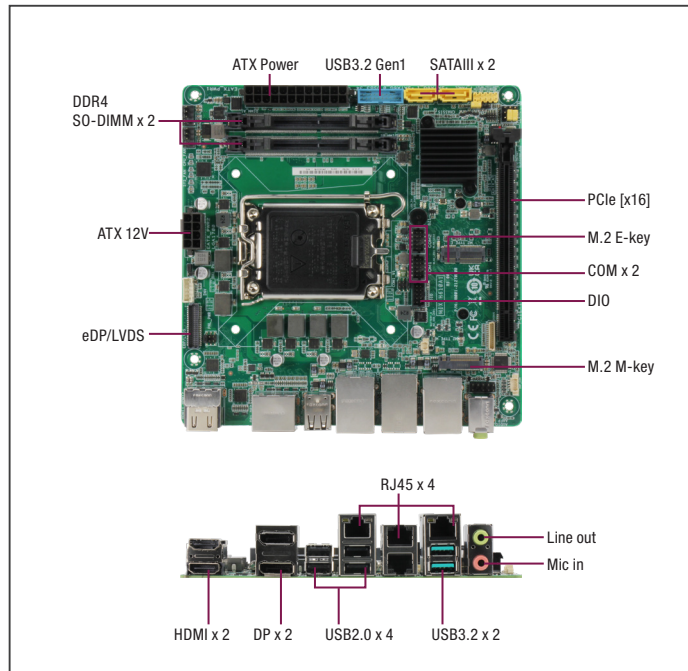


# MIX-H610A1

Mini-ITX with 12th/13th/14th Generation Intel® Core™ LGA1700 Socket Processor, Max. 65W



## Specifications

| System                   |                                                                                                            |
|--------------------------|------------------------------------------------------------------------------------------------------------|
| Processor                | 12th/13th/14th 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              | NCT6126D                                                                                                   |
| 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 4 [x16] x 1, M.2 2230 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]<br>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      | -40°F ~ 185°F (-40°C ~ 85°C)                                                                               |
| Certificate              | CE & FCC                                                                                                   |
| Form Factor              | Mini-ITX: 6.7" x 6.7" (170mm x 170mm)                                                                      |
| Weight                   | 1.1 lb (0.5 Kg)                                                                                            |
| MTBF (Hours)             | 357,180                                                                                                    |

## Features

- 12th/13th/14th Gen Intel® Core™ LGA1700 Processor
- DDR4 DRAM Support, 3200MHz, Max 64GB
- M.2 2280 M-Key x 1, M.2 2230 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 4 [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     | —                                                                                     |
| Parallel Port | —                                                                                     |
| DIO           | 8-bit Programmable connector x 1                                                      |
| FAN           | 4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1                          |
| Power         | 1x24-pin EATX Power connector, 1x8-pin EATX 12V Power connector                       |
| Others        | Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard x 1, CMOS jumper x 1 |

### OS

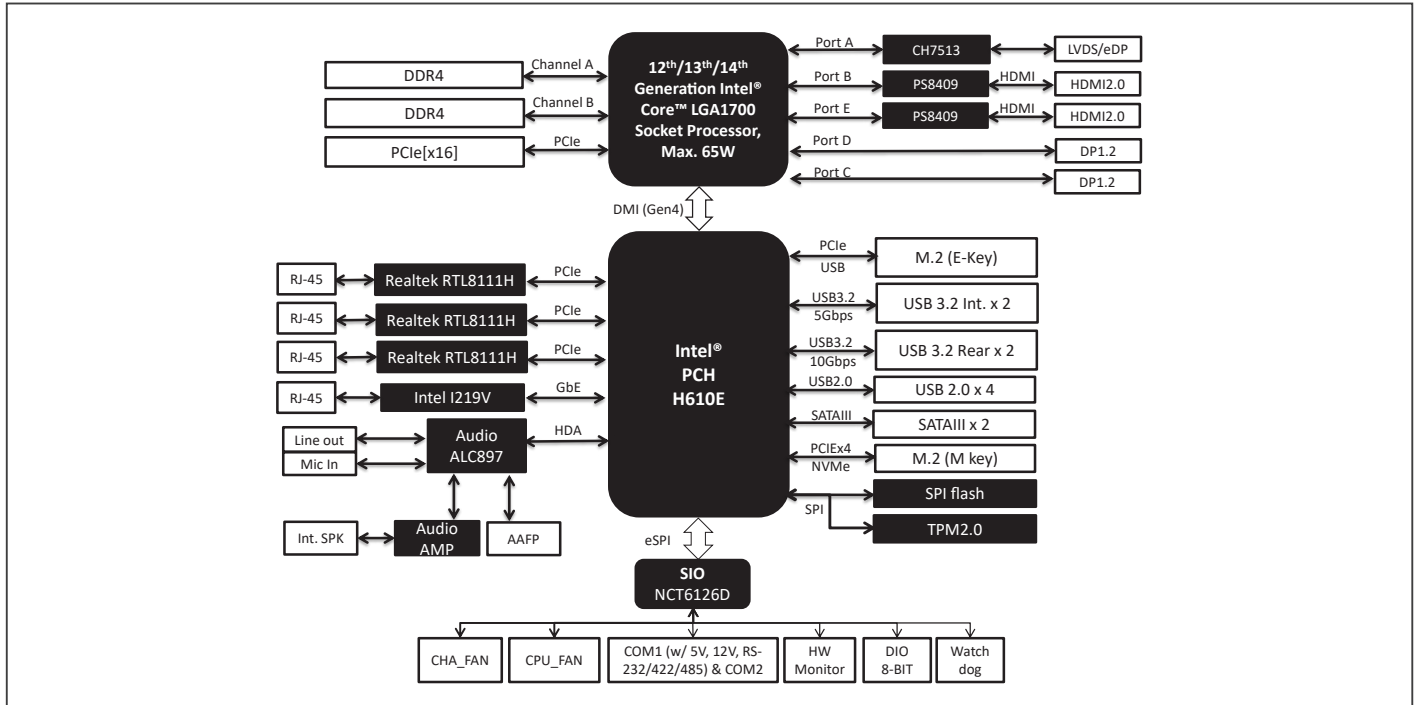
|            |                                       |
|------------|---------------------------------------|
| OS Support | Windows® 10 64-bit, Windows® 11 64bit |
|------------|---------------------------------------|

## Packing List

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

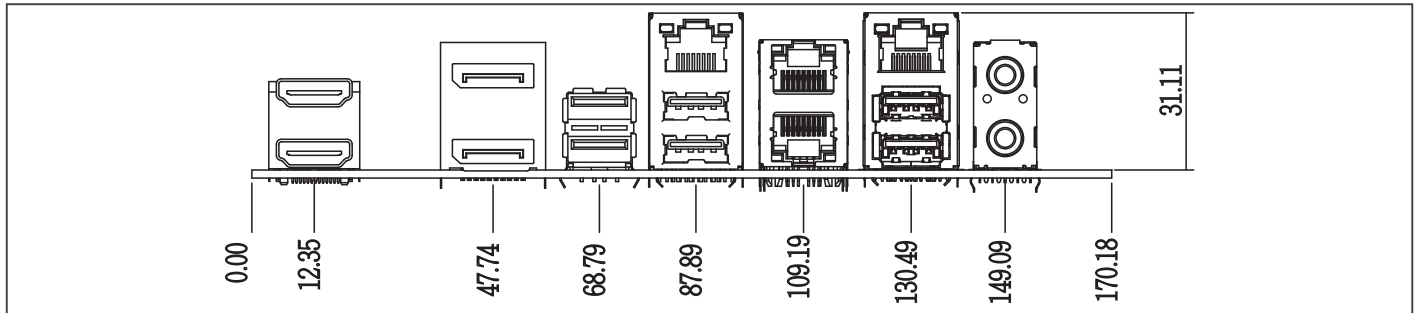


## Block Diagram



## 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 x 1 | GbE x 4 | USB 2.0 x 4<br>USB 3.2 x 4 | 1              | PCIe Gen 4 [x16] x 1, M.2 2230 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        |