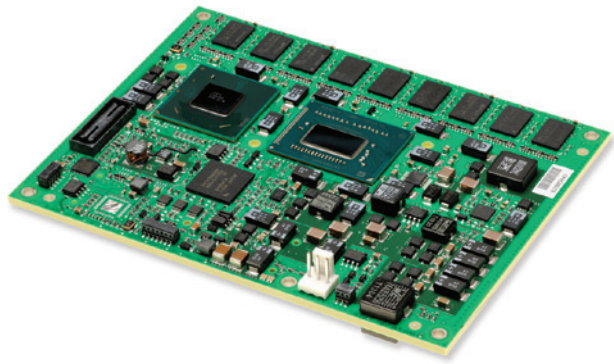
GE
Intelligent Platforms



bCOM6-L1400

Rugged COM Express Module

GE Intelligent Platforms understands that long design cycles and high validation costs make it difficult for OEMs to keep up with the latest processor technologies. We also know that processors deployed in harsh environments need to deliver the utmost performance at all times, under any condition.

To address these needs, GE developed the bCOM6-L1400. This module takes advantage of the significantly enhanced video processing, turbo-boost acceleration and power management capabilities of the latest generation Intel® Core™ i7 processor. As such, the bCOM6-L1400 is ideally suited for a wide variety of commercial, industrial, transportation and defense applications in a broad range of embedded computing environments. This durable COM Express solution reduces overall design cycle and validation costs to lower total cost of ownership.

Best-in-class performance and reliability

GE's bCOM6-L1400 is the premium solution in our COM Express portfolio. It offers the high-level performance and ultimate durability needed for applications that operate in harsh environments. The bCOM6-L1400 should be selected for applications with multiple graphic functions or high-end computing needs. All GE Type 6 modules fully use the capabilities of the newest generation of processors.

Onboard components are specifically selected for their reliability in demanding conditions. Unlike solutions designed for benign environments, our processor and memory are soldered to the board for maximum resistance to shock and vibration. Extended mechanical construction protects the module, which is designed for optional conformal coating for even greater resistance to moisture, dust, chemicals, and temperature extremes.

Longer lifecycles and lower product costs

COM Express architecture separates the processor and carrier card. This extends the useful life of the subsystem by allowing a simple, cost-effective upgrade of the processor alone. The long-term cost of ownership is reduced while ensuring that performance keeps pace with changing needs.

Commitment to customer satisfaction

Today's organizations are operating lean, engineering resources are scarce, and time-to-market is critical. Therefore, GE complements the performance and practical benefits of our COM Express modules with world-class domain expertise and a focus on exceptional customer service. To help you get to market faster and lower your development costs, we can assist you with in-house carrier design work, or build a custom carrier specifically for you.

FEATURE	BENEFIT
Rugged design with soldered components	• Reliable computing capabilities for applications needing higher immunity to shock and vibration
Next-generation multicore Intel Core i7 processors	• Delivers high performance coupled with low power consumption • Supports multiple graphics displays
Dynamic thermal management	• Enables controlled system shutdown to avoid damage to equipment • Offers cost saving by allowing simulation in the lab before conducting field tests
Flexible options	• Additional shock and vibration protection,

bCOM6-L1400 – Rugged COM Express Module

Specifications

Processor
- Intel® Core™ i7 processor, soldered
  - 4 Core i7 35W (SV)
  - 2 Core i7 25W (LV)
  - 2 Core i7 17W (ULV)

Chipset
- Intel Panther Point PCH chipset

Memory
- Supports up to 8GB of DDR3
- Soldered with ECC

Graphics Features
- Integrated graphics interface
  - 1x VGA
  - 1x SDVO channels over DDI
  - TMDS over DDI
  - Display port over DDI
  - 1x LVDS interface with dual channel support

Audio
- Supports HDA

LAN Port
- 1x Gigabit Ethernet port

Serial ATA Interface
- Supports 4x serial ATA interfaces, compliant with SATA 1.0 specification
- Supports SATA-II devices with speed up to 3 Gb/s
- Supports two SATA- 3 devices with speed up to 6Gb/s
- Supports RAID 0 and RAID 1

USB Interface
- 8x USB 2.0 ports
- 4x USB 3.0 ports

Others
- States: S0, S1, S2, S3, S4, S5 (S3 is dependent on 5V standby power)
- Extended debug port
- Alarm sensors for temperature, chipset
- Pre-mounted heat sink/spreader for optimal cooling

Extension
- 1x PCIe Graphics (PEG) x16 or 2x 8 Gen 3
- PCIe lanes 0-6: 7 lanes x1 or 1 x4 Gen 2

I/O Interface
- 8x GPIO ports or SD-Card Interface

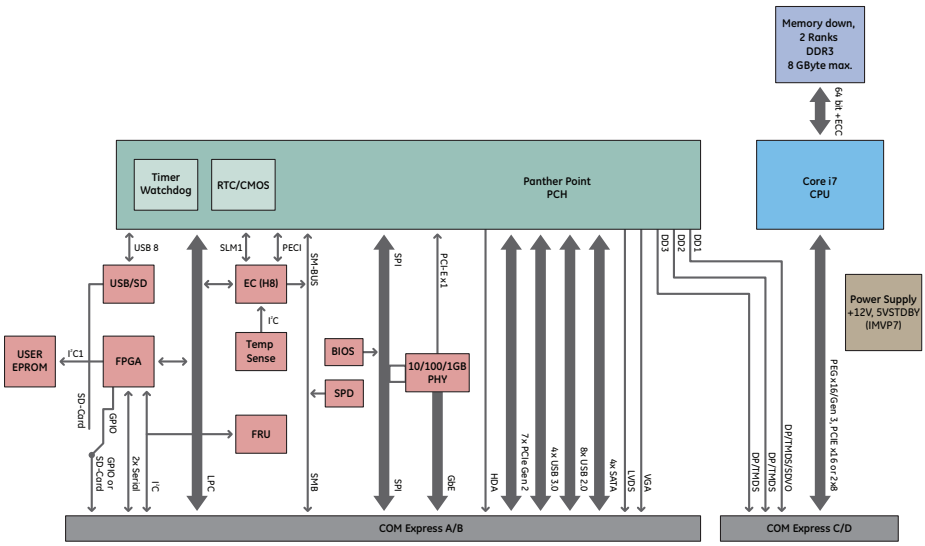
Power
- Input: 12V, 5 VSB

Environmental
- Operating: 0°C to +65°C (standard)
- Operating: -40°C to +85°C (extended; CPU dependent)
- Storage: -40°C to +125°C
- Operating humidity: 10% to 90%
  Note: maximum operating temperature range dependent on the selected processor version.

Shock/Vibration
- Increased shock and vibration immunity; depends on carrier/system design

BIOS
- UEFII
- SPI interface

Block Diagram



PCB
- Dimensions: 95 mm x 125 mm (3.74" x 4.9")
- COM Express basic form factor
- Compliance: PICMG COM Express R2.0

Software Support
- Microsoft® Windows® XP, Windows 7, Linux®, VxWorks®

Options

Ruggedization
- Conformal coating
- Level A and F
  - Shock: 20 g, 11 ms
  - Vibration: 5 – 100 Hz, 0.04 g2/Hz, 60 minutes per axis

Ordering Information

BC6L114E6Z2Z0A	2 core 1,3 GHz, 4GB Memory, standard temperature range
BC6L114E6Z2ZHF	2 core, 1.3 GHz, 4GB Memory, extended temperature range
CEC02	Standard COM Express carrier without COM Express module

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.

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