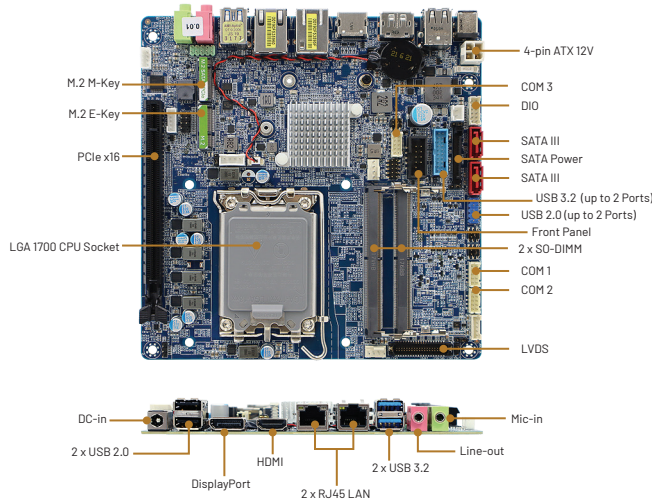
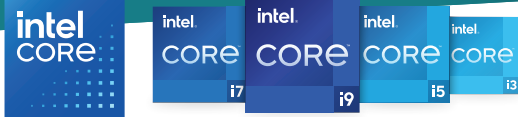




# MX610HD

Intel® H610E based Mini-ITX Motherboard supports Intel® Core™ processors (Series 2), and 12th/13th/14th Gen Intel® Core™ i 9/7/5/3 Processor, DC Power



## Features

- LGA 1700 socket supports Intel® Core™ processors (Series 2), codenamed Bartlett Lake
- LGA 1700 socket supports 12th/13th/14th Gen Intel® Core™ i 9/7/5/3 Processor, up to 65W, codenamed Alder Lake/Raptor Lake/Raptor Lake Refresh
- Intel® Integrated UHD Graphic with Xe Architecture (CPU Dependent)
- 2 x SO-DIMM sockets support Dual Channel DDR5 memory speed up to 5600MHz, up to 64GB
- Intel® H610E PCH, x4 Gen4 DMI
- HDMI 1.4b 4K@30Hz, Dual Mode DisplayPort 1.2a 4K@60Hz, 18/24-bits Dual Channel LVDS, Optional eDP
- Gen 4 PCIe x16, M.2 E-Key CNVi support, M.2 M-Key NVMe
- 4 x USB 3.2, 6 x USB 2.0
- 3 x COM, 2 x SATA III
- TPM 2.0
- Intel® I225-LM Ethernet Controller (2.5GbE)
- Thin Mini-ITX
- 12V - 24V Wide Range DC-in



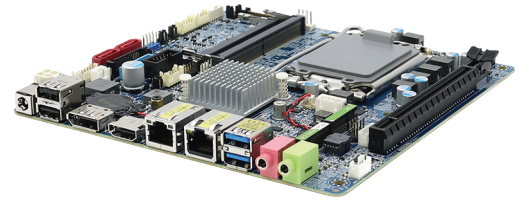
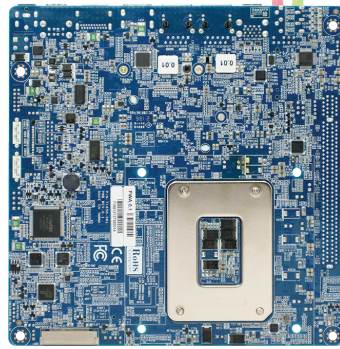
## SPECIFICATIONS

| System             |  |
|--------------------|--|
| Processor          | LGA1700 socket now extends support to Intel® Core™ Series 2 processors, formerly codenamed Bartlett Lake, via BIOS update<br><br>LGA 1700 socket supports 12th Gen Alder Lake/ 13th Gen Raptor Lake/ 14th Gen Raptor Lake Refresh Intel® Core™ i 9/7/5/3, Pentium, Celeron Processor up to 65W. Intel® Alder Lake Processor up to 16 Cores 24 Threads Hybrid |
| Chipset            | Intel® H610E PCH   |
| DMI                | x4 Gen4 DMI  |
| Memory             | 2 x SO-DIMM sockets support Dual Channel DDR5 memory speed up to 5600MHz, up to 64GB<br>12th Gen Intel Core: up to DDR5 4800 MT/s (CPU dependent)<br>13th Gen Intel Core: up to DDR5 5600 MT/s (CPU dependent)<br>14th Gen Intel Core: up to DDR5 5600 MT/s (CPU dependent)  |
| BIOS               | AMI uEFI BIOS, 256Mb SPI Flash ROM   |
| Audio              | Realtek HD Audio   |
| Ethernet           | LAN 1: Intel® I219-V Ethernet Controller (1GbE)<br>LAN 2: Intel® I225-LM Ethernet Controller (2.5GbE)  |
| Expansion          | 1 x Gen 4 PCIe x16<br>1 x M.2 M-Key 2242/2280 NVMe (PCIe x4 + SATA III)<br>1 x M.2 E-Key 2230 CNVi (PCIe x1 + USB 2.0)   |
| TPM                | TPM 2.0  |
| Watchdog Timer     | 1 Sec ~ 255 Sec Timer  |
| Supported OS       | Win 10, Win 11, Linux  |
| Graphics           |  |
| Graphics Engine    | Intel® Integrated UHD Graphic with Xe Architecture (CPU Dependent)   |
| Resolution         | 1 x HDMI 1.4b 4K@30Hz<br>1 x Dual Mode DisplayPort 1.2a 4K@60Hz<br>18/24-bits Dual Channel LVDS, optional eDP  |
| Multiple Display   | Supports Three Independent Displays  |
| External I/O Ports |  |
| Display            | 1 x HDMI, 1 x DisplayPort  |
| USB                | 2 x USB 3.2 Type A, 2 x USB 2.0 Type A   |

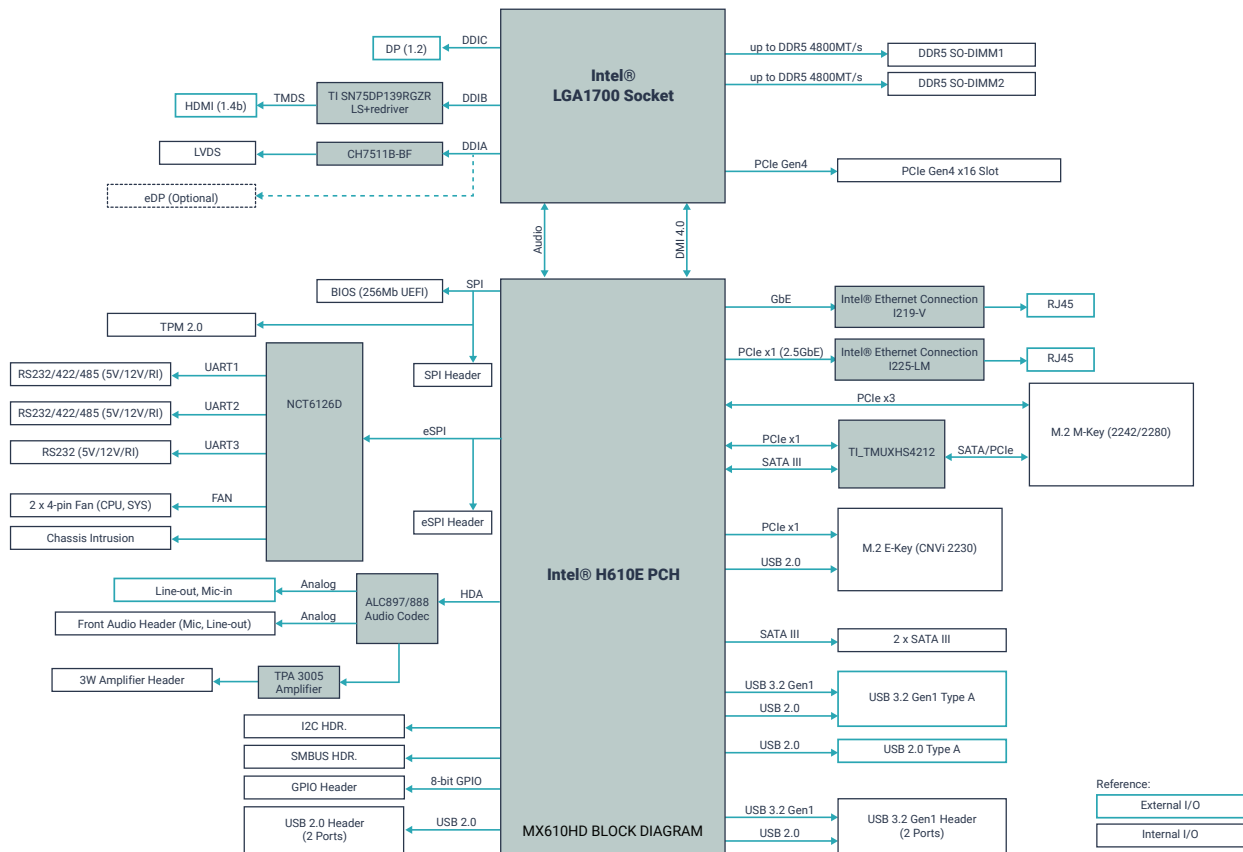
| External I/O Ports Cont.           |   |
|------------------------------------|---|
| LAN                                | 2 x RJ45  |
| Audio                              | Line-out, Mic-in  |
| DC-in                              | 1 x DC-In<br>Inner Diameter (ID): 2.5mm/ Outer Diameter (OD): 5.5mm   |
| Internal I/O Connectors            |   |
| Display                            | 1 x LVDS Header<br>1 x eDP Header (Optional)  |
| USB                                | 1 x USB 3.2 Gen 1x1 Header (2 Ports)<br>1 x USB 2.0 Headers (2 Ports)   |
| COM/Serial Port                    | 2 x RS-232/422/485 Headers with Voltage Selection<br>1 x RS-232 Headers with Voltage Selection  |
| SATA                               | 2 x SATA III Connectors<br>1 x 15-pin SATA Power Connector (2 Devices)  |
| GPIO                               | 1 x 8-bits GPIO Header  |
| Additional I/O                     | 1 x SPI Header, 1 x I <sup>2</sup> C Header, 1 x SMBus Header, 1 x Front Audio Header, 3W Per Channel Amplifier, 1 x Front Panel Header |
| Mechanical, Power, and Environment |   |
| Power Requirement                  | 12V-24V Wide Range DC-In  |
| Operating Temp.                    | 0°C to 60°C (32°F ~ 140°F)  |
| Storage Temp.                      | -20° C ~ 80° C (-4°F ~ 176°F)   |
| OP Humidity                        | 5% to 90% Non-condensing  |
| Form Factor                        | Mini-ITX  |
| Dimensions                         | 6.7" x 6.7" (170mm x 170mm)   |
| Certification / Compliance         | FCC Class B/CE<br>RoHS Compliant  |
| Weight                             | 0.88 lbs  |

\* All product specifications and images are subject to change without notice. Last update: 09/22/2025

# SPECIFICATIONS / ADDITIONAL PRODUCT PHOTOS



# BLOCK DIAGRAM



# ORDERING INFORMATION

| Model Name   | CPU/CPU Socket  | Memory / Storage    | LAN               | Low Profile I/O | Power Input  |
|--------------|---|---------------------|-------------------|-----------------|--------------|
| MX610HD      | LGA 1700  | 2 x SO-DIMM sockets | 1x 2.5GbE, 1x GbE | Yes             | DC-in 12-24V |
| Model Name   | Description   |                     |                   |                 |              |
| 183000000006 | 2.00mm pitch 12" length serial cable                                    |                     |                   |                 |              |
| 182437200040 | 2.54mm pitch 14" length dual port USB 2.0 cable w/ full height bracket  |                     |                   |                 |              |
| 182000000073 | 2.00mm pitch 19.7" length dual port serial cable w/ full height bracket |                     |                   |                 |              |

# PACKING LIST

- ✓ 1 x MX610HD Motherboard
- ✓ 1 x SATA Power Cable
- ✓ 1 x Full Size I/O Shield
- ✓ 1 x Half Size I/O Shield



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