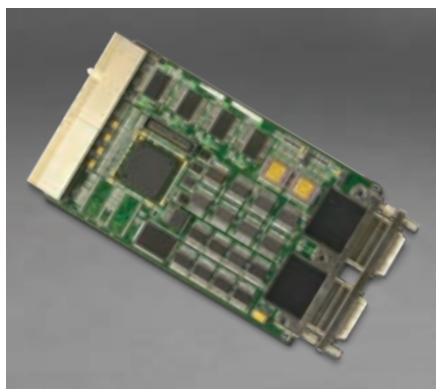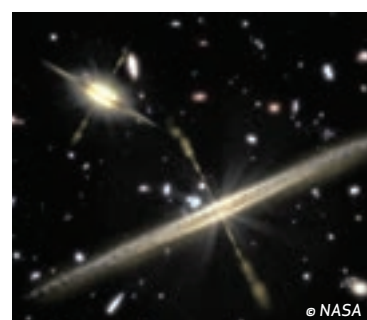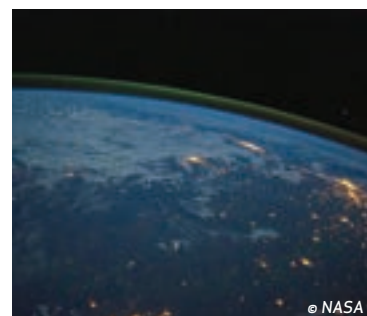# MODULAR AVIONICS TEST INTERFACE BOARDS

The McMOATI™ Boards (Digital & Analog McMOATI) are general purpose 3U cPCI test boards to used emulate a wide variety of payload or unique subsystem interfaces. Its intended use is for engineering and flight unit ground testing of critical space flight hardware. The board uses devices similar to those used on space flight hardware to ensure that functional and hardware compatibility are tested, even when actual subsystems are unavailable.

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DIGITAL FEATURES

- CompactPCI Board in 3U Form Factor
- 3 M Gate XILINX Virtex-II Reconfigurable FPGA
- 32/64-bit 33/66 MHz PCI Interface
- 32 RS-422/LVDS Differential Receivers
- 32 RS-422/LVDS Differential Transmitters
- 32 Discrete TTL Inputs + 32 Discrete TTL Outputs
- 2 GBytes SDRAM (optional)
- Up to 8 MByte SRAM
- 2 LVDS 21-bit Serializers
- 2 LVDS 21-bit Deserializers
- Designed for Commercial cPCI Chassis

ANALOG FEATURES

- CompactPCI Board in 3U Form Factor
- 3 M Gate XILINX Virtex-II Reconfigurable FPGA
- 32-bit 33/66MHz PCI Interface
- Up to 8 MByte SRAM
- 26 Voltage Outputs +/-10V, 1.22 mV Resolution
- 96 Voltage Inputs +/-40V, 4.7 uV Resolution
- 64 Current Outputs 0-1500 uA, 305 nA Resolution
- 4 RS-422 Transmitters, 4 RS-422 Receivers
- 24 Discrete TTL Outputs

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MODULAR AVIONICS TEST INTERFACE BOARDS

SYSTEM AND SOFTWARE SUPPORT

The McMOATI Board may be used in an industry standard cPCI Chassis together with a cPCI based CPU board. Moog Broad Reach can provide drivers for VxWorks or OSE, C based routines, or entire solutions.

The 3U cPCI McMOATI board functions as a general purpose test and interface board. The design provides a multitude of commonly found interfaces such as RS-422, LVDS, and digital and analog inputs and ouputs. In addition to these interfaces, the Digital McMOATI provides more than 1 GBytes of RAM and both the analog and digital versions have up to 8 MB of SRAM. At the heart of these resources is a 3M Gate fully reprogrammable XILINX Virtex-II FPGA with full access to all I/O, memory, and PCI bus.

With its large number and selection of resources, the McMOATI board can be used in many configurations. Example solutions based on the McMOATI range from a simple PCI based RS-422 interface board to a complete spacecraft subsystem hardware-in-the-loop testset, all implemented on a single or multiple McMOATI boards.

The McMOATI may be used as a standalone board with fixed logic or in more complex arrangements used along side other McMOATI and PCI boards in a cPCI system with a host CPU.

Moog Broad Reach provides the McMOATI board in many configurations to best meet a particular need. Some applications may only require certain interfaces, in which case Moog Broad Reach will ship an appropriately populated board. Others may require an 'out-of-the-box' solution including a fully programmed FPGA and CPU based RTOS and test software.

Various versions of the McMOATI are in use at Moog Broad Reach and customer locations for testing and simulation purposes. Let us put our testing and simulation experience to work in your project with this highly versatile and cost effective hardware and software solution.

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