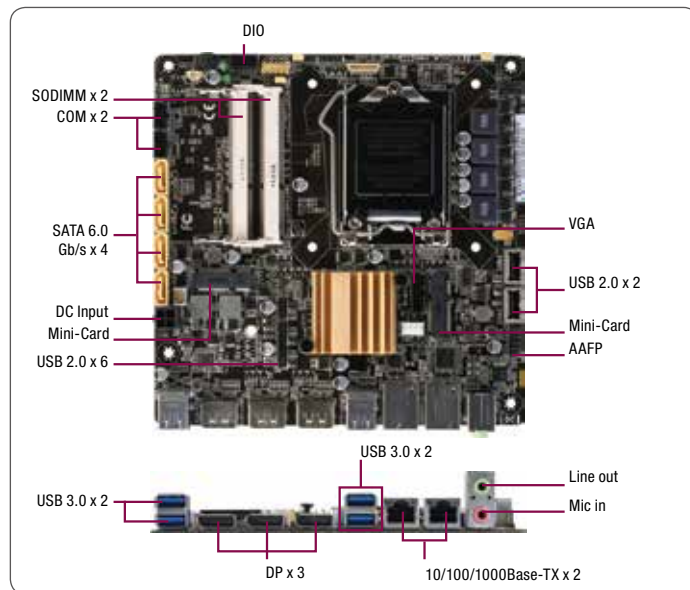


# EMB-Q87B

Intel® 4th Gen Core™ i Series Processor with 12V, 15~24V Wide Power Input Range



## Features

- Intel® 4th Generation Core™ i Series 22nm Processor
- DDR3 1333/1600 MHz SODIMM x 2, Up to 16 GB
- Three independent Display: DP x 3, VGA
- SATA 6.0 Gb/s x 4
- USB 3.0 x 4, USB 2.0 x 8
- Full-size Mini-Card with Optional mSATA x 1, Half-size Mini-Card with Optional mSATA x 1
- DC 12V, 15~24V



## Specifications

System	
Processor	LGA 1150 Socket For Intel® 4th Generation Core™ i Series 22nm Processor, Max. 65W TDPs
Chipset	Intel® Q87 Express Chipset
System Memory	SODIMM x 2, Max. 16 GB, DDR3 1333/1600 MHz Non-ECC (flat type), Dual channel memory architecture
Graphics	Intel® HD Graphics
I/O Chipset	Nuvoton NCT6791D
Ethernet	Intel® PHY I217LM Giga LAN (support vPro) x 1, Intel® I210AT Giga LAN x 1
Audio	Realtek® ALC887 (2ch audio codec)
TPM	Infineon SLB9655
Expansion Interface	Full/ Half-size Mini-Card (PCIe or mSATA select by Jumper ;default: mSATA 6.0 Gb/s) x 1, Half-size Mini-Card (PCIe or mSATA select by Jumper ;default: PCIe +USB) x 1
BIOS	128Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
Watchdog Timer	1~255 step by software program
Smart Fan Control	CPU Fan x 1 / Chassis Fan x 1
Wake On LAN/PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Power	
Battery	Lithium battery
Power Requirement	12V, 15~24V for EMB-Q87B-A10 ±5% wide-range voltage input block panel DC jack (5.5/2.5mm), 4-pin internal power connector, Note: Please use fixed voltage power
Power Consumption	—
Power Compliance	Compliant with EuP / ErP
Mechanical	
Form Factor	20mm Thin 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)
Storage temperature	-40°F ~185°F (-40°C ~85°C)
Operating Humidity	0% ~ 90% RH, non-condensing
Certificate	CE & FCC
MTBF	—
Display	
Chipset	Intel® HD Graphics
Multi Display	DP, DP+DP, DP+DP+DP
VGA	—
DVI	—
HDMI	—
Display Port	Up to 3840 x 2160 @60 Hz, with Digital Audio

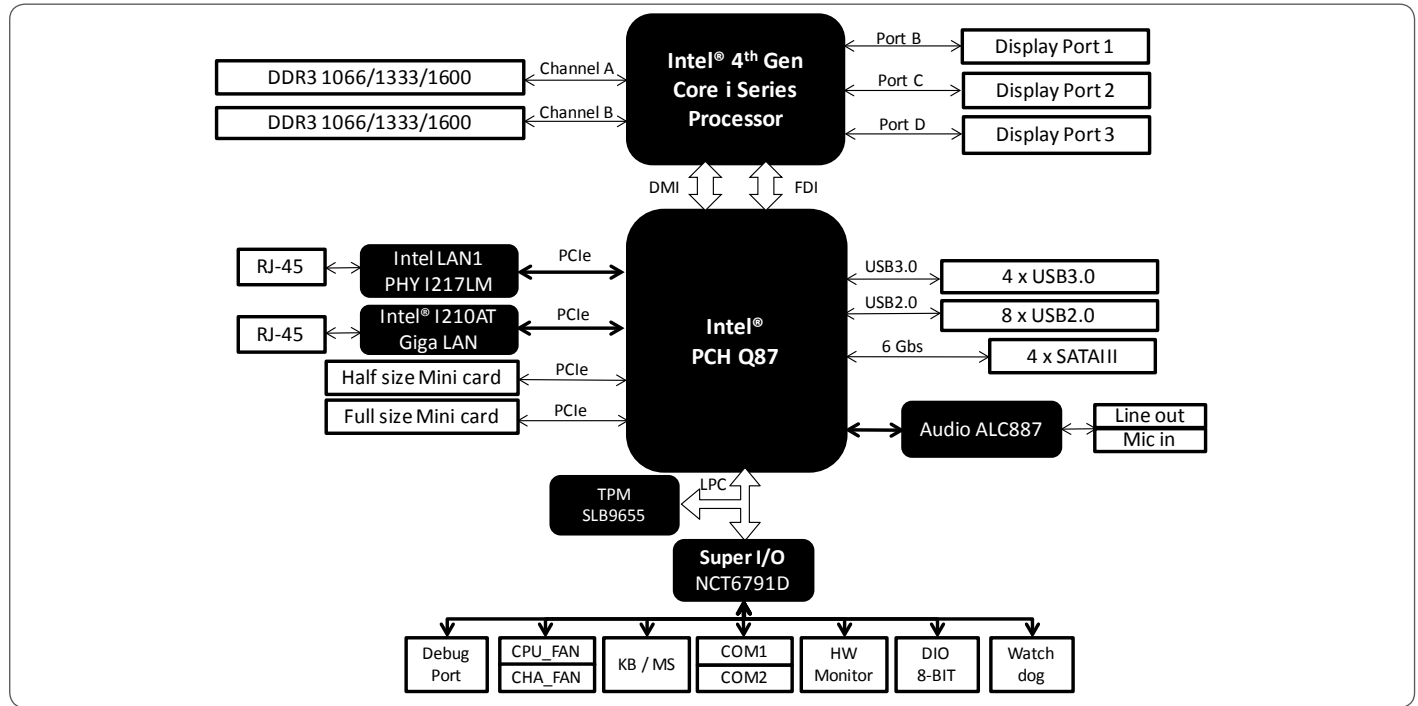
I/O	
Storage	SATA 6.0 Gb/s x 4, 4 pin SATA power
USB	USB 3.0 x 4 (Rear I/O) USB 2.0 x 8 (6 ports is PIN header and 2 ports is vertical)
Audio I/O	Mic-in, Line-out
LAN I/O	RJ-45 x 2
Serial Port	COM (RS-232) x 2
Parallel Port	—
PS/2 Port	Keyboard / Mouse (Pin header x 1)
DIO	8-bit Digital I/O x 1 (In/Out programmable)
FAN	CPU Fan connector(s) (4-pin) x 1, Chassis Fan connector(s) (4-pin) x 1
Operating System	
MS Windows	Windows® 7 32/64-bit Windows® 8 32/64-bit
Linux	Fedora

## Packing List

- SATA Power Cable
- SATA Cable
- Support DVD
- I/O Shield
- EMB-Q87B

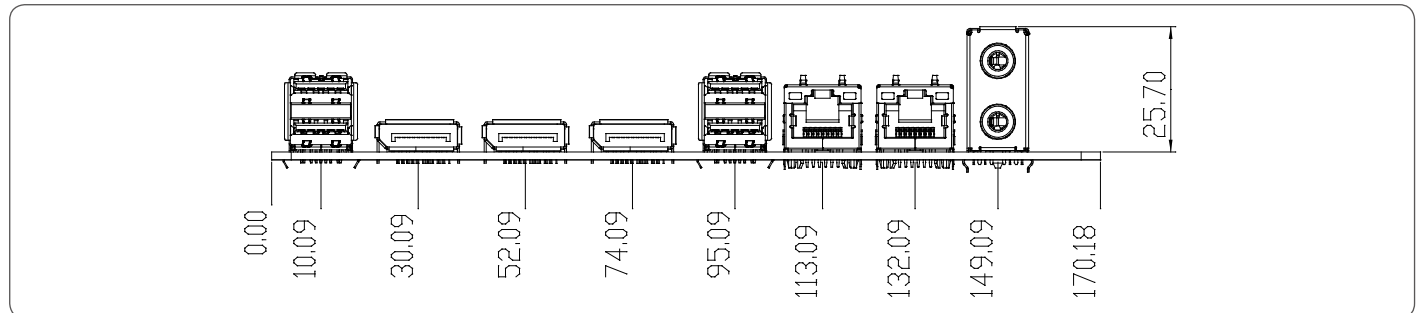
# EMB-Q87B

## Block Diagram



## Dimension

Unit: mm



## Order Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
EMB-Q87B-A10	Socket	SODIMM x 2	Fan	DP x 3	SATA 3, Full size Mini-Card (Default: mSATA, Jumper Selection) x 1 Half size Mini-Card (Default: PCI-E x 1 & USB, Jumper Selection) x 1	GbE x 2	USB3.0 x 4 USB2.0 x 8	1	1	Full size Mini-Card x 1, Half-Size Mini-Card x 1	12V, 15-24VDC	Onboard	0°C - 60°C

## Optional Accessories

Part Number	Description
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
1700060152	PS/2 cable (6P, 150mm, p=2.00mm)
1709100201	USB 2.0 cable (10P, 200MM, p=2.00mm, w/bracket)
1701100206	COM cable (200MM, p=2.00mm)