

# ITX-6965

Mini-ITX Intel Mobile 965 EmBoard



The Liantec ITX-6965 is an all-in-one industrial embedded motherboard based on the Mini-ITX form factor, Intel mobile Centrino Pro / Duo platform with mobile GME965 Express chipset and Intel mobile Core 2 Duo CPU, and features the Liantec Tiny-Bus® Modular Expansion Solution with x16 PCI Express and Intel dual channel SDVO Graphics, PCI Express x1 / x4 (4-lane) and PCI bus interface. With the Intel latest mobile computing technology, Mini-ITX form factor and Liantec Tiny-Bus® Modular Expansion Solution, the ITX-6965 offers the advanced digital processing capacity on the industrial Small Form Factor (SFF) embedded x86-based computing solution with embedded and flexible modular expansibility.

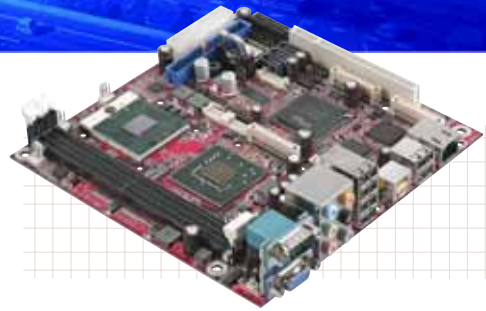
## Key Features

- Intel mobile Centrino Pro / Duo GME965 Express platform with Intel mobile Core 2 Duo CPU at 800 / 533 MHz FSB, dual channel 3GB DDR2 SDRAM and Microsoft Windows Vista Premium ready Intel GMA X3100 graphic core.
- Optional board-mounted Intel uFC-BGA mobile Core 2 Duo LV / ULV CPU for fanless and low power consumption computing application.
- Intel GME965 GMCH built-in 2x18-bit LVDS TFT LCD and TV-out interface.
- Optional Tiny-Bus® Intel SDVO-based DVI, HDTV, and mini-PCI module.
- 7.1-CH Intel Azalia HD audio, Gigabit Ethernet and SATA-II interfaces.
- **Tiny-Bus® Modular Expansion Solution with x16 PCI Express and Intel dual channel SDVO Graphics, PCI Express x1 / x4 (4-lane) and PCI bus interface.**
- Dual bus master PCI and x1 PCI Express expansion slot.
- Compact, slim type and fanless barebone solutions are available.



# ITX-6965

## Mini-ITX Intel GME965 Express EmBoard with GMA X3100 VGA Core, 800/533MHz FSB LVDS, TV-out, Audio, Gbit Ethernet, SATA-II and Tiny-Bus® Modular Expansion Solution



### Form Factor

Mini-ITX / Mini-FlexATX form factor at 170 x 170 mm

### CPU

Intel mobile Core 2 Duo CPU at uFC-PGA478 package  
Supports 800 / 533 MHz FSB with 4MB L2 cache  
[Customized onboard-mounted Intel uFC-BGA479 mobile Core 2 Duo LV / ULV CPU for fanless operating OEM project.](#)

### Memory

Two DDR2 DIMM support 3GB dual channel DDR2 SDRAM

### Chipset

Intel embedded mobile GME965 GMCH and ICH8-M chipset

### Watchdog Timer

Programmable system reset watchdog timer

### SATA and IDE (PATA) Port

One 40-pin ATA100 IDE port and 3 SATA-II 300MBps ports

### Expansion Bus Interface

One dual bus master PCI slot and one x1 PCI Express slot  
[Liantec Tiny-Bus® embedded modular expansion solution with x16 PCI Express and Intel dual channel SDVO Graphics, PCI Express x1 / x4 \(4-lane\) and PCI bus interface](#)

### Video Interface (VGA, LVDS and TV-out)

Intel mobile GME965 GMCH built-in GMA X3100 VGA core with 2x18-bit LVDS transmitter and TV encoder  
External DB15 female connector for VGA on rear I/O panel  
External AV / S-Video TV-out connector on rear I/O panel  
Onboard 40-pin Hirose DF13-40DP-1.25V LVDS connector

### Audio Interface

Intel Azalia High Definition (HD) audio with ACL888S codec  
Supports 7.1 / 5.1 channel and S/P DIF audio interface  
External 6 phone jack and internal pin header connector

### Ethernet Interface

PCI-Express Intel 82573L Gigabit Ethernet controller  
External RJ45 connector with LED on rear I/O panel

### Hi-Speed USB 2.0 and Multi-I/O Port

6 external and 4 internal Hi-Speed USB 2.0 ports  
One external and one internal RS232 COM port

### External Rear I/O Port

DB15 female VGA and DB9 male COM port  
7.1 channel and S/P DIF audio port  
Four USB 2.0 ports  
Composite AV / S-Video TV-out  
Dual USB ports  
RJ45 Gigabit Ethernet port  
Other external ports on add-on Tiny-Bus® module

### Environment

Power Requirement: onboard 20-pin ATX power connector  
Board Dimension: 170 x 170 mm (L x W)  
Operation Temperature: 0 ~ 60°C (32 ~ 140°F)

### Tiny-Bus® Modular Expansion Solution

ITX-6965 supports Tiny-Bus® Modular Expansion Solution with x16 PCI Express and Intel dual channel SDVO Graphics, PCI Express x1 / x4 (4-lane) and PCI bus interface.

- **TBM-1610:** PCI-EG MXM Mobile Graphics Module
- **TBM-16SDVO:** Intel SDVO DVI, HDTV, Mini-PCI Module
- **TBM-1410:** PCIe ExpressCard and Mini-PCI Module
- **TBM-1420:** PCIe 4ch/120fps Video Capture Module
- **TBM-1200:** Dual Mini-PCI Module
- **TBM-1210:** Dual PCMCIA CardBus and Mini-PCI Module
- **TBM-1220:** 30fps Video Capture and Mini-PCI Module
- **TBM-1222:** 4ch/120fps Video Capture and Mini-PCI Module
- **TBM-1230:** 4-Port Switch Hub and Mini-PCI Module
- **TBM-1240:** 4-Port Gbit Ethernet and Mini-PCI Module
- **TBM-1250:** 4-/8-Port RS232 COM and Mini-PCI Module

Other customized x16 PCIe Graphics / Intel SDVO / PCIe / PCI-based Tiny-Bus® modules for ODM / OEM project. For the further information about Liantec embedded Tiny-Bus® modules, please visit the website at <http://www.liantec.com>.

### Ordering Code

**ITX-6965N:** Mini-ITX Intel GME965 Express EmBoard with VGA, LVDS, Audio, TV-out, Gbit Ethernet and Tiny-Bus Modular Expansion Solution

**ITX-6965NDHP:** ITX-6965L with **TBM-16SDVO** module  
Supports DVI, HDTV and Mini-PCI Socket

**ITX-6965NEP:** ITX-6965L with **TBM-1410** module  
Supports ExpressCard and Mini-PCI Socket

**ITX-6965-OEM:** Customized ITX-6965 based EmBoard with Onboard Intel compatible uFC-BGA LV / ULV CPU and Tiny-Bus® Expansion Module.

Please visit the website of <http://www.liantec.com> for the further information.