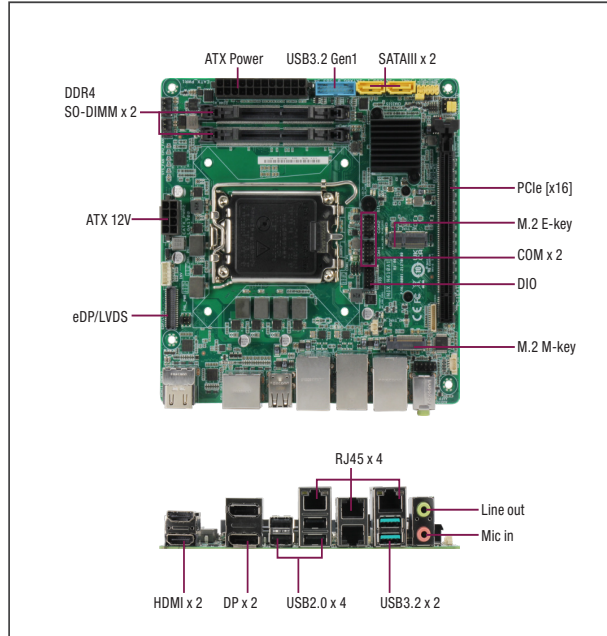


MIX-H610A1

Mini-ITX with 12th/13th Generation Intel® Core™ LGA1700 Socket Processor, Max. 65W

Industrial Motherboards



Specifications

System	
Processor	12th/13th Generation Intel® Core™ LGA1700 Socket Processor, Max. 65W
Chipset	Intel® H610E Chipset
Memory	Dual-Channel DDR4 3200MHz SODIMM x 2, Max 64GB
I/O Chipset	Intel® UHD Graphics
Ethernet	Intel® Ethernet Connection I219-V x 1 Realtek RTL8111H x 3
Audio	Realtek® ALC897 with Amp.
TPM	TPM2.0 IC on board
Expansion Slots	PCIe Gen 3 [x16] x 1, M.2 2232 E-Key x 1 (PCIe [x1]/CNVi/USB)
BIOS	256Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 step by software program
Smart Fan Control	CPU Fan/ Chassis Fan
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi Display	HDMI x 2 + DP x 1, HDMI x 1 + DP x 2, HDMI x 1 + DP x 1 + LVDS x 1, HDMI x 1 + DP x 1 + eDP x 1
VGA	—
DVI	—
HDMI	HDMI 2.0, up to 3840 x 2160 @60Hz
Display Port	DP 1.2, up to 3840 x 2160 @60Hz
LVDS	18/24-bit Dual-Channel LVDS, up to 1920 x 1080 @60Hz (co-lay eDP, default LVDS)
eDP	eDP, Up to 1920 x 1080 @60Hz
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	ATX; [330 Watt or greater power supply] Voltage/Current(A) requirement:+3.3V/0.05A;+5V/6.07A;+12V/17.3A
Operating Temperature	32°F ~ 140°F(0 ~ 60°C) (Operational humidity: 60°C @ 90% RH Non-Condensing)
Storage Temperature	—
Certificate	CE & FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	—

Features

- 12th/13th Gen Intel® Core™ LGA1700 Processor
- DDR4 DRAM Support, 3200MHz, Max 64GB
- M.2 2280 M-Key x 1, M.2 2232 E-Key x 1
- USB 3.2 x 4, USB 2.0 Port x 4
- Intel® Ethernet Connection I219-V x 1, Realtek RTL8111H x 3
- SATA 6Gb/s x 2
- PCIe Gen 3 [x16] x 1
- ATX Power



Rear Panel I/O Ports

USB	USB 3.2 Gen 2 x 2, USB 2.0 x 4
Display I/O	HDMI 2.0 x 2, DP 1.2 x 2
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	RJ-45 LAN x 4
Serial Port	—
PS/2 Port	—
Others	—

Internal I/O Connectors

Storage	SATA 6Gb/s x 2, M.2 2280 M-Key x 1
USB	USB 3.2 Pin Header x 1 (USB 3.2 Gen 1 x 2)
Display I/O	40-pin LVDS/eDP connector x 1 with Inverter
Audio I/O	AAFP x 1, Speaker x 1
Serial Port	Box Header for COM (RS-232/422/485) x 1, Box Header for COM (RS-232) x 1
PS/2 Port	Box Header for COM (RS-232) x 1
Parallel Port	—
DIO	—
FAN	4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1
Power	TBD
Others	Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard x 1, CMOS jumper x 1
OS	
OS Support	Windows® 10 64-bit, Windows® 11 64bit

Packing List

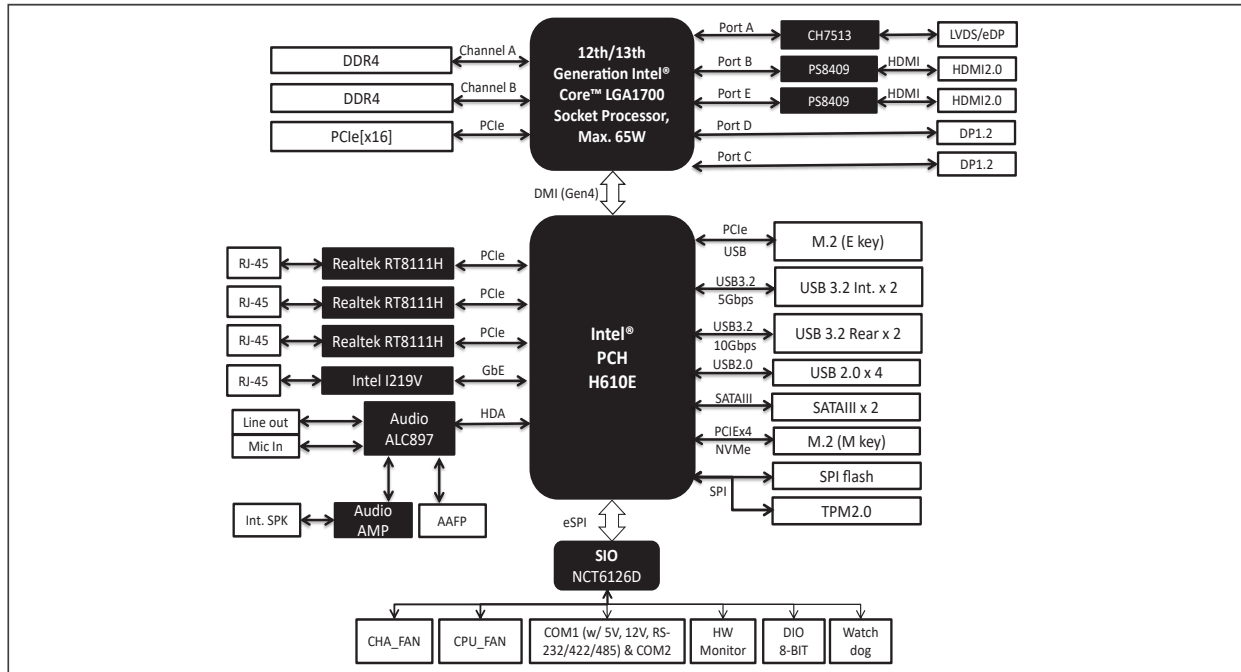
- MIX-H610A1
- I/O Shield
- SATA Cable

MIX-H610A1

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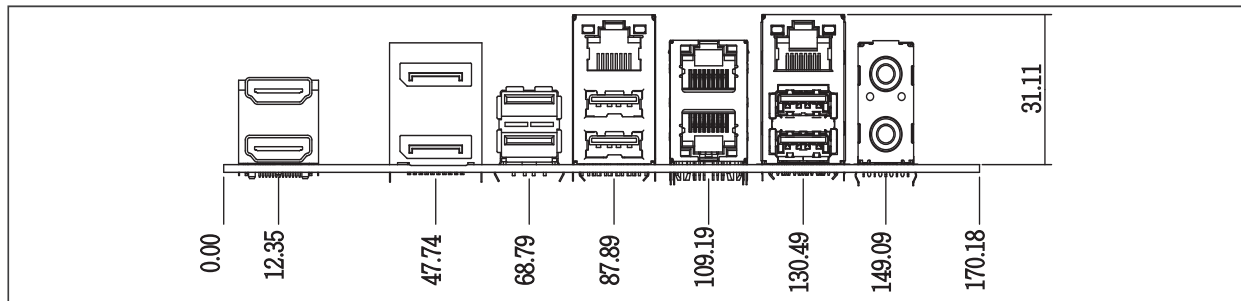
Industrial Motherboards

Block Diagram



Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	Fan/Fanless	Display	LVDS/eDP	Storage	LAN	USB	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
MIX-H610A1-A10-4L	Socket	DDR4 x 2	Fan	HDMI x 2, DP x 2, LVDS/eDP x 1	1	SATA 6Gb/s x 2, M.2 2280 M-Key (2280) x 1	GbE x 4	USB 2.0 x 4, USB 3.2 x 4	1	PCIe Gen 3 [x16] x 1, M.2 2232 E-Key x 1	ATX	2.0	0~60°C

Optional Accessories

Part Number	Description
1701100206	COM Cable (200MM, p=2.00mm)
1709100201	USB 2.0 Cable (10P, 200mm, p=2.00mm, w/bracket)
1700100491	USB 2.0 Cable (10P, 490mm, p=2.00mm)
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)
AP-FNTH11700020	(TF).1U CPU cooler for LGA1700,TDP up to 125W.12V.5400RPM.Smart FAN.90*90*25mm.Ablecom.ACL-D11122
AP-FNTH11700030	(TF).2U CPU cooler for LGA1700,TDP up to 125W.12V.8400RPM.Smart FAN.95*95*63.5mm.Ablecom.ACL-D21120
AP-FNTH11700010	(TF).2U CPU cooler for LGA1700,TDP up to 95W.12V.2500RPM.Smart FAN.91*91.Ablecom.ACL-S41120

Note: All specifications are subject to change without notice.

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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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