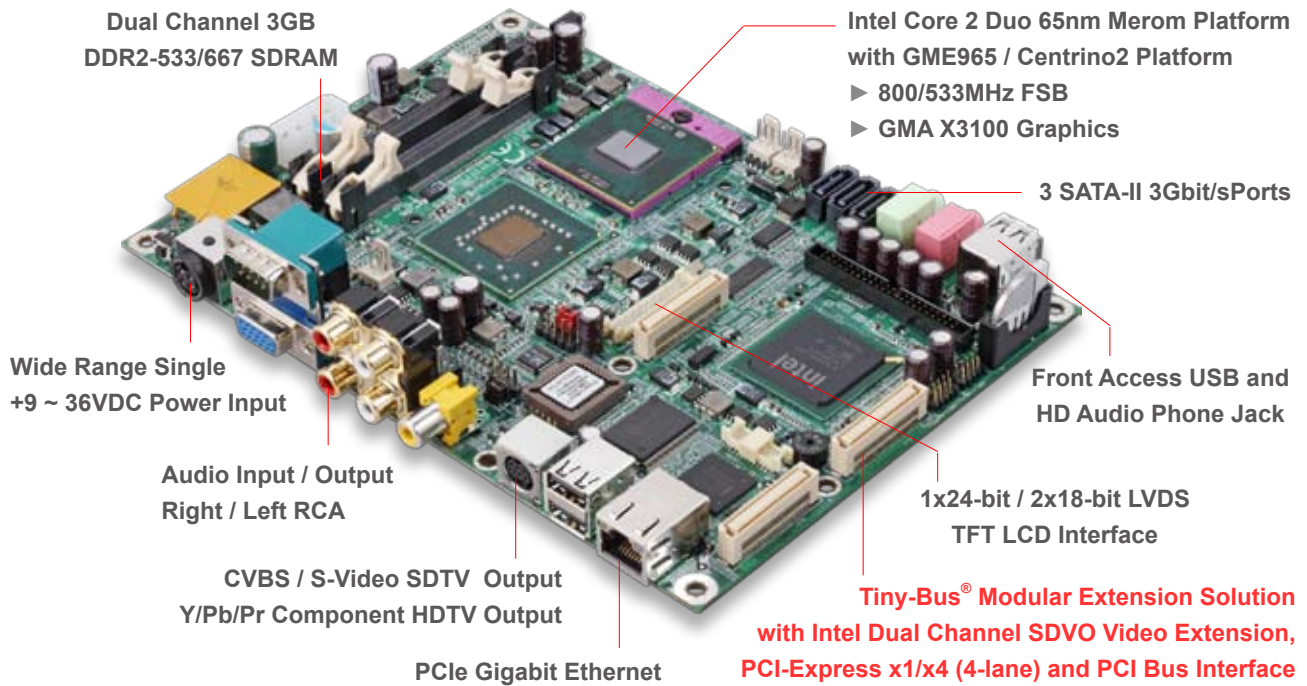


EMB-5930

5.25" Drive-size Intel GME965 Core 2 Duo Mobile HD Multimedia EmBoard with Embedded Tiny-Bus® Modular Extension Solution



Overview

The EMB-5930 is an industrial x86-based multimedia computing solution based on the 5.25-inch drive size form factor, Intel GME965 Express Core 2 Duo Merom (Santa Rosa) mobile computing platform, and features the embedded Tiny-Bus® Modular Extension Solution. With the Intel powerful mobile processing capacity of Santa Rosa Core2 Duo mobile Merom platform, onboard LVDS, TV-out, HD audio, Gbit Ethernet, SATA-II 3Gbit/s interfaces, and the Tiny-Bus® modular Extension solution, the EMB-5930 EmBoard meets the demand of the industrial embedded Small Form Factor (SFF) x86 PC-based multimedia computing applications with flexible modular Extension solution.

Key Features

- Intel GME965 Express Core2 Duo (Santa Rosa) mobile computing platform with 800/533MHz FSB, DDR2 SDRAM and GMA X3100 graphics core.
- Optional Intel L7500 / U7500 low power processor for fanless operating.
- 1x24-bit / 2x18-bit LVDS, Gigabit Ethernet, SATA-II 3Gbit/s ports.
- Onboard HD audio interface with RCA and phone jack connectors.
- Tiny-Bus® Modular Extension Solution with Intel SDVO video extension, PCI and PCI Express (4-lane configurable as four x1 or one x4 PCI Express) bus interface.
 - ▶ TBM-16SDVO series Intel SDVO-based video extension modules.
 - ▶ TBM-12xx series PCI-based extension modules.
 - ▶ TBM-14xx series PCI Express based extension modules.
- Four external and 4 internal USB 2.0, 8-bit GPIO ports.
- IDE-based bootable / driver-free CompactFlash socket.
- Single wide range +9 to 36VDC (continued) power operating with external power jack.
- Compact, slim type and fanless barebone solutions are available.



EMB-5930

5.25" Intel Core2 Duo Mobile HD Multimedia EmBoard
Intel Embedded GME965 Express Computing Platform
with 800 MHz FSB, GMA X3100 Graphics, HD Audio
and Tiny-Bus® Modular Extension Solution



Form Factor

5.25-inch drive size EBX form factor at 203 x 146 mm

CPU

Intel embedded mobile Santa Rosa computing platform
Supports 65nm Merom Core2 Duo Mobile processors
with 800 / 533 MT/s FSB at Socket-P package

Compatible Intel Embedded Long-term Supply CPU List
with CPU name / speed / FSB / L2 Cache / core number / TDP

Intel PPGA478 Socket P CPU (uFCPGA8)

- Intel T7500 with 2.20GHz / 800MHz / 4MB / 2 / 35W
- Intel Celeron M 550 with 2.00GHz / 533MHz / 1MB / 1 / 31W

Intel uFCBGA Low Power / Fanless CPU (for OEM only)

- Intel L7500 with 1.60GHz / 800MHz / 4MB / 2 / 17W
- Intel U7500 with 1.06GHz / 533MHz / 2MB / 2 / 10W
- Intel Celeron M 573 with 1.00GHz / 533MHz / 512KB / 1 / 10W

Memory

Two vertical type DDR2 SO-DIMM sockets
Supports up to 4 GB DDR2-800 non-ECC/registered SDRAM

Chipset

Intel embedded GME965 GMCH and ICH8M

Watchdog Timer

Programmable system reset watchdog timer

Serial ATA (SATA) and IDE (PATA) Port

One 44-pin UltraATA100/133 IDE port with +5V DC power
Three SATA-II (SATA-300) 3Gbit/s / 300MBps ports

CompactFlash Interface

CompactFlash socket supports CompactFlash Card (CFC)
Bootable, driver-free IDE-based solid state flash disk

Extension Bus Interface (Tiny-Bus)

Embedded Tiny-Bus® Modular Extension Solution with dual channel Intel SDVO, 4-lane (four x1 or one x4) PCI Express and dual bus master PCI interfaces.

Video Interface (VGA, LVDS, TV-out)

Intel GME965 GMCH built-in GMA X3100 graphics core
with 2x18-/1x24-bit LVDS transmitter, TV-out encoder
External DB15 female connector for VGA on rear panel
External CVBS RCA, S-video / YPbPr connector on rear panel
Onboard 40-pin Hirose DF13-40DP-1.25V LVDS connector

Audio Interface

Intel ICH8M with onboard ALC888S HD audio codec
External right / left audio input / output RCA on rear panel
External line-out and mic-in phone jacks on front panel

Ethernet Interface

Onboard PCIe Intel 82573L/82574L Gigabit Ethernet controller
10/100/1000BASE-TX auto-switching, IEEE802.3U compliant
Supports PXE boot and Wake-On-LAN functions
External RJ45 connector with link / active LED on rear panel

High-Speed USB 2.0, COM and GPIO Port

4 external (2 front and 2 rear) and 4 internal USB 2.0 ports
1 external RS-232C DB9 male COM port
1 8-bit GPIO with 4-bit digital input and 4-bit digital output

External I/O Port and Indicated LED

Rear I/O Panel

Power switch, DC power jack, VGA/COM, dual audio RCA,
CVBS AV / S-Video / YPbPr TV-out, dual USB, RJ45 Ethernet

Front I/O Panel

Line-out / Mic-in audio phone jack, 2 USB ports
Power / access LED

Environment

Power Input: single +9 ~ 36V DC (continued) power operating
Board Dimension: 203 x 146 mm (L x W)
Operation Temperature: 0 ~ 60°C (32 ~ 140°F)

Tiny-Bus® Modular Extension Solution

The EMB-5930 EmBoard supports embedded Tiny-Bus®
Modular Extension Solution with dual channel Intel SDVO video
extension, 4-lane PCI Express (four x1 or one x4 PCIe) and
dual bus master PCI interfaces.

Customized Tiny-Bus® extension modules for ODM / OEM
projects. For the further information about Tiny-Bus® modules,
please visit the website at <http://www.liantec.com>.

Ordering Code

EMB-5930S

5.25" Drive-size Intel GME965 Multimedia EmBoard
Intel 65nm Merom Core 2 Duo Mobile Express Platform
with VGA, LVDS, TV-out, HD Audio, Gbit Ethernet
and Tiny-Bus® Modular Extension Solution

EMB-5930U7500 (with Intel Core 2 Duo ULV U7500 CPU)

Same as above but with Intel U7500 1.06 GHz CPU (fanless)

EMB-5930CM573 (with Intel Celeron M 573 CPU)

Same as above but with Intel CM573 1.00 GHz CPU (fanless)

Customized ODM/OEM Service

Customized ODM/OEM service based on the EMB-5930
EmBoard with onboard Intel compatible uFC-BGA LV / ULV
CPU, optional function configuration and embedded Tiny-Bus®
Extension modules.

Tiny-Bus Modular Extension Solution

- Dual Channel Intel SDVO Video Extension
- 4-lane PCI Express with Four x1 PCIe Bus Interfaces
- Dual Bus Master 32-bit / 33 MHz PCI Interfaces
- Peripheral and Accessory



Intel SDVO Video Extension

TBM-16SDVOB

Tiny-Bus Intel SDVO DVI / TV-out Extension Module with Intel SDVO DVI Transmitter and TV-out Encoder DVI-D, CVBS / S-Video / YPbPr TV-out, and Mini-PCI Socket

TBM-16SDVOD

Tiny-Bus Intel SDVO Dual DVI Extension Module with Dual Intel SDVO DVI Transmitters Dual DVI-D Video Output Ports and Mini-PCI Socket

PCI Express Based Extension

TBM-1400

Tiny-Bus PCIe Dual Mini-PCIe MiniCard Extension Module with Dual Mini-PCIe Full-size MiniCard Sockets External Wi-Fi Indicated LEDs and SMA Antenna Connectors

TBM-1410

Tiny-Bus PCIe PCMCIA ExpressCard Extension Module with ExpressCard Socket and Mini-PCI Socket

TBM-1420

Tiny-Bus PCIe 4-ch BT878A Video Capture Extension Module with PCIe/PCI Bridge and Four Video Input BNC Connectors

TBM-1430

Tiny-Bus PCIe 4-Port Gbit Ethernet Switch Module with Four RJ45 Gbit Ethernet Switch Ports

TBM-1441

Tiny-Bus PCIe Quad Intel Gbit Ethernet Module with Four Intel 82574L Gbit Ethernet and Mini-PCI Socket

TBM-1442

Tiny-Bus PCIe Dual Bypass Intel Gbit Ethernet Module with Dual Intel 82574L Gbit Ethernet and Mini-PCI Socket

TBM-1444

Tiny-Bus PCIe Quad Gbit Ethernet Module with Four Intel 82574L Gbit Ethernet and Mini-PCI Socket

TBM-1445

Tiny-Bus PCIe Quad Gbit Ethernet Module with Four Intel 82574L Gbit Ethernet and MiniCard Socket

TBM-1450

Tiny-Bus PCIe IEEE1394b FireWire 800 Host Module with Three IEEE1394b Ports and Mini-PCI Socket

TBM-1453

Tiny-Bus PCIe SuperSpeed USB 3.0 Host Module with 2 External USB 3.0/2.0 Connectors and MiniCard Socket

TBM-1460

Tiny-Bus PCIe eSATA / SATA-II 3Gb/s Multiplier Module with External 3/4 eSATA and Internal SATA-II Connectors

PCI-Based Extension

TBM-1200 Tiny-Bus Dual Mini-PCI Type-III/A/B Module

TBM-1210 Tiny-Bus PCMCIA CardBus Module with Dual PCMCIA CardBus Socket and Mini-PCI Socket

TBM-1220 Tiny-Bus Video Capture Module with BT878A Video Capture Controller and Mini-PCI Socket

TBM-1230 Tiny-Bus 4-Port Fast Ethernet Switch Module with 4-Port 10/100 Switch and Mini-PCI Socket

TBM-1240 Tiny-Bus Quad Fast Ethernet Module with Quad Fast Ethernet and Mini-PCI Socket

TBM-1241 Tiny-Bus PoE PSE Fast Ethernet Module with Fast Ethernet, +48VDC / 400mA PoE PSE and Mini-PCI Socket

TBM-1242 Tiny-Bus Dual Bypass Fast Ethernet Module with Pair Bypass Fast Ethernet Ports and Mini-PCI Socket

TBM-1260 Tiny-Bus IEEE1394a FireWire Host Module with 3 IEEE1394a Ports and Mini-PCI Socket

TBM-1261 Tiny-Bus Hi-Speed USB 2.0 Host Module with 6 USB 2.0 Ports and Mini-PCI Socket

TBM-12PCM Tiny-Bus PC/104-Plus Extension Module with PC/104-Plus and Mini-PCI Socket

1U / 2-slot PCIe/PCI Extension

TBM-X1700

Tiny-Bus 1U 2-slot x16 PCIe / x1 PCIe Extension Module with IEEE1394b, Gbit Ethernet, PCIe MiniCard Socket, x16 PCI Express and x1 PCI Express Expansion Slots

TBM-X2000PE

Tiny-Bus 1U 2-slot PCIe / PCI Extension Module with IEEE1394b, Gbit Ethernet, PCIe MiniCard Socket, One x1 PCI Express and One PCI Expansion Slots

TBM-X2000P2

Tiny-Bus 1U 2-slot PCI Extension Module with IEEE1394b, Gbit Ethernet, PCIe MiniCard Socket, Dual PCI Expansion Slots

Peripheral and Accessory Extension

TBM-DB25

Tiny-Bus 2.5" Drive Bay Module

Customized ODM/OEM Service

Customized ODM/OEM service based on EMB-5930 EmBoard with Intel compatible uFC-BGA LV / ULV CPU, optional function configuration and embedded Tiny-Bus® extension modules.

Barebone Solution

LPC-5930S

Industrial 5.25" Drive-size Multimedia Computing Platform
Supports Intel Embedded Merom Core 2 Duo Mobile CPU
with Embedded Tiny-Bus® Modular Extension Solution



Form Factor

Industrial wallmount / standalone heavy-duty steel chassis
with 210 x 44 x 153 mm (W x H x D) of dimension

Motherboard

Liantec EMB-5930 EmBoard with Tiny-Bus® Extension Solution
Supports VGA, composite and S-Video TV-out ports
HD audio input / output RCA and line-out / mic-in phone jacks
Intel Gigabit Ethernet interface with RJ45 connector
External RS-232, two front and two rear USB 2.0 ports
CompactFlash socket on bottom side with removeable door

Power Supply

External 80W +12V AC/DC power adapter
Supports 90~264V / 47~63 Hz AC power input

Tiny-Bus® Extension Solution

- Dual channel Intel SDVO video extension
TBM-16SDVOD supports dual DVI video extension ports and
Mini-PCI Wi-Fi module with external SMA antenna connector
- 4-lane (four x1 or one x4) PCI Express bus interface
- Dual bus master PCI interfaces
- Tiny-Bus 2.5" drive bay supports 2.5" HDD/SDD

LPC-5930MP

Industrial Slim-type Multimedia Computing Platform
Supports Intel Embedded Merom Core 2 Duo Mobile CPU
with Embedded Tiny-Bus® Modular Extension Solution



Form Factor

Industrial wallmount / standalone heavy-duty steel chassis
with 290 x 44 x 153 mm (W x H x D) of dimension

Motherboard

EMB-5930 EmBoard with Tiny-Bus® Extension Solution
Supports VGA, composite and S-Video TV-out ports
HD audio RCA and phone jacks, Gigabit Ethernet, USB ports
CompactFlash socket on bottom side with removeable door

System Fan

One Sunon 4020 VAPO DC fan on rear panel

Power Supply

Internal 60W +12V AC/DC open frame power supply
Supports 90~264V / 47~63 Hz AC power input

Tiny-Bus® Extension Solution

- Dual channel Intel SDVO video extension
TBM-16SDVOD supports dual DVI video extension ports and
Mini-PCI Wi-Fi module with external SMA antenna connector
- 4-lane (four x1 or one x4) PCI Express bus interface
- Dual bus master PCI interfaces
- Tiny-Bus 2.5" drive bay supports 2.5" HDD/SDD

LPC-5930MD

Industrial Slim-type Multimedia Computing Platform
Supports Intel Embedded Merom Core 2 Duo Mobile CPU
with Embedded Tiny-Bus® Modular Extension Solution



Form Factor

Industrial wallmount / standalone heavy-duty steel chassis
with 290 x 44 x 153 mm (W x H x D) of dimension

Motherboard

Liantec EMB-5930 EmBoard with Tiny-Bus® Extension Solution
with VGA, TV-out, audio RCA and line-out / mic-in phone jacks
Intel Gigabit Ethernet interface, RS-232, , four USB 2.0 ports
CompactFlash socket on bottom side with removeable door

Drive Bay

One 2.5" drive bay for 2.5" HDD / SDD.

Power Supply

External 60W +12V AC/DC power adapter
Supports 90~264V / 47~63 Hz AC power input

Tiny-Bus® Extension Solution

- Dual channel Intel SDVO video extension
TBM-16SDVOD supports dual DVI video extension ports and
Mini-PCI Wi-Fi module with external SMA antenna connector
- 4-lane (four x1 or one x4) PCI Express bus interface
- Dual bus master PCI interfaces
- Tiny-Bus 2.5" drive bay supports additional 2.5" HDD/SDD

For the further information, please visit the website of <http://www.liantec.com>.