



NEWS RELEASE

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Curtiss-Wright Announces Its First VITA 48.8 Air-Flow-Through (AFT) 3U VPX 6Gsp/s Wideband Transceiver FPGA Card

New Xilinx® UltraScale+™ based VPX3-535 (and UltraScale™ based VPX3-534 conduction cooled variant) feature FPGAs to Deliver 2x the Performance for C4ISR Applications

ASHBURN, Va. – January 26, 2018 -- [Curtiss-Wright's Defense Solutions division](#) today announced its highest performance 3U OpenVPX™ FPGA-based transceiver cards, with 2x or greater performance compared to Curtiss-Wright's previous generation product (VPX3-530). Leveraging Curtiss-Wright's industry leading expertise in ruggedization and thermal management, the new [VPX3-535](#) features a user programmable [Xilinx](#) Virtex™ VU9 UltraScale+ FPGA to process dual 6Gsp/s 12b ADC/DAC channels on a single slot module solution with 6GHz bandwidth. Such performance supports wideband direct RF applications. The VPX3-535, Curtiss-Wright's first publicly announced module to feature full compliance to the VITA 48.8 [Air-Flow-Through \(AFT\) cooling standard](#), ensures optimal performance in the harshest conditions.

For today's COTS 3U and 6U VPX modules that dissipate ~150W+, VITA 48.8 provides a low-cost, effective means to cool the latest generation of high power components. In addition, the VPX3-535 supports an option for VITA 67 backplane RF I/O, which eliminates the need to manage front panel cables.

Curtiss-Wright is also introducing a conduction cooled variant of the FPGA module, the [VPX3-534](#), designed for applications which do not require the highest possible performance or do not require the higher thermal management capabilities of AFT. The cost-effective VPX3-534 features the Xilinx Kintex KU115 UltraScale FPGA. This module supports the same dual 6 GSPS 12b ADC/DAC channels as the VPX3-535, and also supports an option for quad

3 GSPS ADC channels.

The pair of modules provide the ability to right size the FPGA processing to the needs of the system. Both cards feature an onboard Zynq® UltraScale+ MPSoC FPGA with embedded Quad-core ARM A53 processors. The local processor enables high performance front-end processing and back-end processing for a single-slot, SWaP-optimized solution. Both PCIe and a high speed serial interfaces between the MPSoC and the main FPGA are provided to enable independent control and data paths for optimal performance. To support extended cold temperature environments, these modules are able to power up at -54C, self-heat, and then commence full operation at -40C, simplifying system design in extreme temperature conditions.

Both the VPX3-534 and VPX3-535 are designed to be fully interoperable with Curtiss-Wright's family of system-level [C4ISR/EW solutions](#) and ensure low latency between inputs and outputs for efficient sense and response performance. The VPX3-535 and VPX3-534 are ideal for use in demanding Electronics Warfare (EW), SIGINT and Radar applications.

“Our customers are seeking the highest FPGA performance available for compute-intensive C4ISR/EW applications,” said Lynn Bamford, Senior Vice President and General Manager, Defense Solutions division. “They are also seeking system level solutions that they can trust to survive and perform under the harshest conditions. Today’s highly integrated, high powered FPGAs require the highest levels of design, testing, and packaging expertise. Our new VPX3-534 and VPX3-535 transceiver cards deliver next generation FPGA capability in air flow through and conduction cooled versions designed to deliver new heights of performance for critical C4ISR/EW missions.”

Software support for the VPX3-534 and VPX3-534 modules includes a VxWorks™-7 BSP for ARM/MPSoC and Wind River® Workbench™ 4.0. Support for Linux will follow later in 2018.

System Level AFT Solutions

The VITA 48.8 compliant VPX3-535 is the first member of Curtiss-Wright's groundbreaking AFT cooled system-level solutions for compute intensive C4ISR/EW applications. This family includes modules designed with AFT frames to deliver optimal performance for today's leading-edge semiconductor devices deployed in SWaP-optimized rugged chassis, and includes single board computers, GPGPUs, and Ethernet switches. The VITA 48.8 standard (ANSI ratified

Standard ANSI/VITA 48.8-2017, “Mechanical Standard for Electronic VPX Plug-in Modules Using Air-Flow-Through Cooling”) significantly reduces system size, weight, power and cost while increasing the reliability of avionics systems. It provides OEM suppliers with a license-free industry standard for cooling the latest high performance electronics used in demanding aerospace and defense applications. The VITA 48.8 Working Group was chaired by Curtiss-Wright.

ANSI/VITA 48.8 compliant plug-in modules will provide government and industry customers significant cost savings and approximately 40 percent weight savings for avionics systems deployed in platforms such as future vertical lift aircraft. Additionally, the new cooling technology preserves investment in existing electrical and software architectures, and protects electronic components from environmental contamination. The new cooling standard defines design requirements for platforms that need high performance processing, graphics, or electronic warfare capabilities, which means that AFT-cooled plug-in VPX modules, including both 3U and 6U form factors, retain the current VITA 46.0 connector interoperability.

For more information about Curtiss-Wright’s Defense Solutions division, please visit www.curtisswrightds.com.

About Curtiss-Wright Corporation

Curtiss-Wright Corporation is a global innovative company that delivers highly engineered, critical function products and services to the commercial, industrial, defense and energy markets. Building on the heritage of Glenn Curtiss and the Wright brothers, Curtiss-Wright has a long tradition of providing reliable solutions through trusted customer relationships. The company employs approximately 8,000 people worldwide. For more information, visit www.curtisswright.com.

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