

# 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) 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) 2 x SATA: RAID 0/1/5/10 supported
I/O Interface	
Display Output	1 x Display Port: up to 4096 x 2304 @60Hz 1 x HDMI: up to 4096 x 2304 @60Hz 1 x iDPM: support iEi eDP/ LVDS/ VGA module
Ethernet	2 x LAN- LAN1: Intel® I225V 2.5GbE controller 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 2 x External USB 2.0 2 x External USB 3.2 Gen1x1: 5Gb/s (Type A) 2 x External USB 3.2 Gen2x1: 10Gb/s (Type A) 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 **Intel® recommends that Alder Lake-S CPU PCIe ports are only used for discrete graphics and storage devices
<b>Power</b>	
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
<b>Environment</b>	
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
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## Packing List

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