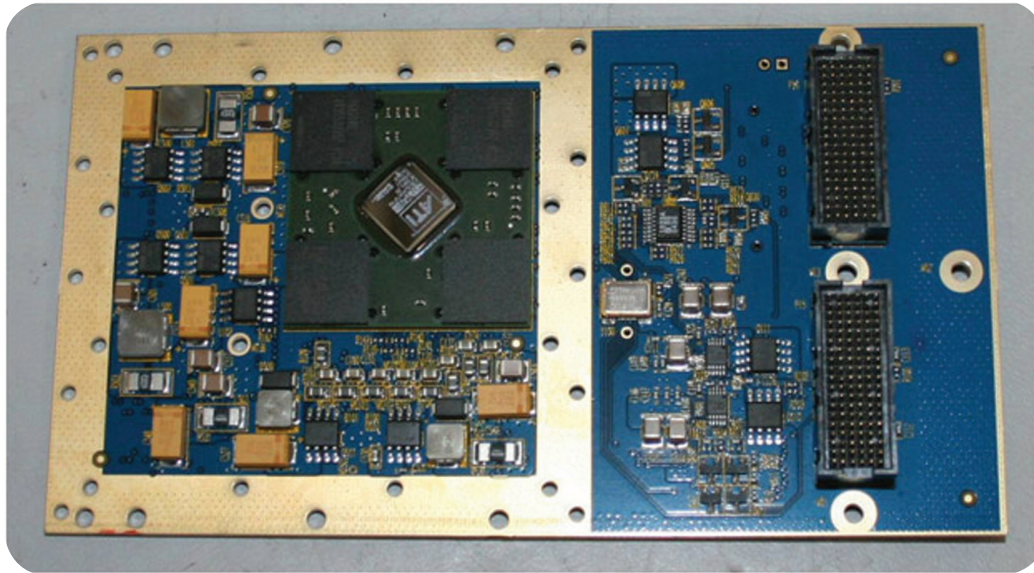# GRAPHICS PROCESSOR MEZZANINE (GPM)

High-performance, 2D/3D video graphics

Supports a wide range of display resolution requirements from VGA (640 x480) 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)

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.

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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INTEGRITY is a trademark of Green Hills Software.

GENERAL DYNAMICS
Mission Systems

D-GPM-4-0921