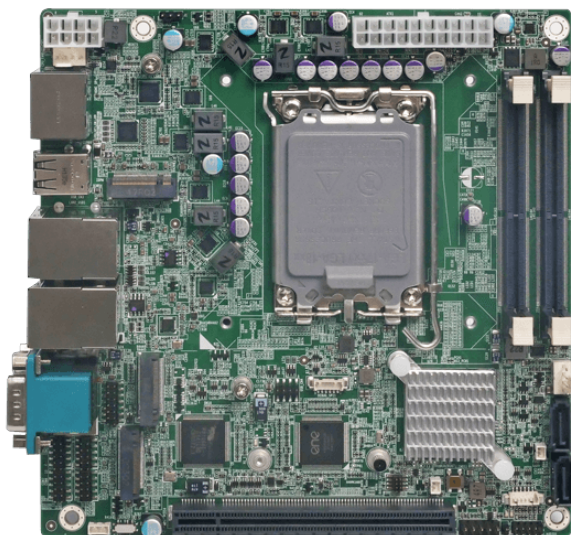


# KINO-ADL

mini-ITX SBC supports LGA1700 Intel® 12th/13th Generation Core™ i9/i7/i5/i3, Pentium® and Celeron® processor, DDR4, Triple independent displays, dual 2.5GbE LAN, USB 3.2, SATA 6Gb/s and RoHS



## Features

- » Support Intel® H610/H610E chipset
- » Support two Intel® I225V 2.5GbE Ethernet controllers
- » Support triple independent display via HDMI, DP and iDPM
- » Support one PCIe x16, one M.2 A Key, one M.2 M Key expansions
- » Support two USB 3.2 Gen 2, two USB 3.2 Gen 1, four USB 2.0, with up to 10Gb/s transfer speed
- » Support two RS-232/422/485, four RS-232 and four SATA ports

## Specifications

|                             |                                                                                                                                                                                                               |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Form Factor                 |                                                                                                                                                                                                               |
| Form Factor                 | Mini-ITX Motherboard                                                                                                                                                                                          |
| System                      |                                                                                                                                                                                                               |
| CPU                         | LGA1700 socket supports 12th/13th generation Alder Lake-S/Raptor Lake-S Intel® Core™ i9/i7/i5/i3/Pentium®/Celeron® Processor (up to 65W TDP CPU)                                                              |
| Chipset                     | Intel® H610/H610E                                                                                                                                                                                             |
| Memory                      | Two 260-pin Dual-Channel DDR4 (up to 3200 MHz) SDRAM Unbuffered DIMMs supported up to 64GB                                                                                                                    |
| Memory Max.                 | 64GB                                                                                                                                                                                                          |
| Cooling method / System Fan | 1 x CPU fan connector (1x4 pin)<br>2 x System fan connector (1x4 pin)                                                                                                                                         |
| Physical Characteristics    |                                                                                                                                                                                                               |
| Dimensions (LxWxH) (mm)     | 170mm x 170mm                                                                                                                                                                                                 |
| Net Weight                  | 700g                                                                                                                                                                                                          |
| Storage                     |                                                                                                                                                                                                               |
| Storage                     | 1 x M.2(NGFF): 1 x M.2 M key (2280, PCIe Gen3 X 4)<br>2 x SATA: RAID 0/1/5/10 supported                                                                                                                       |
| I/O Interface               |                                                                                                                                                                                                               |
| Display Output              | 1 x Display Port: up to 4096 x 2304 @60Hz<br>1 x HDMI: up to 4096 x 2304 @60Hz<br>1 x iDPM: support iEi eDP/ LVDS/ VGA module                                                                                 |
| Ethernet                    | 2 x LAN-<br>LAN1: Intel® I225V 2.5GbE controller<br>LAN2: Intel® I225V 2.5GbE controller                                                                                                                      |
| Audio                       | 1 x HD Audio: 1 x iAUDIO supports IEI AC-KIT-888S Audio Kit (2x5 pin)                                                                                                                                         |
| I/O Interface               | 2 x External RS-232/422/485: RS-485 support AFC<br>2 x External USB 2.0<br>2 x External USB 3.2 Gen1x1: 5Gb/s (Type A)<br>2 x External USB 3.2 Gen2x1: 10Gb/s (Type A)<br>4 x Internal RS-232: 2x5 pin, P=2.0 |

|                       |                                                                                                                                                         |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | 2 x Internal USB 2.0: 2x4 pin, P=2.0                                                                                                                    |
| Expansion             | 2 x M.2(NGFF)-                                                                                                                                          |
|                       | 1 x M.2 M key (2280, PCIe Gen3 X 4)                                                                                                                     |
|                       | 1 x M.2 A key (2230, PCIe Gen3 x1 & USB 2.0) for wifi/BT                                                                                                |
|                       | 1 x PCIe x16: Gen4 slot with x16 Signal<br>**Intel® recommends that Alder Lake-S CPU PCIe ports are only used for discrete graphics and storage devices |
| Power                 |                                                                                                                                                         |
| Power Consumption     | 3.3V@0.96A, 5V@6.49A, 12V@5.95A, 5VSB@1.05A                                                                                                             |
|                       | (Intel® Core™ i9-12900E CPU with two 16 GB 3200 MHz DDR4 memory, max. loading, EuP mode enabled)                                                        |
| Power Supply          | ATX/AT power supply                                                                                                                                     |
|                       | Support AT/ATX mode                                                                                                                                     |
|                       | ErP/EuP Compliant                                                                                                                                       |
| Environment           |                                                                                                                                                         |
| Operating Temperature | 0°C~60°C                                                                                                                                                |
| Storage Temperature   | -30°C~70°C                                                                                                                                              |
| Humidity              | 5% ~95%, non-condensing                                                                                                                                 |

## Ordering Information

|                   |                                                                                                                                                                                                |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KINO-ADL-H610-R10 | mini-ITX SBC supports LGA1700 Intel® 12th/13th Generation Core™ i9/i7/i5/i3, Pentium® and Celeron® processor, DDR4, Triple independent displays, dual 2.5GbE LAN, USB 3.2, SATA 6Gb/s and RoHS |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Packing List

|                                         |                |
|-----------------------------------------|----------------|
| 1 x KINO-ADL-H610 single board computer | 2 x SATA cable |
| 1 x I/O shielding                       | 1 x QIG        |