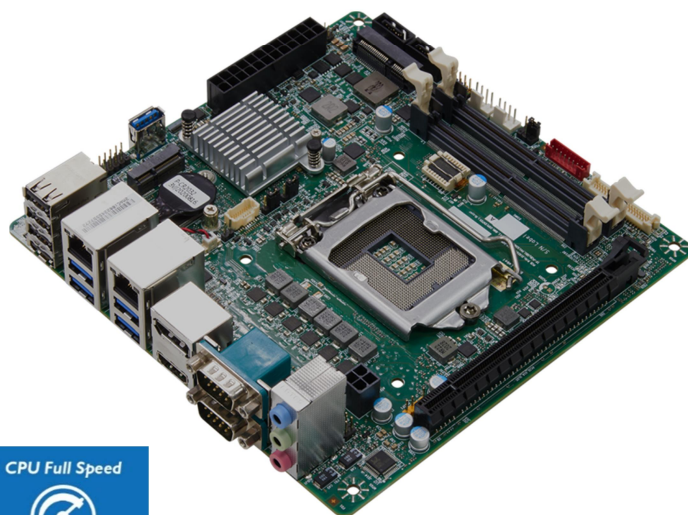




INS8370A

Mini-ITX Form Factor Intel® 10th Gen. Core™

i9/ i7/ i5 /i3 processors



Extended
Temperature
+85°C
-40°C

CPU Full Speed



Intel.
CORE
i3

Intel.
CORE
i5

Intel.
CORE
i7

Intel.
CORE
i9

Intel
vPro

LAN
x2

M.2

Mini
PCI
EXPRESS

EMC
Class B

MIPI

- Support Intel® 10th Core™ i9/ i7/i5/i3 Comet Lake-S LGA1200 35W/65W Socket Processor
- Intel® Q470E / H420E Chipset
- Intel® vPro technology support (Q470E)
- 2 x DDR4 SO-DIMM up to 64GB
- Support triple display for HDMI, DisplayPort and LVDS/eDP
- 1 x M.2 2280M-key (NVME), 1 x M.2 2230 E-key (CNVi), 1 x mPCIe Full size, 1 x PCIe X4
- 2 x Intel® Gigabit Ethernet
- 2 x SATAIII, 4 x USB3.1, 6 x USB2.0, 4 x COM(1 x support RS232/422/485)
- DC-IN 12V / (Optional : 19V)
- Operating Temperature : ET : -20°C ~ 70°C ; UT : -40°C ~ 85°C

Specifications

SYSTEM

CPU	10th Gen Intel® Comet Lake LGA1200 Socket Processor / 10core TDP Max 35W / 8ccore TDP 65W / (ATX support 6core 95W)
System Memory	DDR4 2933/2666/2400MHz / 2 x 260-pin SO-DIMM / Max. 64 GB (Non-ECC)
Chipset	Intel® Q470E (Support RAID 0 / 1 / 5, VPro) / colay H420E
GRAPHICS	Intel® HD Graphics
I/O CHIPSET	Nuvoton NCT6126D(eSPI)
TPM	Nuvoton NPCT750AAAYX TPM2.0 (Optional)
BIOS	AMI BIOS / 256 Mbit SPI
H/W MONITOR	Temperature Monitor / Voltage Monitor / Fan Monitor
WATCHDOG TIMER	1~255 steps by software program
SMART FAN CONTROL	CPU Fan / System Fan

EXPANSION SLOT

M.2	1 x M.2 2230 E key(PCIe / USB) 1 x M.2 2242 / 2280 M key (PCIeX4, SATA)
Mini PCIe	1 x Mini PCIe Full size (PCIe / USB / SATA)
PCIe Slot	1 x PCIe 3.0 X16 slot

DISPLAY

HDMI	Up to 4K (4096 x 2160) @30 Hz
DISPLAYPORT	Up to 4K (4096 x 2304) @60 Hz
LVDS	Up to 1920 x 1200 @60 Hz
eDP (Option)	Up to 4K (4096 x 2304) @60 Hz

ETHERNET

Chipset	Intel® I219-LM Giga LAN + Intel® I211-AT Giga LAN
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AUDIO

Codec	Realtek® ALC662/ALC888
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REAR I/O

M.2	1 x M.2 2230 E key(PCIe / USB)
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Mini PCIe	1 x Mini PCIe Full size (PCIe / USB / SATA)
PCIe Slot	1 x PCIe 3.0 X16 slot
M.2	1 x M.2 2230 E key (PCIe / USB) 1 x M.2 2242 / 2280 M key (PCIeX4, SATA)
Mini PCIe	1 x Mini PCIe Full size (PCIe / USB / SATA)

INTERNAL I/O

STORAGE	2 x SATAIII
USB	1 x USB 3.0 / 2 x USB 2.0
DISPLAY I/O	1 x LVDS (*Optional eDP SKU available) / 1 x Backlight Connector
GPIO	1 x MiAPI Header (Programmable. Support 10-bit GPIO)
FAN	1 x 4-pin CPU Fan Header / 1 x 4-pin System Fan Header
POWER	1 x ATX Power Connector / 1 x AT / ATX Mode Select Jumper / ATX 12V Power Connector (24-pin + 4-pin)
OTHERS	1 x CMOS Jumper / 1 x Front Audio Header (Mic-in & Line-out) / 1 x panel power select header / 1x buzzer header / 1 x SPDIF

MECHANICAL AND ENVIRONMENTAL

Form Factor	Mini ITX
POWER TYPE	ATX 24-pin + 4-pin / 12V DC (3pin terminal connector via cable by connecting to ATX 24-pin + 4-pin)
Dimension	170 mm x 170mm
OPERATING TEMP.	ET : -20 ~ 70°C UT : -40 ~ 85°C
STORAGE TEMP.	-40 ~ 85°C
Relative humidity	10% ~ 95% R/H (Non-condensing)

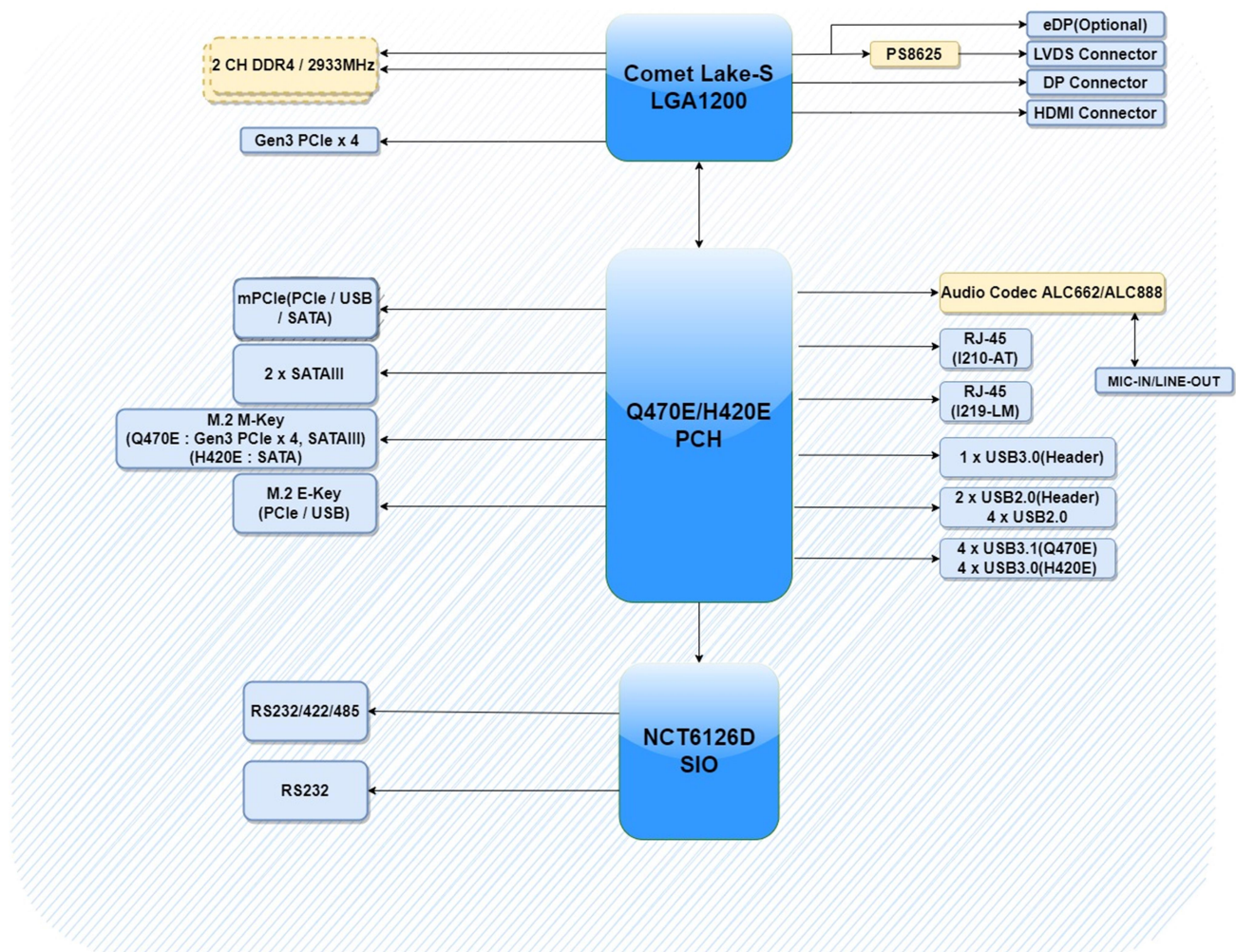
STANDARD COMPLIANCE

Standard Compliance	CE/FCC
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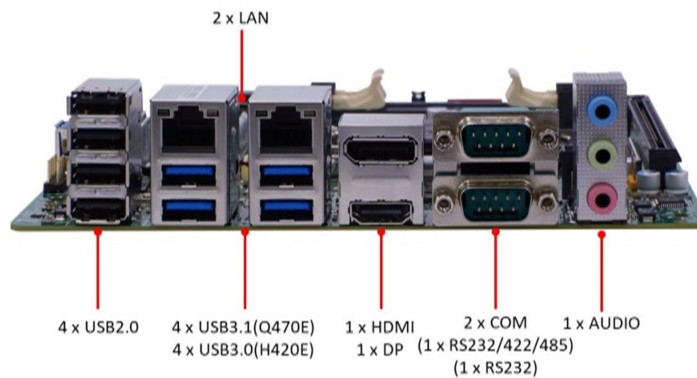
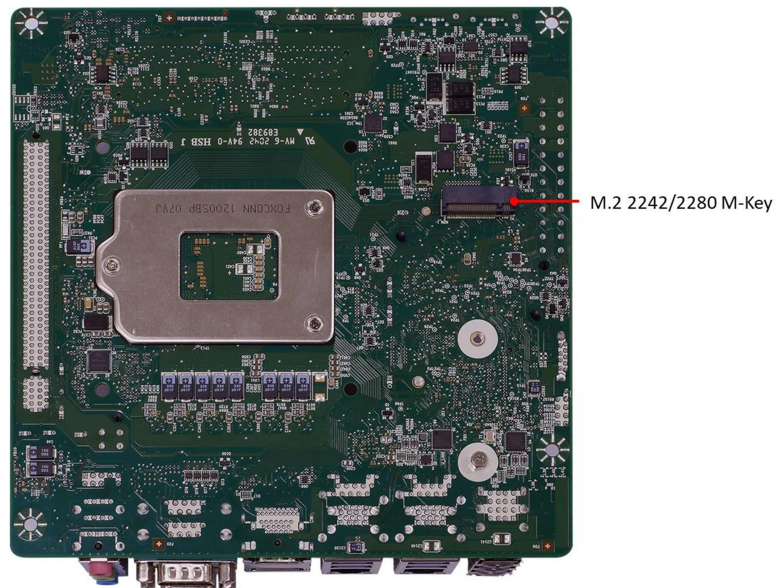
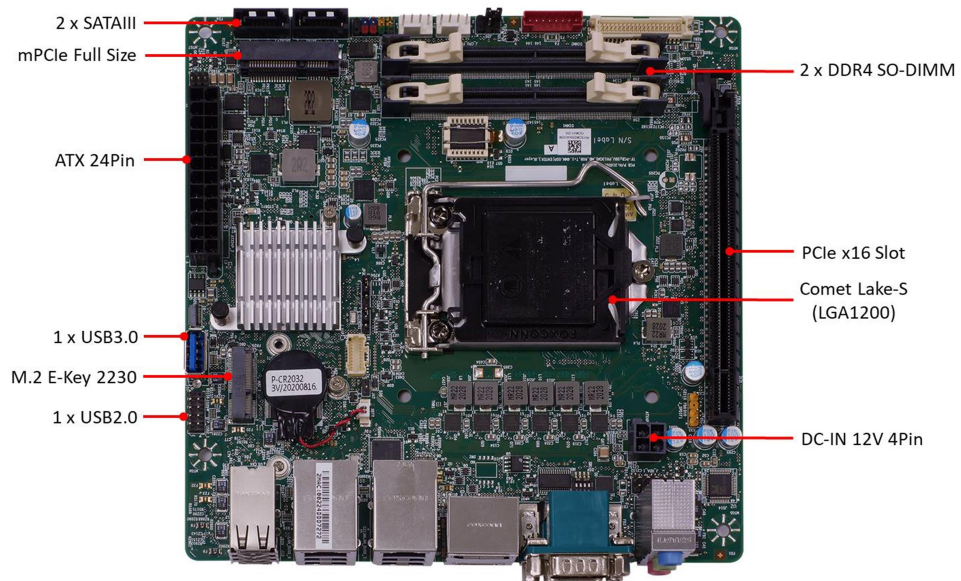
OS

OS Support	Windows®10 64-bit Linux(Support by request)
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Block Diagram



Board Placement



Ordering Information

Model	CPU	PCH	Expansion	USB3.1/3.0/2.0	System Power Input	Operation Temp.
INS8370A-01ET	10 th LGA 1200 (Up to 65W)	Q470E	1 x M.2 M-Key 2242/2280 1 x M.2 E-Key 2230 1 x mPCIe Full Size 1 x PCIe16 Slot	4/1/6	DC 12V	-20 to 70°C
INS8370A-01UT				4/1/6		-40 to 85°C
INS8370A-02ET		H420E		0/5/6		-20 to 70°C
INS8370A-02UT				0/5/6		-40 to 85°C
INS8370A-03ET (Optional)		Q470E		4/1/6	ATX	-20 to 70°C
INS8370A-03UT (Optional)				4/1/6		-40 to 85°C
INS8370A-04ET (Optional)		H420E		0/5/6		-20 to 70°C
INS8370A-04UT (Optional)				0/5/6		-40 to 85°C