The Graphics Processor Mezzanine (GPM) card, a commercial product developed by General Dynamics Mission Systems, provides 2D and 3D graphics and video for extreme shock, vibration and temperature environments.

**Product Summary**
The GPM provides a very low power and high performance image processing solution to drive displays for airborne and surface vehicle applications. The GPM typical operating power consumption is 7 watts for 2D and 3D applications.

**Architecture**
The GPM architecture is based on the AMD Mobility™ Radeon® M54 graphics processor providing one of the fastest and most advanced 2D and 3D multimedia graphics performance in its class for aerospace and military applications. The GPM is available in a single width XMC interface configuration and is designed for conduction cooled, VITA 47, level ECC4 and MIL-STD-810F operating environments. The GPM supports extensive Built-In-Test (BIT) features to aid system diagnostics, including JTAG, and is mechanically designed to provide a 20-year service life. Thermal sensors are also included to provide monitoring of on-board temperatures.

**GRAPHICS PROCESSOR MEZZANINE (GPM)**

*High-performance, 2D/3D video graphics*

- Supports a wide range of display resolution requirements from VGA (640 x 480) to QXGA (2048 x 1536)
- Provides sufficient processing capacity for 2D and 3D display processing applications
- Industry standard XMC (VITA 42.3) Interface provides high performance I/O throughput
- Industry standard DVI output supports most major display devices
- Very low power consumption allows it to be used in applications with severe power and thermal constraints
- Design to operate in harsh environmental conditions
- Support available for the most popular embedded operating systems (Wind River VxWorks and Green Hills Integrity)
Technical Specifications

- Module Power (Typical): 7 Watts
- Operating Temperature: (-40° to +105°C) at mezzanine card edge
- Non-operating Temperature: -55° to +105°C
- Sine Vibration: 10g
- Random Vibration: 7.7 Grms
- Basic Shock: 40g, 11 ms
- Humidity: 100% RH condensing
- Altitude: 15,240m (50,000 ft)

Software

The GPM driver software suite supports OpenGL 1.2 and 2.X for both Green Hills INTEGRITY™ and Wind River VxWorks® operating systems.

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