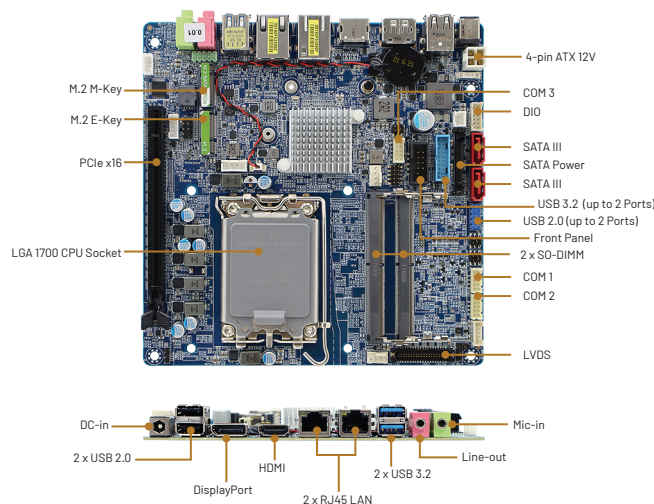
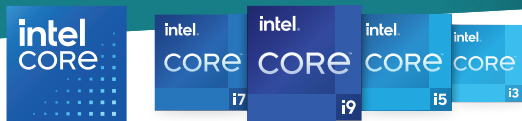




MX610HD

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



SPECIFICATIONS

System	
Processor	LGA1700 socket now extends support to Intel® Core™ Series 2 processors, formerly codenamed Bartlett Lake, via BIOS update 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 12th Gen Intel Core: up to DDR5 4800 MT/s (CPU dependent) 13th Gen Intel Core: up to DDR5 5600 MT/s (CPU dependent) 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) LAN 2: Intel® I225-LM Ethernet Controller (2.5GbE)
Expansion	1 x Gen 4 PCIe x16 1 x M.2 M-Key 2242/2280 NVMe (PCIe x4 + SATA III) 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 1 x Dual Mode DisplayPort 1.2a 4K@60Hz 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

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



Low Profile



3 Displays



Dual LAN



3 COM



TPM 2.0



DCIN

DC 12-24V

External I/O Ports Cont.

LAN	2 x RJ45
Audio	Line-out, Mic-in
DC-in	1 x DC-In Inner Diameter (ID): 2.5mm/ Outer Diameter (OD): 5.5mm

Internal I/O Connectors

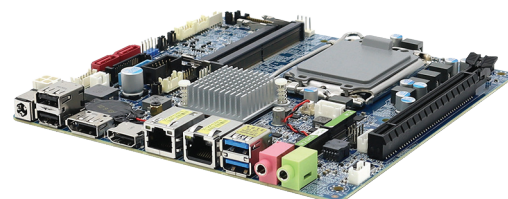
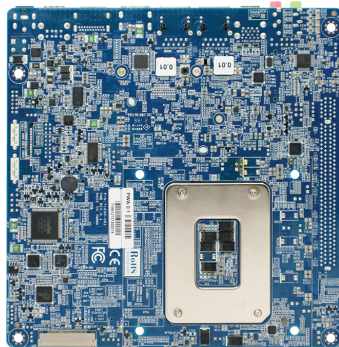
Display	1 x LVDS Header 1 x eDP Header (Optional)
USB	1 x USB 3.2 Gen 1x1 Header (2 Ports) 1 x USB 2.0 Headers (2 Ports)
COM/Serial Port	2 x RS-232/422/485 Headers with Voltage Selection 1 x RS-232 Headers with Voltage Selection
SATA	2 x SATA III Connectors 1 x 15-pin SATA Power Connector (2 Devices)
GPIO	1 x 8-bits GPIO Header
Additional I/O	1 x SPI Header, 1 x I ² C Header, 1 x SMBus Header, 1 x Front Audio Header, 3W Per Channel Amplifier, 1 x Front Panel Header

Mechanical, Power, and Environment

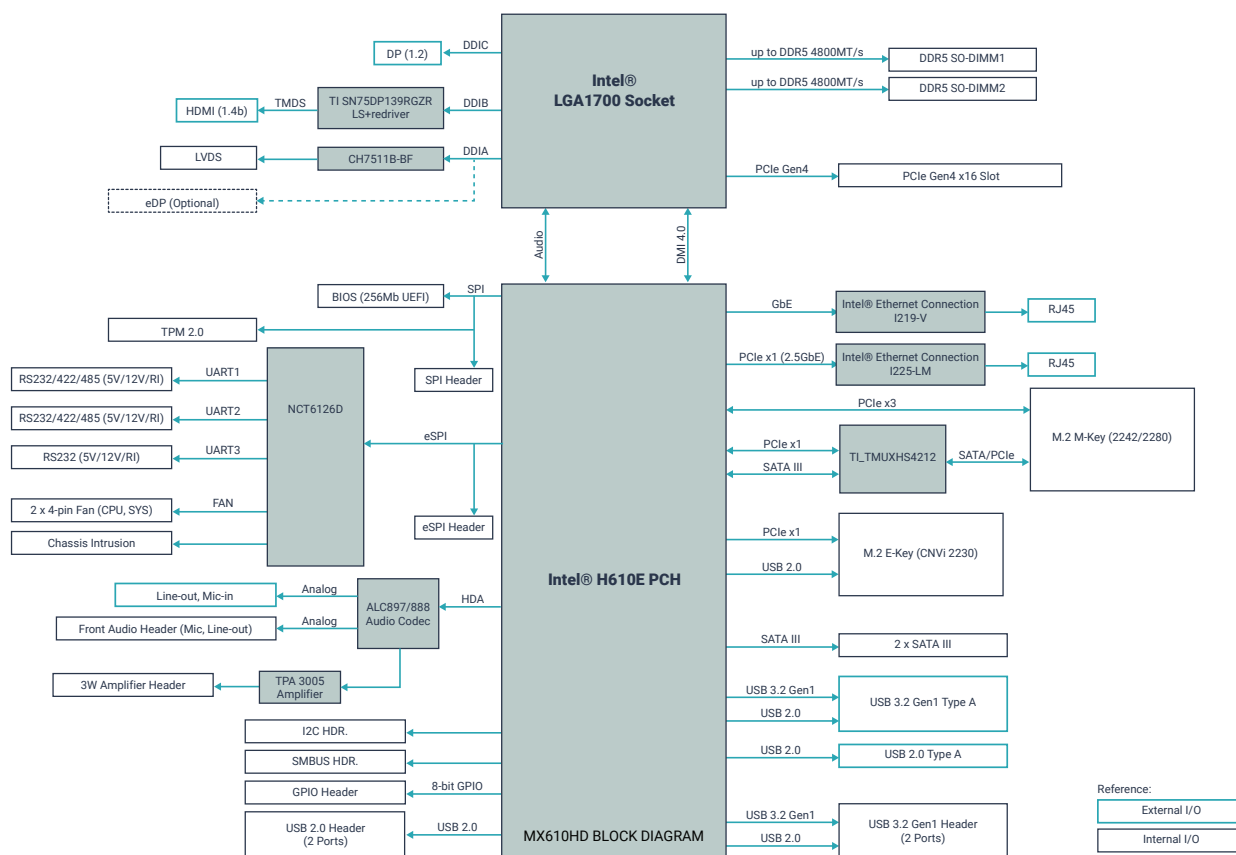
Power Requirement	12V-24V Wide Range DC-In
Operating Temp.	0°C to 60°C (32°F ~ 140°F)
Storage Temp.	-20° C ~ 80° C (-4°F ~ 176°F)
OP Humidity	5% to 90% Non-condensing
Form Factor	Mini-ITX
Dimensions	6.7" x 6.7" (170mm x 170mm)
Certification / Compliance	FCC Class B/CE RoHS Compliant
Weight	0.88 lbs

* 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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