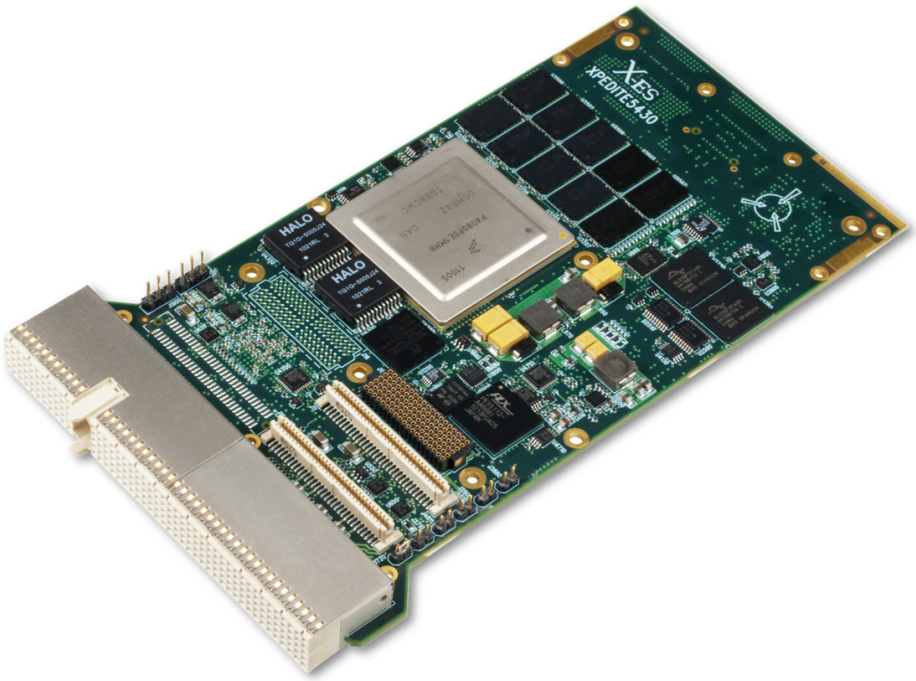
XPedite5430

Freescale Eight-Core P4080 Processor-Based Conduction- or Air-Cooled 3U CompactPCI Module

- Freescale P4080 processor with eight Power Architecture® e500mc cores at up to 1.5 GHz (alternate processors P3041, P4040, P5010, P5020)
- Conduction or air cooling
- Extended shock and vibration tolerance
- Up to 8 GB of (4 GB each) DDR3-1333 ECC SDRAM in two channels
- Configurable as system controller or peripheral
- Hosts an XMC or PrPMC
- x4 PCI Express to XMC site
- XAUI to XMC site
- Two 10/100/1000BASE-T Ethernet ports out J2
- Two RS-232/422/485 serial ports out J2
- Up to 512 MB of NOR flash (with redundancy)
- Up to 16 GB of NAND flash
- Two SATA ports to P16 or J2 (optional)
- Two USB 2.0 ports to J2 (one can optionally be routed to front panel via plugover module)
- Front I/O available via plugover module
- Linux BSP
- Wind River VxWorks BSP
- Green Hills INTEGRITY-178 tuMP BSP



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The XPedite5430 is a conduction- or air-cooled 3U CompactPCI (cPCI) single board computer supporting Freescale QorIQ P3, P4, and P5 processors. With a number of processor options to choose from, X-ES can provide a product to meet the specific power and performance requirements of today's embedded computing applications.

The P4080 processor brings the raw power of eight e500mc cores running at up to 1.5 GHz and dual-channel DDR3 memory, delivering unparalleled multi-core performance. For applications which are more power conscious, the P3041 processor offers four e500mc cores running at up to 1.5 GHz with a single channel of DDR3 memory, all within a significantly reduced power envelope. Applications requiring the performance of a true 64-bit processor are satisfied by the P5020 processor which offers dual e5500 cores running at up to 2 GHz and beyond with high performance Floating-Point Units and dual-channel DDR3 memory. Additional reduced function processors are available to meet any power and performance budget.

The XPedite5430 provides a high-performance, feature-rich solution for current and future generations of embedded applications. Operating system support packages for the XPedite5430 include Wind River VxWorks, Linux, and Green Hills INTEGRITY-178 tuMP.

X-ES
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...Always Fast

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Processor

- Freescale P4080 processor
- Eight Power Architecture® e500mc cores at up to 1.5 GHz
- 128 kB L2 cache per core
- 1 MB L3 cache per channel
- IEEE 754 Floating-Point Unit (FPU) support

Alternate Processor Configurations

- P3041 processor with four Power Architecture® e500mc cores at up to 1.5 GHz
- P4040 processor with four Power Architecture® e500mc cores at up to 1.5 GHz
- P4080 processor with eight Power Architecture® e500mc cores at up to 1.5 GHz
- P5010 processor with one 64-bit Power Architecture® e5500 core at up to 2 GHz
- P5020 processor with two 64-bit Power Architecture® e5500 cores at up to 2 GHz

Memory

- Up to 8 GB of (4 GB each) DDR3-1333 ECC SDRAM in two channels
- Up to 512 MB of NOR flash (with redundancy)
- Up to 32 GB of NAND flash

J1 cPCI Interface

- 32-bit PCI interface operating at 33 or 66 MHz
- System controller capable with onboard clocking and arbitration
- Peripheral slot capable

J2 cPCI Interface

- Two 10/100/1000BASE-T Ethernet ports
- Two RS-232/422/485 serial ports
- Two GPIO signals
- Two USB 2.0 ports
- Two SATA ports capable of 3 Gb/s (optional)

XMC/PrPMC Site

- 32-bit, 66 MHz PCI bus (PMC interface)
- x4 PCI Express port to P15 (XMC interface)
- XAUI to P16 (optional)
- Two SATA ports capable of 3 Gb/s to P16 (optional)

Front Panel I/O

- Front panel, dual RJ-45 Ethernet, micro-DB-9 RS-232 serial port, and USB 2.0 port available via optional plugover module

Software Support

- Linux BSP
- Wind River VxWorks BSP
- Green Hills INTEGRITY-178 tuMP BSP

Physical Characteristics

- Conduction- or air-cooled 3U CompactPCI form factor
- Dimensions: 100 mm x 160 mm

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