NEWS RELEASE

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Curtiss-Wright Debuts Family of 9th Gen Intel® Xeon® 3U OpenVPX™ Single Board Computers Developed in Alignment with CMOSS and the SOSA™ Technical Standard

Two new variants of the popular VPX3-1260 SBC, featuring 40GbE connectivity, provide I/O Intensive and Payload Profile SBCs for systems based on CMOSS and SOSA standards

AUSA NOW Virtual Conference – October 13, 2020 – Curtiss-Wright's Defense Solutions division, a trusted leading supplier of rugged C5ISR processing modules and systems, has announced a new family of high performance single board computers (SBC) designed in compliance with the U.S. Army CCDC C5ISR Center's C5ISR/EW Modular Open Suite of Standards (CMOSS) and aligned with standards currently being defined by The Open Group Sensor Open Systems Architecture™ (SOSA) Consortium. Based on Curtiss-Wright's industry-leading VPX3-1260 core design, a rugged 3U OpenVPX SBC featuring the high performance 9th Gen Intel "Coffee Lake Refresh" Xeon E-2276ME processor, the new offerings, an I/O Intensive Profile SBC and a Payload Profile SBC, were developed in alignment with the SOSA Technical Standard and CMOSS. These fully rugged modules speed and simplify the integration of the Xeon E processor's cutting-edge capabilities into demanding defense and aerospace deployed applications such as mission computing, image and display processing, virtualization and small multi-SBC intelligence, surveillance, and reconnaissance (ISR) systems.

The two new rugged open standards-based modules were designed to support the US DoD mandate to use the Modular Open Systems Approach (MOSA) "in all requirements, programming and development activities for future weapon system modifications and new start development programs to the maximum extent possible." The SBCs join Curtiss-Wright's previously announced processing solutions developed in alignment with the SOSA Technical Standard and CMOSS,

including the 3U OpenVPX Intel Xeon D based CHAMP-XD1S digital signal processing module and the 3U OpenVPX VPX3-687 10G/40G Ethernet switch module.

“Curtiss-Wright is committed to leading the industry by bringing the widest range of CMOSS compliant and SOSA aligned processing solutions,” said Lynn Bamford, President, Defense and Power. “Our newly introduced family of high-performance Intel Xeon E-based SBCs provides system designers with the flexibility they need to architect interoperable MOSA-based deployable systems that deliver new critical capabilities to the warfighter.”

VPX3-1260 Variants Developed in Alignment with the SOSA Technical Standard and CMOSS

The I/O Intensive SBC variant of the VPX3-1260 provides a wide range of system-level I/O connectivity, including a DisplayPort video interface that supports hardware accelerated graphics up to 4K resolution. It also offers PCIe® expansion, USB and SATA storage interfaces, and external serial and GPIO/DIO connections. In addition, a wide range of expansion options are also supported with the module’s on-board XMC mezzanine site.

The Payload Profile variant of the VPX3-1260 is designed to reduce the I/O complement while increasing PCIe connectivity to the VPX backplane. The module’s on-board XMC mezzanine site continues to offer processing expansion where I/O is not required. Providing optimal flexibility, the Payload Profile SBC can also be configured with the VPX P2 connector for systems not using VITA 65 optical/coax interfaces, adding additional serial, USB, SATA, DisplayPort, and Ethernet, as well as providing access to XMC I/O interfaces not normally found on a Payload Profile processor.

Both new variants of the VPX3-1260 support 40G Ethernet connectivity across the Data Plane, simplifying high-speed communications between modules and between systems. Additional 1G and 10G Ethernet ports are also provided for Control Plane and external connectivity.

Availability

The I/O Intensive variant is available for ordering today with standard lead times, and the Payload Profile variant will be available in H1 2021. The VPX3-1260 is also available in non-SOSA aligned pinout variants. It can support a wide range of legacy pinouts to provide a drop-in technology refresh solution for existing deployed SBCs, as well as meeting additional OpenVPX profile pinouts for new systems designs.

About the VPX3-1260 SBC

Curtiss-Wright's VPX3-1260 SBC leads the industry in bringing the unprecedented compute power and I/O flexibility of the new 9th Gen Intel Xeon processor to the embedded market. The Xeon E-2276ME's 6-core (12-thread) architecture delivers an impressive 2.8 GHz performance that increases up to 4.5 GHz when the processor's Turbo Mode is applied, offering almost double the thread processing performance compared to Intel's Xeon D processor family. Paired with up to 32 GB of high-speed ECC-protected DDR4 memory, the VPX3-1260 is ideally suited for SIGINT, as well as non-SIGINT applications such as mission, avionics and general processing, and is especially important for virtualized environments. The Xeon E-2276ME processor fully supports Intel AVX2 for accelerated vector processing with up to 538 GFLOPS performance, and its integrated graphics processor can function as a GPGPU, adding an additional 442 GFLOPS of performance. In addition, the board supports up to 256 GB of on-board, super-fast Non-Volatile Memory Express (NVMe) Flash storage, to deliver 3-5x improvement in performance and provide up to 16x the capacity compared to standard SATA interfaces. All packaged into a 3U VPX module, the VPX3-1260 is an ideal processing engine for system designers seeking the maximum amount of performance-per-watt to support their compute intensive deployed applications.

Making Trusted Computing a Priority

Extending Curtiss-Wright's TrustedCOTS™ (TCOTS™) product family, the VPX3-1260 family of SBCs addresses increasingly critical trusted computing requirements with built-in support for Intel's latest cybersecurity features, including Intel Boot Guard, UEFI Secure Boot, Software Guard Extensions (SGX), and locally encrypted file system security. A Trusted Platform Module (TPM) offers additional security features such as crypto acceleration and secure key storage. To simplify provisioning of these often complex security features, Curtiss-Wright offers some features as factory orderable (i.e., pre-loaded) options.

Integrated Graphics for Display or GPGPU Applications

The VPX3-1260 features an integrated Intel Graphics P630 graphics engine that provides enhanced graphics and video features while delivering up to 3x faster GPU performance compared to predecessors. It supports OpenGL® for graphics-intensive applications or serves as a high-performance GPGPU supporting OpenCL™ for data processing-intensive ISR/EW applications.

Fully Integrated System Solutions

The VPX3-1260 is easily integrated with other members of Curtiss-Wright's extensive 3U OpenVPX product family, including Intel, Power Architecture®, and Arm®-based SBCs and graphics and storage modules, as well as DSP and FPGA engines to develop powerful mission computing and ISR/EW systems. Its unmatched processing power makes this size, weight and power (SWaP)-optimized SBC ideal for architecting solutions for High Performance Embedded Computing (HPEC) systems, general computing, mission processing, and multi-SBC systems for advanced processing and ISR/EW applications. When matched with complementary 3U modules, such as Curtis-Wright's VPX3-687 10/40 GbE Switch, VPX3-4731 video capture and display processor, and VPX3-4923 GPGPU processor, or with Curtiss-Wright's wide range of XMC mezzanine cards, such as the XMC-4730 video capture and display processing module with NVIDIA® CUDA® capabilities, the VPX3-1260 serves as the foundation of a complete system solution.

Software Support

The VPX3-1260 is supported with drivers for an extensive suite of industry standard operating environments, including Linux® (CentOS™ and Red Hat® Enterprise Linux [RHEL]), Wind River® VxWorks®, Green Hills Software INTEGRITY®, Lynx Software Technologies® LynxOS® and others. The VPX3-1260 family ships with CentOS Linux pre-loaded, enabling developers to hit the ground running and focus on applications development. A fully-featured Red Hat Enterprise Linux (RHEL) Board Support Package is also available, supporting this more robust and industry leading Linux distribution.

Sales inquiries: Please forward all sales and reader service inquiries to ds@curtisswright.com.

For more information about the 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 is headquartered in Davidson, N.C. and employs approximately 8,900 people worldwide. For more information, visit www.curtisswright.com.

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