

# XPedite5551

**End of Life**

NXP QorIQ P1021 Dual-Core Processor-Based Conduction- or Air-Cooled COM Express® Module Featuring the QUICC Engine™

Please contact X-ES Sales

- ▶ NXP QorIQ P1021 with dual Power Architecture® e500v2 cores at up to 800 MHz
- ▶ Conduction or air cooling
- ▶ COM Express® Mini form factor (55 mm x 84 mm)
- ▶ Extended shock and vibration tolerance
- ▶ Up to 2 GB of DDR3 ECC SDRAM
- ▶ Two x1 PCI Express interfaces
- ▶ Three Gigabit Ethernet ports
- ▶ One serial port
- ▶ One USB 2.0 port
- ▶ Up to 256 MB of NOR flash (with redundancy)
- ▶ Up to 32 GB of NAND flash
- ▶ Wind River VxWorks BSP
- ▶ Linux BSP
- ▶ Green Hills INTEGRITY-178 BSP
- ▶ QNX Neutrino (contact factory)
- ▶ LinuxWorks LynxOS (contact factory)



## XPedite5551

The XPedite5551 is a ruggedized COM Express® Mini module based on the Type 10 specification featuring the QUICC Engine™. The XPedite5551 provides access to all 65 QUICC Engine™ signals, allowing customers to implement whichever communication protocol is needed for their application. Along with the dual Power Architecture® e500v2 cores running at up to 800 MHz, the NXP (formerly Freescale) QorIQ P1021 delivers enhanced performance and efficiency for today's network information processing and other computing applications.

The XPedite5551 complements processor performance with up to 2 GB of DDR3 ECC SDRAM. It also hosts numerous I/O ports, including three Gigabit Ethernet ports, two x1 PCIe ports, a single USB 2.0 port, one I<sup>2</sup>C port, one serial port, IEEE 1588 support, and the NXP QUICC Engine™.

The XPedite5551 provides a high-performance, feature-rich solution for current and future generations of embedded applications. For customers seeking lower overall power consumption, the XPedite5551 can be designed with the NXP QorIQ P1012 processor. Operating system support packages for the XPedite5551 include Wind River VxWorks, Green Hills INTEGRITY-178, and Linux.

# X-ES

Extreme Engineering Solutions

*“Fast, Flexible, Customer-Focused  
Embedded Solutions”*

### Extreme Engineering Solutions

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**Processor**

- NXP (formerly Freescale) QorIQ P1021 processor
- Dual Power Architecture® e500v2 cores at up to 800 MHz
- 256 kB of shared L2 cache

**Alternate Processor Configuration**

- P1012 processor with one Power Architecture® e500v2 core at up to 800 MHz

**Memory**

- Up to 2 GB of DDR3 ECC SDRAM
- Up to 256 MB of NOR flash (with redundancy)
- Up to 32 GB of NAND flash

**COM Express®**

- Based on Type 10 pinout, see XPedite5551's User Manual for details
- 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 BIT support

**Interface**

- Three 10/100/1000BASE-T ports
- IEEE 1588
- Two PCIe x1 interfaces
- One USB 2.0 port
- I<sup>2</sup>C
- One TLL-level serial port
- NXP QUICC Engine™

**Software Support**

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

**Environmental Requirements**

Contact factory for appropriate board configuration based on environmental requirements.

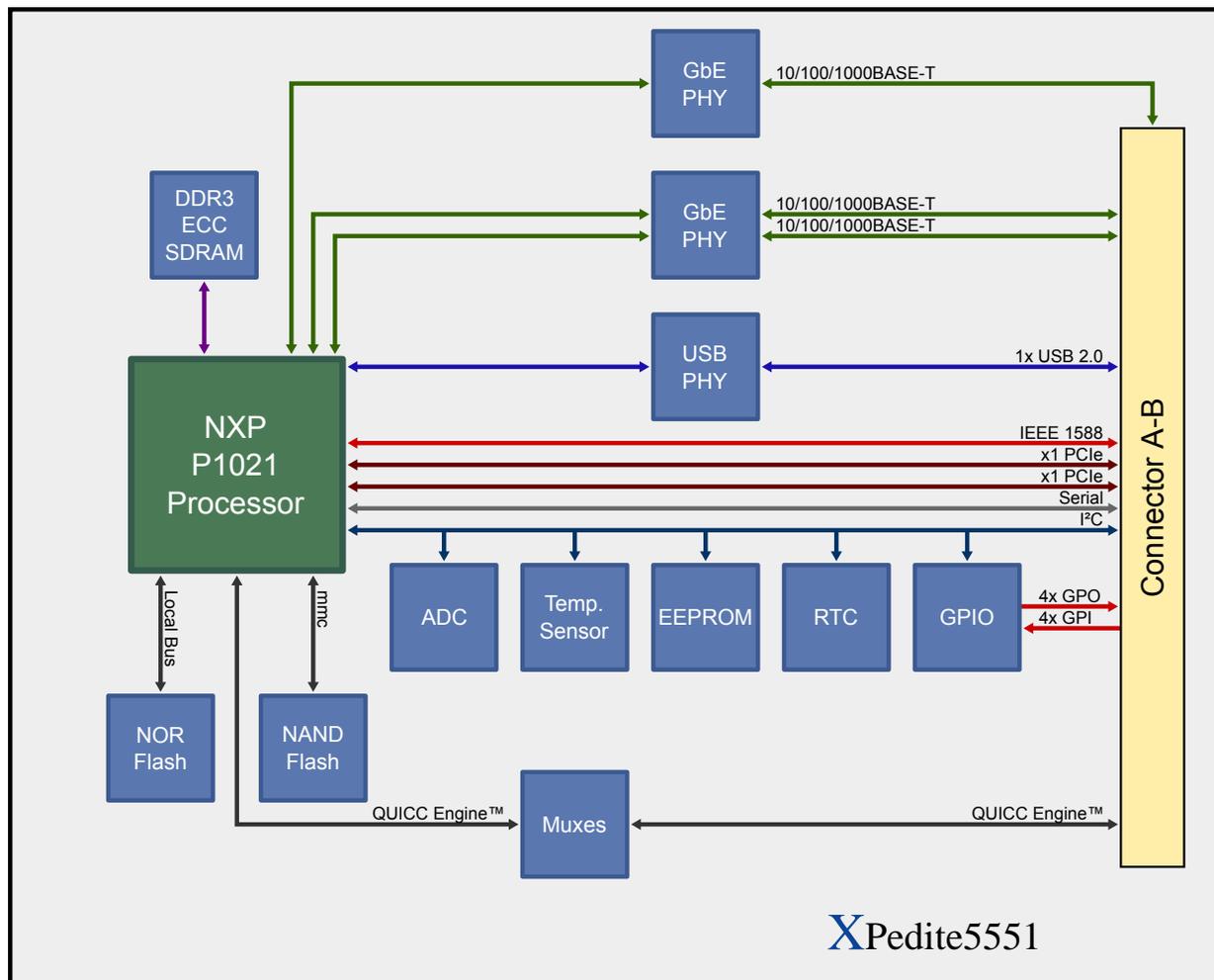
- Supported ruggedization levels (see chart below): 1, 3, 5
- Conformal coating available as an ordering option

**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 †	-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.



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