# NEWS RELEASE

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## New OpenVPX Development Platform Enhanced to Accelerate Development of Boards for DoD Tri-Service Convergence Initiative

***Elma Electronic CMOSS Development System now features faster Curtiss-Wright VPX3-1259 single board computer and VPX3-673 A-PNT Timing Card***

**Embedded Tech Trends (ETT) Conference 2019, San Diego, Ca. – January 28, 2019 –** Curtiss-Wright's Defense Solutions division, a trusted leading supplier of rugged data storage and protection solutions, and Elma Electronic today announced the enhancement of a 3U OpenVPX Convergence Development Platform designed to support the rapidly developing activities begun under by the C4ISR Modular Open Suite of Standards (CMOSS) initiative. The platform includes new SOSA™ slot profiles developed for the C4ISR convergence program and is designed to help optimize technology reuse across DoD programs. The enhanced platform now features Curtiss-Wright's **5th Gen Intel® Core™ i7-based VPX3-1259 3U OpenVPX single board computer** (upgrading the system's earlier 4th Gen Intel Core i7-based VPX3-1258 card) and **VPX3-673 3U OpenVPX Assured Position Navigation and Timing (A-PNT) module**[1]. The VPX3-673 serves as an excellent high-performance, low-skew clock master powered by a GPS-disciplined Chip Scale Atomic Clock (CSAC), which offers a variety of configurable clock reference sources and support for up to 16 synchronized clock outputs. The 12-slot 3U OpenVPX system provides 10GBase-KR board-to-board signaling with aggregated port speeds to 40G and accommodates boards with latest VITA 65.0-2017 slot profiles for target application development.

The system serves as a complete test environment to enable the integrated development of common, modular hardware architectures across critical C4ISR and EW systems. Built on Elma's sturdy, easy-access E-frame test chassis, the new development platform enables system engineers to test a range of boards that meet profiles designed for use in various DoD program requirements, significantly streamlining engineering efforts and reducing time and cost to deployment.

"We are very proud to collaborate with Elma Electronic to bring to market this powerful development platform for Modular Open Systems (MOSA)-based C4ISR applications," said

[1] EAU units of the VPX3-673 are available now in limited quantities.

Lynn Bamford, Senior Vice President and General Manager, Defense Solutions division. “The MOSA approach enables system developers to reduce risk, lower costs and speed deployment of cutting-edge technologies to the warfighter.”

Ken Grob, director, embedded computing business development, for Elma, noted, “The military’s shift towards modular, open standards-based hardware and software is fueling the need for reliable methods to quickly test hardware components across different platforms. This new development kit enables system developers to cost-effectively test and validate a wide number of hardware configurations.”

**About the VPX3-1259 SBC**

Curtiss-Wright’s VPX3-1259 is a high performance SBC featuring the latest 5th Gen Intel Core i7 (Broadwell) processor. Pin-compatible with Curtiss-Wright’s previous generations of Intel SBCs, the VPX3-1259 offers high-performance Intel processing in the smallest 3U form factor. The Intel Core i7 processor offers Quad-Core (8-thread) performance at 2.7 GHz. With up to 16 GB of dual-channel high speed ECC-protected DDR3 memory, the VPX3-1259 provides up to 25.6 GB/s memory throughput, maximizing the capabilities of the processor. The processor also features AVX and AVX2 SIMD extensions, accelerating math-intensive algorithms. The Intel Core i7 processor includes an enhanced Intel Iris Pro Graphics GPU, offering discrete GPU performance with OpenGL® for graphics-intensive applications, and also serving as a 40-core GPGPU with performance up to 640 GFLOPS with OpenCL™ support for data processing-intensive applications.

**About the VPX3-673 Timing Card**

The VPX3-673 module is a rugged, high-performance 3U OpenVPX A-PNT solution. It features an SBC that combines NXP®’s capable and low-powered QorIQ® Layerscape™ LS1043A Quad Core 64-bit v8 Arm A53 with a full suite of on-board capabilities to enable A-PNT processing. Utilizing this advanced 64-bit, 4-core CPU and Curtiss-Wright’s proven ruggedization technology, the VPX3-673 has been designed for harsh environments, making it ideal for architecting high-performance computing and processing systems for A-PNT. With a high speed DDR4 memory subsystem connected directly to the processor and supporting up to 4 GB SDRAM, the VPX3-673 is able to maximize the performance of the multiple processing cores, GPS, and associated position and timing capabilities.

**About CMOSS and SOSA**

Initially, separate program efforts were undertaken by the US Army under CERDEC (CMOSS), the U.S. Navy under NAVAIR (HOST) and the Air Force under AFLCMC (SOSA) to move away from costly proprietary systems to COTS-based open standards. Each initiative was created to facilitate the development of interoperable systems across several defense branches to improve subsystem SWaP, enable rapid technology insertion and promote reuse. Now managed entirely under SOSA, this collection of open architecture hardware and software standards is aimed at providing reconfigurable, upgradeable and cost-effective C4ISR capabilities in deployed platforms across sensor applications throughout all major military branches.

One of the tasks of the SOSA and HOST working groups is to define 3U and 6U slot profiles required to build OpenVPX-based subsystems for the tri-service convergence initiative. The first series of profiles was developed and submitted for inclusion in the VITA 65.0-2017 specification. Additional 3U and 6U profiles are being developed to take advantage of the new VITA 67.3 connectors to meet the needs of SIGINT, EW and SDR system requirements.

With this set of profiles, Elma's Convergence Development Platform is ideal for developing C4ISR systems used in ground vehicles, unmanned systems, command centers and other mission critical environments. The heart of the platform is a 3U 12-slot OpenVPX backplane that meets VITA 65.0-2017 backplane profile BKP3-TIM12-15.3.6-n. It supports all the SOSA-developed VPX slot profiles, with aperture installation options for high speed RF (VITA 67.3) and optical I/O.

The boards included for development also meet the new profiles: two SBCs, one with an Intel Core i7 processor and one using an Intel Xeon® processor, as well as a 10/40 GigE Ethernet switch. A network timing slot provides IEEE 1588 radial support for precision network timing and synchronization, with timing card options available.

Elma's Type 39 E-Frame chassis provides open access for easy board testing and troubleshooting. It supports both air and conduction cooled board configurations. Dual, high wattage 3U VPX pluggable power supply units are also included. The modular, building block design of the backplane streamlines a path to the required configuration. End users can identify a subset of the slot profiles they will need for a cost-effective backplane suited to the end application.

Pricing and delivery for the development platform is dependent upon configuration.

**About Elma Electronic Inc.**

Elma Electronic Inc. is a global manufacturer of commercial, industrial and rugged electronic products for embedded systems and application-ready platforms – from components, embedded boards, backplanes, chassis and enclosures, power supplies, to fully integrated subsystems.

With one of the widest product ranges available in the embedded industry, Elma also offers standard and custom cabinets and enclosures as well as precision components such as rotary switches/encoders, LEDs, front panels and small cases.

Elma leverages proven technology based on VITA, PICMG, and other standards-based architectures (i.e. OpenVPX, VME, CompactPCI Serial, ATCA, COM Express and PCIe/104). Elma is also actively engaged in designing solutions for applications requiring smaller footprints. Elma Electronic manages entire projects from initial system architecture to specification, design, manufacturing and test through its worldwide production facilities and sales offices. The company serves the mil/aero, industrial, research, telecom, medical and commercial markets and is certified to ISO 9001 and AS 9100. With U.S. headquarters in Fremont, Calif., the

company maintains multiple sales, engineering and manufacturing operations in Atlanta, Ga., and Philadelphia, Pa.

For more information, please visit http://bit.ly/SOSA-DP, contact sales at sales@elma.com, or call (510) 656-3400.

For Elma updates: http://www.linkedin.com/company/elma-electronic
Upcoming Elma Tradeshows: http://www.elma.com/en/events/

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 8,600 people worldwide. For more information, visit www.curtisswright.com.

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