

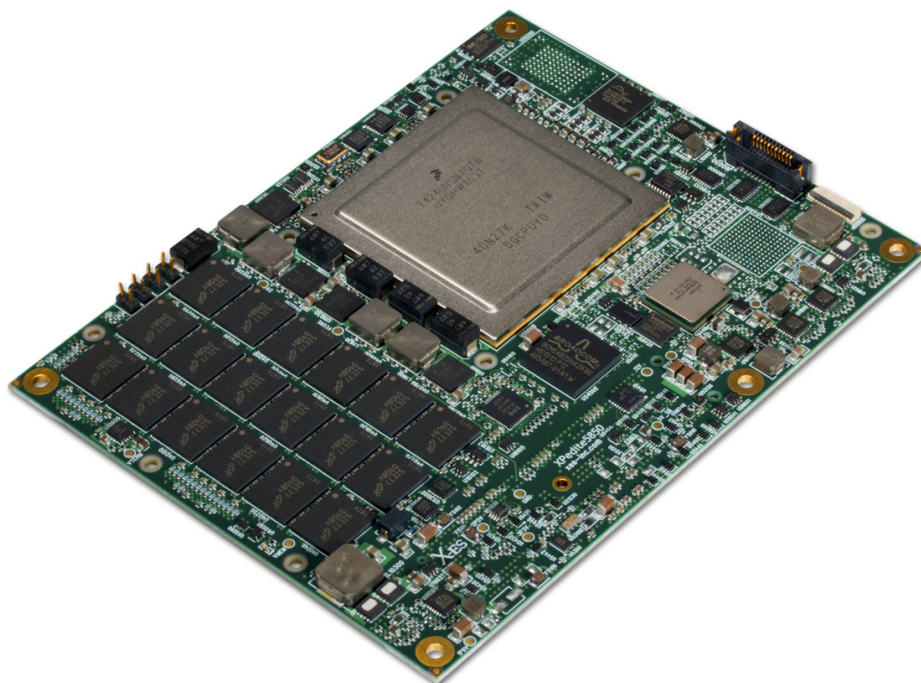
# XPedite5850

**End of Life**

NXP QorIQ T4240 12-Core Processor-Based Conduction- or Air-Cooled COM Express® Basic Mezzanine Module

Please contact X-ES Sales

- ▶ NXP QorIQ T4240 processor with 12 dual-threaded Power Architecture® e6500 cores at up to 1.667 GHz
- ▶ Alternate NXP QorIQ processors: T4160 and T4080
- ▶ Conduction or air cooling
- ▶ COM Express® Basic form factor (95 mm x 125 mm)
- ▶ Extended shock and vibration tolerance
- ▶ Up to 16 GB of DDR3 ECC SDRAM in two channels
- ▶ x8 PCI Express interface
- ▶ x4 PCI Express interface
- ▶ Up to four 10 Gigabit Ethernet ports
- ▶ Eight Gigabit Ethernet ports
- ▶ Two USB 2.0 ports
- ▶ Two SATA ports
- ▶ Two serial ports
- ▶ Up to 256 MB of NOR flash (with redundancy)
- ▶ Up to 32 GB of NAND flash
- ▶ NXP hypervisor support for secure partitioning
- ▶ Wind River VxWorks BSP
- ▶ Linux BSP
- ▶ Green Hills INTEGRITY-178 BSP
- ▶ Contact factory for availability of QNX Neutrino and LynxOS BSPs



## XPedite5850

The XPedite5850 is a ruggedized COM Express® module that complies with the COM Express® Basic form factor (95 mm x 125 mm) and supports an enhanced Type 5-based pinout. COM Express® provides a standards-based form factor to bring processing to a wide range of applications. Available in both conduction- and air-cooled versions, the XPedite5850 supports the NXP (formerly Freescale) QorIQ T4 processors. With 12 dual-threaded Power Architecture® e6500 cores running at up to 1.667 GHz, the T4240 delivers enhanced performance and efficiency for today's embedded computing applications.

The XPedite5850 complements processor performance with up to 16 GB of DDR3 ECC SDRAM. It also hosts numerous I/O ports, including up to four 10 Gigabit Ethernet ports, eight Gigabit Ethernet ports, a single x8 PCIe port, a single x4 PCIe port, two SATA ports capable of 3 Gb/s, two USB 2.0 ports, two I<sup>2</sup>C ports, two serial ports, a Serial Peripheral Interface (SPI) with two chip selects, and IEEE 1588 support.

The XPedite5850 provides a high-performance, feature-rich solution for current and future generations of embedded applications. For customers seeking lower overall power consumption, the XPedite5850 can alternatively be designed with the NXP QorIQ T4160 or T4080 processors. Operating system support packages for the XPedite5850 include Wind River VxWorks, Green Hills INTEGRITY-178, and Linux 2.6. Wind River VxWorks and Linux BSPs may optionally be paired with the NXP hypervisor software to facilitate secure partitioning.

# X-ES

Extreme Engineering Solutions

*...Always Fast*

### Extreme Engineering Solutions

9901 Silicon Prairie Parkway • Verona, WI 53593  
 Phone: 608.833.1155 • Fax: 608.827.6171  
 sales@xes-inc.com • <https://www.xes-inc.com>

**Processor**

- NXP (formerly Freescale) QorIQ T4240 processor
- 12 dual-threaded Power Architecture® e6500 cores at up to 1.667 GHz
- 2 MB L2 cache per quad
- 512 kB platform cache per channel (3)
- IEEE 754 Floating-Point Unit (FPU) support
- 128-bit Altivec engine per core

**Alternate Processor Configurations**

- T4160 processor with eight dual-threaded Power Architecture® e6500 cores up to 1.667 GHz
- T4080 processor with four dual-threaded Power Architecture® e6500 dual cores up to 1.667 GHz

**Memory**

- Up to 16 GB of DDR3 ECC SDRAM in two channels
- Up to 256 MB of NOR flash (with redundancy)
- Up to 32 GB of CPU NAND flash

**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 BIT support

**Interface**

- Up to two 10GBASE-T Ethernet ports
- Two 10GBASE-KR Ethernet ports
- Two 10/100/1000BASE-T Ethernet ports
- Six 1000BASE-X Ethernet ports
- SPI interface with two chip selects
- Processor IEEE 1588 pins
- Two PCIe interfaces (x8, x4)
- Two USB 2.0 ports
- Two SATA ports capable of 3 Gb/s
- Two TTL-level serial ports
- Two I<sup>2</sup>C ports

**COM Express®**

- Type 5-based pinout, see board user manual for details
- Basic form factor (95 mm x 125 mm)

**Software Support**

- Wind River VxWorks BSP with optional NXP hypervisor support for secure partitioning
- Linux BSP with optional NXP hypervisor support for secure partitioning
- Green Hills INTEGRITY-178 BSP
- Contact factory for availability of QNX Neutrino and LynuxWorks LynxOS BSPs

**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 †	-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 g <sup>2</sup> /Hz (maximum), 5 to 2000 Hz	0.04 g <sup>2</sup> /Hz (maximum), 5 to 2000 Hz	0.1 g <sup>2</sup> /Hz (maximum), 5 to 2000 Hz
Shock	20 g, 11 ms sawtooth	30 g, 11 ms sawtooth	40 g, 11 ms sawtooth
Humidity	Up to 95% non-condensing	Up to 95% non-condensing	Up to 95% non-condensing

† Contact factory for airflow rate details.

