



MPMC-9351-0001

Multi-Platform Mission Computer 5-slot 3U VPX System

Form Factor

- ◆ 3U VPX backplane

Mechanical

- ◆ Forced air cooling
- ◆ Volume optimized
- ◆ 10.72" x 5.5" x 8.1"
- ◆ 20 lbs (fully populated)

Standard Configuration

- ◆ (1) VPX3-127 SBC
 - Freescale™ MPC8640
- ◆ (1) FPE320 FPGA
- ◆ (1) FMC-520 DAC & clock

Power Supply

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

Table 1: Max Power

| System Component | Power | Qty | Total |
|-----------------------------|-------|-----|--------------|
| VPX3-127 | 40 W | 1 | 40 W |
| FPE320 | 53 W | 1 | 53 W |
| FMC-520 | 9 W | 1 | 9 W |
| Fan Assembly | 20 W | 1 | 20 W |
| Power Supply | 19 W | 1 | 19 W |
| Total Power Required | | | 141 W |

The MPMC-9351-0001 accommodates the highest power 3U cards in the embedded computing market, within a 5-slot forced air enclosure. The MPMC-9351-0001 is backed by unprecedented processing power and the flexibility to exactly meet the needs of deployable systems. It's designed to meet the harsh environments of many military computing applications. Circuit cards installed in the system enclosure are isolated from external environmental conditions such as humidity, dust and sand.

Optimal system cooling for the MPMC-9351-0001 is ensured via thermal transfer between the 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 (see Table 2).



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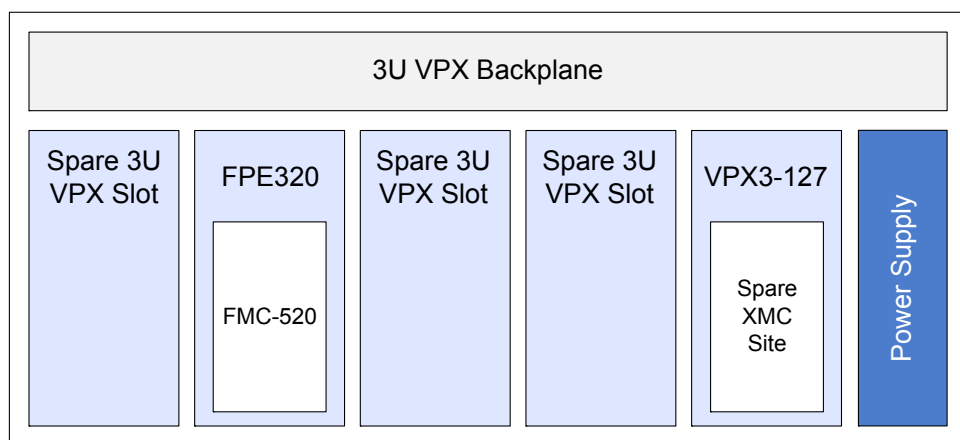
ABOVE & BEYOND



Standard Configuration

The MPMC-9351-0001 is equipped with an integrated 28 VDC power supply unit, one VPX3-127 SBC, one FPE320 FPGA, and one FMC-520 DAC/clock card.

Figure 1: MPMC-9351-0001 Block Diagram



Environmental Qualification

The MPMC-9351-0001 is designed to meet the harsh environments of many military and aerospace computing applications. Table 2 illustrates the environmental qualification standards the MPMC-9351-0001 has been designed to meet or exceed.

Table 2: Environmental Specifications

| Environmental Condition | Testing Compliance |
|-------------------------|------------------------------|
| Operating Temperature | -40°C to +49°C |
| Storage Temperature | -48°C to +125°C |
| Altitude | -15,000 feet to +20,000 feet |
| Rain | 94% |
| Fungus | Yes |
| Salt Fog | Yes |
| Sand and Dust | Yes |
| Explosive Atmosphere | Yes |
| Acceleration | Yes |
| Vibration | Yes |
| Shock | Yes |

Table 3: Verified System Interfaces

| Tested Interface | Qty | Tested Interface | Qty |
|------------------|-----|----------------------|-----|
| 10 MHz Clock | 1 | JTAG | 1 |
| RF In | 4 | PB reset | 2 |
| Gigabit Ethernet | 2 | Write Protects | 2 |
| RS-232 | 2 | VBAT (Clock hold up) | 1 |
| DIO | 2 | | |

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