



PRESS RELEASE

X-ES Announces Xilinx Virtex-7 FPGA-Based XMC and VPX Modules

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Extreme Engineering Solutions, Inc. (X-ES) introduces high-performance FPGA processing modules in industry-standard XMC and 3U VPX form factors. The COTS [XPedite2470](#) 3U VPX and [XPedite2400](#) XMC modules utilize the Xilinx Virtex®-7 Family of FPGAs to merge high throughput, configurable I/O, and DSP-level processing with exceptional thermal efficiency. The combination of high-end signal processing and high-speed Analog-to-Digital or Digital-to-Analog conversion makes the XPedite2470 and XPedite2400 optimal solutions for demanding RF signal acquisition, SDR, and DSP requirements.

These modules can utilize the VITA 49 VITA Radio Transport (VRT) protocol, which provides an industry-standard framework for formatting the data of a digitized IF stream. This enables interoperability and simplifies system integration because, prior to the release of VRT, each receiver manufacturer would implement its own proprietary digitized formats. Additionally, VRT data can be carried over commonly used industry-standard protocols, such as Gigabit Ethernet, 10 Gigabit Ethernet, PCI Express, Aurora, Serial RapidIO (SRIO), and Serial Front Panel Data Port (S-FPDP).

To help simplify the development of an XPedite2470 or XPedite2400 FPGA-based platform, an FPGA Development Kit (FDK) is available with these products. The FDKs utilize an industry-standard AXI4 interface protocol and include IP blocks, example designs, and software to control and communicate with the FPGAs. A Software Development Kit (SDK) is also provided and includes interface drivers, support utilities, and user APIs. The SDK is supported for Linux and VxWorks, running on either an Intel or Freescale host.

The XPedite2470 is a configurable, 3U VPX-REDI, FPGA-processing module that provides eleven high-speed GTX lanes to the backplane and eight high-speed GTX lanes to an on-card FMC site. The XPedite2470's FMC site provides numerous I/O expansion capabilities, allowing access to single-ended or differential I/O, configurable GTX transceivers, and high-frequency Digital-to-Analog Conversion (DAC) or Analog-to-Digital Conversion (ADC). The XPedite2470 includes a Freescale P1010 QorIQ processor for additional signal-processing or general-purpose capabilities.

The compact XPedite2400 is an FPGA-based XMC module that includes a high-speed DAC, 2 GB of DDR3 SDRAM, a Gen3 PCI Express interface, and up to ten high-throughput GTX lanes. The module's integrated DAC supports a 14-bit resolution and a sample rate of up to a 2.5 giga-samples-per-second. The analog interface can be accessed via MMCX connectors from the front panel. The XPedite2400 supports 32 LVDS signals through its P14 connector for additional connectivity.

In addition to standalone FPGA-based processing modules, X-ES also has extensive experience integrating FPGAs with Intel® and Freescale-based SBC and I/O platforms for a wide range of customer-specific and SecureCOTS circuit board designs. X-ES SecureCOTS products, such as the Intel® Core™ i7-based 3U VPX [XPedite7472](#) and [XPedite7302](#) XMC, can provide ideal solutions for programs with stringent Anti-Tamper (AT) or Information Assurance (IA) requirements.

The configurable XPedite2470 and XPedite2400 modules can be built to support the 330T, 415T, 485T, or 690T Virtex-7 FPGAs. Contact X-ES to simplify access to the full performance and capability of the Xilinx Virtex-7 Family of FPGAs for embedded applications.

About X-ES — Extreme Engineering Solutions, Inc. (X-ES), a 100% U.S.A.-based company, designs and builds single board computers, I/O boards, power supplies, backplanes, chassis, and system-level solutions for embedded computing customers. X-ES offers cutting-edge performance and flexibility in design, plus an unparalleled level of customer support and service. For further information on X-ES products or services, please visit our website: www.xes-inc.com or call (608) 833-1155.

XPedite2400 Datasheet: <http://www.xes-inc.com/assets/products/files/XPedite2400-DS.pdf>

XPedite2470 Datasheet: <http://www.xes-inc.com/assets/products/files/XPedite2470-DS.pdf>

XPedite2400 Press Photo: http://www.xes-inc.com/assets/photos/content/122249_XPedite2400.jpg

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Contact:

Jeff Porter, Director of Marketing and Product Development

+1-608-833-1155