The XPort1011 is an intelligent communications controller targeting high-performance yet low-cost applications. The XPort1011 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 PCI card.

Powered by the Freescale MPC8270 (PowerQUICC™ II), the XPort1011 implements four serial communication ports providing an EIA-530-A-compliant signal set, supporting 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-423, RS-485, and MIL-STD-188-114A (Type I and II, balanced or unbalanced), the XPort1011 provides maximum flexibility for your application.

For a system designer, the XPort1011 will help drive both cost and power consumption down. Because the PCI bridge is integrated on chip, the XPort1011 draws up to 40% less power, and costs up to 30% less than conventional designs based on other processors.

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**XPort1011**

Freescale PowerQUICC™ II MPC8270 Processor-Based Multi-Protocol Four-Port Serial PCI Module

- Freescale PowerQUICC™ II MPC8270 at up to 300 MHz with integrated PCI
- Four SCCs support RS-232 or RS-422/485
- Software-configurable serial interface modes
- Front panel I/O
- Up to 256 MB SDRAM
- Up to 16 MB soldered flash
- 512 kB socketed flash
- 2 kB SEEPROM
- Two RS-232 SMC ports
- Linux BSP
- Wind River VxWorks BSP
- Wind River VxWorks, Linux, Microsoft Windows, and OSE drivers

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**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

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www.xes-inc.com
### Processor
- Freescale PowerQUICC™ II MPC8270 processor
- 300 MHz max processor speed
- 280 Dhrystones at 200 MHz
- 66 MHz 6x bus
- 16 kB L1 instruction/data caches
- 32 kB internal SRAM
- Integrated MMU
- Integrated Floating-Point Unit
- Core-disabled mode

### Memory
- Up to 256 MB SDRAM
- 16 MB surface mount flash
- 2 kB SEEPROM

### Serial Communication Controller
- HDLC, UART, transparent, and B1Sync modes
- DPLL supporting NRZ, NRZI, FM0, FM1, Manchester, and Differential Manchester
- Independent BRGs for each SCC transceiver
- Two external custom oscillators (optional)

### Serial Interface (Standard)
- Software-configurable drivers for RS-232, RS-422, RS-423, RS-485, and MIL-STD-188-114A Type I and II balanced/unbalanced modes
- 10 Mbps max synchronous
- 4 Mbps max asynchronous
- EIA-530-A DTE/DCE cable selectable

### Software
- Linux BSP
- Wind River VxWorks BSP
- Wind River VxWorks, Linux, Microsoft Windows, and OSE drivers

### Physical Characteristics
- PCI form factor
- 4.2 in. (L) x 5.875 in. (W)
- 3.8 oz.

### Environmental Requirements
Contact factory for appropriate board configuration based on environmental requirements.
- Supported ruggedization levels (see chart below): 1
- Conformal coating available as an ordering option

### Power Requirements (Estimate)
- 3.3 V, 0.60 A, 1.98 W
- 5 V, 0.35 A, 1.75 W
- +12 V, 0.012 A, 0.15 W
- -12 V, 0.012 A, 0.15 W

### Specifications

<table>
<thead>
<tr>
<th>Ruggedization Level</th>
<th>Level 1</th>
<th>Level 3</th>
<th>Level 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling Method</td>
<td>Standard Air-Cooled</td>
<td>Rugged Air-Cooled</td>
<td>Conduction-Cooled</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0 to +55°C ambient (300 LFM)</td>
<td>-40 to +70°C (600 LFM)</td>
<td>-40 to +85°C (board rail surface)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40 to +85°C ambient</td>
<td>-55 to +105°C ambient</td>
<td>-55 to +105°C (maximum)</td>
</tr>
<tr>
<td>Vibration</td>
<td>0.002 g²/Hz (maximum), 5 to 2000 Hz</td>
<td>0.04 g²/Hz (maximum), 5 to 2000 Hz</td>
<td>0.1 g²/Hz (maximum), 5 to 2000 Hz</td>
</tr>
<tr>
<td>Shock</td>
<td>20 g, 11 ms sawtooth</td>
<td>30 g, 11 ms sawtooth</td>
<td>40 g, 11 ms sawtooth</td>
</tr>
<tr>
<td>Humidity</td>
<td>0% to 95% non-condensing</td>
<td>0% to 95% non-condensing</td>
<td>0% to 95% non-condensing</td>
</tr>
</tbody>
</table>

### Diagram