



bCOM2-L1000

COM Express Board

Features

- Compliance to PICMG COM Express R1.0 basic form factor, Type 2
- Processors
 - Intel® Celeron® M ULV 423, BGA
 - Intel® Celeron® M, PGA
 - Intel® Core™ Duo, PGA
 - Intel® Core™ 2 Duo, PGA
- Up to 2 Gbyte DDR2 SDRAM, 200-pin SODIMM
- 945GME/ICH7R chipset combination
- Graphics
 - VGA and LVDS
 - DVM 3.0 support
 - Intel Dual-Frequency graphics technology
 - Dual Independent display support
 - Smart 2D display technology
- Expansion
 - 1x PCI Express x 16
 - 5x PCI Express x 1
 - PCI bus for four devices
- One Gigabit Ethernet port
- 8x USB 2.0 ports
- 4x serial ATA interfaces
 - SATA-II device support
 - RAID 0 and 1 support
- Supports up to 2x IDE devices
- Audio
- CPU temperature and fan alarms
- RoHS compliant

The bCOM2-L1000 is a COM Express basic, Type 2 COM Express module featuring choice of Intel® Core™ 2 Duo, Core™ Duo, or Celeron® M processors. The wide range of processor options delivers performance-per-watt improvements and provides an excellent choice for system integrators with low-power, high performance embedded applications requirements.

The Intel® Celeron® M processor ULV 423 is soldered on the module to achieve higher reliability. In addition, this low power processor supports the bCOM2-L1000 in temperature critical applications.

With a SODIMM socket, the 2 Gbyte 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 base board. This port also supports transmissions of 10 and 100 Mbit/s. Additionally eight USB 2.0 ports are routed to the COM Express connector.

The bCOM2-L1000 has four serial ATA Interfaces with RAID 0 and 1 support as well as an IDE interface for mass storage devices. Choose from the parallel attached hard disk drives or the new serial ATA drives. The SATA interfaces are ready for SATA II drives.

For superior graphics performance, the bCOM2-L1000 features integrated analog CRT and LVDS interfaces along with Intel® Dual-Frequency Graphics Technology, Smart 2D Display Technology, Gen 3.5 Integrated Graphics Engine and dual independent display pipes.

Expand the I/O functionality on the baseboard with the PCI bus (up to four devices), five PCI Express x1 lanes and a wide PCI Express x16 port. The x16 port can be used in applications where high-end graphic and video capabilities are required. Together with the audio port, a wide range of multimedia implementations can be achieved.

All these functions position the bCOM2-L1000 in applications for industrial, simulation/training, test and measurement, gaming, transportation and other market segments.

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 bCOM2-L1000 COM Express module series. The carrier supports the standard features of the bCOM2-L1000 plus PCI and PCI Express slots. For detailed functions see the CCAR-L1000 datasheet.

bCOM2-L1000 COM Express Board

Specifications

Processor

- Intel® Core™ 2 Duo Processor
 - 667 MHz FSB
- Intel® Core™ Duo Processor
 - 667 MHz FSB
- Intel® Celeron® M Processor
 - 533 MHz FSB
- mPGA478M processor socket

Processor Soldered (BGA)

- Intel® Celeron® M Processor ULV423, 1.06 GHz

Chipset – Intel®

- 945GME Graphics Memory Controller Hub (GMCH)
- I/O Controller Hub (ICH7R)

Memory

- One 200-pin SODIMM socket (1.8 V)
- Supports up to 2 Gbytes of DDR2 SDRAM
- Supports 533 MHz and 667 MHz DDR2 SDRAM

Graphics Features

- Internal graphics features DVM 3.0 support
 - Intel® Dual-Frequency Graphics Technology
 - Intel® Smart 2D Display Technology
 - Dual Independent display pipes
 - Intel® Gen 3.5 Integrated graphics engine
- Integrated graphics interface
 - Analog CRT
 - Integrated 400 MHz RAMDAC
 - Analog monitor supports up to UXGA
 - LVDS interface
 - Panel support up to UXGA (1600x1200)
 - 25 MHz to 112 MHz single/dual channel 18 bpp, TFT panel type support

Audio

- Supports AC97 digital interface

LAN

- One Realtek RTL8111C 3 PCI Express Gigabit controller
- Supports 10 Mbps, 100 Mbps and 1 Gbps
- IEEE 802.3 and IEEE 802.3ab compliant

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 RAID 0 and RAID 1

IDE Interface

- Supports up to two IDE devices
- Supports up to Ultra ATA 100

USB Interface

- Supports eight USB 2.0 ports

Expansion

- 1x PCI Express x16
- 5x PCI Express x1
- PCI (Master), four devices

BIOS

- SPI interface BIOS (optional)

Temperature

- Operating: 0° C to +60° C
- Storage: -40° C to +85° C

Humidity

- Operating: 10% to 90%

Power

- Input: 12V, 5 VSB
- Max load power: 130 W

Ordering Information

BCOM2L1000001

Basic COM Express module Type 2 for PGA processors without memory

BCOM2L10CB001

Basic COM Express module Type 2 with soldered Intel® Celeron® M ULV 423 processor of 1.06 GHz without memory

CCARL1000

bCOM2-L1000 COM Express carrier without COM Express module

Vibration

- Amplitude: 1.5 mm
- Frequency: 5-55-5 Hz
- Time: 360 min per 72 cycles in each 3 axes

Regulatory

- EMC
 - EN55022
 - EN61000-3-2
 - EN61000-3-3
 - EN55024
 - 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

About GE Fanuc Intelligent Platforms

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:
1 800 322 3616 or 1 256 880 0444

Asia Pacific:
+81 3 5544 3973

EMEA:
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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