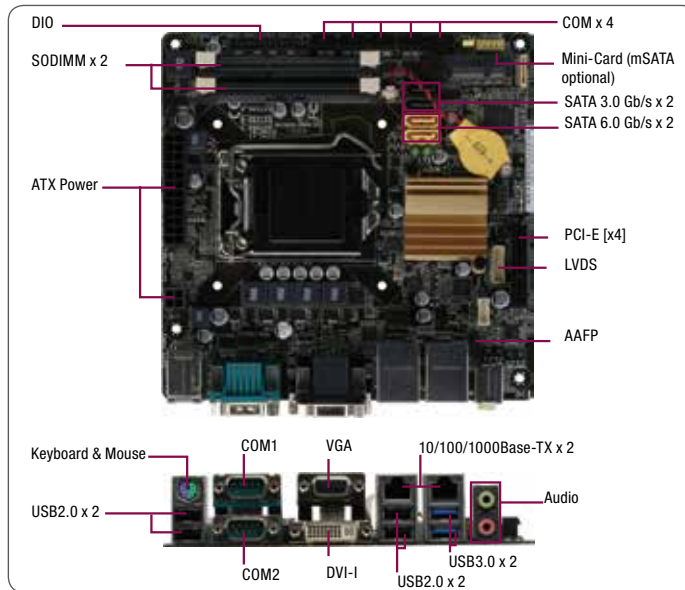


EMB-H81A

Mini-ITX Embedded Controller with LGA 1150 socket for Intel® 4th Generation Core™ i Series Processor



Features

- LGA 1150 Socket for Intel® 4th Generation Core™ i Series Processor
- Dual Independent Display: VGA, DVI-I, LVDS
- Gigabit Ethernet x 2
- SATA 6.0 Gb/s x 2
- USB 3.0 x 2, USB 2.0 x 7
- PCI-E2.0 [x4] x 1, Full-size Mini-Card (PCI-E + USB) with mSATA (Optional) x 1



Specifications

System	
Form Factor	Mini-ITX
Processor	LGA 1150 socket for Intel® 4th generation Core™ i series 22nm Processor, Max. 65W TDPs (Standard Size Heat Sink)
Memory	DDR3 1333/1600 MHz SODIMM x 2, Up to 16 GB, Non-ECC
Chipset	Intel® H81
I/O Chipset	NCT6791D, NCT5104D
Ethernet	Realtek 8111F, Gigabit Ethernet x 2
Audio	Realtek® ALC887
BIOS	64 Mb Flash ROM, AMI BIOS
Wake On LAN/PXE	Yes (WOL / PXE)
Watchdog Timer	1~255 steps programmable
TPM	Infineon SLB9635 TT 1.2
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
Expansion Slots	PCI-E2.0 [x4] x 1, Full/Half-size Mini-Card(PCI-E +USB) with optional mSATA (SATA 6.0 Gb/s) x 1
Battery	Lithium battery
Power Requirement	ATX
Power Consumption	Intel® Core™ i7-4770S, DDR3 1600 8 GB SODIMM x 2, ATX 74W
Board Size	6.7" x 6.7" (170mmx170mm)
Gross Weight	1.1 lb (0.5 kg)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operating Humidity	0%~90% RH, non-condensing
Smart Fan Control	CPU Fan / Chassis Fan
Power State	S3, S4, S5
Power Requirement	24-pin ATX connector x 1 4-pin ATX 12V Power connector x 1
Power Compliance	Compliant with EuP / ErP
Certificate	CE & FCC
MTBF (Hours)	—
Display	
Graphics Engine	Intel® HD Graphics
Display	LVDS x 1, VGA x 1, DVI-I x 1
VGA	Up to 1920 x 1200 @ 60 Hz
DVI	Up to 1920 x 1200 @60 Hz
HDMI	—
LVDS	Up to 1920 x 1200@60 Hz, Dual Channel 18/24-bit Support LVDS
eDP	—
DP	—
Backlight Control	Voltage / PWM

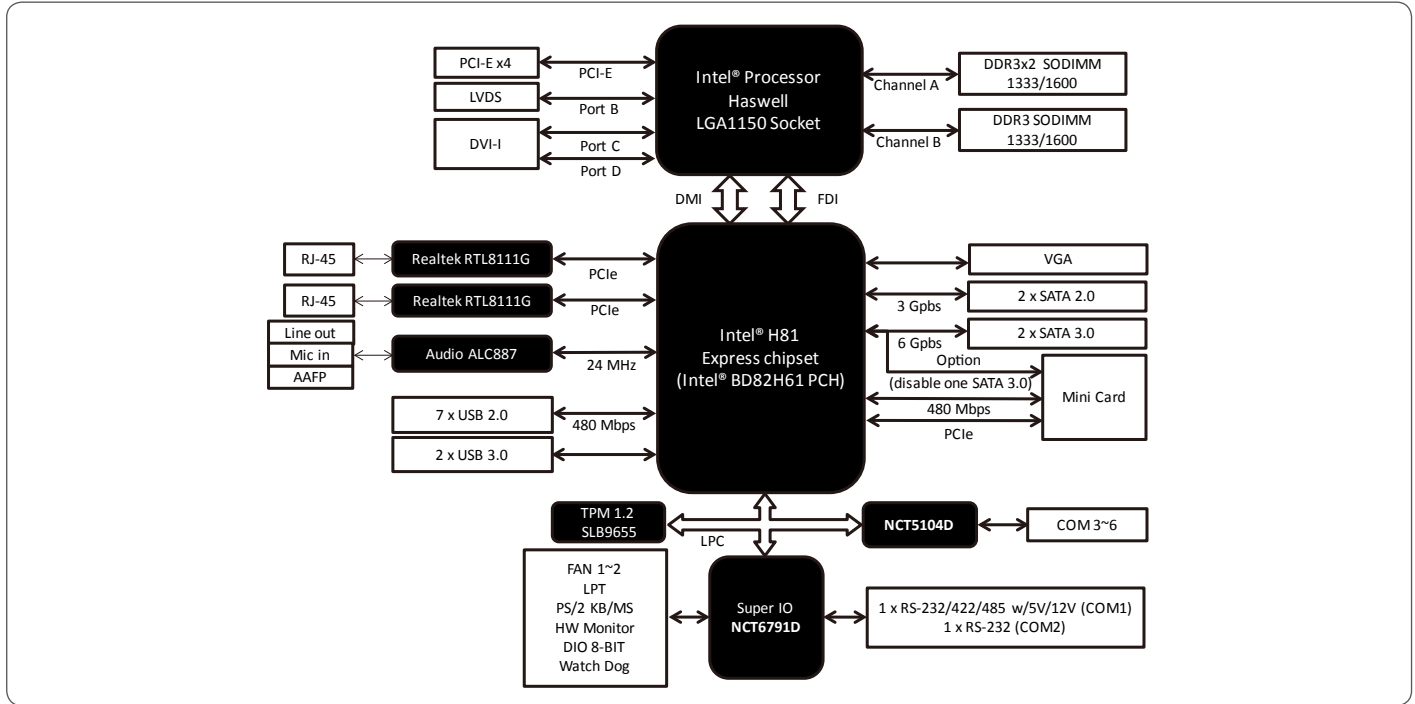
I/O	
Storage	SATA 6.0 Gb/s x 2, SATA 3.0 Gb/s x 2
USB	USB 3.0 x 2 (Rear I/O), USB 2.0 x 7 (4 ports on rear panel, 2 ports p=2.54mm, 1 port P=2.00mm on mid board)
Audio I/O	Mic-in, Line-out, AAFFP at internal connector for 2 additional channel(default Line-out, Mic-in)
LAN	RJ-45 x 2
Serial Port	RS-232 x 5 (RS-232 x 1 on Rear IO, RS-232 x 4 on mid board), RS-232/422/485 x 1, support optional 5V/12V/RI
Parallel Port	SPP/EPP/ECP Mode
PS/2 Port	keyboard / Mouse with PS/2 Combo x 1
DIO	8-bit Programmable Digital I/O interface (4-in /4-out)
FAN	CPU Fan connector x 1 (4-pin) Chassis Fan connector x 1 (4-pin)

Packing List

- SATA Cable
- I/O Shield
- Product CD
- EMB-H81A

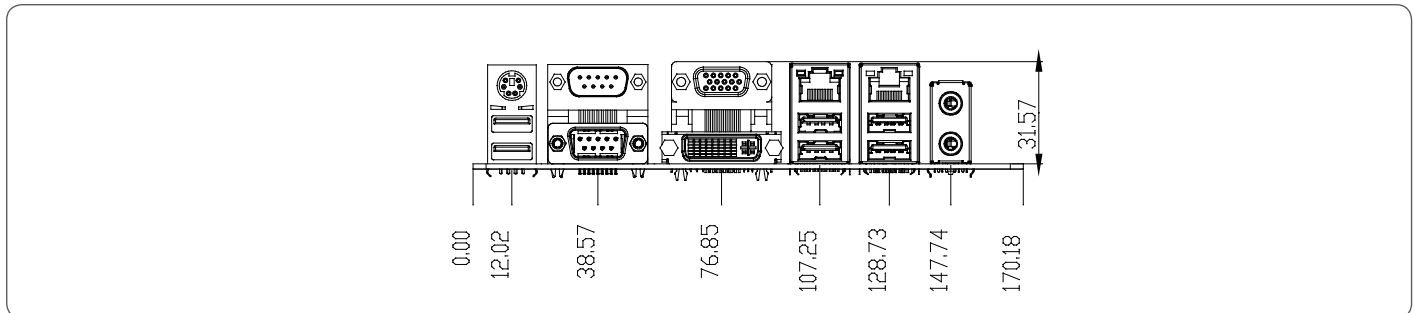
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Block Diagram



Dimension

Unit: mm



Order Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
EMB-H81A-A10	Socket	SODIMM	FAN	VGA/LVDS/DVI-I	SATA3 x 2 SATA2 x 2	18/24b, 2CH	GbE x 2	USB 3.0 x 2 USB 2.0 x 7	5	1	PCI-E(x4) x 1, Full size Mini-Card x 1	ATX	Onboard	0~60°C

Optional Accessories

- **1759200172**
CPU Cooler (2-Ball, Screw with Retention Plate)
- **175921156B**
CPU Cooler (2-Ball, Push-pin Type)
- **1709100330**
USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
- **1709050201**
USB 2.0 Cable (6P, 220MM, p=2.00mm)
- **1701260305**
LPT Cable (25P, 270MM)
- **1701100206**
COM Cable (200MM, p=2.00mm)
- **1700060192**
PS/2 Cable (6P, 190mm, P=2.0mm)
- **170910020K**
USB 2.0 cable (9P, 200MM, p=2.54mm, w/o bracket)