

XPedite2500

Xilinx Kintex® UltraScale™ FPGA-Based Conduction- or Air-Cooled XMC Module

- ▶ Xilinx Kintex® UltraScale™ FPGA XCKU115
- ▶ Conduction- or air-cooled XMC module
- ▶ Up to 8 GB of DDR4-2400 SDRAM in four 32-bit channels
- ▶ x8 PCI Express Gen3 interface to P15
- ▶ x8 PCI Express Gen3 interface or up to eight High-Speed Serial (HSS) ports to P16
- ▶ 19 LVDS to P16
- ▶ 26 LVDS to P14 (optional)
- ▶ 12 LVC MOS (1.8 V) to P14 (optional)
- ▶ Dual-QSPI FPGA configuration flash
- ▶ FPGA Development Kit (FDK)
- ▶ Linux drivers



XPedite2500

The XPedite2500 is a configurable, high-performance, conduction- or air-cooled XMC module based on the Xilinx Kintex® UltraScale™ family of FPGAs. With a range of high-density and high-bandwidth I/O, the XPedite2500 is ideal for user-customizable, high-bandwidth data processing applications.

The XPedite2500 is capable of interfacing to and processing streaming data from a wide variety of inputs. It features up to two x8 PCI Express Gen3 interfaces and up to 8 GB of DDR4-2400 SDRAM available in four 32-bit channels. The x8 PCI Express Gen3 interface on the P16 connector can optionally be replaced with up to eight High-Speed Serial (HSS) ports. LVDS I/O is available via P16, and an optional P14 connector can provide additional LVDS and LVC MOS I/O.

The X-ES FPGA Development Kit (FDK) is provided to support the requirements of high-performance, real-time, embedded, streaming-data applications and simplify FPGA development. X-ES' FDK includes IP blocks, HDL, test benches, Linux drivers, and complete example designs for the XPedite2500.

X-ES

Extreme Engineering Solutions

...Always Fast

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>

FPGA

- Xilinx Kintex® UltraScale™ for high-performance logic and DSP applications
- Standard FPGA is Xilinx Kintex® UltraScale™ XCKU115
- Support for commercial and industrial temperature, as well as -1, -2, -3 speed grades

Memory

- Up to 8 GB of DDR4-2400 SDRAM in four 32-bit channels
- Dual-QSPI FPGA configuration flash

XMC Site

- x8 PCI Express Gen3 interface

P14 User I/O (Optional)

- 26 LVDS user I/O to FPGA
- 12 LVCMOS (1.8 V) user I/O to FPGA

P15 I/O

- x8 PCI Express Gen3 interface compliant with VITA 42.3

P16 I/O

- x8 PCI Express Gen3 interface compliant with VITA 42.3 or up to eight High-Speed Serial (HSS) ports
- 19 LVDS user I/O to FPGA

Development Support

- X-ES FPGA Development Kit (FDK)
- Linux drivers

Physical Characteristics

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

Environmental Requirements

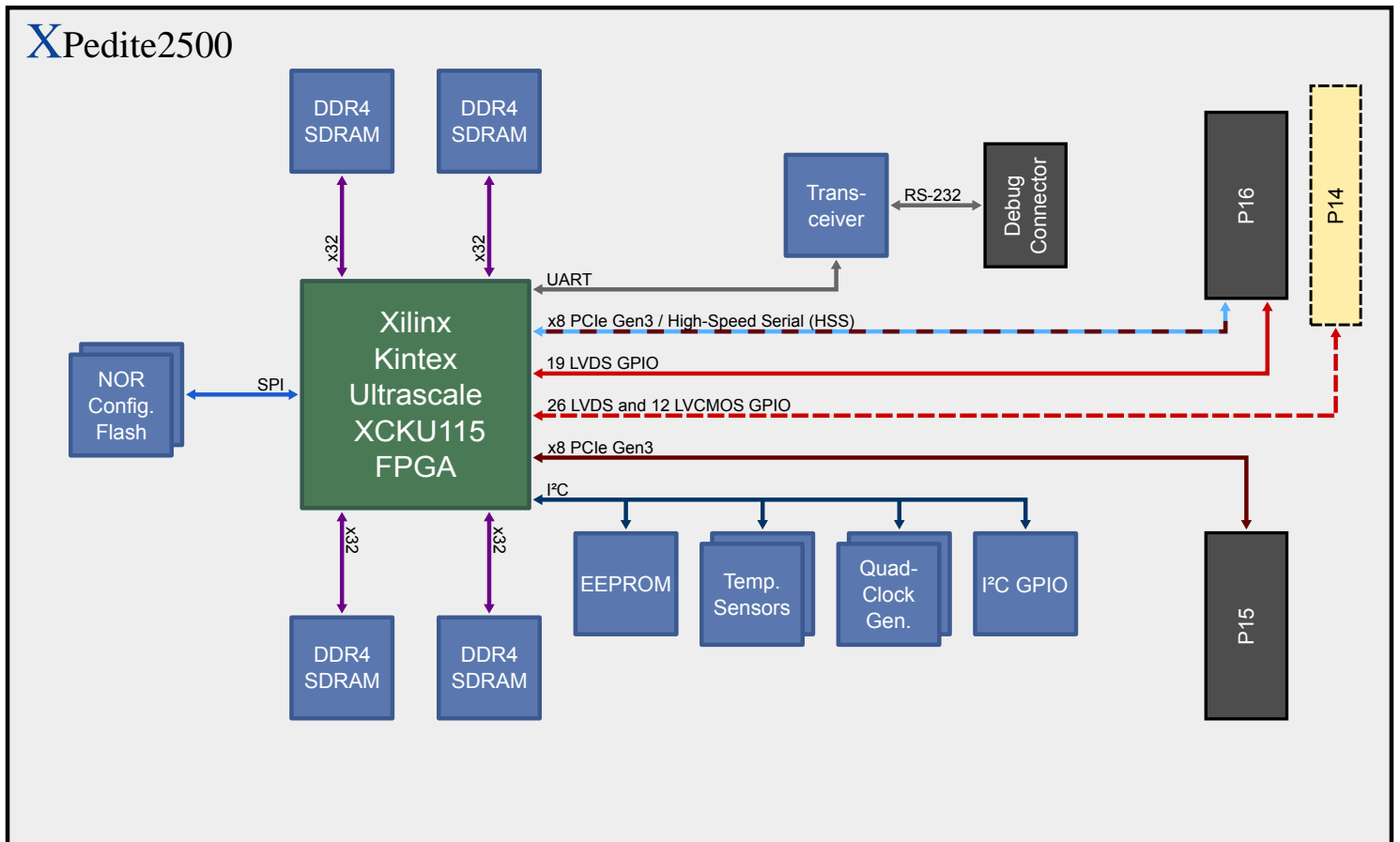
Contact factory for appropriate board configuration based on environmental requirements.

- Supported ruggedization levels (see chart below): 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 (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



* Dashed lines indicate configuration-specific functionality. Please contact X-ES Sales to determine the appropriate configuration to support desired functionality.