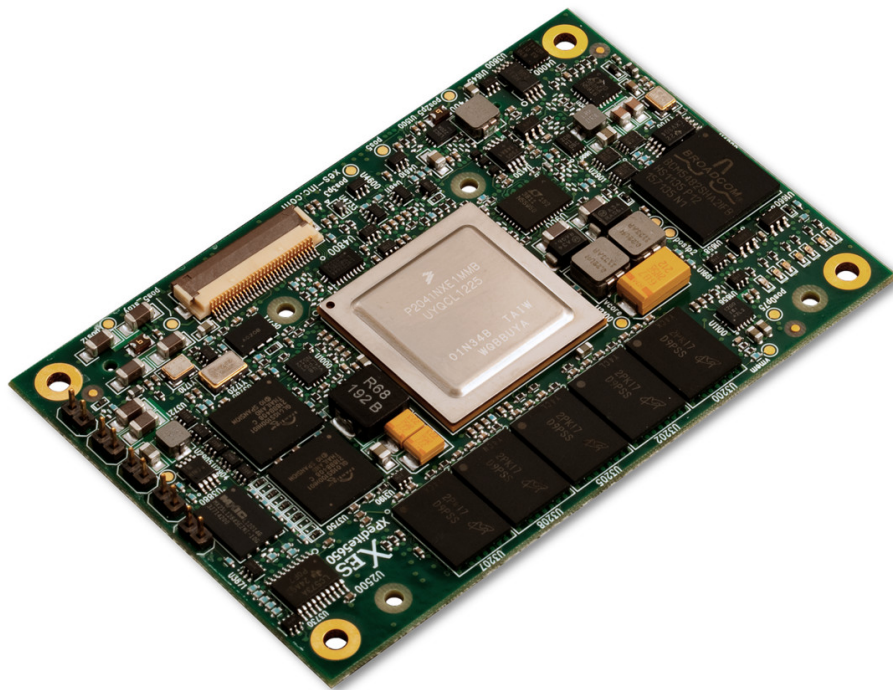


XPedite5650

Freescale Quad-Core QorIQ P2041 Processor-Based Air- or Conduction-Cooled COM Express® Module

- Freescale QorIQ P2041 processors with four Power Architecture® e500mc cores at up to 1.5 GHz
- COM Express® Mini module
- Conduction- or air-cooled
- Extended shock and vibration tolerance
- 2 GB or 4 GB of up to DDR3-1333 ECC SDRAM
- One x2 PCI Express interface
- Two x1 PCI Express interfaces
- Two Gigabit Ethernet ports (one 1000BASE-T and one 1000BASE-X)
- Two serial ports
- Two USB 2.0 ports
- Two SATA ports
- Up to 256 MB of NOR flash (with redundancy)
- Up to 16 GB of NAND flash
- Linux BSP
- Wind River VxWorks BSP
- Green Hills INTEGRITY-178 tuMP BSP
- QNX Neutrino BSP (contact factory)
- LinuxWorks LynxOS BSP (contact factory)



XPedite5650

The XPedite5650 is a ruggedized COM Express® module that complies with the COM Express® Mini form factor (55 mm x 84 mm) and supports an enhanced Type 10 pinout. The ultra-small, standards-based, COM Express® form factor brings processing to a wide range of applications. Available in both conduction- and air-cooled versions, the XPedite5650 supports the Freescale QorIQ P2041 processor. With four Power Architecture® e500mc cores running at up to 1.5 GHz, the P2041 delivers enhanced performance and efficiency for today's network information processing and other embedded computing applications.

The XPedite5650 complements processor performance with 2 GB or 4 GB of up to DDR3-1333 ECC SDRAM. It also hosts numerous I/O ports, including one copper Gigabit Ethernet port, one SerDes Gigabit Ethernet port, a single x2 PCIe port, two x1 PCIe ports, two USB 2.0 ports, two SATA ports capable of 3 Gb/s, two I²C ports, two serial ports, two SPI interfaces, and IEEE 1588 support.

The XPedite5650 provides a high-performance, feature-rich solution for current and future generations of embedded applications. Operating system support packages for the XPedite5650 include Wind River VxWorks, QNX Neutrino, LinuxWorks LynxOS, and Green Hills INTEGRITY-178 tuMP.



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Processor

- Freescale QorIQ P2041 processor
- Four Power Architecture® e500mc cores at up to 1.5 GHz
- 1 MB of shared L3 cache (128 kB L2 cache)

Memory

- 2 GB or 4 GB of up to DDR3-1333 SDRAM (Up to 4 GB is available using an oversized PCB. Contact factory for details.)
- Up to 256 MB of NOR flash (with redundancy)
- Up to 16 GB of NAND flash

COM Express®

- Modified Type 10FS pinout
- Mini form factor (55 mm x 84 mm)

Ruggedization and Reliability

- Class III PCB fabrication and assembly
- Soldered DDR3 ECC SDRAM
- Tin whisker mitigation
- Designed and tested for extended solder joint reliability
- Additional mounting holes for rugged and conduction-cooled environments
- Bootloader and OS-level BIT support

Interface

- One 10/100/1000BASE-T port
- One 10/100/1000BASE-X port
- SPI
- IEEE 1588
- Two SATA ports capable of 3 Gb/s
- Two x1 PCIe links
- One x2 PCIe link
- Two USB 2.0 ports
- Two I²C
- Two serial ports

Software Support

- Linux BSP
- Wind River VxWorks BSP
- Green Hills INTEGRITY-178 tuMP BSP
- QNX Neutrino BSP (contact factory)
- LynxWorks LynxOS BSP (contact factory)

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 g ² /Hz, 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

