



NEWS RELEASE

Contact: Robert F Coveny
VP of Business Development
rcoveny@curtisswright.com

John Wranovics
Director of Communications
M: 925.640.6402
jwranovics@curtisswright.com

Safety Certifiable NXP 16-Core Arm-based VPX Single Board Computer Now Supports DDC-I's Deos RTOS

Curtiss-Wright's V3-1708 SBC with artifacts for AC 20-152A DAL A compliance now supports concurrent multi-core operation with Deos Safety Critical RTOS for avionics applications

ASHBURN, December 12, 2024. – [Curtiss-Wright's Defense Solutions Division](#) today announced that it is collaborating with DDC-I to deliver industry-leading Future Airborne Capability Environment®, FACE® conformant DO-178C/ED-12C Design Assurance Level A (DAL A) processing for use in safety-certifiable multi-core computing avionics applications. Curtiss-Wright's rugged [V3-1708 single board computer \(SBC\)](#) with off-the-shelf AC 20-152A DAL A certification packages, combined with DDC-I's Deos™ configurable multi-core real time operating system (RTOS), enables system designers building avionics systems for aerospace, military, and other high-reliability markets to rapidly deploy rugged safety-certifiable solutions. Deos uniquely enables the L2 and L3 cache memory on the V3-1708's NXP LX2160A Arm Cortex A72 system on chip (SoC) processor to be partitioned on both a core and application basis. This provides avionics applications with a dedicated isolated region of L2 and L3 cache and greatly speeds RTOS performance by eliminating the need for cache flushing or for processor cores to access the main memory, memory bus, or memory controller.

"We are excited to collaborate with DDC-I to bring industry-leading AC 20-152A DAL A safety-certifiable multi-core processing to the avionics market," said Brian Perry, Senior

Vice President and General Manager, Curtiss-Wright Defense Solutions. “Combined with DDC-I’s Deos multi-core RTOS, our SWaP-optimized 16-Core V3-1708 single board computer provides system designers with the proven and reliable building blocks they need to quickly and cost-effectively develop DO-254 DAL A safety-certifiable systems. Because it frees customers from having to develop data artifact packages, the V3-1708 significantly reduces schedule risk and costs, which are frequently the cause of delays to safety-certifiable programs.

“The VPX-1708, together with our DAL-A, FACE conformant DO-178C Deos RTOS, provides an ideal MOSA-aligned, safety-critical platform for developing, certifying, and deploying a broad range of high-performance, multimedia-intensive avionics applications,” said Gary Gilliland, Vice President of Marketing at DDC-I. “The VPX-1708 utilizes the powerful A72 cores. Deos, with its patented cache partitioning, takes full advantage of the A72’s multi-core capabilities, enabling multiple Arm 72 cores to operate concurrently, delivering blazing performance in a DAL-A certifiable context.”

The V3-1708 3U VPX processor module is the embedded industry’s first SBC to bring the high core count advantages of the NXP LX2160A Arm Cortex A72 system on chip (SoC) processor to rugged deployed DO-254 DAL A safety-certifiable applications. The NXP LX2160A features 16 A72 cores and delivers more than 15% higher performance compared to Intel Tiger Lake.

Designed for use in compute-intensive applications such as flight control computers, mission control, and primary flight displays, the V3-1708 is ideal for bringing the benefits of COTS-based safety certifiable processing to airborne military platforms such as the Future Vertical Lift (FVL) program.

As a result of NXP’s close collaboration with the Multi-Core for Avionics (MCFA) industry group, the V3-1708 provides system integrators with the device data needed to support a DO-254 certification process, at little or no cost, such as related AC/AMC 20-193 multi-core and AC/AMC 20-152A COTS device objectives. For avionics system designers, a rugged COTS SBC developed using AC/AMC 20-152A as a means of compliance, and provides off-the-shelf data kits for DO-254 and Failure Mode and Effects Analysis (FMEA) to support system architecture, Functional Failure Path (FFP) analysis and

certification, delivers a proven and cost-effective foundation for safety-critical applications.

About the Deos RTOS

DDC-I's safety-critical time and space-partitioned RTOS has been verified to the guidance of DO-178C/ED-12C DAL A for use in systems with avionics applications, supports ARINC-653 APEX, Rate Monotonic Scheduling (RMS), and POSIX per the FACE Safety Extended and Safety Base Profiles. Deos is the first RTOS to receive operating system services (OSS) Conformance Certification for the FACE Technical Standard, Edition 3.1. The Safety Extended Profile, which adds support for TCP/IP communications, multi-process support, and expanded POSIX capability (80 extra functions), is a superset of the functionality required by the Safety Base and Security Profiles.

Deos has been field proven as a safety-critical RTOS since its first verification and audit to DAL A by Transport Canada in 1998, and it has been certified and is flying in 10's of thousands of aircraft. Since the initial verification, it has continually evolved throughout the last two decades with new processors and features in subsequent baselines, and it has been successfully audited by the world's various governmental certification authorities (FAA, ENAC, JAA, EASA, CAAC, and others) and Airframe and Avionics Supplier Designated Engineering Representatives (DER).

About DDC-I, Inc.

DDC-I, Inc. is a global supplier of real-time operating systems, software development tools, custom software development services, and legacy software system modernization solutions, with a primary focus on mission- and safety-critical applications. For more information regarding DDC-I products, contact sales@ddci.com or visit <http://www.ddci.com/pr2413>.

For additional information about Curtiss-Wright Defense Solutions products, please visit www.curtisswrightds.com and [LinkedIn](#).

About Curtiss-Wright Corporation

Curtiss-Wright Corporation is a global integrated business that provides highly engineered products, solutions and services mainly to Aerospace & Defense markets, as well as critical technologies in demanding Commercial Power, Process and Industrial markets. Headquartered in Davidson, North Carolina, the company leverages a workforce of approximately 8,600 highly skilled employees who develop, design and build what we believe are the best engineered solutions to the markets we serve. Building on the heritage of Glenn Curtiss and the Wright brothers, Curtiss-Wright has a long tradition of providing innovative solutions through trusted customer relationships. For more information, visit www.curtisswright.com.

###

Note: Trademarks are property of their respective owners.