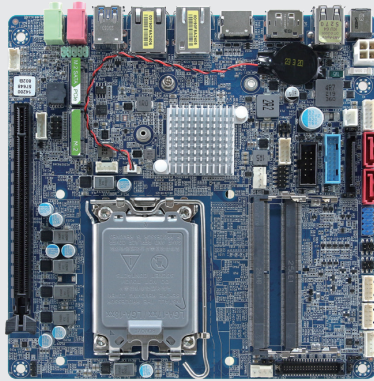


MX610HD

12/13/14th Gen. Intel® Core™ i9/i7/i5/i3 Processors,
Thin Mini ITX Motherboard With Intel® H610E Chipset



Features

- 12/13/14th Gen. Intel® Core™ i9/i7/i5/i3/Pentium/Celeron Processor with Intel® H610E Chipset
- 2 x 262-Pin DDR5 4800 MHz SO-DIMM Socket Supports Up to 64GB (Non-ECC)
- HDMI, LVDS, Optional eDP
- 1 x PCIe x16 (Gen4)
- 1 x Intel® I219V, 1 x Intel® I225LM
- 4 x USB 3.2, 6 x USB 2.0
- 1 x M.2 M-Key 2242/2280, 1 x M.2 E-Key 2230
- 3 x COM
- DC in +12V-24V



HDMI

DP++



DDR5
SO-DIMM



USB 3.2



RS232/422/485

Specifications

System Information

Processor	LGA 1700 Socket Supports 12/13/14th Generation Intel® Core™ i9/i7/i5/i3/Pentium/Celeron Processors (Max. TDP at 65W)
Platform Controller Hub	Intel® H610E Chipset
System Memory	2 x 262-Pin DDR5 4800MHz SO-DIMM Socket Supports Up to 64GB (Non-ECC)
I/O Chipset	nuvoton NCT6126D
Watchdog Timer	H/W Reset, 5-255 Seconds/5-255 Minutes
BIOS	AMI uEFI BIOS, 256Mbit SPI Flash ROM
H/W Status Monitor	CPU Temperature Monitoring Voltage Monitoring CPU Fan Speed Control
TPM	Onboard Infineon SLB 9670VQ2.0 support TPM2.0
Board	Thin Mini ITX

Expansion

Expansion	1 x PCIe x16 (Gen4) 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)
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Display

Graphic Chipset	Intel® Integrated UHD Graphic with Xe Architecture (CPU Dependent)
Spec. & Resolution	1 x HDMI 1.4b 4K@30Hz 1 x Dual Mode DisplayPort 1.2a 4K@60Hz 18/24-bits Dual Channel LVDS
Multiple Display	Triple Display
LVDS	Dual Channel 18/24-bits LVDS (Chrontel CH7513A-BF eDP to LVDS) or 1 x eDP 1920 x 1080 @ 60Hz (2 Lanes)

Audio

Audio Codec	Realtek ALC897 HD Audio Decoding Controller
Audio Interface	Mic-in, Line-out
Audio Amplifier	2 x 6W 8Ω Amplifier

Ethernet

LAN Chipset	1 x Intel® I219V Gigabit Ethernet 1 x Intel® I225LM 2.5 Gigabit Ethernet
Ethernet Interface	10/100/1000 Base-Tx GbE compatible & 2.5 Gigabit Ethernet
LAN Port	2 x RJ-45

Software Support

OS	Windows 11, Linux
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Certification

Certification Information CE, FCC, RoHS Compliant

I/O

USB	2 x USB 3.2 2 x USB 2.0 2 x USB 3.2 Gen1 by pin header 2 x USB 2.0 by pin header
COM Port	1 x RS-232 2 x RS-232/422/485
SATA	2 x SATA III 2 x SATA power
DIO	1 x 8-bit GPIO

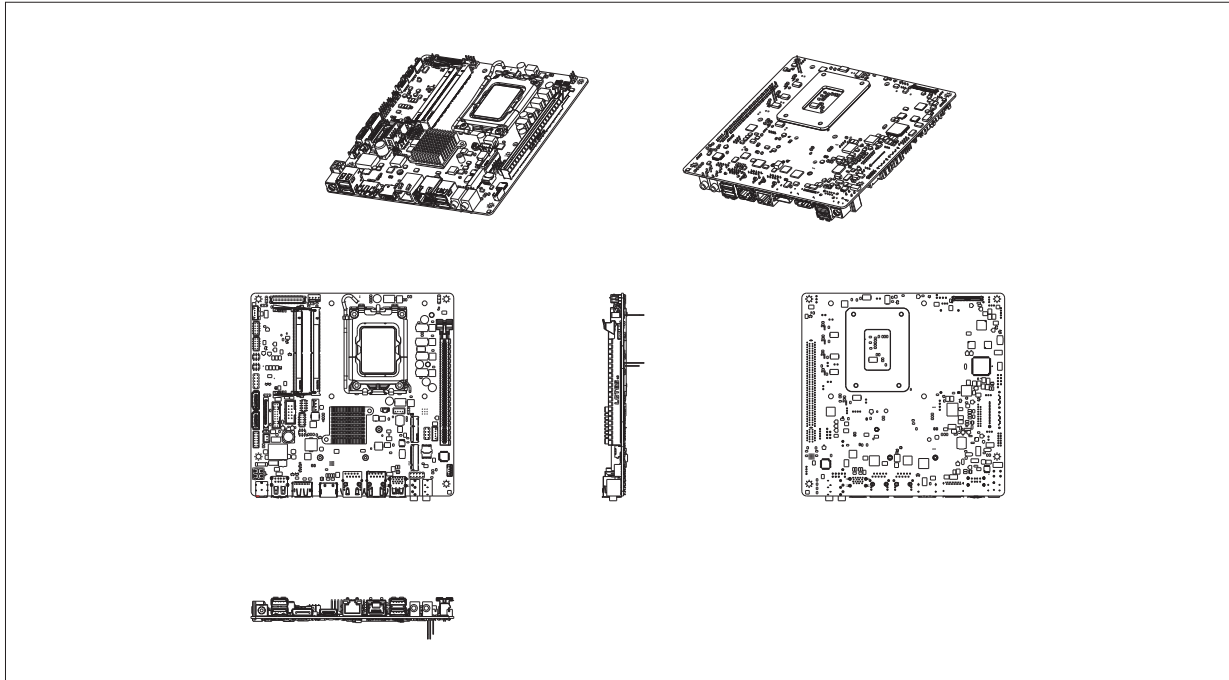
Mechanical & Environmental

Operating Temp.	0°C to 60°C (32°F ~ 140°F)
Storage Temp.	-20° C ~ 80° C (-4°F ~ 176°F)
Operating Humidity	5% to 90% Non-condensing
Weight	0.88lbs (0.4Kgs)
Power Requirement	DC in +12V-24V
Power Mode	AT/ATX (Default Setting: ATX)
Dimension (L x W)	6.7" x 6.7" (170mm x 170mm)

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Thin Mini ITX Motherboard With Intel® H610E Chipset

Mechanical Drawing



Ordering Information

P/N	Processor	Chipset	LAN	USB	COM	PCIe Slot	Power Input	Temp.
MX610HD 71852-1A	12th/13th/14th Gen. Intel® Core™ i9/i7/i5/i3 Processors, LGA 1700 Socket, 65W TDP	Intel® H610E	2	8	3	1	ATX Power	0°C – 60°C (32–140°F)

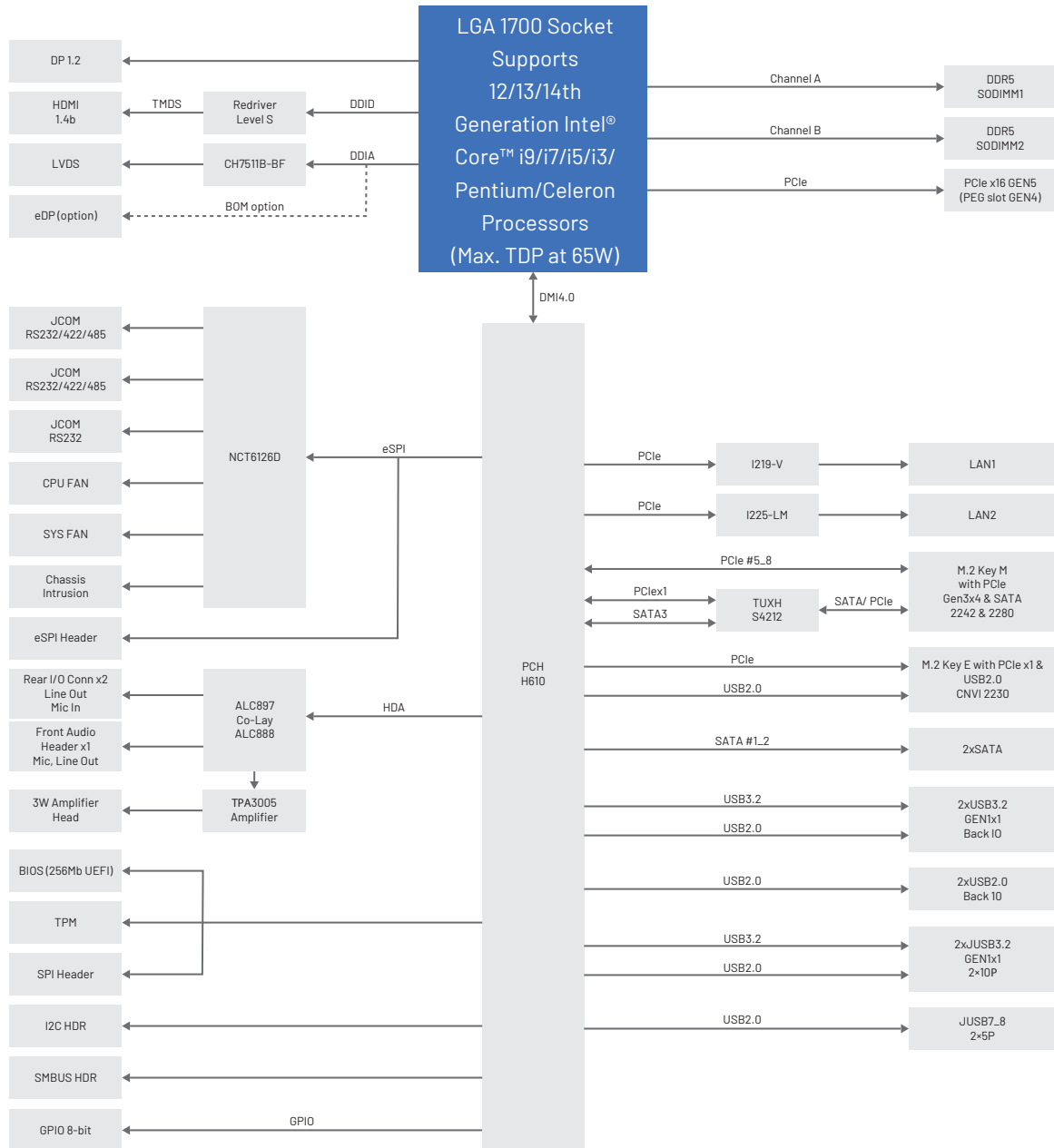
Packing List

Item	P/N	Quantity
SATA Power Cable	-	1
Full Size IO Shield	-	1
Half Size IO Shield	-	1

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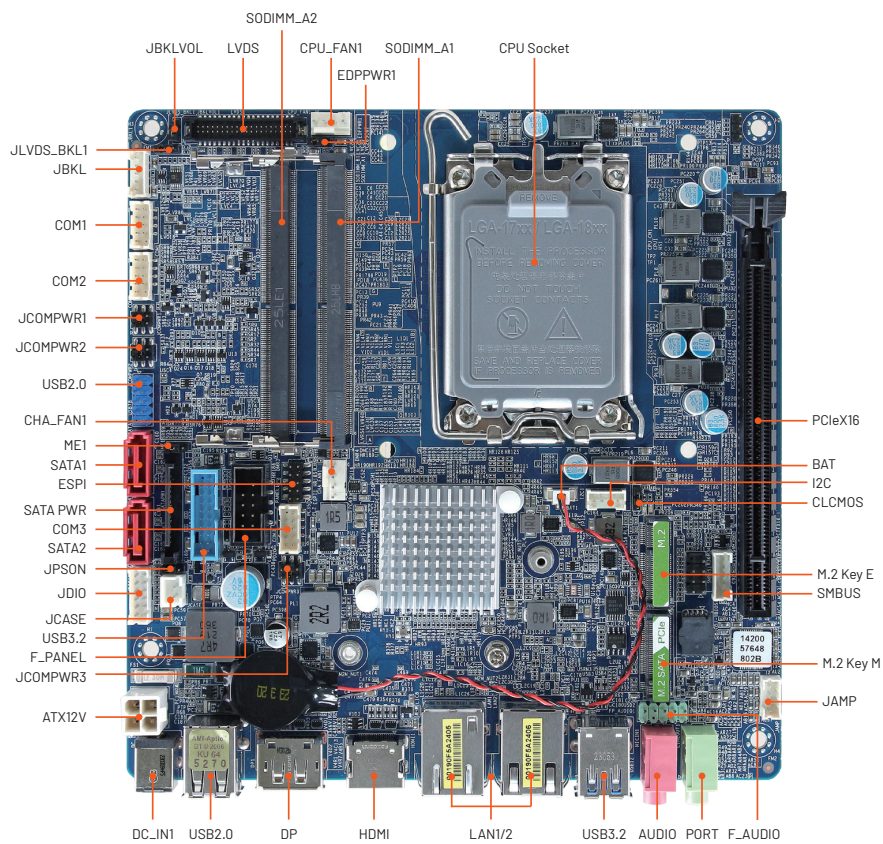
Block Diagram



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I/O Overview



Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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