
Photo courtesy of General Dynamics Land Systems Inc.

Fact Sheet

MPMC-9315

Multi-Platform Vetronics Computer Single-slot 3U System

The MPMC-9315 is one of the smallest members of the Multi-Platform Mission Computer family designed specifically for vetronic requirements.

Packaged in an ultra compact 3U form factor, the MPMC-9315 provides optimum packaging demanded by modern vetronic computers, from lower power systems to high-performance computing solutions.

The slim profile of the MPMC-9315 allows the unit to fit easily into available nooks on any platform, making the MPMC-9315 ideal for space constrained applications, tracked and armored vehicles.

The MPMC-9315 is enclosed in a rugged chassis designed to withstand the harsh environments of embedded rugged and military applications. This single-slot chassis is designed to operate reliably in a multitude of conditions including extreme temperatures, shock, vibration, EMI, and many more.

Optimal system cooling is ensured via thermal transfer between card edges of its conduction-cooled 3U cards, and the side walls of the system enclosure. Heat can then be dissipated via the external fins and conduction through the base. Variants are available without fins for purely conduction-cooled applications. EMI filters and gaskets are employed for system security and increased reliability.

The MPMC-9315 can be configured with a variety of boards from Curtiss-Wright Controls Embedded Computing single board computers (SBCs) and I/O solutions, depending on your system requirements. The MPMC-9315 is a perfect system solution for general processing, video processing and more.

Non-ITAR Solution

- Part of a family of solutions not restricted by ITAR

Form Factor

- 3U cPCI or VPX Backplane
- Volume optimized – single-slot chassis
  - 200 mm (L) x 104 mm (H) x 126 mm (W)

Low Weight

- Under 2.5 kg fully populated

Power Supply

- 28 VDC input @ up to 55 W at 71°C

Subsystem Solutions

- Technology refresh – easy retrofit
- General processing
- Video and image processing
- And more...

Learn More
Sales Info: sales.cwcembedded.com
Sales Email: sales@cwcembedded.com

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Environmental Qualifications

The MPMC-9315 is designed to meet the harsh environments of many military and aerospace computing applications. To ensure the highest level of performance, the MPMC-9315 has been designed to meet or surpass the MIL-STD-810F Test Method Standard for Environmental Engineering Considerations and Laboratory Tests, and EMI as per MIL-STD-461 Requirements for the Control of EMI Characteristics of Subsystems. It has been designed to pass numerous environmental tests including temperature, altitude, shock, vibration, fluid susceptibility, voltage spikes, electrostatic discharge and more. Circuit cards installed in the sealed compact chassis are completely isolated from external environmental conditions such as humidity, dust and sand.

System Configuration

One of the strengths of the MPMC-9315 is its flexibility. Although the MPMC-9315 is small, its open architecture provides unmatched versatility, allowing the system to be configured with numerous feature combinations to meet specific program requirements. Essentially, the MPMC-9315 can accommodate one SBC and support up to three mezzanine cards (two mezzanines hosted by the chassis and one hosted by the SBC). Below is a sample list illustrating the standard mission computing system configuration:

Mission Computer

Processors

- VPX3-127 - 8640 Dual Power Architecture SOC
- VPX3-1252 - Intel® Core™ Duo
- VPX3-1100 - Intel® Atom™

Mezzanines

- XMC-710 - Graphics
- PMC-214 - CANBus/MilCAN
- PMC-550 - Flash Storage
- AIM-429 - ARINC 429
- PMC/XMC 280/281 - Video Compression

The MPMC-9315 can be ordered with any of the standard features listed above, or the system can be configured with a modified front panel, backplane or card set to fit your exact system requirements. Contact your local sales representative for details.

Table 1: Environmental Specifications

Environmental Test Name	Test Specification/ Category	Test Levels
Temperature, Humidity, Altitude	MIL-STD-810F Method 520.2	-40 to 55°C; 0-10,000 ft
Vibration	MIL-STD-810F Method 514.5, Procedure I	PSD 0.05-0.1 g^2/Hz, 5-2000 Hz
Acceleration	MIL-STD-810F Method 515.5, Procedure I & II	15 g
Salt Fog	MIL-STD-810F Method 509.4	per standard
Contamination by Fluids	MIL-STD-810F Method 504	Kerosene, petrol, hydraulic oil (mineral), lubricating oil (mineral), lubricating oil (ester), corrosion preventative fluid, ethylene glycol (80 and 50%), NBC decontamination agents
Sand and Dust	MIL-STD-810F Method 510.4, Procedure I & II	per standard
Rain/ Waterproofness	MIL-STD-810F, Method 506.4, Procedure III	per standard
Explosion Proofness	MIL-STD-810F Method 511.4, Procedure I	per standard
Shock	MIL-STD-810F Method 516.5, Procedure I	30 g, 11 ms
Electromagnetic Interference (EMI)	MIL-STD-461	per standard

Figure 1: Configuration Example