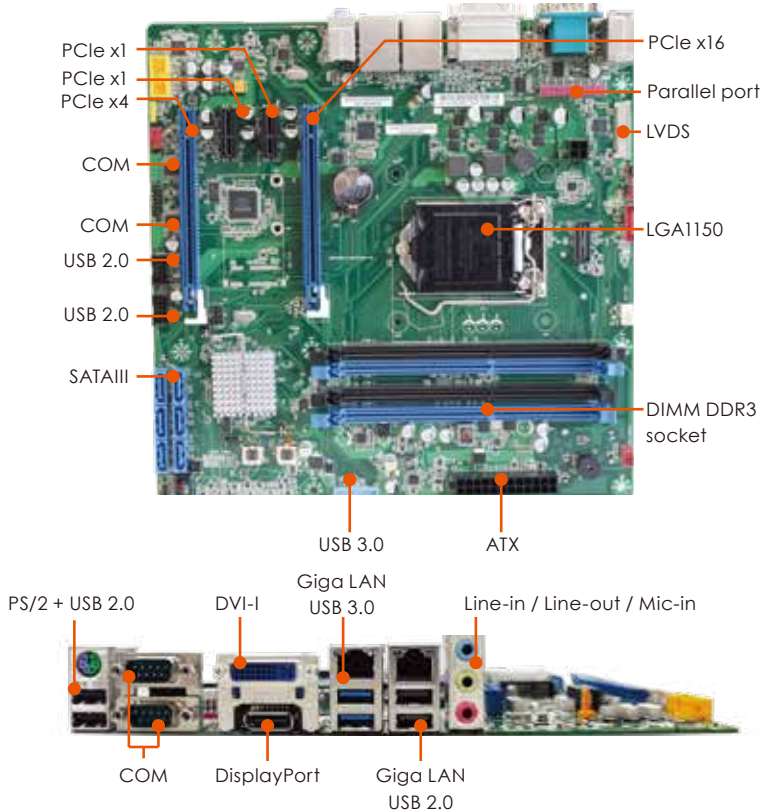


PH10LU

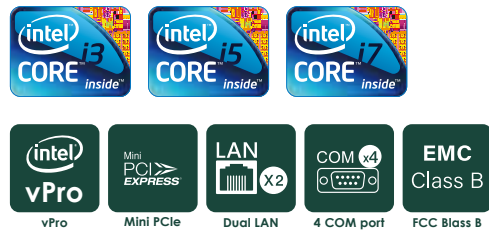
Micro-ATX Form Factor

Intel® Haswell Processor with Q87 Chipset

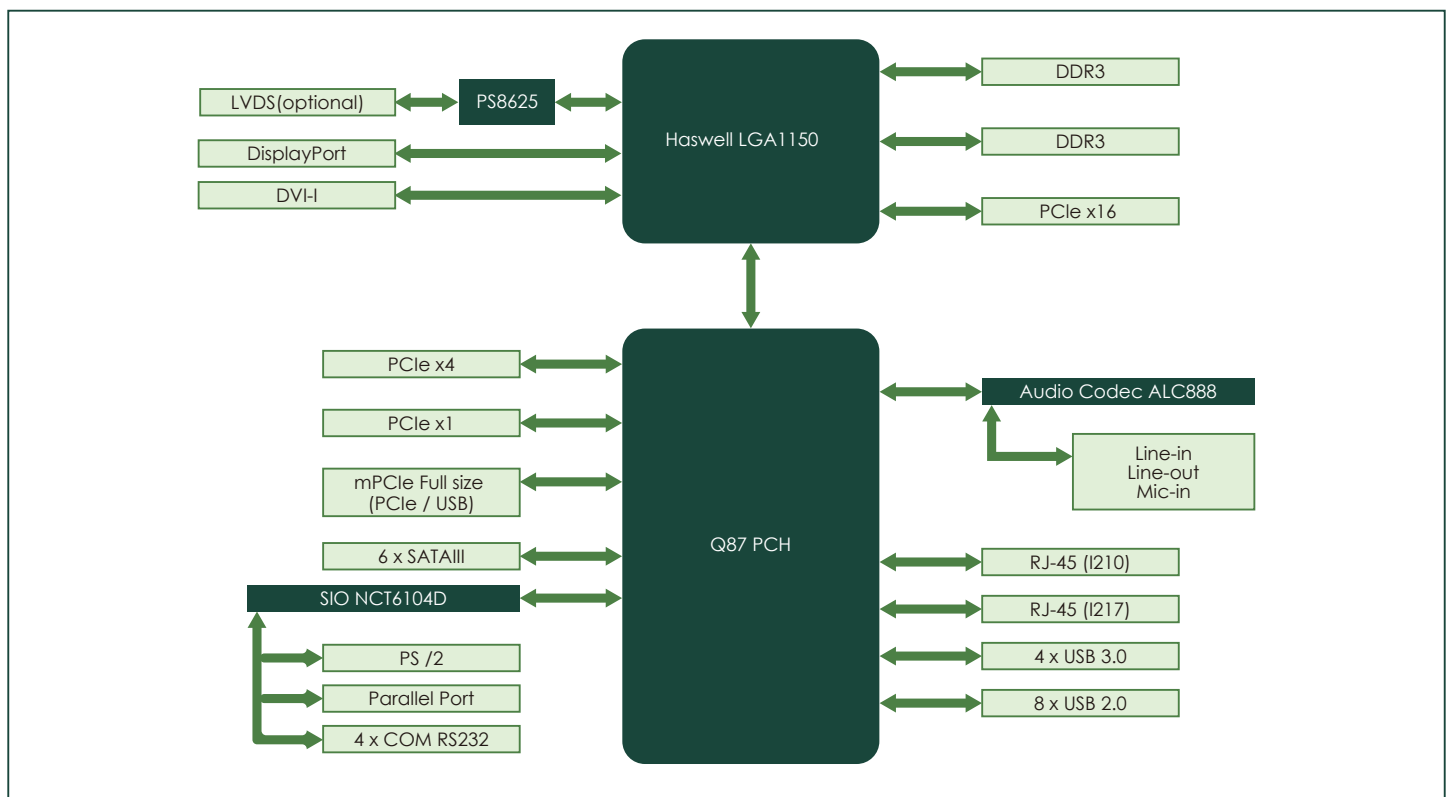


Features

- Intel® vPro technology support
- 4 x DDR3 DIMM, support up to 32GB
- Support dual display for DisplayPort and DVI
- Support 1 x PCIe x16 (Gen 3) slot, 1 x PCIe x4 (Gen 2) slot, 1 x PCIe x1 (Gen 2) slot and Mini PCIe slot
- 6 x SATAIII RAID 0, 1, 5, 10
- 2 x Intel® Gigabit Ethernet
- 8 x USB 2.0, 4 x USB 3.0, 4 x COM and 1 x Parallel Port
- ATX power input



Block Diagram



PH10LU

Micro ATX

Industrial Motherboard

MECHANICAL	
Form Factor	Micro ATX 9.6" x 9.6" (244mm x 244mm)
SYSTEM	
Processor	4th Gen Haswell Intel® Core™ i Series LGA1150 Socket Processor, TDP Max. 95W
Chipset	Intel® Q87 Chipset
Memory	DDR3 1600, 4 x 240-pin U-DIMM, Max. 32 GB (Non-ECC)
Graphics	Intel® HD Graphics
Ethernet	2 x Realtek® RTL8111G Giga LAN
Audio	Realtek® ALC662/ALC888
I/O Chipset	Nuvoton NCT6104D
TPM	Nuvoton NPCT420AA0WX (Optional)
Expansion Slot	1 x PCIe 3.0x16 slot 1 x PCIe 2.0x4 slot 1 x PCIe 2.0x1 slot
BIOS	AMI BIOS, 64 Mbit SPI
H / W Monitor	Temperature Monitor, Voltage Monitor, Fan Monitor
Watchdog Timer	—
Smart Fan Control	CPU Fan / System Fan
GRAPHICS	
VGA	—
DVI	Up to 1920 x 1200 @60 Hz
HDMI	—
DisplayPort	Up to 2560 x 1600 @60 Hz
LVDS	—
eDP (Option)	—
REAR I/O	
USB	2 x USB 3.0 , 4 x USB 2.0
Display I/O	1 x DVI-I, 1 x DisplayPort 1.2
Audio I/O	3 x Audio Jack (Mic-in, Line-in, and Line-out)
LAN I/O	2 x RJ-45
Serial Port	2 x RS232
PS/2 Port	1 x PS/2 (MS / KB Combo)
Others	—
INTERNAL CONNECTORS	
Storage	6 x SATAIII
USB	2 x USB3.0 , 4 x USB2.0
Display I/O	—
Audio I/O	1 x Audio Header (Front Panel Mic-in/Headphone-out) 1 x S/PDIF Out Audio Header (4-pin)
Serial Port	2 x RS-232 (Configurable for RS232/422/485)
PS/2 Port	—
Parallel Port	1 x Parallel Port Header
GPIO	—
Fan	3 x 4-pin PWM Fan Header
Power	1 x ATX 24-pin, 1 x 4-pin
Others	1 x Chassis Front Panel Header 1 x CMOS Jumper
POWER REQUIREMENT	
Power Input	ATX Power (24-pin + 4-pin) DC-in 12V
ENVIRONMENTAL	
Operating Temperature	0 ~ 60°C (32 ~ 140°F)
Storage Temperature	-20 ~ 70°C (-4 ~ 158°F)
Operating Humidity	10% ~ 95% R/H, non-condensing
Certification	CE, FCC, UL Class B
OS	
OS Support	Windows® 7 32/64bit, Windows® 8.1 64bit, Windows® 10 64bit Linux (support by request)

Ordering Information

Model Number	Chipset	DVI-I	Display Port	3-Stack Audio Jack	PS/2	LAN	USB3.0/2.0	Serial Port	mPCIe	PCIex1/x4/x16	SATA	Power
PH10LU-Q87	Q87	1	1	1	1	2	2 / 4	2	0	2 / 1 / 1	6	ATX Power (24-pin + 4-pin)

Packing List

Packing	
• 1 x Motherboard	• 1 X 50cm SATA Cable
• 1 x Driver CD	• 1 x I/O Bracket
	• 1 x Quick Guide