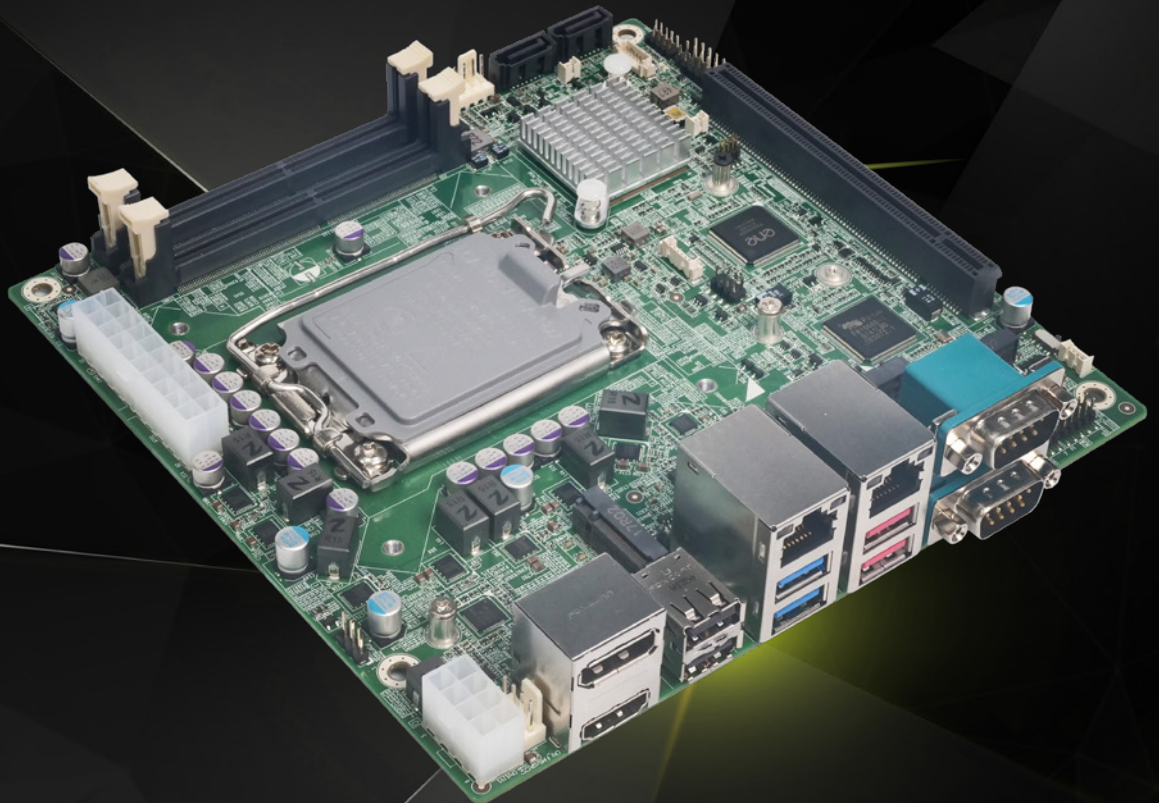


# KINO-ADL-H610

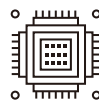
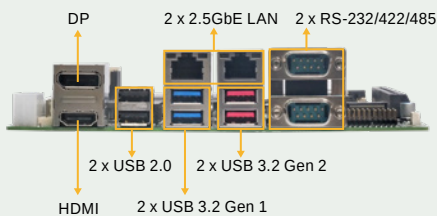
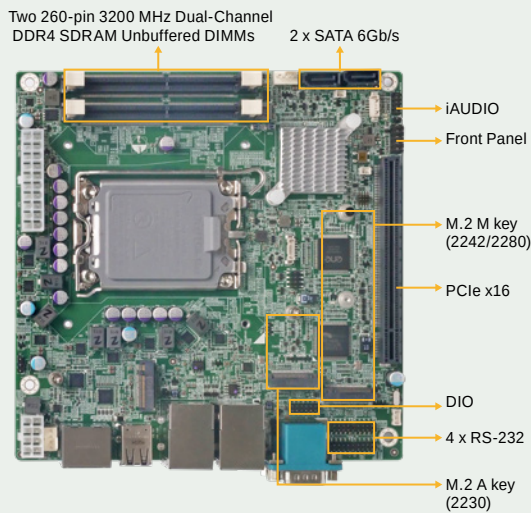
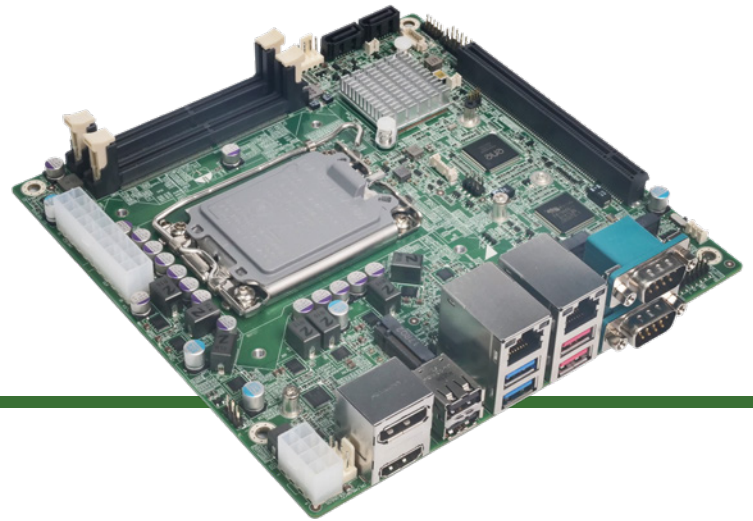
**Mini-ITX SBC supports LGA1700 Intel® 12th/13th Generation Core™ i9/i7/i5/i3, Pentium® and Celeron® processor, DDR4, Triple independent displays, dual 2.5GbE LAN, USB 3.2, SATA 6Gb/s and RoHS**

- LGA1700 Intel® 12th/13th Generation Core i9/i7/i5/i3, Pentium and Celeron® processor(65W)
- Dual-channel DDR4 3200MHz
- Support DisplayPort 1.4a, HDMI 2.0b& iDPM slot for eDP/ LVDS/VGA module
- Support PCIE X16 Gen4,M.2 M key (PCIE GEN3 X4),and M.2 A key (PCIE GEN3 X1) expansion



# KINO-ADL-H610

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



## Support Intel® Alder Lake-S/ Raptor Lake-S Processor

Equipped with 12th/13th Generation Core™ i9/i7/i5/i3, Pentium® and Celeron® processor (up to 65W TDP CPU).



## Support Intel® I225V 2.5GbE Network Controller

Two Gigabit RJ45 network ports are provided via Intel® I225V 2.5GbE network controller to achieve up to 2.5GbE network transmission rate.



## Abundant Expansion Slots

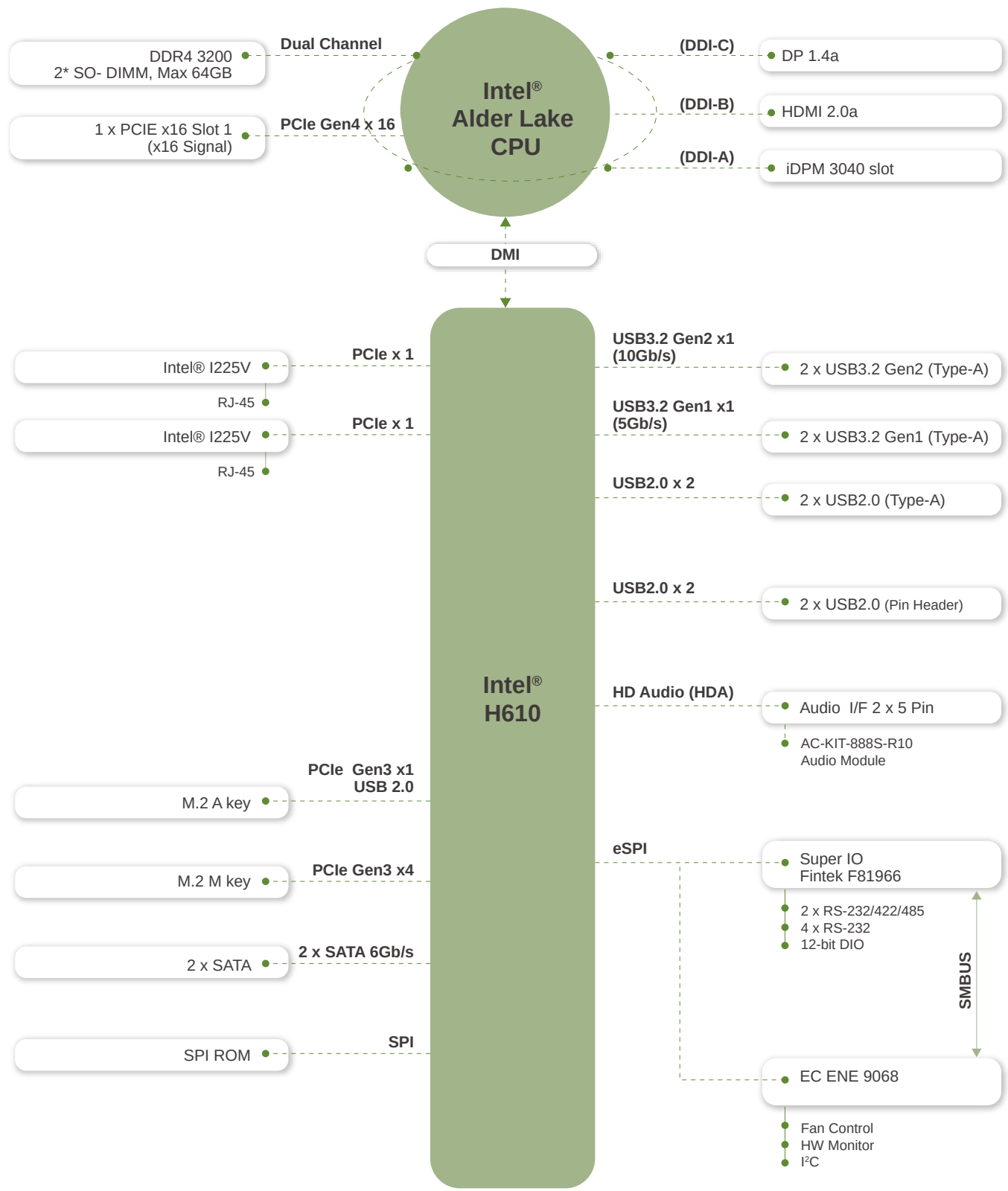
The KINO-ADL-H610 provides PCIe x16 (Gen 4) for expansion, M.2 A key for Bluetooth and Wi-Fi modules, M.2 M key for NVME storage.



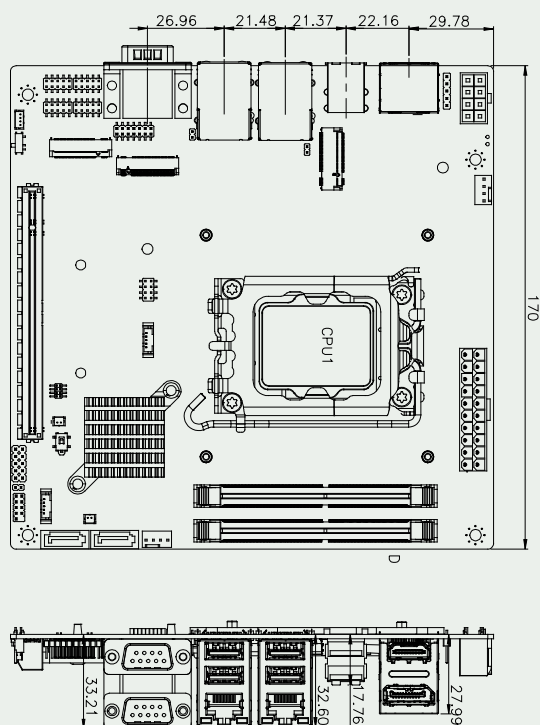
## IEI-specific iDPM Interface

IEI uniquely designs a iDPM interface that can connect to display modules, enabling users to add LVDS/eDP/VGA display interface upon requirements.

# KINO-ADL-H610 Block Diagram



## Dimensions



## Optional accessories



## Specifications

| Model                  | KINO-ADL-H610                                                                                                                                                           |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                                                                                                       |
| BIOS                   | AMI UEFI BIOS                                                                                                                                                           |
| Memory                 | Two 260-pin 3200 MHz Dual-Channel DDR4 SDRAM Unbuffered DIMMs supported up to 64GB                                                                                      |
| Graphics Engine        | New Intel® Xe Graphics architecture with SRIOV, Genlock                                                                                                                 |
| Display Output         | Triple independent display<br>1 x DP 1.4a (up to 4096 x 2304 @60Hz)<br>1 x HDMI 2.0b (up to 4096 x 2304 @60Hz)<br>1 x iDPM 3040 slot (only for IEI eDP/LVDS/VGA module) |
| Ethernet               | LAN1: Intel® I225V 2.5GbE controller<br>LAN2: Intel® I225V 2.5GbE controller                                                                                            |
| External I/O Interface | 2 x USB 3.2 Gen2 x1 (Type-A) (10Gb/s)<br>2 x USB 3.2 Gen1 x1 (Type-A) (5Gb/s)<br>2 x USB 2.0 (Type-A)                                                                   |
| Internal I/O Interface | 2 x RS-232/422/485 (RS-485 support AFC)<br>2 x SATA 6Gb/s                                                                                                               |
| I2C/SMBUS              | 2 x USB 2.0 (2x4 pin, P=2.0)<br>4 x RS-232 (2x5 pin, P=2.0)                                                                                                             |
| Audio                  | 1 x I2C/SMBUS (1x4 pin, P=1.25)                                                                                                                                         |
| Audio                  | 1 x Analog audio (2x5 pin, P=2.0)<br>Support 7.1 channel HD audio by IEI AC-KIT-888S kit module                                                                         |
| Front Panel            | 1 x Front Panel<br>(2 x 5 pin, P=2.54, Power LED, HDD LED, Speaker, Power Button, Reset Button)                                                                         |
| LAN LED                | 2 x LAN LED (1x2 pin)                                                                                                                                                   |
| Expansion              | **1 x PCIe x16 (Slot1) with x16 Signal Gen4<br>1 x M.2 M key (2280, PCIe Gen3 X 4)<br>1 x A key (2230, PCIe Gen3 x1 & USB 2.0) for wi-fi/BT                             |
| Digital I/O            | 1 x 12-bit digital I/O (2x7 pin, P=2.0)                                                                                                                                 |
| TPM                    | PTT function supported                                                                                                                                                  |
| FAN connector          | 1 x CPU fan connector (1x4 pin)<br>2 x System fan connector (1x4 pin)                                                                                                   |
| Chassis Open           | 1 x Chassis intrusion (1x2 pin)                                                                                                                                         |
| Power supply           | Support AT/ATX mode<br>ErP/EuP Compliant                                                                                                                                |
| Watchdog Timer         | Software Programmable support 1~255 sec. System reset                                                                                                                   |
| Power Consumption      | TBD                                                                                                                                                                     |
| Operating Temperature  | 0°C ~ 60°C                                                                                                                                                              |
| Storage Temperature    | -30°C ~ 70°C                                                                                                                                                            |
| Operating Humidity     | 5% ~95%, non-condensing                                                                                                                                                 |
| Dimension              | 170mm x 170mm                                                                                                                                                           |
| Weight                 | GW:1200g / NW:700g                                                                                                                                                      |

\*\*Intel® recommends that Alder Lake-S CPU PCIe ports are only used for discrete graphics and storage devices

## Packing List

|                                         |                 |
|-----------------------------------------|-----------------|
| 1 x KINO-ADL-H610 single board computer | 1 x Power cable |
| 1 x SATA with power cable kit           | 1 x QIG         |

## 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 |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Optional Accessories

|                     |                                                                  |
|---------------------|------------------------------------------------------------------|
| AC-KIT-888S-R10     | Realtek ALC888S 7.1 Channel HD Audio peripheral board, RoHS      |
| CB-USB02A-RS        | Dual-port USB cable with bracket, 300mm, p=2.0                   |
| 32102-000100-200-RS | SATA power cable, MOLEX 5264-4P to SATA15P                       |
| 32205-000702-100-RS | RS-232 cable, 200 mm, p=2.0 mm                                   |
| 19100-000323-00-RS  | High-performance LGA1700 cooler, 65W                             |
| iDPM-eDP-R10        | eDP to eDP DisplayPort converter board (for IEI iDPM connector)  |
| iDPM-LVDS-R10       | eDP to LVDS DisplayPort converter board (for IEI iDPM connector) |