

IMP2A

3U CPCI Single Board Computer

Features

- CompactPCI system slot or peripheral slot
- Freescale 7448 processor
- Marvell Discovery V Integrated System Controller
- DDR2 up to 1 GByte
- 128 MBytes user Flash memory
- One PMC Site (PCI-X 133MHz)
- Two USB 2.0 ports
- Two 10/100/1000BaseT ports
- Two UART ports (RS232/422/485)
- Air- and conduction cooled
- Comprehensive Deployed Test software
- Comprehensive operating system support

The IMP2A is the latest member of the GE Fanuc Embedded Systems family of PowerPact 3U CompactPCI single board computers. Designed for demanding applications with restrictive dimensional requirements, the IMP2A packs a powerful single board computer (SBC) into an extremely space-efficient 3U form factor.

The IMP2A's impressive processing core is based around a Freescale 7448 PowerPC processor and the very latest Marvell Discovery V Integrated System Controller which combines high bandwidth memory control and PCI bridging with an array of communication peripherals, including USB 2.0, serial and Ethernet ports, all on a single chip.

A range of I/O options is offered including up to two Gigabit Ethernet channels, up to 4 bits of discrete digital I/O, and up to two serial channels, software programmable as RS232/422 or 485.

The IMP2A can be factory configured as either a system slot SBC supporting 48 pins of PMC I/O to J2, or a peripheral slot SBC supporting 64 pins of PMC I/O to J2

Available in five air- and conduction cooled build levels, the IMP2A is fully supported by comprehensive Deployed Test Software (BIT and BCS) and support for popular real time operating systems including VxWorks, Integrity and LynxOS.

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Specifications

Processor Node

- MPC7448 at 1.4 GHz
- 1 MByte L2 on-chip cache

DDR2 SDRAM

- Up to 1 GB DDR2 SDRAM with ECC support
- 72-bit 200 MHz memory bus

Flash Memory

- 128 MBytes Flash memory (8 MBytes allocated to boot Flash)
- Write-protection options

CompactPCI Interface

- 32-bit 66MHz CompactPCI Bus 3.3V (5V tolerant)

Gigabit Ethernet

- Two 10/100/1000 Base-T ports to J2 (only one port available on system slot variant)

Serial I/O

- Two UART ports to J2
- Software configurable as RS232/422/485

General-Purpose I/O

- Up to 4 (GPIO) lines each capable of generating an interrupt

USB

- Two USB 2.0 ports from Discovery V to J2

PMC Extension Slots

- One IEEE 1386/1386.1-2001 compatible extension slots
- PMC - up to 64bit / 133MhzPCI-X
- 64 I/O pins to J2 (in Peripheral mode)
- 48 I/O pins to J2 (in System Slot mode)

NVRAM / Real-Time Clock / Watchdog / ETI

- 128 KBytes non-volatile RAM with autostore
- Real-time clock with 1 second resolution
- Watchdog timer (programmable 32-bit timer)
- Elapsed time indicator (records cycles and on-time)

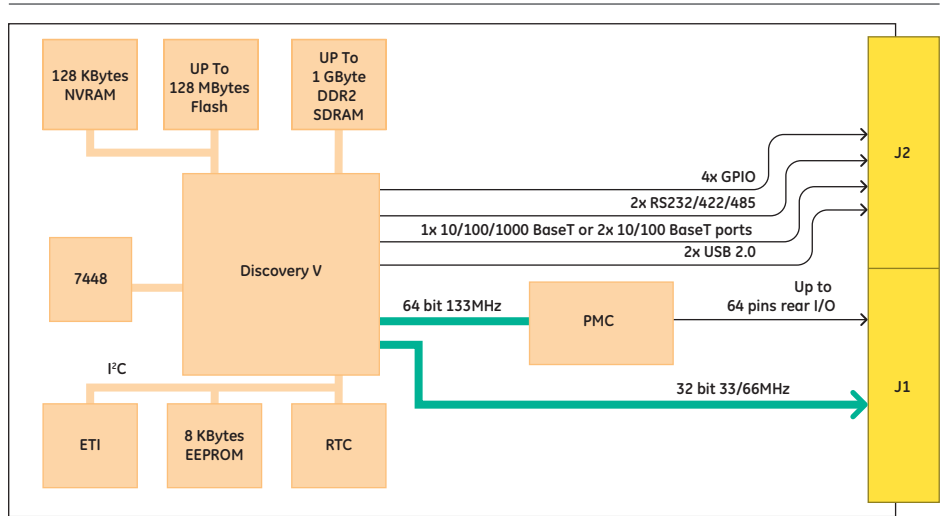
Temperature Sensors

- CPU die and ambient temperature

Power Requirements

- +5 V and 3.3v - required
- ±12V - only if required by mounted PMC module

Block Diagram



	Level 1	Level 2	Level 3	Level 4	Level 5
Cooling Method	Convection	Convection	Convection	Conduction	Conduction
Conformal Coat	Optional	Standard	Standard	Standard	Standard
High / low temp operational	0 / 55°C (300 ft/m)	-20 / +65°C (300 ft/m)	-40 / +75°C (600 ft/m)	-40 / +75°C at cold wall	-40 / +85°C at cold wall
Random Vibration	0.002g2/Hz*	0.002g2/Hz*	0.04g2/Hz**	0.1g2/Hz**	0.1g2/Hz**
Shock	20g***	20g***	20g***	40g***	40g***

* from 10-2000Hz

** with a flat response to 1000Hz. 6dB/Oct roll-off from 1000-2000Hz

*** Pk Sawtooth 11mSec Duration

About GE Fanuc Intelligent Platforms Embedded Systems

GE Fanuc Intelligent Platforms is a leading global provider of embedded computing solutions for a wide range of industries and applications. Our comprehensive product offering includes many types of I/O, single board computers, high performance signal processors, fully integrated, rugged systems including flat panel displays, plus high speed networking and communications products. The company is headquartered in the U.S. and has design, manufacturing and support offices throughout the world. Whether you're looking for one of our standard products or a fully custom solution, GE Fanuc Intelligent Platforms has the breadth, experience and 24/7 support to deliver what you need. For more information, visit www.gefanuc.com.

GE Fanuc Intelligent Platforms Information Centers

Americas:
1 800 368 2738 or 1 703 263 1483

Asia Pacific:
+81 3 5544 3973

Europe, Middle East and Africa:
Germany: +49 821 5034-0
UK: +44 1327 359444

Additional Resources

For more information, please visit the GE Fanuc Intelligent Platforms web site at:

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