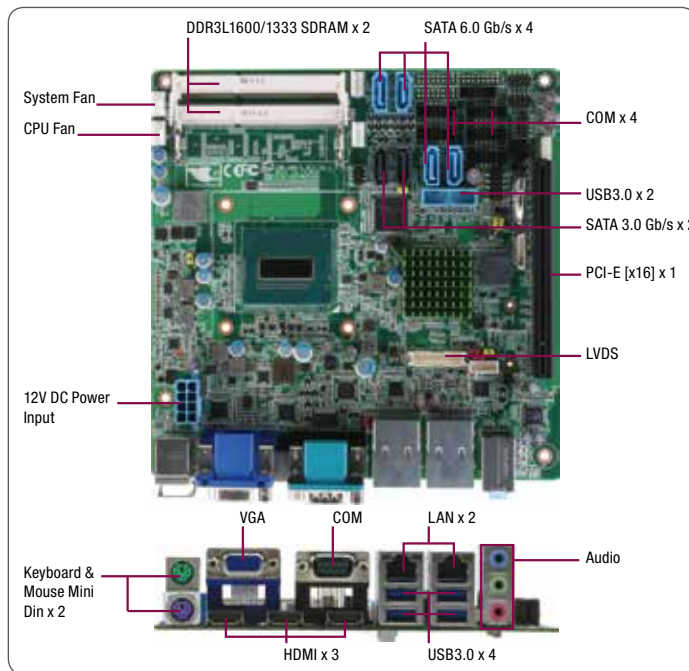


EMB-QM87A

Embedded Motherboard with Onboard Intel® 4th Generation BGA 1364 Processor



Features

- Onboard Intel® 4th Generation BGA 1364 Processor
- 204-pin DDR3L 1600/1333 MHz SDRAM x 2, Up to 16 GB
- HDMI x 3, VGA, 24-bit Dual-Channel LVDS
- Audio Jack x 3 with BTX Type (Mic-in, Line-in, Line-out)
- LAN 1 : Intel® I217-LM Gigabit Ethernet
LAN 2 : Realtek RTL 8111E Gigabit Ethernet
- SATA 6.0 Gb/s x 4, SATA 3.0 Gb/s x 2, Support RAID 0,1,5,10
- PCI-E[x16] x 1, Mini-PCIe x 1, COM x 5



Specifications

System	
Form Factor	Mini-ITX
Processor	Onboard Intel® 4th Generation BGA 1364 Processor
System Memory	204-pin Dual-Channel DDR3L 1600/1333 MHz SDRAM x 2, Up to 16 GB
Chipset	Intel® QM87
I/O Chipset	Fintek F81866D-I
Ethernet	LAN 1: Intel® I217-LM Gigabit Ethernet LAN 2: Realtek RTL 8111E Gigabit Ethernet
BIOS	AMI BIOS - 128 MB ROM
Wake on LAN	Yes
Watchdog Timer	System Reset: 1~255 steps programmable
H/W Status Monitoring	Supports System temperature, Voltage, and Cooling fan status monitoring
Expansion Interface	PCI-E[x16] x 1, Mini-PCIe x 1
Power Requirement	+12V 8-pin connector x 1
Power Consumption(Typical)	Intel® Core™ i7-4700EQ 3.40 GHz, DDR3L 1600 MHz 8 GB, 4.23A@ +12V/Full loading 50.5W
Board Size	6.7" x 6.7" (170 mm x 170 mm)
Gross Weight	1.32 lb (0.6 kg)
Operation temperature	32 °F ~ 140 °F (0 °C ~ 60 °C)
Storage Temperature	-40 °F ~ 176 °F (-40 °C ~ 80 °C)
Operation Humidity	0% ~ 90% R/H, non-condensing
MTBF (Hours)	106,000
Operating Humidity	0%~90% RH, non-condensing
Smart Fan Control	CPU Fan / Chassis Fan
Power State	S3, S4, S5
Power Requirement	4/8-pin ATX 12V Power Connector x1
Power Compliance	Compliant with EuP / ErP
Certificate	CE & FCC
Display	
Chipset	Intel® Core™i7/i5 + QM87
Memory	Shared System Memory up to 256 MB
Resolution	Up to 4096 x 2304 @ 24 Hz for 1st HDMI Up to 4096 x 2304 @ 24 Hz for 2nd HDMI Up to 3840 x 2160 @ 60 Hz for 3rd HDMI Up to 1920 x 1200 @ 60 Hz for VGA Up to 3200 x 2000 @ 60 Hz for LVDS
Output Interface	HDMI, VGA, LVDS

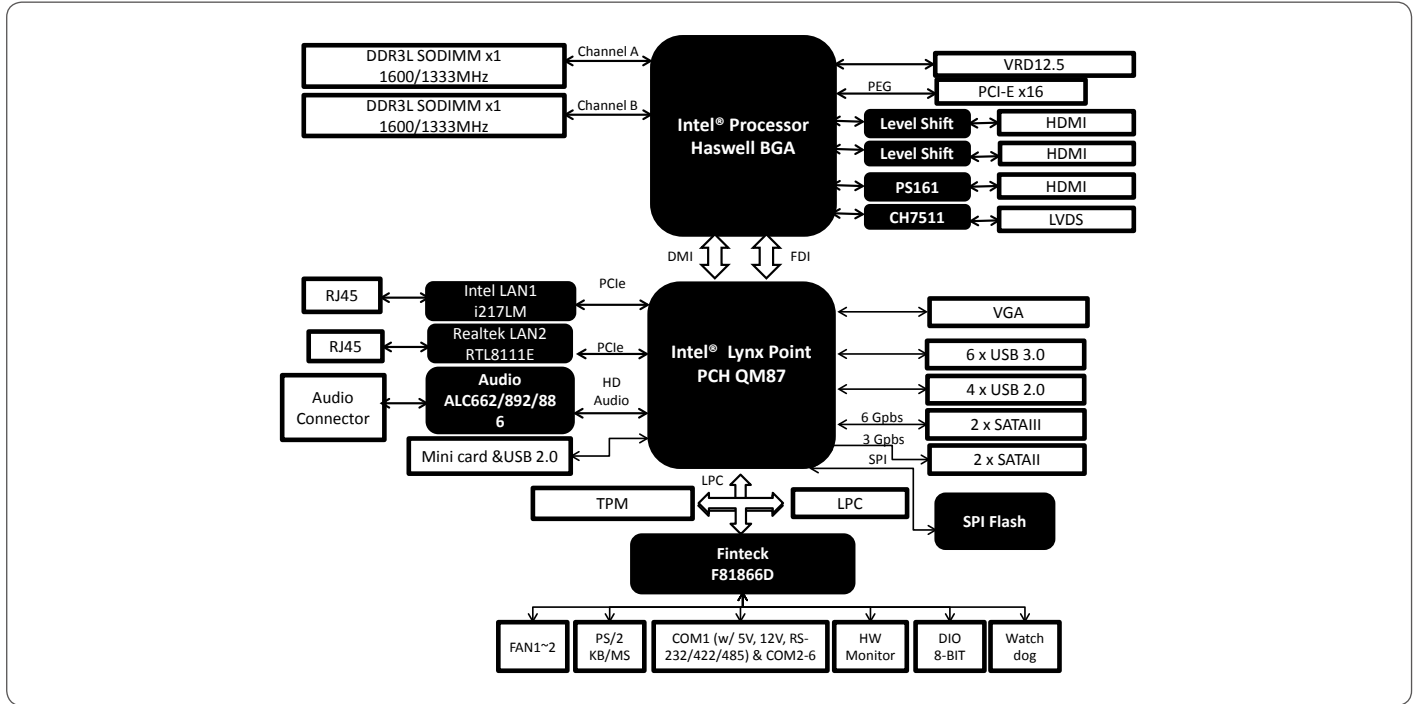
I/O	
Storage	SATA 6.0 Gb/s x 4, SATA 3.0 Gb/s x 2 Support RAID 0,1,5,10
Serial Port	RS-232 x 4, RS-232/422/485 x 1
Universal Serial Bus	USB 3.0 x 6, USB 2.0 x 4
Digital I/O	8-bit programmable(4-in/4-out)
PS/2 port	Mini-Din PS/2 K/B and Mouse x 1
Audio	Line-in, Mic-in, Line-out

Packing List

- **M20QM87000**
(TF)Metal, Sus, I/O Shield, Rev.0.0, EMB-QM87, Northern Queen, 60038-1
- **1709070800**
(TF)SATA CABLE, 7P Pitch 1.27mm, 80cm, w/Lock
- **1702151201**
(TF)Power Cable, 4P 2.5mm Housing, 15P SATA (F), 12cm, for FWS-2150
- **9657666600**
(TF)Accessory, for All Series Jumper
- **17592QM871**
(TF)CPU Cooler, FAN+Heat Sink, 4P, 60*60*26.5mm, for GENE-QM87, COOLJAG, JACDD04A-3-2300
- **Product DVD**
- **EMB-QM87A**

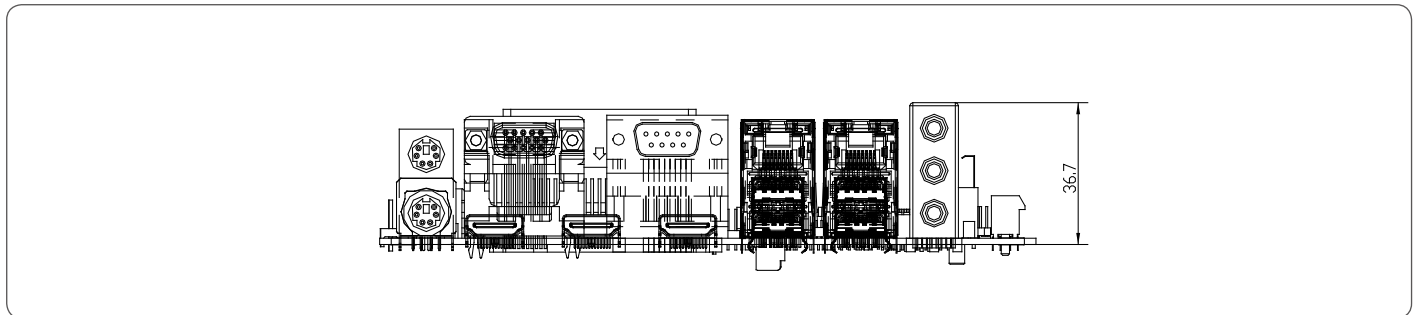
EMB-QM87A

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	Temp.
EMB-QM87A-A10	Intel® Core™ i7-4700EQ	SODIMM	Fan	HDMI, VGA, LVDS	SATA 3 x 4, SATA 2 x 2	GbE x 2	USB 3.0 x 6 USB 2.0 x 4	4	1	PCI-E[x16] x 1, Mini-PCIe x 1	+12V/DC	0°C~60°C
EMB-QM87A-A10-01	Intel® Core™ i5-4400E	SODIMM	Fan	HDMI, VGA, LVDS	SATA 3 x 4, SATA 2 x 2	GbE x 2	USB 3.0 x 6 USB 2.0 x 4	4	1	PCI-E[x16] x 1, Mini-PCIe x 1	+12V/DC	0°C~60°C

Optional Accessories

- **1709070800**
(TF)SATA CABLE, 7P Pitch 1.27mm, 80cm, w/Lock
- **1702151201**
(TF)Power Cable, 4P 2.5mm Housing, 15P SATA (F), 12cm, for FWS-2150
- **9657666600**
(TF)Accessory, for All Series Jumper
- **1709100201**
(TF)USB Cable, 20cm 2.0mm, w/Bracket
- **1701100206**
(TF)Flat Cable, 9P DB 9P Male, 10P 2.00mm Pitch Housing, 20cm
- **1700190450**
(TF)USB3.0 Cable, 2 PORTS USB3.0, to 19P, w/ bracket, 450mm, ASUS