bCOM2-L8000

COM Express Board with Intel® Atom™ Processor

Features

- Compliance to PICMG® COM Express R1.0 basic form factor, Type 2
- Processors
  - Intel Atom N270 processor
  - 1.6 GHz, 512 KB L2 cache
- Up to 2 GB DDR2 SDRAM, 200-pin SODIMM
- Chipset: Intel 945GSE /ICH7M
- Graphics
  - 133/166 MHz internal graphics core
  - SDVO Port
  - LVDS (18-bit dual-channel)
  - CRT Resolutions up to SXGA+
- Expansion
  - 3x PCI Express x1
  - Up to four devices via PCI bus
- One Gigabit Ethernet port
- 8x USB 2.0 ports
- 2x serial ATA interfaces
- Supports up to 2x IDE devices
- Audio
- CPU temperature and fan alarms

The bCOM2-L8000 is a COM Express basic, Type 2 COM Express module featuring Intel Atom N270 soldered processor. The bCOM2-L8000 module consumes around 10 watts and provides an excellent choice for System Integrators with low-power, high performance embedded applications requirements.

The Intel processor is soldered on the module to achieve higher reliability. In addition, this low power processor supports the bCOM2-L8000 in temperature critical applications.

With a SODIMM socket, the 2 GB of DDR2 memory can be adjusted, on demand, to satisfy an application's needs. One Gigabit Ethernet port is routed to the COM Express connector located on the baseboard. This port also supports transmissions of 10 and 100 Mbit/s. In addition, eight USB 2.0 ports are routed to the COM Express connector.

The bCOM2-L8000 has two serial ATA Interfaces as well as an IDE interface for mass storage devices. Choose from the parallel-attached hard disk drives or the new serial ATA drives.

For superior graphic performance, the bCOM2-L8000 features an integrated analog VGA, SDVO and LVDS interfaces with resolutions up to SXGA+.

Expand the I/O functionality on the base-board with the PCI bus (up to four devices) and three PCI Express x1 lanes.

All these functions position the bCOM-L8000 in applications such as industrial, interactive and medical clients, physical security, aeronautics/military, gaming clients, mobile thin clients, industrial control PC/HMI, print imaging, digital signage and other market segments with the need for low power consumption.

Evaluation, Benchmarks, Development
The carrier board CCAR-L1000 is available for an easy and quick start, to do benchmarks or even to develop/test application software. The CCAR-L1000 is designed for the COM Express module series. The carrier supports the standard features of the bCOM2-L8000 plus PCI and PCI Express slots. For detailed functions see the CCAR-L1000 datasheet.

bCOM2-L8000 COM Express Board with Intel® Atom™ Processor

Specifications

Processor
- Intel Atom N270
  - 1.6 GHz Core frequency
  - 2.5 W Thermal Design Power
  - 512 KB on die second level cache
  - 533 MHz FSB
  - 22x22 mm 1.0 mm Ball pitch FCBGA

Chipset – Intel
- 945GSE Graphics Memory Controller Hub (GMCH)
- Intel 82801GB I/O Controller Hub (ICH7M)

Memory
- 1x 200-pin SODIMM socket
- Up to 2 GB of DDR2 SDRAM
- Supports 400/533 MHz DDR2 SDRAM

Graphics Features
- 133/166 MHz internal graphics core
  - One SDVO port
  - 18-bit dual channel LVDS
  - CRT Resolutions up to SXGA+

Audio
- Supports Azalia AC97 interface

Expansion
- 3x PCI Express x1

LAN
- One Realtek RTL8111C PCI Express Gigabit controller
- Supports 10 Mbps, 100 Mbps and 1 Gbps
- IEEE 802.3 and IEEE 802.3ab compliant

Serial ATA Interface
- Two serial ATA ports with independent DMA Operation supported on ports 0 and 2
- SATA and PATA can be used in a combined function mode (When SATA is used in combination with PATA; AHCI Mode is not supported)
- Two-mode operation supports legacy mode using I/O space or an AHCI mode using memory space

IDE Interface
- Bus master IDE (PATA) controller
- Supports up to two IDE devices
- Supports up to Ultra ATA 100/66/33

USB Interface
- Supports eight USB 2.0 ports

BIOS
- SPI interface BIOS (8M bit)

O/S
- Windows® CE 6.0 R2
- Windows® XPe

Power
- Input: 12V, 5 VSB

Temperature
- Operating: 0° C to +60° C
- Storage: -20° C to +85° C

Humidity
- Operating: 10% to 90%
- Non-condensing

Regulatory
- EMC
  - CE
  - FCC Part 15 Class B

PCB
- Dimensions
  - COM Express basic form factor
  - 95 mm x 125 mm (3.74" x 4.9")
- Compliance
  - PICMG COM Express R1.0 basic form factor, Type 2

Ordering Information

BCOM2L800N011	Basic COM Express module Type 2 with soldered Intel Atom N270 processor, 1.6 GHz, without memory and heat sink
CCARL1000	bCOM2-L8000 COM Express carrier without COM Express module

Memory options:

9DD2S001GN0667L	1 GB SODIMM
9DD2S002GN0667L	2 GB SODIMM

About GE Fanuc Intelligent Platforms
GE Fanuc Intelligent Platforms, a joint venture between General Electric Company (NYSE: GE) and FANUC LTD of Japan, is an experienced high-performance technology company and a global provider of hard-ware, 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 Fanuc Intelligent Platforms is a worldwide company headquartered in Charlottesville, VA and is part of GE Enterprise Solutions. For more information, visit www.gefanuc.com.

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Additional Resources

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

www.gefanuc.com