

XPedite5504

NXP QorIQ P2010 Processor-Based Air-Cooled XMC/PMC Mezzanine Module

- › NXP QorIQ P2010 processor with one Power Architecture® e500v2 core at up to 1.2 GHz
- › Alternate NXP QorIQ processors available: P1011, P1020, and P2020
- › Air cooling
- › Up to 8 GB of DDR3-800 ECC SDRAM
- › Up to x4 PCI Express or Serial RapidIO
- › PCI PrPMC interface
- › Three 10/100/1000BASE-T Ethernet ports
- › Two RS-232 serial ports
- › Up to 256 MB of NOR flash (with redundancy)
- › Up to 16 GB of NAND flash
- › Legacy P14 pinout
- › Linux BSP
- › Wind River VxWorks BSP
- › QNX Neutrino BSP
- › Green Hills INTEGRITY-178 BSP



XPedite5504

The XPedite5504 is a high-performance, XMC/PrPMC, single board computer supporting NXP (formerly Freescale) QorIQ P1 and P2 processors. With one Power Architecture® e500v2 core running at up to 1.2 GHz, the P2010 delivers enhanced performance and efficiency for today's network information processing and other embedded computing applications.

Complementing processor performance, the XPedite5504 features up to 8 GB of DDR3-800 ECC SDRAM. A configurable SerDes interface (PCI Express or Serial RapidIO) to the XMC connector or a conventional PCI interface to the PMC connectors provides ample bandwidth to the P2010. One Gigabit Ethernet port and two RS-232 ports are routed to P14 for additional system flexibility. The P14 pinout is configured to support legacy pinouts to allow replacing end-of-life PrPMCs with the XPedite5504. The front panel provides easy access to two Gigabit Ethernet ports and two RS-232 serial ports.

The XPedite5504 provides a high-performance, feature-rich solution for current and future generations of embedded applications. Additionally, for customers seeking a maximum power of just 8 W, the XPedite5504 can be built with the NXP P1020 processor. Operating system support packages for the XPedite5504 include Wind River VxWorks, QNX Neutrino, Green Hills INTEGRITY-178, and Linux 2.6.



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Processor

- NXP (formerly Freescale) QorIQ P2010 processor
- One Power Architecture® e500 core at up to 1.2 GHz
- 512 kB of shared L2 cache

Alternate Processor Configuration

- P1011 processor with one Power Architecture® e500v2 core at up to 800 MHz
- P1020 processor with two Power Architecture® e500v2 cores at up to 800 MHz
- P2020 processor with two Power Architecture® e500v2 cores at up to 1.2 GHz

Memory

- Up to 8 GB DDR3-800 SDRAM
- Up to 256 MB of NOR flash (with redundancy)
- Up to 16 GB of NAND flash

PrPMC Interface

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

P15 XMC Interface

- x4 PCI Express or Serial RapidIO

P14 Interface

- One 10/100/1000BASE-T Ethernet port
- Two RS-232 ports
- 3.3 V GPIO
- Legacy P14 pinout

Front Panel I/O

- Two 10/100/1000BASE-T Ethernet ports
- Two RS-232 serial ports

Software Support

- Linux BSP
- Wind River VxWorks BSP
- QNX Neutrino BSP
- Green Hills INTEGRITY-178 BSP

Physical Characteristics

- Air-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
- 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 (maximum)
Vibration	0.002 g ² /Hz (maximum), 5 to 2000 Hz	0.04 g ² /Hz (maximum), 5 to 2000 Hz	0.1 g ² /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

