



## NEWS RELEASE

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FOR IMMEDIATE RELEASE

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### **Curtiss-Wright's Latest 3U OpenVPX™ DSP Module is First to Deliver the Power of Intel® Xeon® D and Xilinx® MPSoC FPGA Processing with TrustedCOTS™ Security**

*Designed for extremely compute-intensive HPEC applications, CHAMP-XD1S supports critical missions with advanced TrustedCOTS security features*

**ASHBURN, Va. – September 10, 2019** – Curtiss-Wright's Defense Solutions division, a trusted leading supplier of embedded ISR processing technology, is introducing its highest performance [3U OpenVPX digital signal processor \(DSP\) engine, the CHAMP-XD1S](#), a multi-core [High Performance Embedded Computing \(HPEC\)](#) module with advanced security features. The CHAMP-XD1S is the industry's first Commercial Off the Shelf (COTS) board to deliver the performance of a 12 core (576 GFLOPS) [Intel Xeon D processor](#), a [Xilinx Zynq® UltraScale+™ MPSoC \(ZU4EG\) FPGA](#), and a Flash-based [Microchip® SmartFusion®2 IPMC FPGA](#) with HOST v3.0 support to deliver best-in-class data security. The board's advanced [TrustedCOTS](#) security features include Enhanced Trusted Boot capabilities, such as FPGA-based authenticated boot code and other features, to protect against malicious cyber attacks and reverse engineering. It also supports Intel Trusted Platform Module (TPM) 2.0 and NVMe encrypted Flash. The CHAMP-XD1S features memory modules that provide enhanced security protection for processor and FPGA memory. This fully rugged module is an ideal [size, weight and power \(SWaP\)-optimized solution](#) for system integrators seeking to deploy the highest available compute performance in support of compute intensive applications that require high security. It is designed for use in demanding SWaP-constrained radar, SIGINT, EW, and floating-point intensive DSP applications, such as specialized threat analysis and protection (STAP), SAR, sonar, multi-sensor (i.e., EO/IR), direction finding (e.g. TDOA), and mission computing.

The CHAMP-XD1S will be continually enhanced, with multiple capabilities planned for introduction over time, that leverage the secure capabilities of the FPGAs and other devices on the board.

“With the introduction of the new CHAMP-XD1S, we further strengthen our commitment to providing system integrators with the most secure and capable DSP modules available,” said Lynn Bamford, Senior Vice President and General Manager, Defense and Power. “As the importance of cybersecurity grows every day, our new board, with TrustedCOTS protections, delivers a highly secure, supercomputer-class ISR processing solution for the most demanding and SWaP-constrained HPEC applications.”

### **CHAMP-XD1S Performance Features**

- Extended temperature Intel Xeon D 12-Core (576 GFLOPS @ 1.5 GHz)
- PCH integrated in Xeon D SoC
- Native dual 10 Gigabit Ethernet (GigE) KR ports with option to route one to FPGA
  - TCXO for maximum stability over temperature
- 32 GB DDR4 @ 2133 mega-transfers per second (34 GB/s aggregate)
- XMC mezzanine expansion site (PCIe up to Gen3)
- PCIe Gen3 on 3U OpenVPX data plane
- Xilinx MPSOC FPGA with embedded quad-core A53 processor and 4 GB DDR4 SDRAM Module
- SmartFusion2 IPMI with full Vita46.11 Tier 1, Tier 2 and HOST support
- 80GB NVMe 1.3 SLCm SSD Flash supporting encryption, write protection and sanitization
- Open Standards Aligned Pinout Options
  - Enterprise Open Standards Architecture (EOSA)
  - MOD3-PAY-1F1F2U1TU1T1U1T-16.2.15-2 (SOSA aligned with PCIe data plane)
  - MOD3-PAY-2F2U-16.2.3-11
  - Contact factory for details
- TrustedCOTS, Enhanced Trusted Boot
- Conduction-cooled, (-40° to +85° deg. C)

### **Software Support**

Planned software support for the CHAMP-XD1S includes Board Support Packages (BSP) for CentOS 7.6 and Red Hat® Enterprise Linux® 7.6, and a TrustedCOTS Security Firmware/Software Package. Support will also be provided for Curtiss-Wright's [OpenHPEC™ Accelerator Suite](#) of

development tools and [Dolphin® SuperSockets™](#) eXpressWare over PCIe Software. Support for [Wind River® VxWorks® 7](#) is planned. Please contact the factory for more information on schedules and feature roll out.

### **Fully Integrated HPEC Solutions**

Leveraging Curtiss-Wright's extensive 3U OpenVPX ecosystem, the CHAMP-XD1S is ideal for use as the centerpiece of small form factor HPEC system architectures. It is backwards compatible with the [CHAMP-XD1](#), and is compatible with the full range of Curtiss-Wright OpenVPX modules including single board computers, Ethernet switches and routers, graphics processors, and FPGA-based ADC/DAC modules.

To reduce program risk, improve affordability, and speed time to deployment, Curtiss-Wright offers system integrators a range of development-to-deployment system options. This approach enables the system integrator to match the equivalent development system they need to the appropriate stage of their program, while enabling application transfer between the stages with minimal effort.

Sales inquiries: Please forward all Sales and reader service inquiries to [ds@curtisswright.com](mailto:ds@curtisswright.com).

For more information about the Curtiss-Wrights Defense Solutions division, please visit [www.curtisswrightds.com](http://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 9,000 people worldwide. For more information, visit [www.curtisswright.com](http://www.curtisswright.com).

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