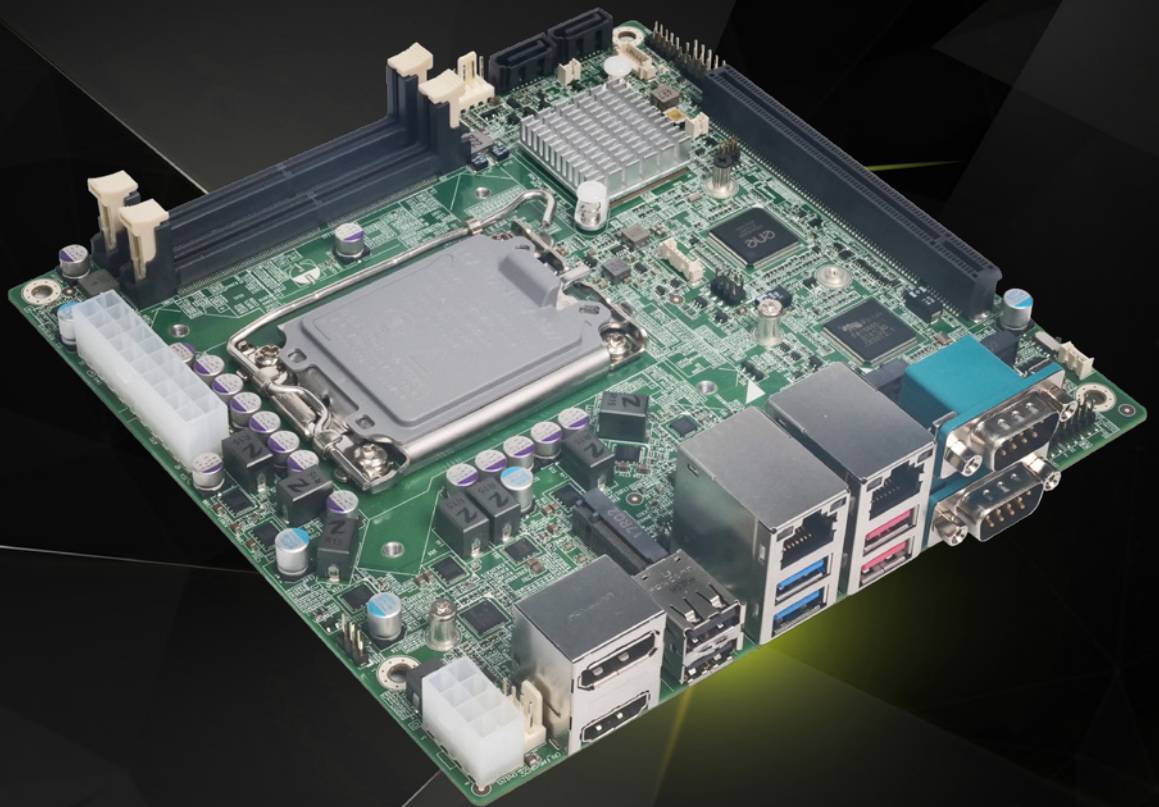


# KINO-ADL-H610

Mini-ITX SBC supports LGA1700 Intel® 12th/13th/14th Generation Core™ i9/i7/i5/i3, Pentium® and Celeron® processor

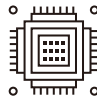
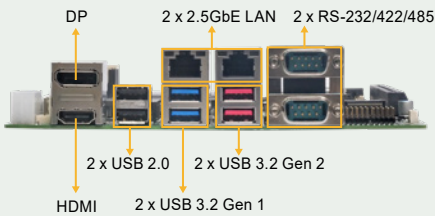
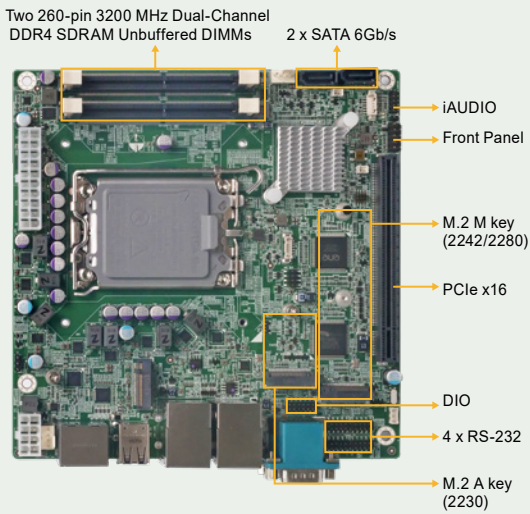
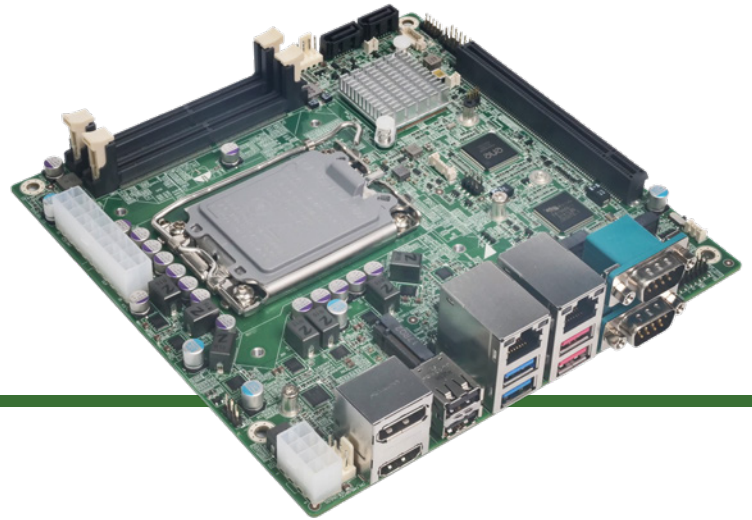
- Support dual-channel 3200MHz DDR4 SO-DIMM
- Triple independent display: DP 1.4a, HDMI 2.0b & iDPM slot for eDP/ LVDS/VGA module
- Support dual Intel® I225V/I226V 2.5GbE controllers
- Support PCIE X16 Gen4, M.2 M key, and M.2 A key expansion



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# KINO-ADL-H610

Mini-ITX SBC supports LGA1700 Intel® 12th/13th/14th 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/14th Generation Core™ i9/i7/i5/i3, Pentium® and Celeron® processor (up to 65W TDP CPU).



## Support Intel® I225V/I226V 2.5GbE Network Controller

Two Gigabit RJ45 network ports are provided via Intel® I225V/I226V 2.5GbE network controller to achieve up to 2.5GbE network transmission rate.



## Abundant Expansion Slots

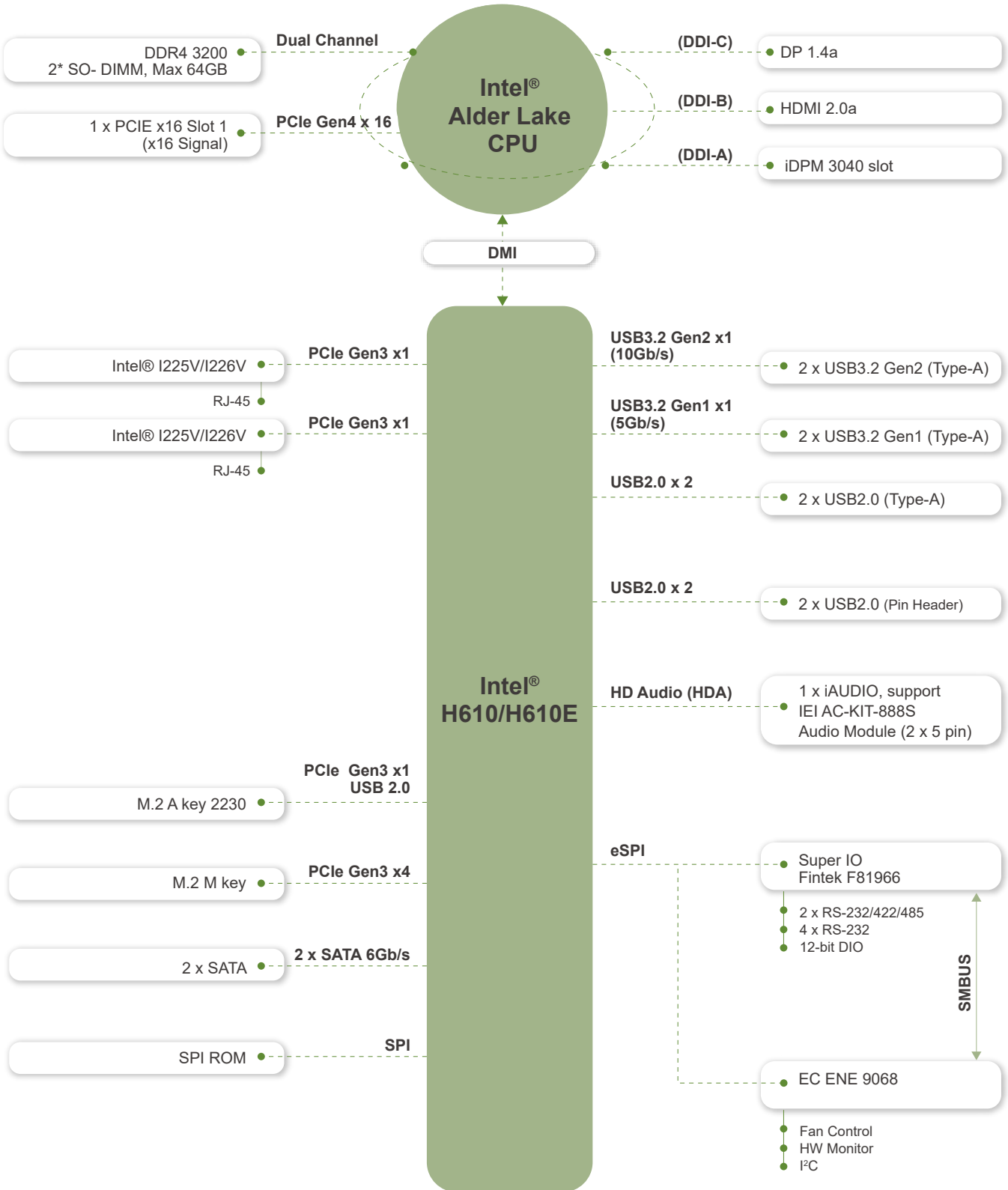
The KINO-ADL-H610 provides PCIe x16 (Gen 4) for expansion, M.2 A key for Bluetooth and Wi-Fi modules, M.2 M key for NVME storage.



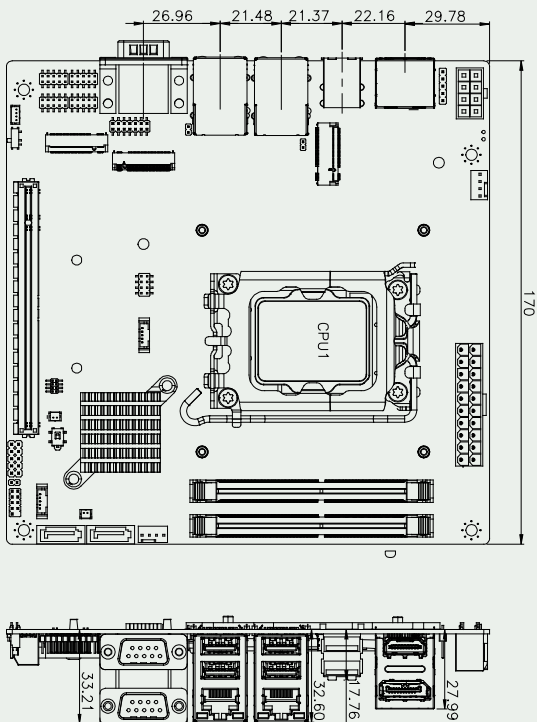
## iEi-specific iDPM Interface

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

# Block Diagram



### Dimensions



### Optional accessories



### Specifications

| Model                  | KINO-ADL-H610   |
|------------------------|---|
| CPU                    | LGA1700 socket supports 12th/13th/14th 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        | Intel® UHD Graphics   |
| 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/I226V 2.5GbE controller<br>LAN2: Intel® I225V/I226V 2.5GbE controller  |
| External I/O Interface | 2 x USB 3.2 Gen2 (Type-A) (10Gb/s)<br>2 x USB 3.2 Gen1 (Type-A) (5Gb/s)<br>2 x USB 2.0 (Type-A)<br>2 x RS-232/422/485 (RS-485 support AFC)                              |
| Internal I/O Interface | 2 x SATA 6Gb/s<br>2 x USB 2.0 (2x4 pin, P=2.0)<br>4 x RS-232 (2x5 pin, P=2.0)   |
| I2C/SMBUS              | 1 x I2C/SMBUS (1x4 pin, P=1.25)   |
| Audio                  | 1 x iAUDIO, supports<br>IEI AC-KIT-888S Audio Kit (2x5 pin)   |
| 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 2242/2280 (PCIe Gen3 x4)<br>1 x M.2 A Key 2230 (PCIe Gen3 x1&USB 2.0)                                      |
| 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>1 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      | 3.3V@0.96A, 5V@6.49A, 12V@5.95A, 5VSB@1.05A<br>(Intel® Core™ i9-12900E CPU with two 16 GB 3200 MHz DDR4 memory, max. loading, EuP mode enabled)                         |
| Operating Temperature  | 0°C ~ 60°C  |
| Storage Temperature    | -30°C ~ 70°C  |
| Operating Humidity     | 5% ~95%, non-condensing   |
| Diemension             | 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 I/O shielding (PN:45014-0099C0-00-HF) |
| 1 x SATA with power cable kit (PN:32801-012500-100-RS) | 1 x QIG                                   |

### Ordering Information

|                   |   |
|-------------------|---|
| KINO-ADL-H610-R10 | Mini-ITX SBC supports LGA1700 Intel® 12th/13th/14th 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                       |
| 32205-002700-200-RS | RS-232/422/485 cable, 200 mm, 2*5pin, p=2.0 mm                   |
| 19100-000323-00-RS  | High-performance LGA1700 cooler, 65W (72 x 70 x 25.5 mm)         |
| 19100-000319-00-RS  | High-performanc 1 U LGA1700 cooler, 65W (95 x 90 x 27.45 mm)     |
| 19100-000333-00-RS  | High-performance LGA1700 cooler, 80W, (72 x 48.5 x 73.5 mm)      |
| 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) |
| iDPM-VGA-R10        | eDP to VGA Connetor converter board (For IEI Display Module)     |
| iDPM-VBO-R10        | eDP to VBO DisplayPort converter board (for IEI iDPM connector)  |
| iDPM-DP-R10         | eDP to DP DisplayPort converter board (for IEI iDPM connector)   |