GE cPCI-5565PIORC Reflective Memory Module

NI PXI chassis and 5565PIORC Reflective Memory compatible

Node Card Features

• 2.12 Gbaud serial connection speed

• Supports dynamic packet sizes ranging from 4 to 64 bytes

• Up to 170 Mbyte/s sustained network data rate

• Deterministic transfer rate with only 450 to 500 nanoseconds of latency between nodes

• Error management and detection protects against lost data

• Interrupt transfers support for any node

• 256 Mbytes of onboard SDRAM

• Multimode fiber support up to 300 m, single mode fiber support up to 10 km

• PMC form factor; other available form factors include low profile PCI Express, PCI Express, PCI, and VME

• Designed to meet the European Union (EU) Restriction of Hazardous Substance (RoHS) Directive (2002/95/EC) current revision

• Star configuration available by using the ACC-5595 managed hub

Carrier Features

• 64-bit CompactPCI expansion card

• Provides one PMC slot

• Accommodates 3U or 6U packaging solutions

• 3U and 6U face plates available

• Supports Hot Insert

Benefits

• Highly scalable technology supports up to 256 nodes

• Bus independent design protects investments in your current network infrastructure

• Low latency, deterministic data transfer rate allows for predictable, high-performance application deployment

• Seamless integration with GE Intelligent Platforms' SBC solutions and most industry standard offerings

• Improved PIO read performance and field upgradeable firmware

Reflective Memory is an optical ring-based, ultra high-speed shared memory network solution. It allows a distributed network to share real-time data at a deterministic rate, regardless of bus structures and operating systems. With more than 15 years of experience in this field, GE Intelligent Platforms is an original pioneer of this technology and our 5565 Reflective Memory family extends our market leadership position.

How do we do it? We keep it simple. Our Reflective Memory technology is centered on an innovative and efficiently designed hardware platform that is easy to use, provides for greater distance between nodes, high noise immunity, optional node bypass, and no software overhead. Just read and write to the onboard memory and the Reflective Memory node controller does the rest.

The cPCI-5565PIORC Reflective Memory Module for National Instruments' PXI chassis is a GE Reflective Memory node PMC installed in a customized 3U CompactPCI carrier card. GE Reflective Memory node cards are available in multiple form factors, including PMC, PCI Express, PCI, low profile PCI Express, and VME. The family allows computers, workstations, PLCs, and other embedded controllers to all share data in real-time. The transfer of data between nodes is software transparent so no processor overhead is required. Data written into the Reflective Memory is broadcast to all nodes on the network without further involvement of the sending or receiving nodes. GE Intelligent Platforms' Reflective Memory products are proven, highly reliable, and have been implemented worldwide in applications such as data acquisition, simulation and training, industrial automation, and telecommunications.

Best of all, it comes with the global support and services from a company with the experience, stability, innovation, and commitment you can rely on – GE.

cPCI-5565PIORC Reflective Memory Node Module

Specifications

RAM
- 256 Mbyte

Transfer Specifications
- 43 Mbyte/s (single longword accesses) to 170 Mbyte/s (64 byte bursts) non-redundant transfer rate
- 20 Mbyte/s (single longword accesses) to 87 Mbyte/s (64 byte bursts) redundant transfer rate

PCI Transfer Rate
- 132 Mbyte/s (33 MHz/32-bit bus), 264 Mbyte/s (33 MHz/64-bit bus or 66 MHz/32-bit bus) or 528 Mbyte/s (66 MHz/64-bit bus) and throttles back to available link data rate as FIFOs begin to fill
- PCI Express transfer rate: 4 lanes at 2.5 Gbit/s

Carrier PCI Bus Characteristics
- Width: 32/64 bit
- Speed: 33/66 MHz
- Specification: 2.2
- Signaling: 3.3 V and 5 V

Environmental Specifications
- Operating: 0 to +60 °C, with forced air cooling
- Storage: -40 to +85 °C
- Relative humidity: 20% to 80%, non-condensing

Power Requirements
- PMC: 0.7A typical, 1.5A max at +3.3 VDC (±5 percent); 0.7A typical, 1.8A max at 5 VDC (±5 percent)
- Carrier: 19 mA @ 3 V; 24 mA @ 5 V; Total power 0.2 watts

Mechanical
- 3U CompactPCI carrier with 1 PMC
- 3U or 6U faceplate
- Compatible with the hybrid slot of National Instruments PXI chassis

MTBF (Bellcore)
- 1,307,078 hours

Cables
- Multimode: small form factor (SFF) 850 nm, 300 m max
- Single mode: small form factor (SFF) 1,310 nm, 10 km max

Operating Systems Support
- Windows XP
- Linux
- VxWorks
- Solaris

Compliance
CE
- BS EN55024
- BS EN55022, Class A
- IEC61000-4-2
- IEC61000-4-3
European Union
- BS EN55024 (1998 w A1:01 & A2: 03)
- CISPR22, EN55022 (Class A)
- CISPR11, EN55011(Class A, Group 1)
United States
- FCC Part 15, Subpart B, Section 109, Class A
- CISPR 22 (1997), Class A
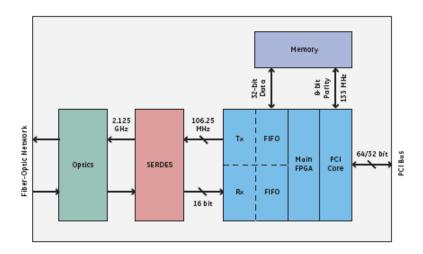- ANSI C63.4 (2003) method
Australia/New Zealand
- AS/NZS CISPR 22 (2002) Class A
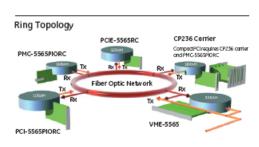- EN55022 (1998) Class A
Japan
- VCCI (April 2005) Class A
- CISPR 22 (1997) Class A
- ANSI C63.4 (2003) method
Canada
- ICES-003 Class A
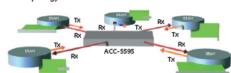- CISPR 22 (1997) Class A
- ANSI C63.4 (2003) Method

Block Diagram- Reflective Memory PMC

Application Diagram

About GE Intelligent Platforms
GE Intelligent Platforms, a General Electric Company (NYSE: GE), is an experienced high-performance technology company and a global provider of hardware, software, services, and expertise in automation and embedded computing. We offer a unique foundation of agile, advanced and ultra-reliable technology that provides customers a sustainable advantage in the industries they serve, including energy, water, consumer packaged goods, government and defense, and telecommunications. GE Intelligent Platforms is a worldwide company headquartered in Charlottesville, VA and is part of GE Home and Business Solutions.

For more information, visit www.ge-ip.com.

GE Intelligent Platforms Contact Information

Americas:
1 800 322 3616 or 1 434 978 5100

Global regional phone numbers are listed by location on our web site at www.ge-ip.com/contact

www.ge-ip.com