

SOSA aligned, Cybersecurity-enabled U-C8500 from Aitech Ideal for High Performing Applications in SWaP-C Environments

Production-ready 3U VPX SBC qualified through successful environmental testing

CHATSWORTH, CA, UNITED STATES, July 25, 2023 /EINPresswire.com/ -- Aitech Systems, a leading provider of rugged boards and system level solutions for military, aerospace and space applications, has announced that its SOSA aligned U-C8500 3U VPX SBC has successfully passed environmental qualification testing.



Aitech SOSA aligned U-C8500 3U VPX SBC

Aligned with The Open Group Sensor Open Systems Architecture (SOSA) Technical Standard, Aitech's U-C8500 is based on Intel's ground-breaking SWaP-C optimized Tiger Lake UP3(TGL-UP3) SoC, which combines a high-performing CPU with a strong internal GPU and an advanced Image Processing Unit. The SBC also incorporates highly integrated memory technology (LPDDR4X) for better graphics processing performance as well as high-speed PCIe Gen4 and 10 Gbps Ethernet.



The U-C8500 is capable of processing large amounts of data without any loss of performance, while staying within an optimized power envelope”

Alex Trigoub

The combination of the U-C8500's high-performing technologies facilitates artificial intelligence (AI) and machine learning (ML) processing capabilities in a wide range of rugged military and aerospace data-sensitive applications.

Alex Trigoub, Director of Board Level Product Line for

Aitech, noted, “AI in military electronics continues to grow in complexity. Developed specifically with faster memory, PCIe and Ethernet connectivity, as well as to optimize SWaP-C and align with DoD MOSA initiatives, the U-C8500 is capable of processing large amounts of data without any loss of performance, while staying within an optimized power envelope. This combination ensures the SBC can meet the demands of military systems today and makes it capable of

handling the needs of next-gen military technology tomorrow.”

Designed from the ground up with security in mind, the U-C8500 provides a comprehensive cybersecurity framework – AiSecure, which includes both standard and advanced system protection. The inherent security features enable both firmware and data protection as well as prevent reverse engineering and tampering with system integrity, while allowing secure transmission and storage of sensitive data.

Now that the U-C8500 has completed successful environmental qualification testing, the SBC can be effectively incorporated into several harsh military and aerospace applications that need highly integrated functionality and unique SWaP-C optimization to provide reliable data processing. These environments include unmanned aerial vehicles and unmanned ground vehicles (UAV/UGV), cockpit/display and mission computers, digital signal and image processing as well as signal intelligence (SIGINT) and electronic warfare (EW).

The U-C8500 is part of Aitech’s U-C850X series that combines the three pillars of modern data processing on the same board: CPU, iGPU and optional large FPGA. Potential future enhanced variants include the U-C8501 (with PCIe Switch for enhanced Expansion Plane and XMC connectivity), the U-C8502 (with integrated Xilinx MPSoC FPGA) and the U-C8503 (with integrated TSN Endpoint).

About Aitech:

With 40 years of experience, Aitech is a global digital electronics manufacturer with expertise in providing reliable, rugged embedded systems for the harshest, most unforgiving environments in military, aerospace and space applications. We enable the world’s leading companies to expand their most revolutionary explorations and push the boundaries of innovation across sea, land, air, and space.

We provide COTS products based on multiple open standard architectures, including SOSA, FACE, VPX, CompactPCI, etc., such as single board computers, I/O, memory and graphics boards, PMC/XMCs and sub-system enclosures, with over 100,000 boards and custom integrated systems delivered to take on the most challenging projects in the harshest environments and succeed. As a pioneer in space applications, Aitech offers proven space pedigree with trillions of miles flown in a variety of space missions without a single failure.

At Aitech, we stand behind our product and our customer to secure a better tomorrow.

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