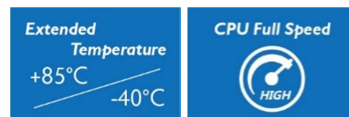
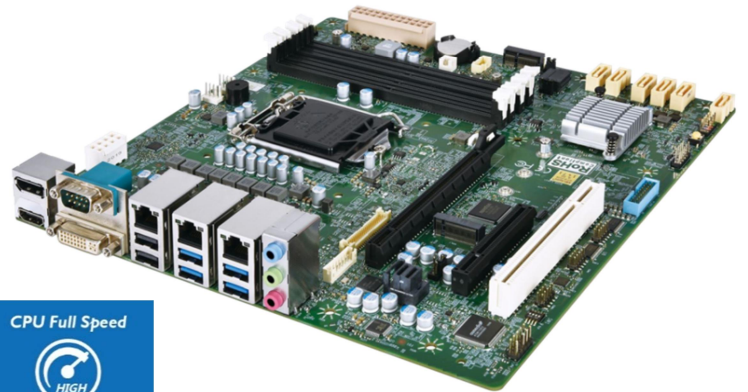




# INS8266A

Micro-ATX Form Factor Intel® 10th Gen. Core™  
i9/i7/i5/i3 processors



- Intel® Comet Lake 10th Gen i9/i7/i5/i3 up to 125W (10 Cores) LGA1200 processor
- Intel H420E / Q470E / W480E Chipset
- Intel® vPro technology supported
- 4 x DDR4 U-DIMM, support up to 64GB
- Support 1 x PCIe X16 slot, 1 x PCIe X8 slot, and 1 x PCI slot  
1 x M.2 2280M-key (NVME), 1 x M.2 2230 E-key (CNVi)
- Support triple display for 1 x DisplayPort, 1 x HDMI and 1 x DVI(DVI-D Optional)
- 6 x SATAIII(Q470E/W480E) / 4 x SATAIII(H420E)
- 3 x GbE(Q470E/W480E) / 2 x GbE(H420E)
- 4 x USB3.1, 2 x USB3.0 , 4 x USB 2.0, (Q470E/W480E) / 5 x USB3.0 , 4 x USB2.0(H420E)
- 4 x COM(1 x support RS232/422/485)(Q470E/W480E) / 3 x COM(1 x support RS232/422/485) (H420E)
- ATX power input
- Operating Temperature : ET : -20°C ~ 70°C ; UT : -40°C ~ 85°C

# Specifications

## SYSTEM

CPU	10th Gen Intel® Comet Lake LGA1200 Socket Processor, Core i9/i7/i5/i3 up to 10-core TDP Max. 125W
Memory type	DDR4 U-DIMM 2933MHz / Max. 64 GB (Non-ECC: H420E/Q470E, ECC: W480E) / 4 x 288-pin
Chipset	Intel® H420E / Intel® Q470E / W480E (Support RAID 0 / 1 / 5 / 10)
I/O Chipset	Nuvoton NCT6126D
TPM	TPM Header
H/W Monitor	Temperature Monitor / Voltage Monitor / Fan Monitor
Watchdog	1-255 sec. or 1-255 min. software programmable and can be generate system reset
Smart Fan Control	CPU Fan / System Fan

## EXPANSION SLOT

M.2	1 x M.2 2242 / 2260 / 2280 M key (PCIe x4 ,SATA)(H420E Only support SATA) 1 x M.2 2230 E key (PCIe x1, USB2.0, CNVi)
PCI Slot	1 x PCI
PCIe Slot	1 x PCIe 3.0 X16 slot / PCIe x16 support 3 options of PCIe switch: #1: 1 x PCIe X16, #2: 2 x PCIe X8, #3: 1 x PCIe X8 + 2 x PCIe X4 1 x PCIe 2.0 X8 slot (X4 Lanes) /PCIe x4 lanes is switched with M.2 M-Key Slot

## DISPLAY

Chipset	Intel® HD Graphics
DVI	Up to 1920 x 1200 @60 Hz
HDMI	Up to 4K (4096 x 2160) @30 Hz
Display Port	Up to 4K (4096 x 2304) @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

USB3.1	4(Q470E / W480E)
USB3.0	4(H420E)
Display port	1 x HDMI 1.4 ; 1 x DisplayPort 1.2 ; 1 x DVI-I(DVI-D Optional)
Lan	3(1 x Optional)
Audio	1 x 3-stack Audio Jack (Mic-in, Line-in, and Line-out)
Serier Port	1 (RS232)

### INTERNAL I/O

SATAIII	6(Q470E/W480E) / 4(H420E)
USB2.0	2
USB3.0	2
Display I/O	1 x eDP 1 x Backlight connector
GPIO	1 x MiAPI Header
Serial	3 (1 x Support RS-232/422/485)(Q470E/W420E) 2 (1 x Support RS-232/422/485)(H420E)
Fan	1 x 4-pin CPU Fan Connector / 1 x 4-pin System Fan Header
Power	1 x ATX 8pin / 1 x ATX 24pin (AT/ATX mode by jumper setting)

### MECHANICAL AND ENVIRONMENTAL

Form Factor	Micro ATX
Power Type	ATX 8-pin + ATX 24-pin
Dimension	244mm x 244mm(9.6" x 9.6")
Operating Temperature	ET : -20°C ~ 70°C UT : -40°C ~ 85°C
Storage Temperature	-40°C ~ 85°C
Relative humidity	10% to 95%, non-condensing

### STANDARD COMPLIANCE

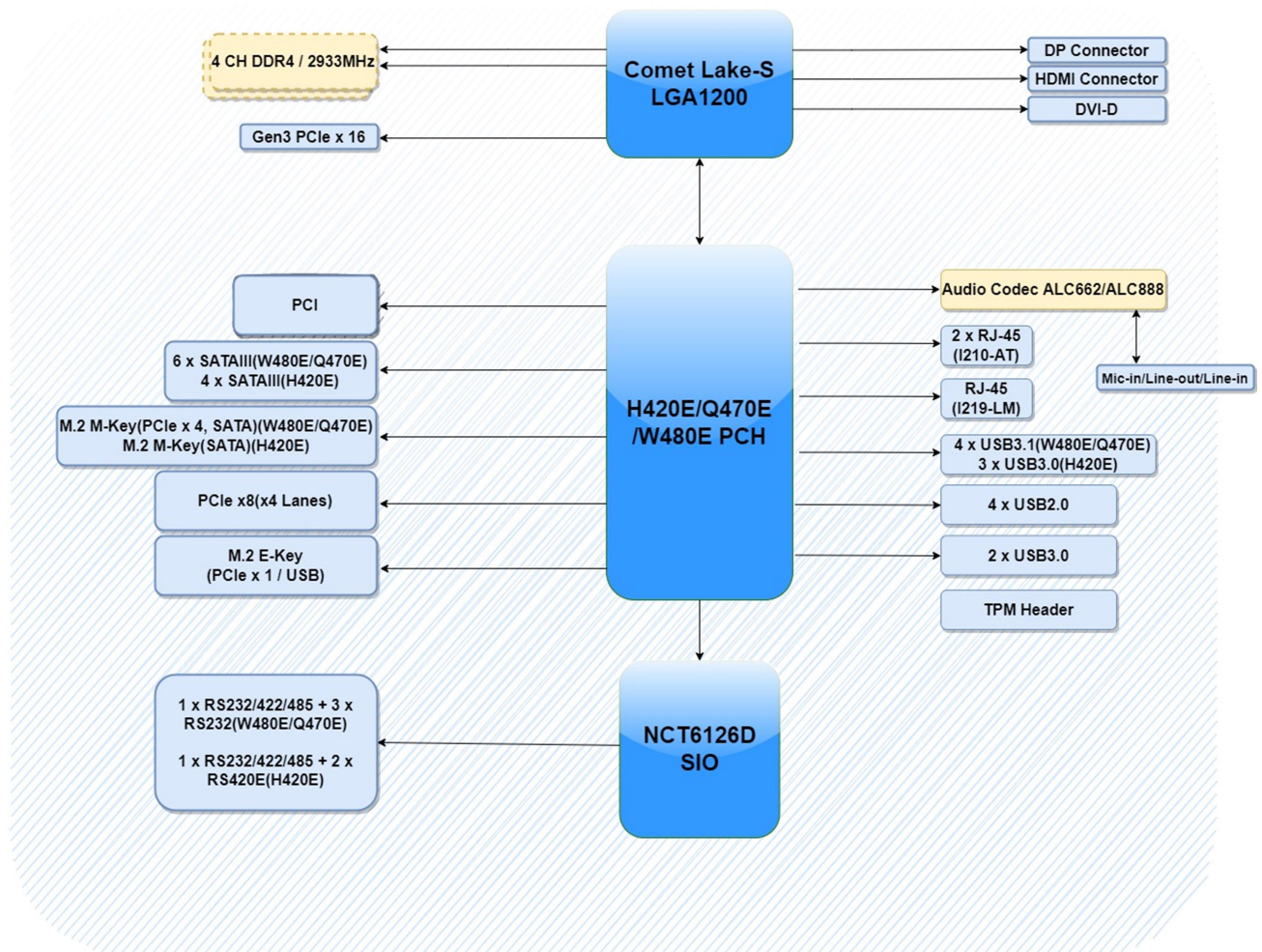
Standard Compliance	CE/FCC
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### OS

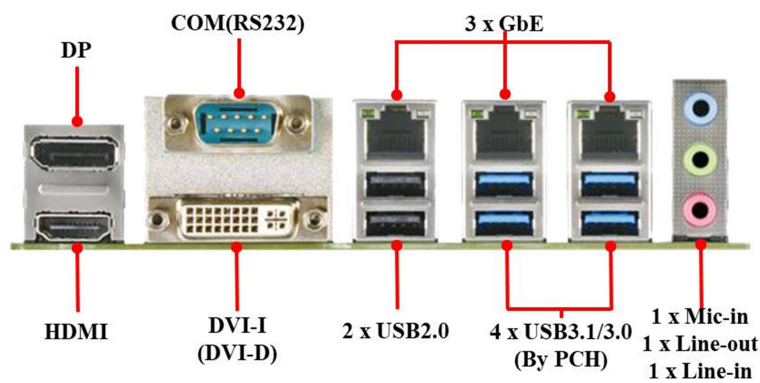
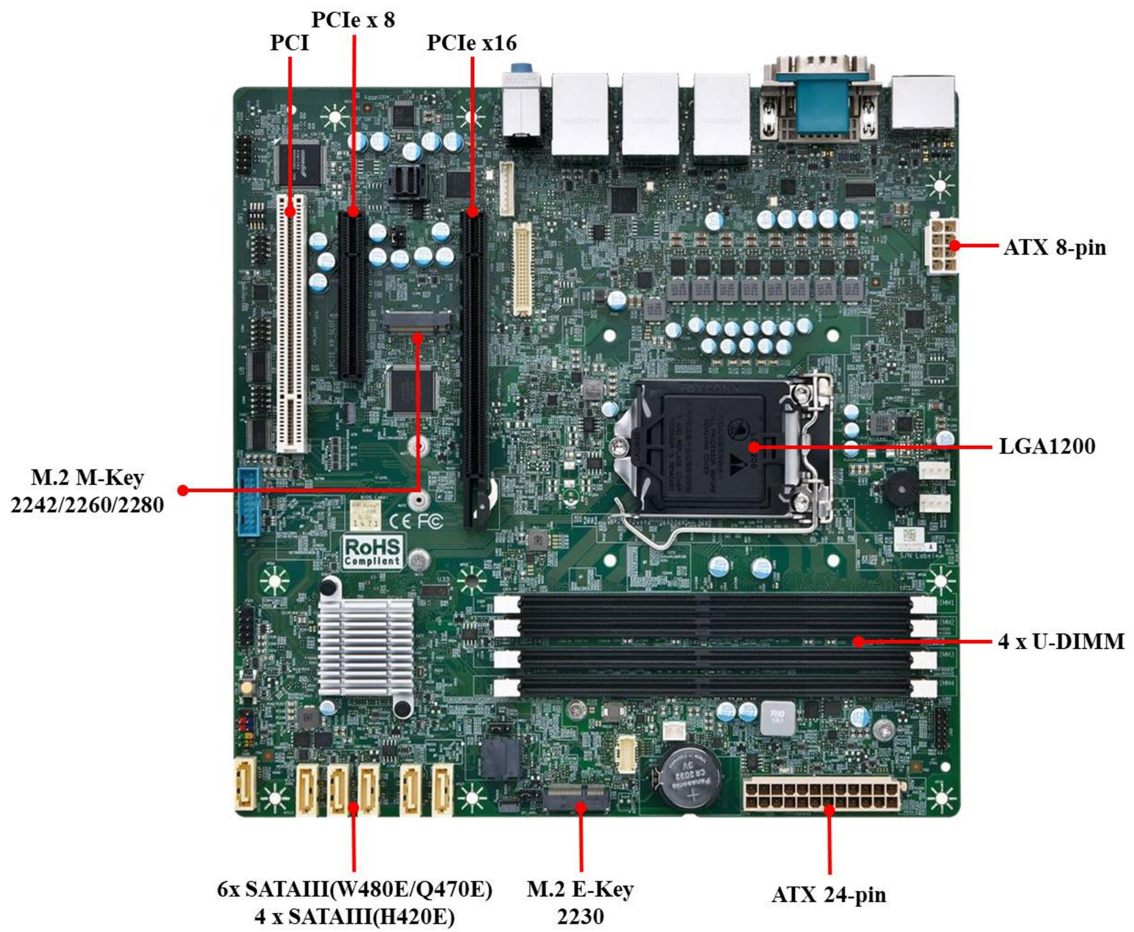
OS Support	Windows®10 64-bit Linux(Support by request)
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# Block Diagram



# Board Placement



## Ordering Information

Model	CPU	PCH	PCIe x16/ PCIe x8/ PCI/ M.2 E-Key/ M.2 M-Key	USB3.1/ USB3.0/ USB2.0	DP/ HDMI/ DVI-D/ DVI-I	SATAIII/ COM	LAN	System Power Input	Operation Temp.
INS8266A-01ET	10 <sup>th</sup> LGA 1200 (Up to 125W)	H420E	1/0/0/1/1	0/5/4	1/1/1/0	4/3	2	ATX Power	-20 to 70°C
INS8266A-01UT									-40 to 85°C
INS8266A-02ET		Q470E	1/1/0/1/1	4/2/4	1/1/0/1	6/4	3		-20 to 70°C
INS8266A-02UT									-40 to 85°C
INS8266A-03ET		W480E	1/1/1/1/1	4/2/4	1/1/0/1	6/4	3		-20 to 70°C
INS8266A-03UT									-40 to 85°C
INS8266A-04ET		W480E	1/1/1/1/1	4/2/4	1/1/0/1	6/4	3		-20 to 70°C
INS8266A-04UT									-40 to 85°C