NEWS RELEASE

Curtiss-Wright and Green Hills Software® Collaborate to Demonstrate INTEGRITY-178 tuMP™ Safety-Certifiable RTOS on the Multi-Core Intel® VPX3-1220 SBC Module

Intel® Quad-Core Xeon® processor-based VPX3-1220 RTCA/DO-254 safety-certifiable COTS SBC supports Green Hills Software RTCA/DO-178B Level A certifiable multi-core RTOS

ASHBURN, Va. **– August 14, 2018 --** Curtiss-Wright's Defense Solutions division today announced that Green Hills Software's field-proven INTEGRITY-178 tuMP safety- and security-critical multi-core real-time operating system (RTOS) was recently demonstrated on the Curtiss-Wright VPX3-1220 module, an RTCA/DO-254 Design Assurance Level (DAL) C safety-certifiable 3U OpenVPX™ single board computer (SBC). The rugged module features the Intel® Xeon® E3 processor (formerly known as "Kaby Lake") and enables avionics system designers to rapidly integrate Commercial Off-the-Shelf (COTS) system solutions based on the INTEGRITY-178 tuMP RTOS. INTEGRITY-178 tuMP is the industry's only multi-core RTOS that enables users to utilize all available compute power from the Xeon E3 processor's quad cores, including its virtual cores, all based on deterministic, user-defined core and scheduling assignments. With its embedded Intel® Core™ technology design, the VPX3-1220 SBC brings unprecedented computing power to certifiable mission computing and critical airborne applications.

The VPX3-1220's low-power mobile Xeon E3 processor, which is ideal for airborne applications, delivers high-performance, quad-core x86 processing with integrated graphics at 50% of typical power levels compared to previous Intel processor solutions. Paired with the INTEGRITY-178 tuMP operating system (OS), the SBC provides a compelling combination of hardware and software for system integrators that require optimal processing power and industry-leading size, weight and power (SWaP) benefits for their multi-core critical systems.

"Support for Green Hills' INTEGRITY-178 tuMP multi-core RTOS on the VPX3-1220 SBC demonstrates Curtiss-Wright's dedication to raising the performance bar for safety-certifiable avionics, while simplifying the complex DO-254/DO-178 safety certification process for our embedded avionics customers," said Lynn Bamford, Senior Vice President and General Manager, Curtiss-Wright Defense Solutions division. "Our ongoing collaboration with trusted operating system vendors, such as Green Hills, enables us to deliver complete COTS-based, safety-certifiable hardware and software solutions to the embedded defense and aerospace market."

For programs with DO-254 DAL A or DAL B requirements, or system designers seeking a Power Architecture®-based SBC, Curtiss-Wright offers the NXP® QorIQ® T2080-based VPX3-152, a DO-254 DAL A safety-certifiable 3U OpenVPX SBC that also supports INTEGRITY-178 tuMP. In addition, earlier this year, Curtiss-Wright announced support for the INTEGRITY-178 tuMP RTOS on its T2080 SOC-based VPX3-133 3U OpenVPX SBC. The VPX3-133, combined with INTEGRITY-178 tuMP, is ideal for rugged deployed applications that do not require DO-254 safety-certifiable hardware.

The VPX3-1220 and VPX3-152 are compatible with Curtiss-Wright's entire safety-certifiable module portfolio, including the VPX3-717 and VPX3-719 safety-certifiable OpenVPX graphics processors, and the VPX3-611 safety-certifiable MIL-STD-1553B and ARINC 429 I/O Module.

About the VPX3-1220
Designed with RTCA/DO-254 in mind from the beginning of the development cycle, the VPX3-1220 is offered with an RTCA/DO-254 DAL C data artifact package to speed and ease the safety certification process. It is the industry's first multi-core Intel Xeon-based SBC designed to meet DO-254 DAL C for use on safety-critical military and civil aerospace platforms. Delivering the highest possible processing performance while consuming low power, the VPX3-1220 is ideal for mission computing applications in SWaP-constrained aerospace and defense systems. Use of this SBC accelerates and simplifies the integration of Intel Xeon-class processing into demanding deployed applications, such as mission computing and image and display processing.

Leveraging the strong partnership between Curtiss-Wright and Green Hills Software, INTEGRITY-178 tuMP on the Xeon E3 processor-based VPX3-1220 provides avionics system integrators with support for the first true multi-core OS to conform to any version of the FACE Technical Standard. The RTOS conforms to both the FACE Safety Base and Security Profiles for the C, C++ and Ada programming languages. The INTEGRITY-178 tuMP multi-core OS meets all of the requirements defined in the current standard for ARINC-653, Supplement 4, which requires multi-core operation per Section 2 of the Supplement 4 standard, and defines support for "Multiple processes within a partition scheduled to execute concurrently on different processor cores," and support for "Multiple partitions scheduled to execute concurrently on different processor cores."

The INTEGRITY-178 tuMP RTOS has successfully met the DO-178 DAL A certification objectives multiple times across several different multi-core SOC architectures, with each SOC having a different core design. It also satisfies the CAST-32A Position Paper for multi-core interference mitigation. The combination of INTEGRITY-178 tuMP's time-partitioned AMP and SMP capabilities, with support for multi-core interference mitigation, provides the industry's best core utilization and overall SOC throughput. This enables the VPX3-1220 to deliver unmatched SWaP reduction.

The VPX3-1220 SBC is available now for both air-cooled and conduction-cooled environments.

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