core
- ❯ Conduction-cooled
- ❯ Up to 8 GB of up to DDR3-1600 ECC SDRAM
- ❯ Up to 512 MB of NOR flash (with redundancy)
- ❯ Up to 32 GB of NAND flash
- ❯ x4 PCI Express Gen2 interface to P15
- ❯ PrPMC PCI interface
- ❯ Two Gigabit Ethernet ports
- ❯ Two RS-232/422/485 serial ports
- ❯ Two USB 2.0 ports
- ❯ Two SATA 3.0 ports
- ❯ Linux BSP
- ❯ Wind River VxWorks BSP
- ❯ Green Hills INTEGRITY BSP

XPedite6101

The XPedite6101 provides a compact and cost-effective rugged computing solution with excellent processing performance-per-watt. The feature-rich XPedite6101 is available in XMC and PrPMC form factors and supports the Freescale QorIQ-based T2081, T1042, or T1022 processors. The T2081 processor provides the same performance as the T2080 processor in a smaller package, which is pin-compatible with the T1042 and T1022.

The XPedite6101 supports multiple processor configurations, a number of I/O options, and up to 8 GB of DDR3-1600 ECC SDRAM. When configured to use the T2081 processor, the XPedite6101 maximizes performance with eight virtual (four dual-threaded) e6500 cores running at up to 1.8 GHz. Each e6500 core implements the Freescale AltiVec technology-based SIMD engine, providing DSP-level Floating-Point performance and an extensive inventory of software libraries. The T1042 processor provides a lower power alternative with four e5500 cores running at up to 1.4 GHz. The T1022 provides the lowest power configuration with two e5500 cores running at up to 1.4 GHz.

Wind River VxWorks, Linux, and Green Hills INTEGRITY Board Support Packages (BSPs) are also available.

Processor

- Freescale T2081 processor with eight virtual (four dual-threaded) Power Architecture® e6500 cores at up to 1.8 GHz
- 128-bit SIMD AltiVec engine per e6500 core
- Freescale T1042 processor with four Power Architecture® e5500 cores at up to 1.4 GHz
- Freescale T1022 processor with two Power Architecture® e5500 cores at up to 1.4 GHz
- IEEE 754 Floating-Point Unit support

Memory

- Up to 8 GB of up to DDR3-1600 ECC SDRAM
- Up to 512 MB of NOR flash (with redundancy)
- Up to 32 GB of NAND flash

PrPMC Interface

- 66/33 MHz PCI
- 32-bit bus interface

P15 XMC Interface

- x4 PCI Express Gen2

PMC P14 I/O

- Two 10/100/1000BASE-T Ethernet ports
- Two RS-232/422/485 ports
- Two USB 2.0 ports
- 3.3 V GPIO

XMC P16 I/O

- Two SATA ports capable of 3 Gb/s

Software Support

- Linux BSP
- Wind River VxWorks BSP
- Green Hills INTEGRITY BSP
- QNX Neutrino BSP (contact factory)
- LynuxWorks LynxOS BSP (contact factory)

Physical Characteristics

- Conduction-cooled XMC/PMC form factor
- Dimensions: 149 mm x 74 mm, 10 mm stacking height

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 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

bsi. ISO 9001 Quality Management