Curtiss-Wright Supports New 7th Gen Intel® Xeon® processors on DO-254 Safety Certifiable Single Board Computers

Updated VPX3-1220 and XMC-121 SBCs deliver highest performance with Intel's latest generation quad-core low-power EL-1505L v6 processor and fast Intel HD Graphics

On January 3, 2017, Intel introduced its 7th Gen Intel Xeon processor "former codename Kaby Lake-H". Curtiss-Wright Defense Solutions will support the new processor on two small form factor commercial-off-the-shelf (COTS) single board computers (SBCs). The updated rugged modules, the 3U OpenVPX™ VPX3-1220 and XMC-121 XMC processor mezzanine card, now both feature Intel's latest low-power EL-1505L v6 Xeon processor to provide even more powerful quad-core x86 performance processing in the same low-power 25 watt footprint as the earlier Xeon (former codename Skylake-H) based versions of the modules.

These SBCs are designed for use in size, weight, power and cost (SWaP-C) constrained aerospace and defense systems. What's more, the VPX3-1220 is the first 7th Gen Intel Xeon processor based SBC designed to meet DO-254 Design Assurance Level (DAL) C. Available with certifiable DO-254 design artifacts from Curtiss-Wright, this powerful VPX module can greatly speed the deployment and certification of critical manned and unmanned airborne Safety Certifiable applications. Curtiss-Wright also announced that the XMC-mezzanine form factor module XMC-121 is on schedule for customer deliveries in Q1 2017.

"Curtiss-Wright continues to lead the rugged embedded COTS industry in bringing Intel's latest processing architectures to the aerospace and defense markets,"
said Lynn Bamford, Senior Vice President and General Manager, Defense Solutions division. "We are excited to offer Intel's newest 7th Gen Intel Xeon processor technology on 3U VPX and XMC small form factor single board computers, delivering even more computing power than before, without increasing power consumption, both key goals of our system integrator customers."

The VPX3-1220 and XMC-121 are ideal for use in general purpose mission computing applications that require the highest possible processing performance while consuming low power. These fully rugged modules speed and simplify the integration of 7th Gen Intel Xeon processor processing into demanding defense and aerospace deployed applications such as mission computing, image and display processing, virtualization and small multi-SBC ISR systems.

The VPX3-1220 is the industry's first COTS multi-core Intel Xeon processor SBC designed to meet DO-254 Design Assurance Level (DAL) C for use on safety critical military and civil aerospace platforms. This high-performance, safety certifiable COTS module is supported by a wide range of popular operating environments, including real-time operating systems (RTOS) certifiable to DO-178C such as Green Hills Software Integrity-178 tuMP™ and Wind River® VxWorks® 653. Curtiss-Wright recently

announced that it is collaborating with Green Hills Software to support the RTCA/DO-178C certified multi-core INTEGRITY-178 tuMP RTOS on the VPX3-1220. Because the VPX3-1220 is offered with off-the-shelf certifiable design artifacts available from Curtiss-Wright it speeds the system safety certification process.

The new XMC-121 XMC processor mezzanine module features the same Intel Xeon processor as the VPX3-1220, but delivers its high performance on an even smaller form factor. The XMC-121 enables system designers to add Intel Xeon processing to extremely space constrained systems. An ideal means of reducing system slot count, this XMC processor mezzanine can be mounted on a graphics or FPGA module, or on the power supply of Curtiss-Wright MPMC series system chassis for a truly zero-slot processing solution.

Full System Solutions

The VPX3-1220 is easily integrated with other members of Curtiss-Wright's extensive 3U OpenVPX product family, including Intel, Power Architecture® and ARM-based SBCs, powerful graphics and storage modules, as well as DSP and FPGA engines to develop powerful mission computing and ISR/EW systems. It joins the recently introduced Xeon D-based CHAMP-XD1 3U VPX DSP processor card to provide customers with a wider choice of Xeon-based computing modules, enabling system designers to select the solution that best matches their application's requirements without having to compromise on features and performance.

Ideal for Technology Upgrades

Designed to be pin-compatible with previous generations of Curtiss-Wright SBCs, the VPX3-1220 is ideal for use in technology upgrade programs. Thanks to its 7th Gen Intel Xeon processor, the VPX3-1220 features faster DRAM and consumes lower power than previous generations of SBCs. The board's enhanced graphics and video features deliver up to 3x faster GPU performance compared to predecessors.

Curtiss-Wright Safety Certifiable Hardware

The VPX3-1220 was developed under Curtiss-Wright's COTS Safety Certifiable Module initiative using a process that results in a DO-254 Design Assurance Level (DAL) C certifiable product with supporting artifacts. The module's DO-254 Artifact Kit offers reusable design artifacts and support documents for use in safety critical military and civil aerospace platforms.

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For more information about Curtiss-Wright's Defense Solutions division, please visit www.curtisswrightds.com.

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