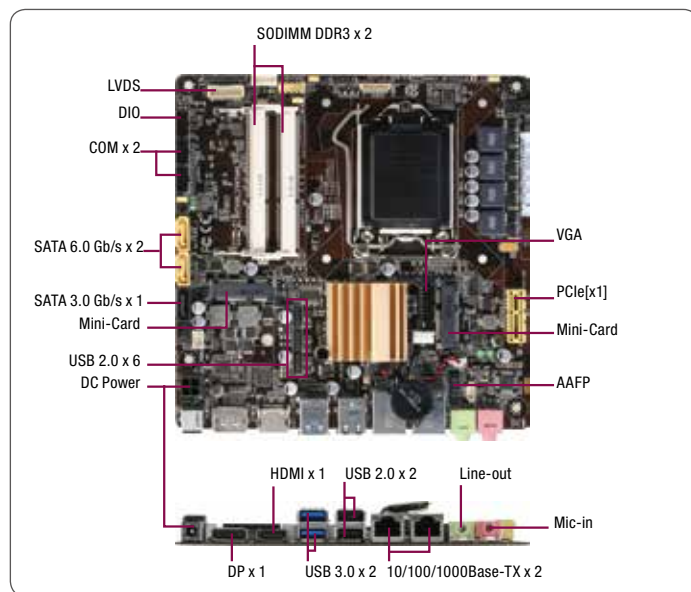


EMB-H81B

Thin Mini-ITX Embedded Motherboard with Intel® 4th Generation Core™ i Series Processor



Features

- Intel® 4th Generation Core™ i Series 22nm Processor
- Intel® H81
- DDR3 1333/1600 MHz SODIMM x 2, Up to 16 GB
- Dual Independent Display: LVDS, VGA, HDMI, DP
- SATA 6.0 Gb/s x 2, SATA 3.0 Gb/s x 1
- USB 3.0 x 2, USB 2.0 x 6
- PCI-E2.0 [x1] x 1, Full-size Mini-Card (mSATA) x 1, Half-size Mini-Card x 1
- DC 12V, 15~24V
- Low Profile



Specifications

System	
Processor	LGA 1150 Socket For Intel® 4th Generation Core™ i Series 22nm Processor, Max. 65W TDP
Chipset	Intel® H81
System Memory	SODIMM x 2, Max. 16 GB, DDR3 1333/1600 MHz Non-ECC, Dual channel memory architecture
Graphics	Intel® H81
I/O Chipset	NCT6791D
Ethernet	Realtek PCIe GB LAN 8111G x 2
Audio	Realtek® ALC887 with Amp.
TPM	Infineon SLB9635
Expansion Interface	PCI-E2.0[x1] x 1, Half-size Mini-Card (PCI-E) x 1, Full/Half-size Mini-Card (with SATA 3.0 Gb/s) x 1
BIOS	64Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis
Watchdog Timer	1~255 step by software program
Smart Fan Control	CPU Fan/ Chassis Fan
Wake On LAN/PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Power	
Battery	Lithium battery
Power Requirement	Power Requirement: 12V, 15~24V + / - 5% Note: Please Don't Use Adjustable Power Supply (EMB-Q87A-A10), 12~24V + / - 5%(EMB-Q87A-B10)
Power Consumption	Compliant with EuP / ErP
Mechanical	
Form Factor	Mini ITX Form Factor, 6.7" x 6.7" (170mm x 170mm)
Gross Weight	1.1 lb (0.5 kg)
Environmental	
Operating Temperature	32°F ~140°F (0°C ~60°C)
Operating Humidity	0% ~ 90% RH, non-condensing
Certificate	CE & FCC
MTBF	282,050
Display	
Graphics Engine	Intel® HD Graphics
Multi Display	VGA+HDMI, VGA+DP, VGA+LVDS, HDMI+DP, HDMI+LVDS, DP+LVDS
VGA	Up to 1920 x 1200 @60 Hz
DVI	—
HDMI	Up to 4096 x 2160 @ 24 Hz / 2560 x 1600 @ 60 Hz, with Digital Audio
Display Port	Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio
LVDS	Up to 1920 x 1200 @60 Hz, Dual Channel 18/24-bit

I/O	
Storage	SATA 6 Gb/s x 2, SATA 3 Gb/s x 1, SATA power x 1
USB	USB 3.0 x 2 (Rear I/O), USB 2.0 x 6 (2 ports at back panel, 4 ports at mid board)
Display I/O	LVDS x 1, HDMI x 1, DP x 1, VGA x 1
Audio I/O	Mic-in, Line-out, AAFF, Int. Speaker with Amp. (2W@4Ω)
LAN I/O	RJ-45 x 2
Serial Port	RS-232 x 1 (mid board), RS-232/422/485 x 1, supports optional 5V/12V/RI (mid board)
Parallel Port	—
PS/2 Port	Keyboard / Mouse with PS/2 for pin header x 1
DIO	8-bit Digital I/O x 1 (In/Out programmable)
FAN	CPU Fan connector x 1, Chassis Fan connector x 1
Operating System	
MS Windows	Windows 7 32-bit, Windows 7 64-bit, Windows 8 32-bit, Windows 8 64-bit
Linux	Fedora

Packing List

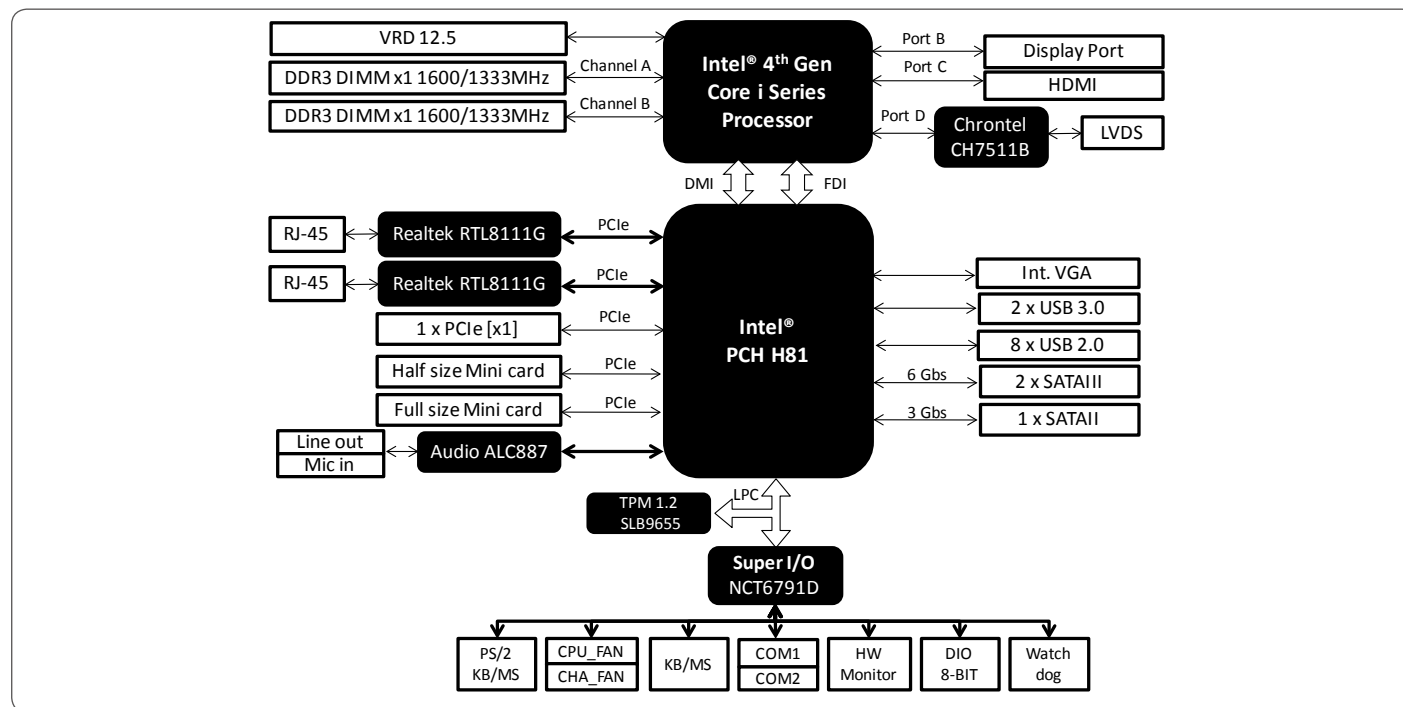
- SATA Power Cable
- SATA Cable
- Support DVD
- I/O Shield
- EMB-H81B

Distributed by:



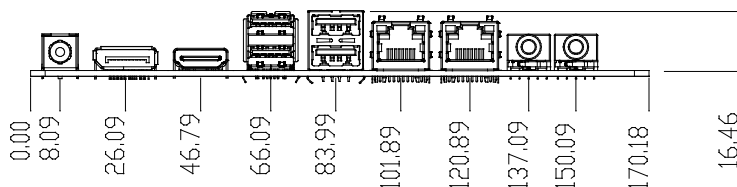
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Block Diagram



Dimension

Unit: mm



Order Information

Part Number	CPU	RAM	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
EMB-H81B-A10	Socket	SODIMM x2	Fan	VGA, HDMI, DP, LVDS	Daul Channel 18/24 bit	SATA3 x2, SATA2 x1, Full-Size mini card x1 (mSATA)	GbE x 2	USB3.0 x 2, USB2.0 x 6	1	1	PCI-E [x1] x 1, Half-Size Mini-Card (PCI-E + USB) x 1	12V, 15~24VDC	Onboard	0°C~60°C
EMB-H81B-B10	Socket	SODIMM x2	Fan	VGA, HDMI, DP, LVDS	Daul Channel 18/24 bit	SATA3 x2, SATA2 x1, Full-Size mini card x1 (mSATA)	GbE x 2	USB3.0 x 2, USB2.0 x 6	1	1	PCI-E [x1] x 1, Half size Mini Card (PCIe+USB) x1	12V~24VDC	On board	0°C~60°C

Optional Accessories

Part Number	Description
1709100201	USB 2.0 Cable (10P, 200mm, p=2.00mm) (with I/O BKT)
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
1701160201	VGA Cable (200mm, p=2.00mm)(w/o I/O BKT)
1701100206	COM Cable (200mm, p=2.00mm)(w/o I/O BKT)
1700060152	PS/2 Cable with KB/MS (150mm, p=2.00mm)(w/o I/O BKT)

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