

XPort1003

End of Life

Conduction-Cooled NXP PowerQUICC™ II MPC8270 Processor-Based Serial PMC Module **Please contact X-ES Sales**

- ▶ NXP (formerly Freescale) PowerQUICC™ II MPC8270 processor at up to 300 MHz with integrated PCI
- ▶ Four SCCs supporting a broad range of serial protocols
- ▶ Conduction-cooled PMC
- ▶ Up to 64 MB of ECC SDRAM
- ▶ Up to 128 MB of soldered flash
- ▶ 2 kB SEEPROM
- ▶ Two RS-232 SMC ports (optional)
- ▶ Rear panel I/O
- ▶ Wind River VxWorks BSP
- ▶ Linux BSP
- ▶ Microsoft Windows NT/2000/XP driver



XPort1003

The XPort1003 is an intelligent communications controller targeting high performance under extreme operating conditions. The XPort1003 combines a wide array of supported serial protocols, a broad range of serial interface standards, and a flexible I/O routing structure to pack maximum flexibility into an industry-standard, conduction-cooled PMC module.

Powered by the NXP (formerly Freescale) PowerQUICC™ II MPC8270 processor, the XPort1003 implements four serial communication ports, each providing a reduced EIA-530-A-compatible signal set. It supports HDLC/SDLC, UART, transparent, and BiSync modes, with NRZ, NRZI, FM0, FM1, Manchester, and Differential Manchester encoding. Coupled with software-configurable support for RS-232, RS-422, RS-485, and MIL-STD-188-114 balanced type 2 mode, the XPort1003 provides a wide range of serial options.

The XPort1003 will minimize both the cost and power consumption of your system. Since the PCI bridge is integrated on-chip, the XPort1003 draws less power and costs less than conventional designs based on other processors that require a PCI bridge.

X-ES

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Extreme Engineering Solutions

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Processor

- NXP (formerly Freescale) PowerQUICC™ II MPC8270 processor
- Embedded PowerPC G2 core
- Up to 300 MHz
- 280 Dhrystones at 200 MHz
- 66 MHz 60x bus
- 16 kB instruction and data caches
- 32 kB internal SRAM
- Integrated MMU
- Core disabled operation
- 32-bit/66 MHz PCI

Memory

- Up to 64 MB ECC SDRAM
- Up to 128 MB surface-mount flash (optional)
- 2 kB SEEPROM

Rear Panel I/O

- Four multi-protocol SCC ports
- Two RS-232 serial ports (optional)

Serial Communication Controller

- HDLC, UART, transparent, and BiSync modes
- DPLL supporting NRZ, NRZI, FM0, FM1, Manchester, and Differential Manchester
- Independent BRGs for each SCC transmitter and receiver
- 18.432 MHz external oscillator (default)
- Custom frequency external oscillators (optional)

Serial Interface

- Drivers software-configurable for RS-232, RS-422, RS-485, and MIL-STD-188-114 balanced type 2 mode
- 10 Mbps max synchronous
- 4 Mbps max asynchronous

Software

- SCC and SMC drivers
- Wind River VxWorks BSP
- Linux BSP
- Microsoft Windows NT/2000/XP driver

Physical Characteristics

- Conduction-cooled PMC form factor
- Dimensions: 143.75 mm x 74 mm

Environmental Requirements

Contact factory for appropriate board configuration based on environmental requirements.

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

Ruggedization

- Conduction-cooled: VITA 47 Class V3 vibration, Class OS2 shock

Power Requirements

- +3.3 V, 0.6 A, 1.98 W
- +5.0 V, 0.35 A, 1.75 W

| 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 |

