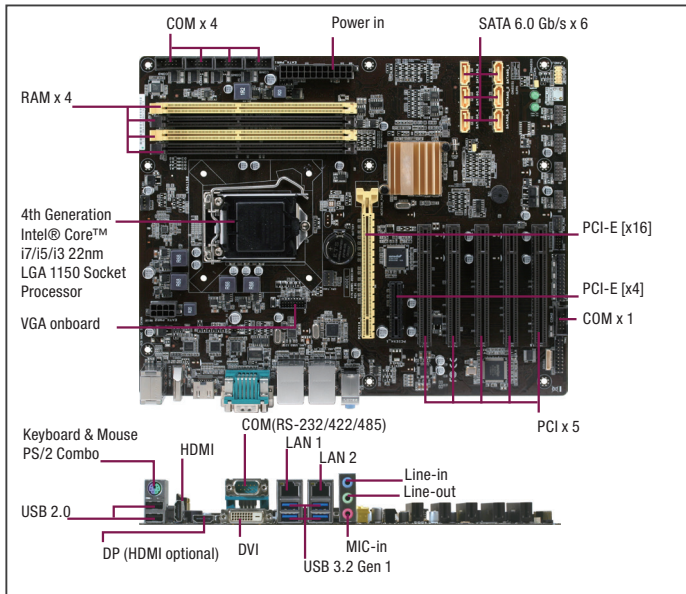


# IMBA-Q87A

ATX Industrial Motherboard with 4th Generation Intel® LGA1150 Processor, SATA3 x 6, PCI x 5, Multiple Display Ports, Supports iAMT 9.0



## Specifications

System	
Processor	4th Generation Intel® Core™ i7/i5/i3/Pentium®/ Celeron® 22nm LGA 1150 socket Processor
Chipset	Intel® Q87 Express Chipset
Memory	240-pin DIMM x 4, max. 32GB, DDR3 1600/1333 MHz, non-ECC, un-buffered memory, dual-channel memory architecture
I/O Chipset	NCT6791D, F81216HD
Ethernet	LAN1: Intel® PHY I217LM Gb LAN (supports iAMT 9.0) x 1 LAN2: Intel® I210AT Gb LAN x 1, RJ-45 x 2
Audio	Realtek® ALC887 (Colay with ALC886)
TPM	20-1 PIN header for TPM1.2/FW3.19
Expansion Slots	PCIe 3.0/2.0 [x16] Slot x 1, PCIe 2.0 [x4] Slot x 1, PCI x 5
BIOS	64Mbit Flash ROM x 2, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan
Wake On LAN/PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	SKU1 (VGA/ DVI/ HDMI/ DP): VGA+DVI, VGA+HDMI, VGA+DP, DVI+HDMI, DVI+DP, HDMI+DP, VGA+DVI+HDMI, VGA+DVI+DP, HDMI+DP+VGA; SKU2 (VGA/ DVI/ 2xHDMI): VGA+DVI, VGA+HDMI1, VGA+HDMI2, DVI+HDMI1, DVI+HDMI2, HDMI1+HDMI2, VGA+HDMI1+HDMI2, VGA+HDMI1+DVI, VGA+HDMI2+DVI
VGA	Up to 1920 x 1200 @60Hz
DVI	Up to 1920 x 1200 @60Hz
HDMI	HDMI 1.4, up to 4096 x 2304 @24Hz
Display Port	DP 1.2, up to 3840 x 2160 @60Hz
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin ATX 12V Power connector x 1
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 Class A
Form Factor	ATX Form Factor, 12" x 9.6" (305 mm x 244 mm)
Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	86,000

## Features

- 4th Generation Intel® Core™ i7/i5/i3 22nm LGA 1150 Socket Processor
- Three/Dual Independent Display: VGA, DVI-D, HDMI, DP (HDMI Optional)
- Dual Gigabit Ethernet, LAN1 Supports iAMT 9.0
- SATA 6.0 Gb/s x 6, USB 3.2 Gen 1 x 4, USB 2.0 x 10
- Rich Expansion Slot: PCI-E 3.0/2.0 [x16] x 1, PCI-E [x4] x 1, PCI x 5
- TPM Optional (Via Pin Header)



## Rear Panel I/O Ports

USB	USB 3.2 Gen 1 port x 4, USB 2.0 port x 2
Display I/O	DVI-D x 1, HDMI x 1 (Dual HDMI optional), DP x 1 (will disable if choose 2 HDMI)
Audio I/O	Audio Jack x 3: Line-in, Mic-in, Line-out
LAN I/O	LAN (RJ-45) port x 2
Serial Port	RS-232/422/485 DB-9 connector x 1 (COM1, supports 5/12V on RI pin)
PS/2 Port	PS/2 Combo Port (Keyboard & Mouse) x 1
Others	—

## Internal I/O Connectors

Storage	SATA3 (6.0Gb/s) port x 6, supports RAID 0/1/5/10
USB	USB 2.0 connector x 4 supports additional 8 USB ports
Display I/O	VGA x 1
Audio I/O	—
Serial Port	RS-232 header x 5
PS/2 Port	—
Parallel Port	LPT connector x 1
DIO	8-bit Digital I/O interface x 1 (In/Out programmable)
FAN	CPU Fan connector(s) (4-pin) x 1, Chassis Fan connector(s) (4-pin) x 2
Power	—
Others	Front panel header x 1, Clear CMOS jumper x 1, BIOS flash header (2[x4]P p=1.27mm) x 1
OS	
OS Support	Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Windows® 10 32/64-bit, Linux Fedora

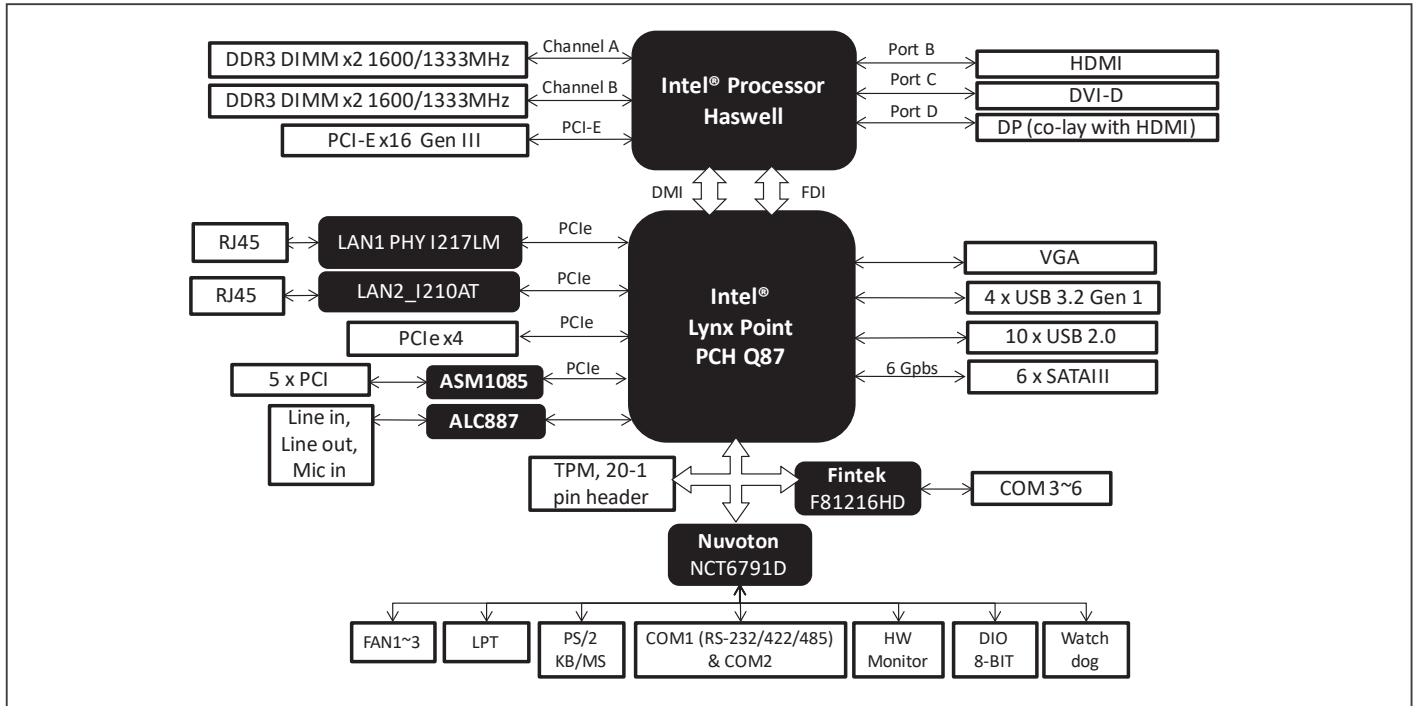
## Packing List

- **14001-00400100**  
COM Cable (9P, 260mm, P=2.54mm w/ bracket)
- **14001-00630100**  
SATA 6G Cable (7P, 180; 90, 500MM) 2 in 1
- **I/O Shield**
- **IMBA-Q87A**

## Optional Accessories

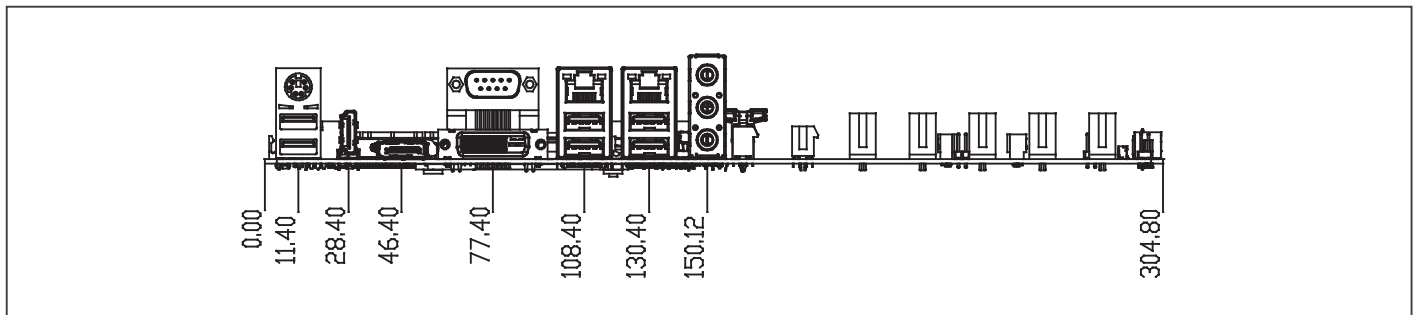
- **1709100330**  
USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
- **170910020K**  
USB 2.0 cable (9P, 200MM, p=2.54mm, w/o bracket)
- **1701260305**  
LPT Cable (25P, 270MM)
- **1759200172**  
CPU Cooler (2-Ball, Screw with Retention Plate)
- **175921156B**  
CPU Cooler (2-Ball, Push-pin Type)
- **1701160201**  
VGA Cable (200MM, p=2.00mm)
- **1700060192**  
PS/2 Combo Cable, 6P, 190mm

## Block Diagram



## Dimension

Unit: mm



## Ordering Information

PN	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
IMBA-Q87A-A10-DH	LGA1150 socket	DDR3 1600/1333	Fan	VGA, DVI, HDMI, DP	SATA3 x 6	—	IntelGbE x 2	USB 3.2 Gen 1 x 4 USB 2.0 x 10	5	1	PCI-Express [x16] x 1 PCI-Express [x4] x 1 PCI x 5	ATX	20-1 Pin Header	32°F ~ 140°F (0°C ~ 60°C)
IMBA-Q87A-A10-HH	LGA1150 socket	DDR3 1600/1333	Fan	VGA, DVI, HDMI x 2	SATA3 x 6	—	IntelGbE x 2	USB 3.2 Gen 1 x 4 USB 2.0 x 10	5	1	PCI-Express [x16] x 1 PCI-Express [x4] x 1 PCI x 5	ATX	20-1 Pin Header	32°F ~ 140°F (0°C ~ 60°C)