The XPort1005 is an intelligent communications controller targeting high-performance, serial applications. The XPort1005 combines a wide array of supported serial protocols and a configurable I/O routing structure to pack maximum flexibility into an industry-standard PMC module.

Powered by the NXP (formerly Freescale) PowerQUICC™ II MPC8270 processor, the XPort1005 implements four serial communication ports providing an EIA-530-A-compliant signal set supporting HDLC/SDLC, UART, transparent, and BISync modes, along 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, the XPort1005 provides a wide range of serial options.

The XPort1005 will drive down both cost and power consumption from your system design. The PCI bridge is integrated on-chip, allowing the XPort1005 to draw up to 40% less power and costs up to 30% less than conventional designs based on other processors.
Processor
- NXP (formerly Freescale) PowerQUICC™ II MPC8270 processor
- Embedded PowerPC G2 core
- 300 MHz max processor speed
- 280 Dhrystones at 200 MHz
- 66 MHz 60x bus
- 16 kB L1 instruction/data caches
- 32 kB internal SRAM
- Integrated MMU
- Floating-Point Unit
- Core-disabled mode

Memory
- Up to 512 MB SDRAM
- 64 MB surface-mount flash
- 2 kB SEEPROM

Serial Communication Controller
- HDLC, UART, transparent, and B/Sync modes
- DPLL supporting NRZ, NRZI, FM0, FM1, Manchester, and Differential Manchester
- Independent BRGs for each SCC transmitter and receiver
- Two external custom oscillators (optional)

Serial Interface
- Four software-configurable SCC ports supporting 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 software selectable

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

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 (Typical)
- +3.3 V, 0.6 A, 1.98 W
- +5.0 V, 0.35 A, 1.75 W
- +12.0 V, 0.012 A, 0.15 W
- -12.0 V, 0.012 A, 0.15 W

Ruggedization Level

<table>
<thead>
<tr>
<th>Cooling Method</th>
<th>Level 1</th>
<th>Level 3</th>
<th>Level 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>Standard Air-Cooled</td>
<td>Rugged Air-Cooled</td>
<td>Conduction-Cooled</td>
</tr>
<tr>
<td>Storage 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>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>0 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>

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