



NEWS RELEASE

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Curtiss-Wright, Green Hills Software and CoreAVI Collaborate to Deliver FACE™-Aligned, DO-254/178 Safety-Certifiable Solutions

Support for Green Hills Software's INTEGRITY®-178 tuMP™ RTOS and CoreAVI's graphics drivers on Curtiss-Wright rugged modules speeds the integration of high-performance avionics systems

Ashburn, Va. – October 31, 2018 -- Curtiss-Wright's Defense Solutions division today announced that it has collaborated with Green Hills Software and Core Avionics & Industrial Inc. (CoreAVI) to deliver industry-leading FACE™-aligned, DO-254/DO-178 safety-certifiable high-performance graphics and computing solutions for avionics applications. Curtiss-Wright's rugged [VPX3-152 single board computer \(SBC\)](#), [VPX3-719 graphics and video capture module](#), and [VPX3-611 I/O module](#), combined with [Green Hills' INTEGRITY-178 tuMP multi-core real time operating system \(RTOS\)](#) and [CoreAVI's suite of high-performance OpenGL® ES/SC drivers](#) and [EASA ED-12C/FAA DO-178C Level A certification packages](#) enable system designers building avionics system for aerospace, military and other high reliability markets to easily and rapidly integrate complete rugged DO-254/DO-178 safety-certifiable system.

"We are excited to continue our successful collaboration with Green Hills and CoreAVI to bring industry-leading DO-254 and DO-178C safety-certifiable processing and graphics solutions to the avionics market," said Lynn Bamford, Senior Vice President and General Manager, Defense Solutions division. "When combined with the INTEGRITY-178 RTOS and CoreAVI's graphics drivers, our SBCs, graphics modules and I/O cards provide

system designers with the critical building blocks they need to quickly and cost-effectively develop safety-certifiable systems.”

About Green Hills Software INTEGRITY-178 tuMP RTOS

The INTEGRITY-178 tuMP RTOS is the only operating system (OS) certified to conform to the FACE Technical Standard for both the Safety Base and Security Profiles for the C, C++ and Ada programming languages. INTEGRITY-178 tuMP remains to date the only FACE conformant OS that offers true multicore processing with concurrent operation across all the cores. The RTOS has successfully met the DO-178 DAL A certification objectives multiple times, across several different multicore SOC architectures, each of which featured a different core design. The INTEGRITY-178 tuMP RTOS is available for all of Curtiss-Wright’s DO-254 safety-certifiable products, including its SBCs featuring Power Architecture®, Intel®, and Arm® processors. (www.ghs.com).

Last month, at the 2018 U.S. Army FACE Technical Interchange Meeting (TIM), Curtiss-Wright, in collaboration with Harris Corporation and Green Hills, publicly demonstrated the first working example of a FACE-conformant OS and FACE-conformant software application running simultaneously on two completely different processor infrastructures (Intel and NXP® Power Architecture).

About the VPX3-152 Single Board Computer

Curtiss-Wright’s VPX3-152 is a DO-254 DAL A safety-certifiable, commercial SBC. The rugged 3U OpenVPX™ module features NXP’s QorIQ® T2080 multicore SOC. For safety-certifiable SBC designs, the QorIQ T2080, a quad-core AltiVec™-equipped 64-bit Power Architecture SOC processor, has emerged as a de facto standard thanks to its support from a wide range of field-proven OS vendors, such as Green Hills. Curtiss-Wright designed the 3U VPX VPX3-152 from the ground up to be cost-effective and support DO-254 DAL A safety certifiability for critical defense and aerospace avionics applications. The VPX3-152 takes full advantage of the T2080’s features to reduce the chip count and complexity, which lowers the cost and the risk associated with the safety certification effort. Designed for use in size, weight, and power (SWaP)-constrained applications, the VPX3-152’s compact 3U design is ideal for use in a wide range of C4ISR applications deployed in harsh environments, especially those that require safety-certifiable DO-254 hardware and DO-178C software.

About the XMC-719 Graphics Card

Curtiss-Wright's DO-254 safety certifiable XMC-719 graphics module features built-in HD-SDI video capture and output interfaces. It supports extremely low latency video capture, graphics generation and overlay, with flexible I/O interfaces. The card's AMD E8860 Radeon™ GPU is supported with up to six independent and simultaneous graphics outputs selectable from 4x DVI, 2x HD-SDI, and 2x analog RGBHV or STANAG interfaces. The VPX3-719 provides 2 GB of dedicated video memory, and a hardware accelerated video compression encoder and decoder. It features built-in video capture and format conversion and provides two channels of video capture from HD-SDI, analog RGBHV, or STANAG sources. The video data is transferred directly to processor or GPU memory. Curtiss-Wright also offers the [VPX3-717 DO-254 safety-certifiable graphics module](#) for applications which do not need video capture.

About CoreAVI Safety Critical Software Drivers

CoreAVI provides the industry's leading safety critical graphics, video and compute drivers which enable integrators of safety critical embedded systems to maximize the performance of the latest graphics and compute technology. CoreAVI's FACE-aligned graphics drivers are developed from the ground up to optimize performance and maximize reliability. All CoreAVI products are available with COTS certification evidence to support the certification of systems to the most stringent levels of RTCA DO-254/DO-178C and EUROCAE ED-80/ED-12C. (www.coreavi.com).

About the VPX3-611 Safety Certifiable I/O Module

Curtiss-Wright's VPX3-611 is an FPGA-based rugged 3U VPX module that can be configured with a virtually unlimited combination of DO-254 / DO-178 safety-certifiable I/O interfaces. Because DO-254 certification artifacts are available for the module's I/O interfaces at the FPGA block macro-level, I/O configuration variants of the VPX3-611 can be created quickly and at minimal cost compared to the development of a custom solution. Safety-certifiable I/O interfaces supported by the VPX3-611 include MIL-STD-1553B, ARINC 429, CANbus, asynchronous UARTS, discretes, analog in, analog out, Serial Peripheral Interface (SPI), and others (contact factory for additional information).

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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