

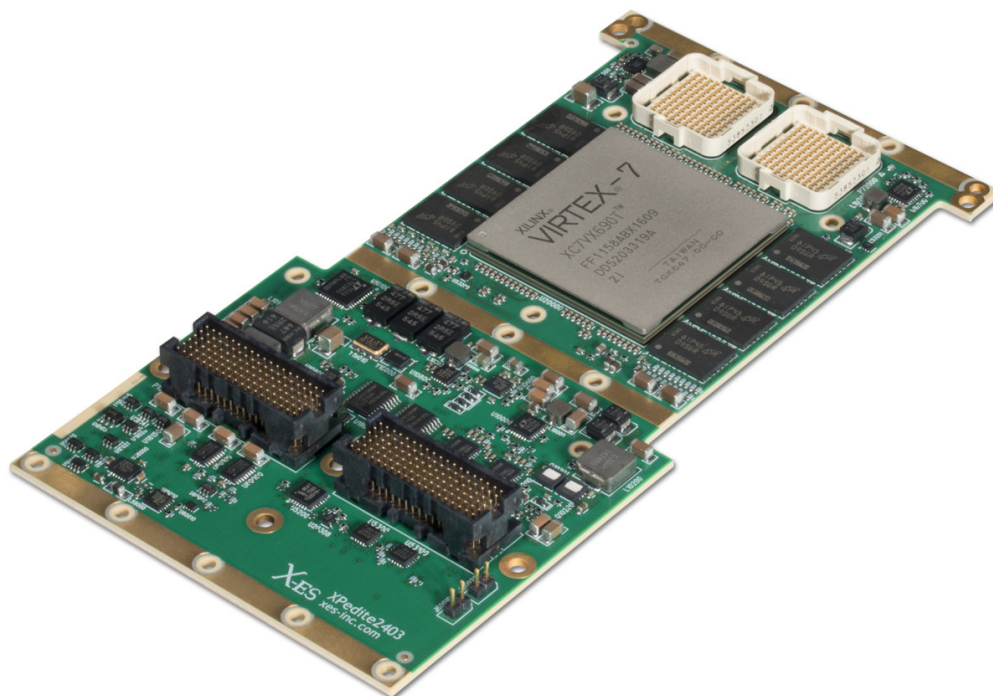
# XPedite2403

**End of Life**

AMD (formerly Xilinx) Virtex-7 FPGA-Based Conduction- or Air-Cooled Fiber-Optic I/O XMC Module

Please contact X-ES Sales

- ▶ AMD (formerly Xilinx) Virtex-7 FPGA XC7VX690T
- ▶ Conduction- or air-cooled XMC module
- ▶ Twenty-four 10.3125 Gb/s optical receiver links
- ▶ 8 GB of DDR3 ECC SDRAM in two channels
- ▶ Front panel I/O using MTP/MPO
- ▶ Non-volatile FPGA Quad-SPI configuration flash
- ▶ Linux support



## XPedite2403

The XPedite2403 is a high-performance, reconfigurable, conduction- or air-cooled XMC module based on the user-programmable AMD (formerly Xilinx) Virtex-7 family of FPGAs. With dual x8 PCI Express Gen3 interfaces, external memory, 24 high-speed fiber-optic receivers, and 8 GB of DDR3 ECC SDRAM in two channels, the XPedite2403 is ideal for customizable, high-bandwidth, data-processing, and data acquisition applications.

The XPedite2403 incorporates 24 high data rate, protocol-independent fiber-optic receivers that comply to ARINC 804. The fiber-optic receivers utilize 50/125  $\mu\text{m}$  multi-mode fiber with MT connectors, which can easily be connected to the backplane (VITA 66). The fiber-optic receivers are qualified over the full  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  industrial temperature range for reliable performance in extreme environments.

The XPedite2403 is designed to be a user-programmable FPGA resource, using the powerful Virtex-7 690T FPGA to support high-performance signal processing, sensor I/O, data acquisition, data recording, and linking systems in a range of protocols.

X-ES's Firmware Development Kit (FDK) includes IP blocks, HDL, Test Benches, Linux drivers, and complete example designs for the XPedite2403.

# X-ES

Extreme Engineering Solutions

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

### Extreme Engineering Solutions

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**FPGA**

- AMD (formerly Xilinx) Virtex-7 690T for high-performance logic and DSP applications

**Supported FPGAs**

- Virtex-7 XC7VX690T
- Support for commercial and industrial temperature as well as -2, -3 speed grades

**Memory**

- 8 GB of DDR3 ECC SDRAM in two 64-bit channels

**P15**

- x8 PCI Express Gen3 interface

**P16**

- 19 differential LVDS user I/O
- x8 GTH receivers
- Can be used as x8 PCI Express Gen3 interface

**Front Panel I/O**

- Dual multi-fiber ribbons with MTP/MPO connectors

**Software**

- Linux support

**Physical Characteristics**

- XMC conduction- or air-cooled form factor
- Dimensions: 149 mm x 74 mm

**Environmental Requirements**

Contact factory for appropriate board configuration based on environmental requirements.

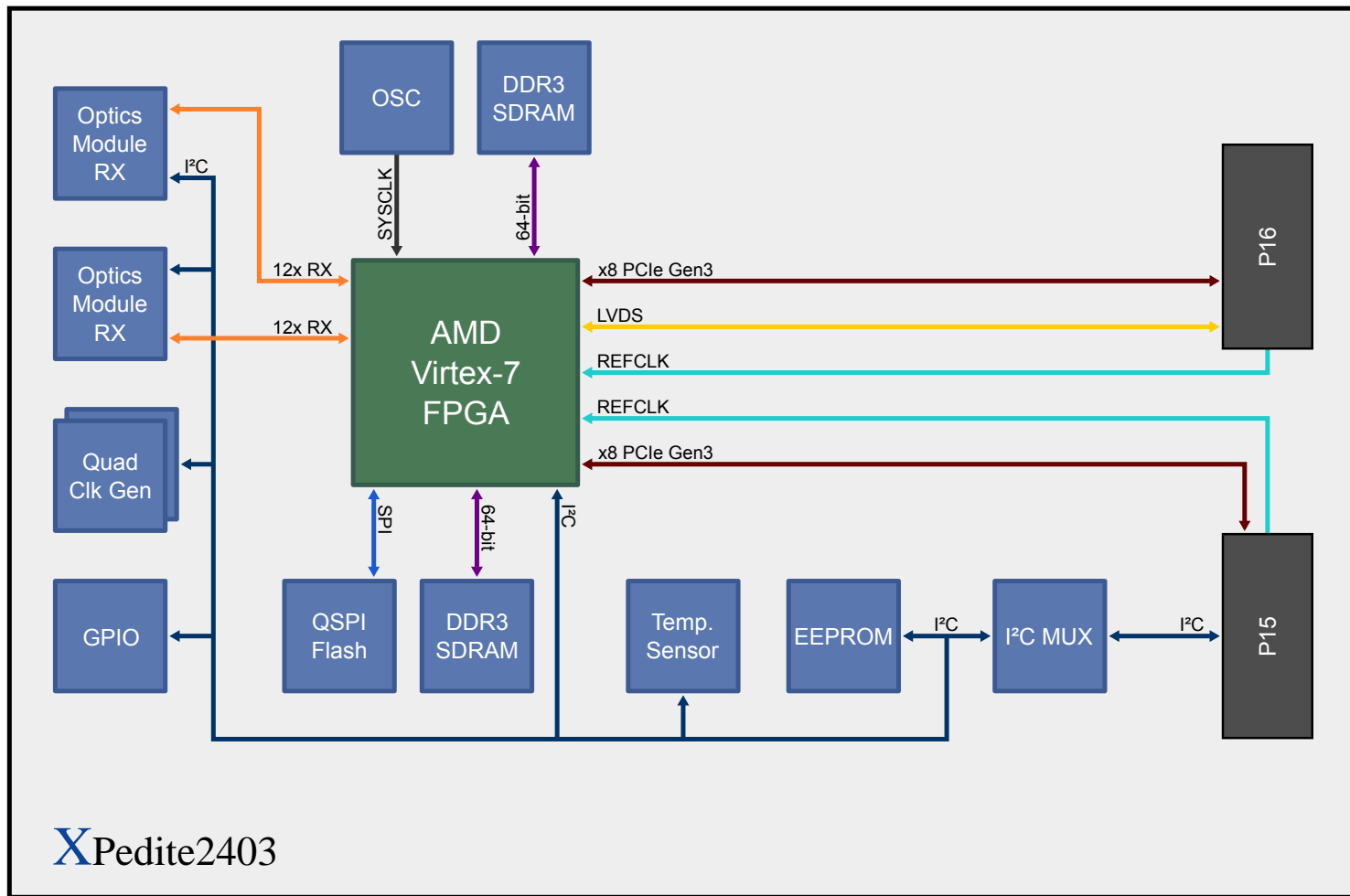
- Supported ruggedization levels (see chart below): 1, 3, 5
- Conformal coating available as an ordering option

**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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