Fact Sheet

MPMC-9310

Multi-Platform Mission Computer Single-slot 3U CPCI System

The MPMC-9310 is the smallest member of the Multi-Platform Mission Computer family.

Packaged in an ultra compact 3U CompactPCI (CPCI) form factor and equipped with unprecedented processing power, the MPMC-9310 has all the elements required of modern mission computers.

The slim profile of the MPMC-9310 allows the unit to fit easily into available nooks on any platform making the MPMC-9310 ideal for space constrained applications such as UAVs.

The MPMC-9310 is enclosed in a rugged chassis designed to withstand the harsh environments of military and aerospace applications; this single-slot chassis is designed to operated 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 CPCI cards and the side walls of the system enclosure. EMI filters and gaskets are employed for system security and increased reliability.

The MPMC-9310 can be configured with a variety of boards from Curtiss-Wright Controls Embedded Computing's embedded computing product library depending on your system requirements; the MPMC-9310 is a perfect system solution whether you need general processing, Ethernet switching, video processing and more.

Form Factor

- 3U CPCI backplane
- Volume optimized – single-slot chassis
  - 3.71" x 4.89" x 7.80"

Low Weight

- Under 5 lbs fully populated

Power Supply

- 28 VDC input at up to 55 W

Subsystem Solutions

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

Environmental Qualification

The MPMC-9310 is designed to meet the harsh environments of many military and aerospace computing applications. To ensure the highest level of performance, the MPMC-9310 has been designed to meet or surpass the DO-160F Environmental Conditions for Airborne Equipment. It has been designed to pass numerous environmental tests including Temperature, Altitude, Shock, Vibration,

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

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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-9310 is its flexibility. Although the MPMC-9310 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-9310 can accommodate one single board computer (SBC) and support up to three PMC cards (two PMC hosted by the chassis and one hosted by the SBC). Below is a sample list illustrating the standard mission computing system configuration.

Mission Computer:

Processing

- DCP-1201P Intel® Core™2 Duo SBC
  - Two GbE
  - Up to three RS-232
  - Up to two RS-422
  - Up to six DIO
  - USB
- Data Communications
  - ARINC 429 PMC
  - Eight channels ARINC 429
- DPMC-601 MIL-STD-1553
  - Two dual MIL-STD-1553 channels
- Graphics
  - Orion Video Capture PMC
  - Four RS-170

The MPMC-9310 can be ordered with any of the standard features listed above, or the system can be ordered as a Modified COTS (MCOTS) unit. As an MCOTS product, the MPMC-9310 can be configured with a modified front panel, backplane or card set to fit your exact system requirements.

Curtiss-Wright Controls Embedded Computing

Whether the intent is to maximize COTS content or leverage an existing custom solution, CWCEC is your embedded systems partner. Take advantage of our decades of experience in assembling generic platforms, upon which you can build your applications. Or leverage specific system solutions that focus on addressing full compliance to platform/program requirements. Either way, we have the products, open standard technologies and system platforms to keep your program ahead of schedule and on budget. Your success is the standard upon which we base our performance.

Table 1: Environmental

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