GE Intelligent Platforms

RXMC2-1553
High Density XMC Module

Features
- 4 dual-redundant MIL-STD-1553A/B Notice II channels
- XMC.3 (4x PCIe) host interface
- Simultaneous Bus Controller, up to 31 Remote Terminals and Bus Monitor
- High-level API for Windows® 7, Windows Vista®, Windows XP (32 and 64 bit), Linux®, Solaris, and VxWorks® included. Contact your local sales person for additional operating system support.
- 12 Bi-directional Avionics level discretes individually configurable as output triggers
- 4x dedicated per channel input triggers
- Flexible hardware remote terminal addressing
- Multi-function and Dual-function versions
- IRIG-B receiver/generator
- 45-bit, microsecond time-tagging
- External time-tag reset and clock inputs
- Complete message programmability
- Flexible message status/interrupt generation
- Error injection/detection
- Transition cabling to 1553 cable jacks optional
- Variable voltage
- RoHS compliant to EU directive 2002/95/EC

GE Intelligent Platforms' RXMC2-1553 is the latest generation of performance and flexibility for MIL-STD-1553A/B Notice II on a XMC.0 Mezzanine Card. The 4-channel RXMC2-1553 includes advanced API (Application Programming Interface) software that reduces application development time.

Standard features include 1 MByte of RAM per channel, 45-bit message timetagging, triggers, extensive BC & RT link-list structures, error injection/detection, IRIG-B signal Receiver/Generator with GPS synchronization, twelve Avionics digital I/O discretes, automatic/manual RT Status Bit and Mode Code responses, along with advanced BC functionality.

The RXMC2-1553 Bus Monitors provide unparalleled error detection and 100% monitoring of fully loaded buses.

Conformal coating versions available.

Multi-function Interfaces
RXMC2-1553 multi-function interfaces are easily configured to operate with simultaneous Bus Controller, up to 31 Remote Terminals and Bus Monitor functionality.

Dual-function Interfaces
Dual-function RXMC2-1553 interfaces have all the features and functionality of the multi-function versions, with either Bus Monitor and Bus Controller or Bus Monitor and 31 Remote terminals.

Software
GE provides our advanced 1553 API in source code along with support for Windows Vista, Windows XP (32 and 64 bit), Linux, Solaris, and VxWorks. Contact your local sales person for additional operating system support.

BusTools/1553, GE's MIL-STD-1553 bus analysis, simulation and data logging/monitoring solution is available.
RXMC2-1553 – High Density low profile PCI Express Module

Specifications

Physical
- XMC Mezzanine Card (74mm x 149 mm without bezel)
- Front I/O interface

Environmental
- Standard air cooled front I/O operating temperature range: -40° C to +85° C
- Relative humidity: 5 to 90% (non-condensing)

Software Support
- API - High-level libraries with source code included for Windows 7, Windows Vista, Windows XP (32 and 64 bit), Linux, Solaris and VxWorks. Contact your local sales person for supported software.
- GUI - Optional BusTools/1553 GUI Bus Analysis, Simulation & Data Logging software (multi-function boards using Windows only)

Connections
- Software programmable transformer or direct coupling via relays
- I/O Front panel connections
- Transition cabling to 1553 cable jacks is optional

Multi-function Operational Modes
- Simultaneous BC, 31 RTs and BM

Dual-function Operational Modes
- BM and BC or 31 RTs or BM

Power (4 channels at 75% duty cycle into transformer coupled bus)
- VPWR = +5 or +12 VDC
- 10.2w (VPWR = +12 VDC, 75% duty cycle)

On-board Shared RAM
- 1 MByte (per dual-redundant channel)

Optional Configurations
- Conformal coating configurations available
- Dual or Multi-function
- Optional transition cable
- Optional mount on PCIeExpress carrier card
- Contact factory for custom requirements

Descriptions

Bus Controller
- Programmable control over major and minor framecontent and timing - Inter-message gap times
- Programmable control over response time-out and late response
- Modify messages, data or setup on the fly
- Insert periodic messages into a running BC list
- Conditional message sequencing based on real-time message data or status
- Selectable interrupt generation and status messages on full range of system conditions or all detected errors
- Extensive programmable error injection (on a per word basis)
- Programmable error injection (on a per word basis) see below
- Synchronize BC operation to external time source or trigger
- 64-bit, microsecond resolution timetagging

Full error detection/injection
- Invalid word
- Bit count error
- High word
- Low word
- Inverted sync
- Manchester
- Late response
- Early response
- No response
- Incorrect RT address
- Parity error
- Invalid command

Bus Monitor
- Capture 100% fully loaded bus traffic with:
  - Time-tagging
  - Word status
- Interrupts can be selected by RT / SA / WC
- Extensive filtering and triggering options
  - By individual RT/subaddress
  - Transmit, receive or broadcast mode codes
  - Internal or external triggering
  - Trigger output on user specified data
- Real-time bus playback with RT edit mode
- 45-bit, microsecond resolution timetagging
- IRIG/GPS synchronization
- Programmable error injection (on a per word basis) see below

Remote Terminal
- Multiple RT simulation (up to 31 RTs)
- Programmable error injection (on a per word basis) see below
- Modify data, status words or setup while card is running
- Programmable message content
- Selectable interrupts
- RT Map Monitoring
- 45-bit, microsecond resolution timetagging

Ordering Information

RXMC2-1553-4D4
- MIL-STD-1553, XMC interface, dual-function, four dual-redundant channel, front I/O, variable volt, ext temp, with IRIG, 12 avionics discretes

RXMC2-1553-4M4
- MIL-STD-1553, XMC interface, multi-function, four dual-redundant channel, front I/O, variable volt, ext temp, with IRIG, 12 avionics discretes

K suffix
- Conformal coating

CBL suffix
- Transition cable to twinax, 3 lug, CJ170, 1553 cable jacks

PCIE suffix
- Mounted on PCIeExpress carrier card

About GE Intelligent Platforms

GE Intelligent Platforms is a division of GE that offers software, control systems, services, and expertise in automation and embedded computing. We offer a unique foundation of agile and reliable technology providing customers a sustainable competitive advantage in the industries they serve, including energy, water, consumer packaged goods, oil and gas, government and defense, and telecommunications. GE Intelligent Platforms is headquartered in Charlottesville, VA. For more information, visit www.ge-ip.com.

GE Intelligent Platforms Contact Information

Americas: 1 877 429 1553 (Global regional phone numbers are listed by location on our web site at defense.ge-ip.com/avionics-contacts

defense.ge-ip.com

©2012 GE Intelligent Platforms, Inc. All rights reserved. All other brands or names are property of their respective holders. Specifications are subject to change without notice.