



MPMC-9321-0001

Multi-Platform Mission Computer

2-slot 3U VPX System

Form Factor

- ◆ 3U VPX backplane

Mechanical

- ◆ Natural convection cooling
- ◆ Volume optimized
- ◆ 9.1" x 5.0" x 5.1"
- ◆ 14.5 lbs (fully populated)

Standard Configuration

- ◆ (2) VPX3-1256 SBCs
 - Intel® Core™2 Duo SP9300
- ◆ (2) XMC-710 Graphics cards
- ◆ (1) DPMC-650
 - GigE Switch
- ◆ (1) DPMC-601
 - MIL-STD-1553
- ◆ (1) 28 VDC Power Supply Unit
 - With built-in 16 GB HD

Power Supply

- ◆ 28 VDC input
- ◆ MIL-STD-704 compliant

Table 1: Max Power

System Component	Power	Qty	Total
VPX3-1252	40 W	2	80 W
XMC-710	15 W	2	30 W
DPMC-601	10 W	1	10 W
DPMC-650	10 W	1	10 W
Power Supply	20 W	1	20 W
Total Power Required			150 W



The MPMC-9321-0001 provides the highest functional density available in a small package. As a natural convection cooled system, the MPMC-9321-0001 is designed for reliable operation in harsh environments without the need for base plate or forced air cooling.

Packaged in an ultra compact 3U VPX form factor and equipped with unprecedented processing power, the MPMC-9320-0001 has all the elements required of modern mission computers in space constrained applications (see Table 3).

Optimal system cooling is ensured via thermal transfer between card edges of its conduction-cooled 3U VPX cards and the side walls of the system enclosure. EMI filters and gaskets are employed for system security and increased reliability.

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Sales Email: sales@cwembedded.com

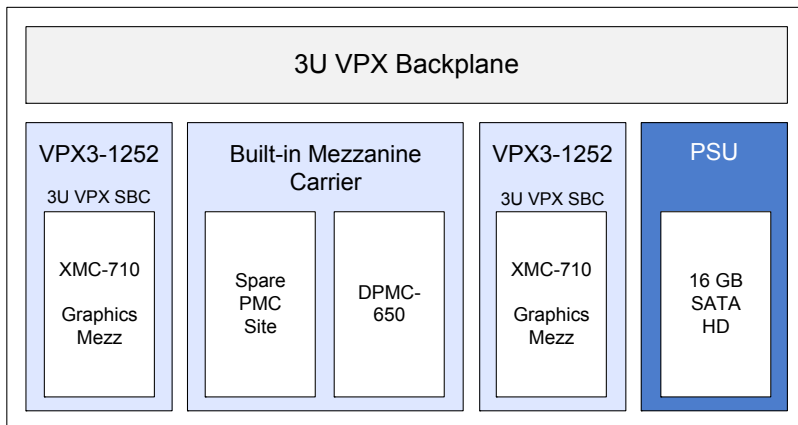
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Standard Configuration

The standard system configuration of the MPMC-9321 is equipped with an integrated 28 VDC power supply unit with a 16GB SATA HD, two VPX3-1252 SBCs, two XMC-710 graphics modules, one DPMC-601 1553 card, and one DPMC-650 GigE Switch.

Figure 1: MPMC-9321-0001 Block Diagram



Environmental Qualification

The MPMC-9321-0001 is designed to meet the harsh environments of many military and aerospace computing applications. To ensure the highest level of performance, the MPMC-9321-0001 has been designed to meet or surpass the DO-160F Environmental Conditions for Airborne Equipment. Table 2 illustrates the level of environmental qualification standards the MPMC-9321-0001 is designed to meet or exceed.

Table 2: Environmental Specifications

Qualification	Specification
Conducted Emission (EC)	MIL-STD-461F
Conducted Susceptibility (CS)	MIL-STD-461F
Radiated Emission (RE)	MIL-STD-461F
Radiated Susceptibility (RS)	MIL-STD-461F
Electrostatic Discharge (ESD)	IEC-801-2
Power Input Test	MIL-STD-704F
Temperature Extremes	MIL-STD-810F CN2 Method 502.4 & 501.4
Temperature Shock	MIL-STD-810F CN2 Method 503.4
Altitude Extremes	MIL-STD-810F CN2 Method 500.4
Salt Fog	MIL-STD-810F CN2 Method 509.4
Fungus	MIL-STD-810F CN2 Method 508.5
Contamination by Fluids	MIL-STD-810F CN2 Method 504
Immersion	MIL-STD-810F CN2 Method 512.4
Vibration	MIL-STD-810F CN2 Method 514.5
Shock	MIL-STD-810F CN2 Method 516.5

Table 3: Verified System Interfaces

Tested Interface	Qty	Tested Interface	Qty
Stereo Audio	2	1000Base-T Ethernet	4
RS-422	4	DVI output	2
RS-232	2	USB 2.0	4

Operating System

The MPMC-9321-0001 has been verified to run Wind River® Linux® GPPLE.

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