



NEWS RELEASE

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Curtiss-Wright Introduces Mini Modular Mission Computer with 6th gen Intel® Atom™ Low-Power Processor and Support for Deterministic Ethernet Networking

Parvus® DuraCOR® 313 mission computer combines next-gen Intel processing with support for Time Sensitive Networking (TSN) in modular small form factor rugged design

DSEI 2021, ExCel, LONDON, UK, – September 14, 2021 – [Curtiss-Wright's Defense Solutions division](#) (Bays 22-26 ExCeL Exhibition Centre), a leading supplier of small form factor (SFF) mission computing and networking solutions engineered to succeed, has introduced a new ultra-rugged miniature mission computer that combines a low-power, quad-core 6th gen Intel® Atom™ x6400E Series (Elkhart Lake) processor with support for real-time 802.1-based Time Sensitive Networking (TSN) network connectivity. The ultra-small form factor (USFF) [Parvus® DuraCOR® 313 mission computer](#) is one of the industry's first solutions for deploying a MIL-grade TSN endpoint for deterministic Ethernet connectivity to address time synchronization, ensure low-latency communication, and manage network traffic scheduling.

Providing system architects with one of the smallest and lightest rugged mission computers on the market (~5.2" x 5.4"x 2.0"; ~2 lbs), the DuraCOR 313 delivers significant performance improvement compared to legacy Intel "Baytrail" Atom computing solutions. In fact, the mission computer's 64-bit Intel architecture features 2x the processing and 3x the graphics performance with 4x the memory capacity, and expanded I/O capabilities compared to the legacy DuraCOR 311 computer based on Intel's E3845 Atom. The DuraCOR 313 is designed for optimal performance in the harshest size, weight and power (SWaP) constrained environments. Housed in a fanless IP67-rated miniature enclosure with industrial temperature components and MIL-performance circular connectors that are pin-compatible with the [DuraCOR 311](#), the DuraCOR 313 sets the industry standard for environmental testing/qualification with adherence to MIL-STD-810, MIL-STD-461, MIL-STD-1275,

MIL-STD-704 and RTCA/DO-160 conditions for environmental, power and EMI (thermal, shock, vibration, dust, water, humidity, altitude, power spikes/surges, conducted/radiated emissions and susceptibility). This modular open systems approach (MOSA) based mission computer provides an ideal commercial off the shelf (COTS) solution for vehicle, airborne, industrial, manned and unmanned vehicle and sensor applications.

“Curtiss-Wright continues to raise the bar when it comes to integrating the most advanced processing capabilities into the smallest and lightest possible rugged mission computer,” said Chris Wiltsey, Senior Vice President and General Manager, Curtiss-Wright Defense Solutions division. “With its low-power Intel Atom processor and extremely flexible complement of I/O scalability, this MOSA line replaceable unit goes further, bringing support for TSN-based deterministic Ethernet connectivity to deployed mission computing.”

Unmatched Modularity

While the DuraCOR 313 natively supports Gigabit Ethernet, CANbus, USB, serial, video, audio, and digital I/O interfaces, its ultra-modular architecture provides system designers with a vast array of options for add-on I/O cards and flexible data storage. The unit can be configured with up to three slots for add-on Mini-PCIe I/O modules (for video capture, MIL-STD-1553, ARINC 429, RS-232/422/485 and other databus interfaces), as well as optional removable 2.5” SATA SSD storage for high capacity storage, data logging, and information assurance requirements. For applications seeking a turnkey modified-COTS (MCOTS) solution, DuraCOR 313 variants can be pre-integrated with application-specific I/O cards with minimal NRE cost and minimal impact to lead time.

Deterministic Ethernet with TSN

Time Sensitive Networking (TSN) is a set of open architecture IEEE-based Ethernet networking capabilities used to support low-latency, precision data delivery over Ethernet for applications that require real-time communications. While traditional defense and aerospace systems rely on older, proven technologies such as MIL-STD-1553, ARINC 429, and CANBus to support time-critical communications, TSN is designed to coexist with today’s low-cost existing Ethernet technologies and will enable Ethernet backbones for future ground vehicles and aircraft that support not only traditional data and communications traffic, but also provide real-time control over Ethernet interfaces to weapons systems, autonomous vehicles, and other devices historically controlled via legacy data buses.

Built to Protect Network Data

DuraCOR 313 features a Trusted Platform Module (TPM) compliant with the TPM 2.0 specification for creating secure computing environment. The module ensures that only trusted and signed BIOS and software can execute on the system. Hardware accelerated encryption is supported through the Intel Advanced Encryption Standard New Instructions (Intel® AES-NI) and Intel SHA Extensions. The unit also supports a removable, self-encrypting solid state disk (SSD) and zeroize discrete to sanitize mission data.

Upgrade Path Solution

Delivering a significant boost for CPU and GPU performance, plus larger RAM memory capacity over legacy Atom systems, the DuraCOR 313 is ideal for technology upgrade applications seeking low-cost, low-SWaP Intel-compatible mission processing. Further, the unit gives legacy DuraCOR 311 customers a pin-for-pin compatible migration path in a similar form factor chassis with the same mounting holes.

About Parvus Rugged Computing and Networking Systems

The Parvus product line of embedded [mission computers \(DuraCOR\)](#), [network switches \(DuraNET\)](#) and [IP routers \(DuraMAR\)](#) are extremely rugged MOSA solutions built for deployment in the harshest military and aerospace environments. Whether airborne, on ground vehicles or deployed on surface or underwater vessels, Parvus systems deliver optimal performance. These low-SWaP line replaceable units (LRUs) are housed in fanless IP67-rated miniature chassis that feature MIL-performance circular connectors and industrial temperature components. Designed to the most challenging environmental testing/qualification standards, Parvus products adhere to MIL-STD-810, MIL-STD-461, MIL-STD-1275, MIL-STD-704 and RTCA/DO-160 conditions for environmental, power and EMI (thermal, shock, vibration, dust, water, humidity, altitude, power spikes/surges, conducted/radiated emissions and susceptibility). Parvus systems have a long heritage of deployment onboard unmanned air/ground/surface/undersea vehicles, helicopters, tactical/combat ground vehicles, radar/missile platforms, fast jets, electronics pods, naval vessels, and commercial aircraft.

To find out more about this powerful new mission computer, download the [Parvus DuraCOR 313 product sheet here](#).

For additional information about Curtiss-Wright solutions, please visit www.curtisswrightds.com, LinkedIn, and Twitter @CurtissWrightDS.

About Curtiss-Wright Corporation

Curtiss-Wright Corporation (NYSE:CW) is a global innovative company that delivers highly engineered, critical function products and services to the Aerospace and Defense markets, and to the Commercial markets including Power, Process and General Industrial. 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 8,200 people worldwide. For more information, visit www.curtisswright.com.

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