



### KEY FEATURES

- Intel® Core™ Processor Series 2 (Bartlett Lake-S) and 14th/13th/12th Gen (Raptor Lake-S Refresh/Raptor Lake-S/Alder Lake-S) Core™ Processors with H610 chipset
- 2 x 262-pin SO-DIMM DDR5 4800/5600 MHz, up to 96GB (48GB per DIMM)
- 1 x PCIe x16 (Gen5), 2 x USB 3.2 Gen2, 1 x USB 3.2 Gen1, 5 x USB 2.0, 1 x M.2 Key B, 1 x M.2 Key E, 1 x M.2 Key M, 4 x COM, 2 x SATA3
- 1 x Intel 2.5 Gigabit LAN, 1 x Intel 1 Gigabit LAN
- Supports Triple display, 1 x HDMI 2.0b, 1 x HDMI 1.4b, 1 x DP 1.4a, 1 x LVDS or eDP
- TPM 2.0 onboard IC
- ATX-PWR (24+4-pin) and +12V DC-In co-design

### SPECIFICATIONS

#### Form Factor

Dimensions (LxWxH)	Mini-ITX (6.7-in x 6.7-in x 1.5-in, 17.0 cm x 17.0 cm x 3.8 cm)
--------------------	-----------------------------------------------------------------

#### Processor System

CPU	Intel® Core™ Processor Series 2 (Bartlett Lake-S) and 14th/13th/12th Gen (Raptor Lake-S Refresh/Raptor Lake-S/Alder Lake-S) Core™ Processors, up to 65W
Chipset	Intel® H610
Socket	LGA1700
BIOS	AMI SPI 256 Mbit

#### Memory

Technology	Dual Channel DDR5 4800/5600 MHz* *Actual memory frequency depends on the CPU types and DRAM modules, for more information refer to <a href="https://www.asrockind.com/en-gb/index.php?route=newsblog/faq&amp;faq_id=90">https://www.asrockind.com/en-gb/index.php?route=newsblog/faq&amp;faq_id=90</a> technical FAQ *If motherboard ambient temp. is over 55°C, the memory thermal solution should be added to avoid thermal issue
Capacity	96 GB (48 GB per DIMM)
Socket	2 x 262-pin SO-DIMM

#### Graphics

Controller	Intel® UHD Graphics
HDMI	HDMI 2.0b Max resolution up to 4096x2160@60Hz HDMI 1.4b Max resolution up to 4096x2160@30Hz
DisplayPort	DisplayPort 1.4a, DP++ Max resolution up to 4096x2160@60Hz
LVDS	Dual channel 24 bit up to 1920x1200@60Hz (Connector shared with eDP)
eDP	Max resolution up to 1920 x 1200@60Hz (Connector shared with LVDS)
MultiDisplay	Triple Display

#### Expansion Slot

PCIe	1 x PCIe x16 (Gen5)
M.2	1 x M.2 (Key E, 2230) with PCIe x1, USB 2.0 and CNVi for Wireless 1 x M.2 (Key B, 3042/3052) with PCIe x1, USB3.2 Gen1, USB 2.0 and SIM for 4G/5G
SIM Socket	1 x Socket connected to M.2 Key B

#### Audio

Interface	Realtek ALC662, High Definition Audio. Line-out, Mic-in
-----------	---------------------------------------------------------

#### Ethernet

Controller/ Speed	LAN1: Intel® I226V with 10/100/1000/2500 Mbps LAN2: Intel® I219V with 10/100/1000 Mbps
Connector	2 x RJ-45

#### Rear I/O

HDMI	1 x HDMI 2.0b 1 x HDMI 1.4b
DisplayPort	1 x DP 1.4a++
Ethernet	1 x 2.5 Gigabit LAN 1 x 1 Gigabit LAN
USB	2 x USB 3.2 Gen2 4 x USB 2.0
Audio	2 (Mic-in, Line-out)
COM	COM1, COM2 (RS-232/422/485)

#### Internal Connector

USB	1 x USB 3.2 Gen1 (1 x USB 3.2 header) 1 x USB 2.0 (From USB 3.2 header)
COM	COM3, COM4 (RS-232)
GPIO	4 x GPI, 4 x GPO
LVDS	1 (Connector with LVDS/eDP signal, switch by BIOS)
SATA PWR Output	1
Speaker Header	1

#### Storage

M.2	1 x M.2 (Key M, 2242/2280) with PCIe Gen4 x4 for SSD
SATA	2 x SATA3 (6Gb/s)

#### Security

TPM	TPM 2.0 onboard IC
-----	--------------------

#### Watchdog Timer

Output	From Super I/O to drag RESETCON#
Interval	256 Segments, 0, 1, 2, ...255sec

#### Power Requirements

Input PWR	ATX PWR (24+4-pin) and +12V DC-In co-design
Power On	AT/ATX Supported - AT : Directly PWR on as power input ready - ATX : Press button to PWR on after power input ready

#### Environment

Operating Temp	-20°C ~ 70°C
Storage Temp	-40°C ~ 85°C
Operating Humidity	5% ~ 90%
Storage Humidity	5% ~ 90%

BLOCK DIAGRAM

