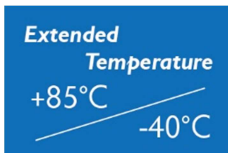
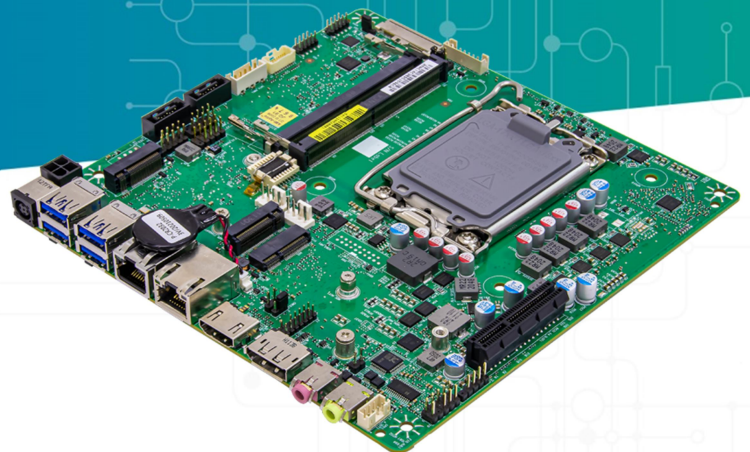


Mini-ITX Form Factor Intel® 12th Gen. Core™ i9/ i7/ i5 / i3 processors



- Support Intel® 12th Core™ i9/ i7/i5/i3 Alder Lake-S LGA1700 35W/65W Socket Processor
- Intel® Q670/H610 Chipset
- 2 x DDR5 SO-DIMM up to 64GB
- 6 x USB3.1(Q670) / 4 x USB3.0(H610) ; 5 x USB2.0(Q670/H610)
- 1 x HDMI ; 1 x DP ; 1 x LVDS(eDP optional)
- 1 x M.2 M-Key 2242/2280, 1 x M.2 E-Key 2230, 1 x M.2 B-Key 3042, 1 x mPCIe Full size, 1 x PCIe x4
- 2 x SATAIII
- 1 x 2.5GbE +1 x GbE LAN
- DC-IN 12V(Optional : 19V)
- Operating Temperature : ET : -20°C ~ 70°C ; UT : -40°C ~ 85°C

Specifications

SYSTEM

CPU	12th Gen Intel® Alder Lake LGA1700 Socket Processor / Core i9/i7/i5/i3 Processor, TDP 35/65W
Memory type	DDR5 4800 MHz / 2 x 262-pin SO-DIMM / Max. 64GB (Non-ECC) Horizontal
Chipset	Intel® H610 / Q670
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
BIOS	AMI BIOS

EXPANSION SLOT

M.2	1 x M.2 2230 E-Key (Wifi & BT , (PCIe / USB)) 1 x M.2 2242/2260/2280/3042/3052 B-Key (Storage/5G/LTE, (USB2.0/*PCIex1/SATAIII))
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DISPLAY

Chipset	Intel® UHD Graphics 770
HDMI	Up to 4K (4096 x 2160) @30 Hz
Display Port	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 GbE LAN + Intel® I225V 2.5 GbE LAN
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AUDIO

Codec	Realtek® ALC888
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REAR IO

USB	4 x USB3.1(Q670) ; 4 x USB3.0(H610)
Display port	1 x DP ; 1 x HDMI

LAN	2(1 x GbE ; 1 x 2.5GbE)
AUDIO	1 x MIC-IN ; 1 x LINE-OUT
INTERNAL I/O	
SATAIII	2
USB3.1	2(Q670 only)
USB2.0	5(Q670/H610)
Display I/O	1 x LVDS(optional eDP SKU) 1 x Backlight connector
Serial	2 (1 x Support RS-232/422/485)
FAN	1 x 4-pin CPU Fan Connector / 1 x 4-pin System Fan Header
Power	1 x 12V DC IN Jack(Colay 19V) 1 x ATX 4pin (AT/ATX mode by jumper setting)
Others	1 x Front Audio Header (Mic-in / Line-out), 1 x CMOS Jumper, 1 x panel power select header,1 x SATA power, 1 x FIO header, 1 x intrusion switch header, 1 x DMIC header, 1x buzzer header 1 x GPIO header

MECHANICAL AND ENVIRONMENTAL

Form Factor	Mini ITX
Power Type	12V DC-IN(Optional : 19V)
Dimension	170mm x 170mm
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

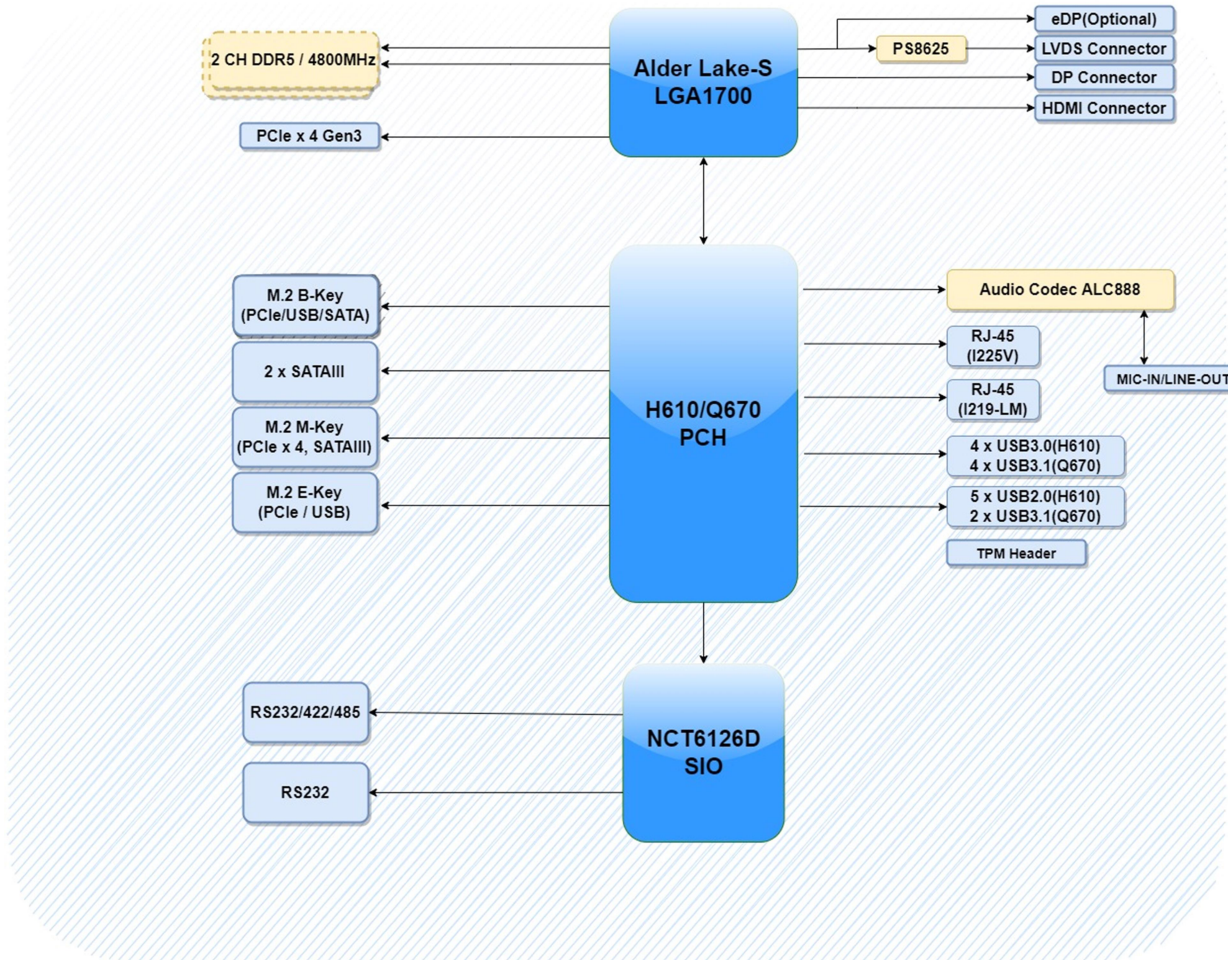
STANDARD COMPLIANCE

Standard Compliance	CE/FCC
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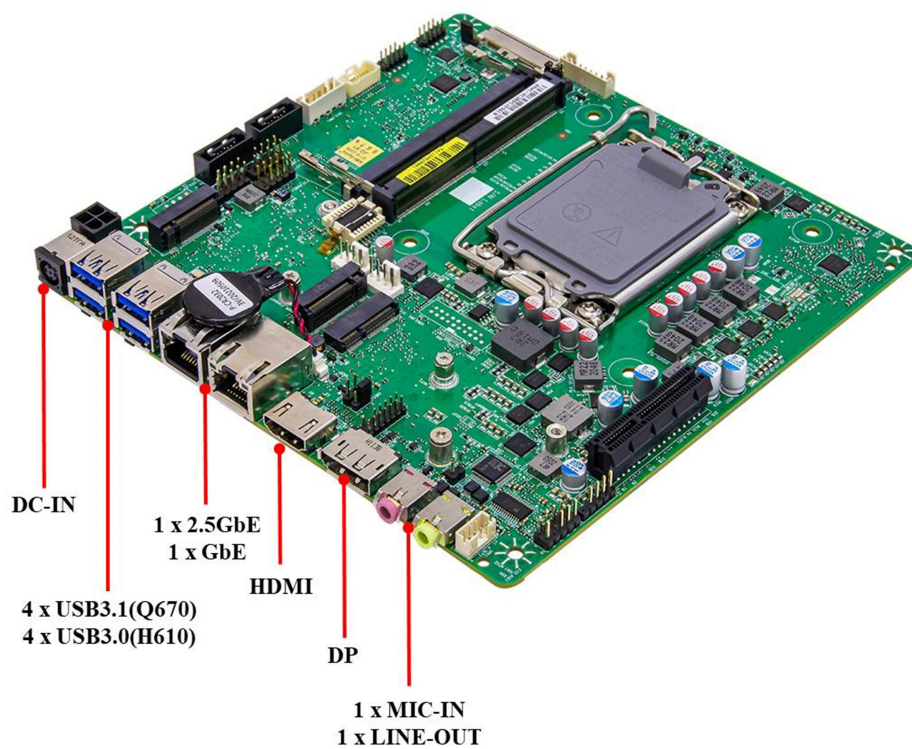
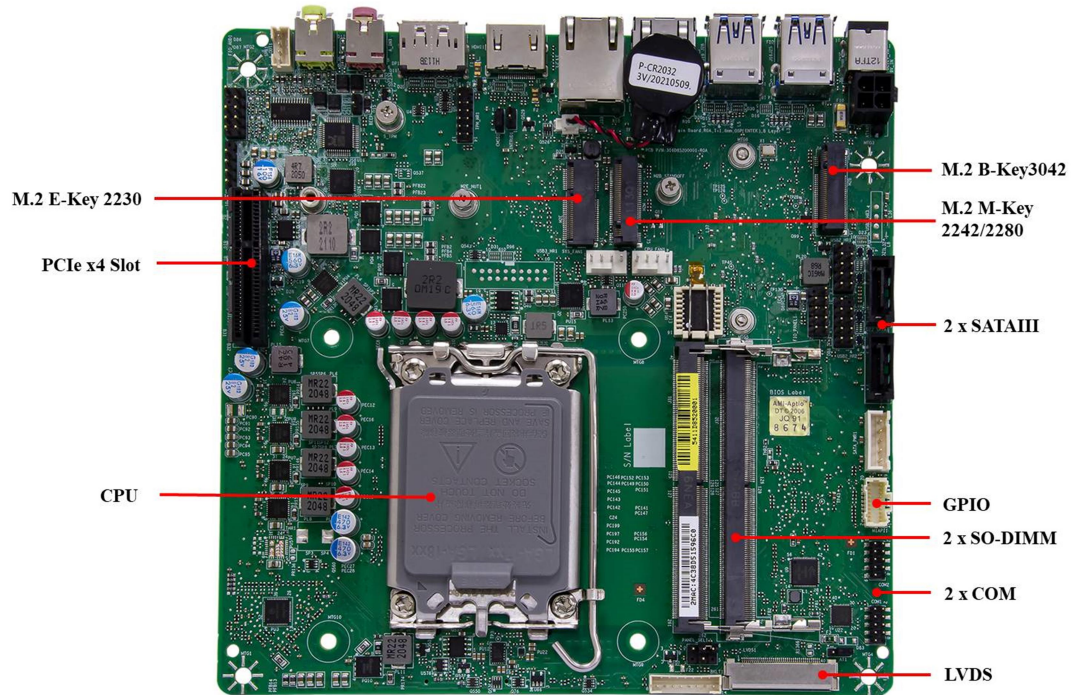
OS

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



Board Placement



Ordering Information

Model	Description
INS8367A-01ET	Intel 12th Gen. Alder Lake-S Core i9/i7/i5/i3, DDR5 up to 64GB, Chipset Q670, M.2 expansion slots: M.2 M-Key 2242/2280, M.2 E-key 2230, M.2 B-Key 3042, 1 x PCIe4 Slot, 6 x USB3.1, 5 x USB2.0, DC-IN 12V, Extended Temp. -20 to 70°C
INS8367A-01UT	Intel 12th Gen. Alder Lake-S Core i9/i7/i5/i3, DDR5 up to 64GB, Chipset Q670, M.2 expansion slots: M.2 M-Key 2242/2280, M.2 E-key 2230, M.2 B-Key 3042, 1 x PCIe4 Slot, 6 x USB3.1, 5 x USB2.0, DC-IN 12V, Extended Temp. -40 to 85°C
INS8367A-02ET (Optional)	Intel 12th Gen. Alder Lake-S Core i9/i7/i5/i3, DDR5 up to 64GB, Chipset Q670, M.2 expansion slots: M.2 M-Key 2242/2280, M.2 E-key 2230, M.2 B-Key 3042, 1 x PCIe4 Slot, 6 x USB3.1, 5 x USB2.0, DC-IN 19V, Extended Temp. -20 to 70°C
INS8367A-02UT (Optional)	Intel 12th Gen. Alder Lake-S Core i9/i7/i5/i3, DDR5 up to 64GB, Chipset Q670, M.2 expansion slots: M.2 M-Key 2242/2280, M.2 E-key 2230, M.2 B-Key 3042, 1 x PCIe4 Slot, 6 x USB3.1, 5 x USB2.0, DC-IN 19V, Extended Temp. -40 to 85°C
INS8367A-03ET	Intel 12th Gen. Alder Lake-S Core i9/i7/i5/i3, DDR5 up to 64GB, Chipset H610, M.2 expansion slots: M.2 M-Key 2242/2280, M.2 E-key 2230, M.2 B-Key 3042, 1 x PCIe4 Slot, 4 x USB3.0, 5 x USB2.0, DC-IN 12V, Extended Temp. -20 to 70°C
INS8367A-03UT	Intel 12th Gen. Alder Lake-S Core i9/i7/i5/i3, DDR5 up to 64GB, Chipset H610, M.2 expansion slots: M.2 M-Key 2242/2280, M.2 E-key 2230, M.2 B-Key 3042, 1 x PCIe4 Slot, 4 x USB3.0, 5 x USB2.0, DC-IN 12V, Extended Temp. -40 to 85°C
INS8367A-04ET (Optional)	Intel 12th Gen. Alder Lake-S Core i9/i7/i5/i3, DDR5 up to 64GB, Chipset H610, M.2 expansion slots: M.2 M-Key 2242/2280, M.2 E-key 2230, M.2 B-Key 3042, 1 x PCIe4 Slot, 4 x USB3.0, 5 x USB2.0, DC-IN 19V, Extended Temp. -20 to 70°C
INS8367A-04UT (Optional)	Intel 12th Gen. Alder Lake-S Core i9/i7/i5/i3, DDR5 up to 64GB, Chipset H610, M.2 expansion slots: M.2 M-Key 2242/2280, M.2 E-key 2230, M.2 B-Key 3042, 1 x PCIe4 Slot, 4 x USB3.0, 5 x USB2.0, DC-IN 19V, Extended Temp. -40 to 85°C