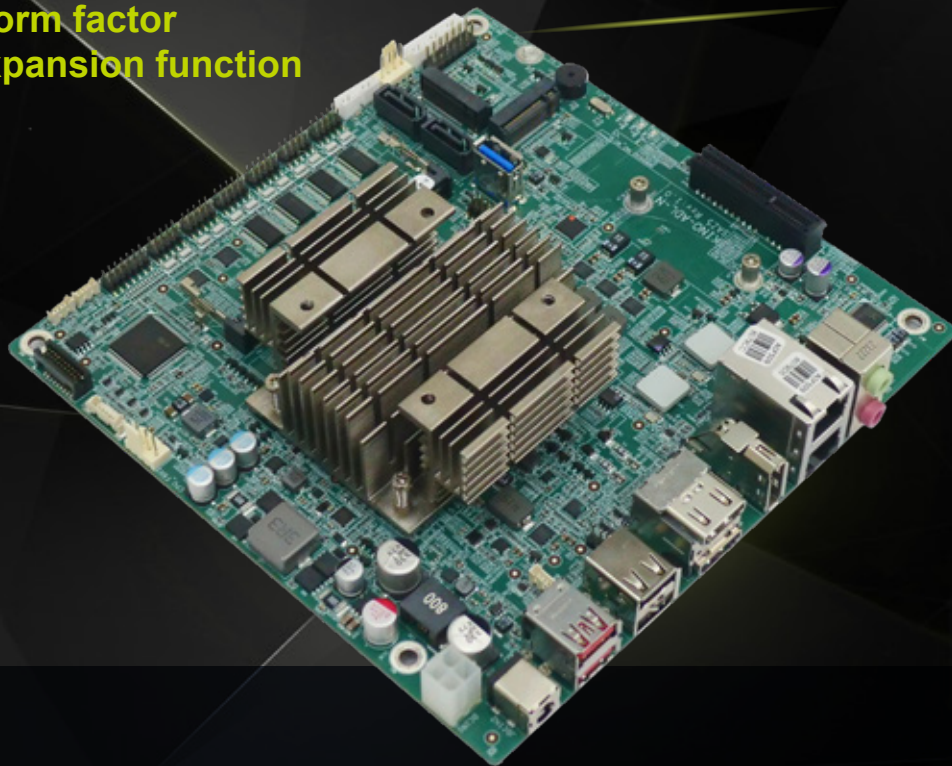


# KINO-ADL-N KINO-ASL

Mini-ITX SBC with Intel® Alder Lake-N SoC Processor, DDR5 SO-DIMM, 12~28V DC input, Triple Display, Intel® 2.5GbE, M.2, RoHS

- Support 4800MHz DDR5 SO-DIMM
- Triple independent displays with dual HDMI and DP
- High speed I/O interface for USB 3.2 Gen 2, SATA 6Gb/s
- Dual 2.5 GbE LAN with Intel® I226V
- Support one PCIe Gen3 x4, one M.2 A key and one M.2 M key slot

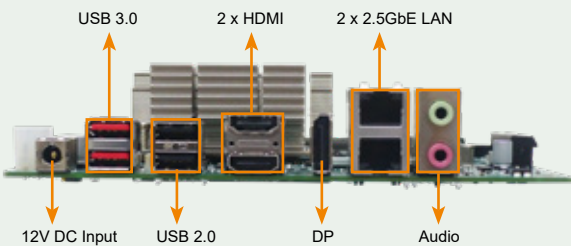
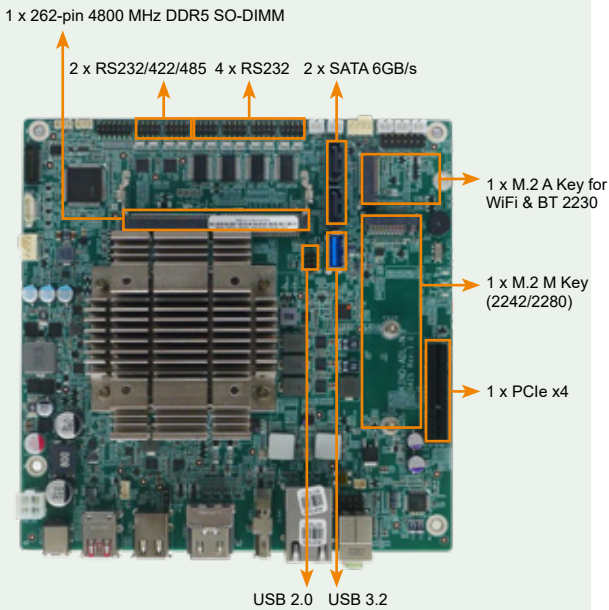
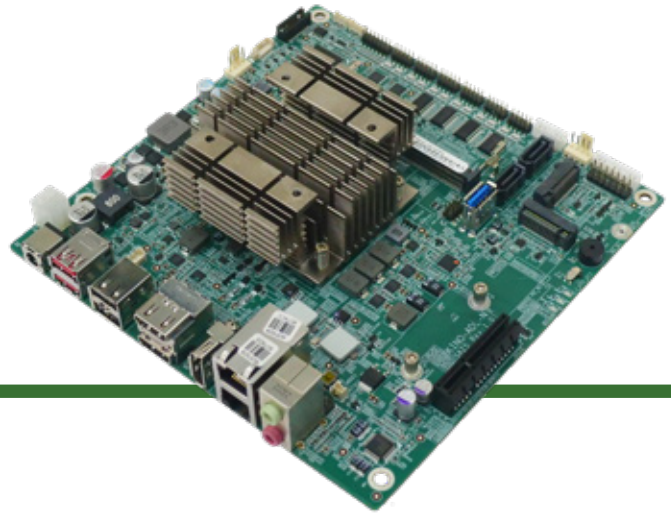
**17\*17 mini ITX form factor**  
**With multiple expansion function**



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# KINO-ADL-N KINO-ASL

Mini-ITX SBC with Intel® Alder Lake-N SoC Processor, DDR5 SO-DIMM, 12~28V DC input, Triple Display, Intel® 2.5GbE, M.2, RoHS



## Support Intel® Alder Lake-N socket processor

Equipped with Onboard Intel® Atom™ x6000 series / Pentium® / Celeron® processor (Alder Lake N platform), Onboard Intel® Atom™ x7000 series / Pentium® / Celeron® processor (Amston Lake platform)



## Support Intel® I226-V 2.5GbE Network Controller

Two RJ45 network ports are provided via Intel® I226-V 2.5GbE network controller to achieve up to 2.5GbE network transmission rate



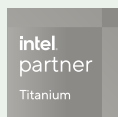
## Abundant Expansion Slots

One PCIe x4 slot can connect a PCIe expansion card. M.2 A key for Bluetooth and Wi-Fi modules, M.2 M key for NVME storage

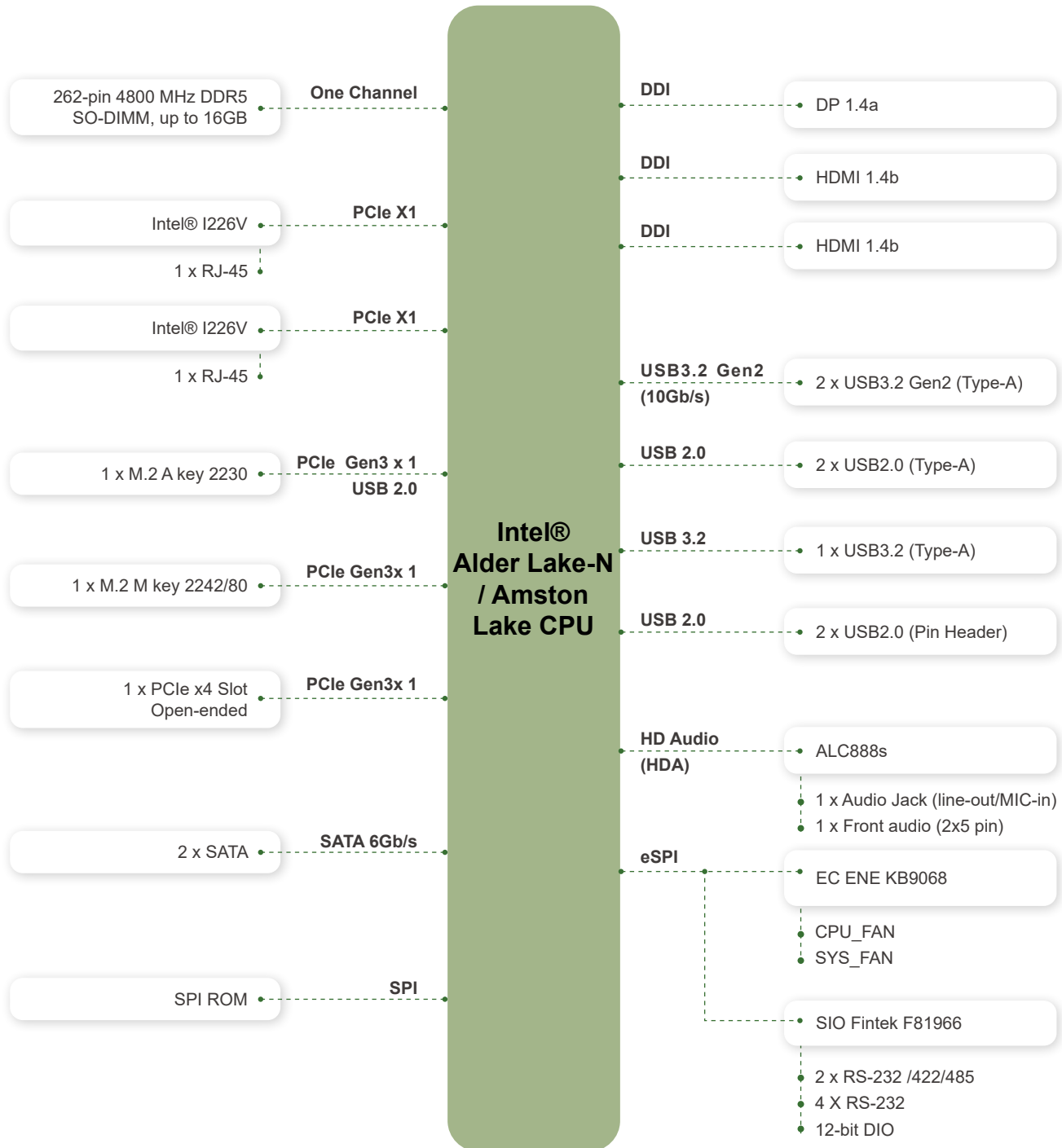


## Abundant USB and COM interfaces

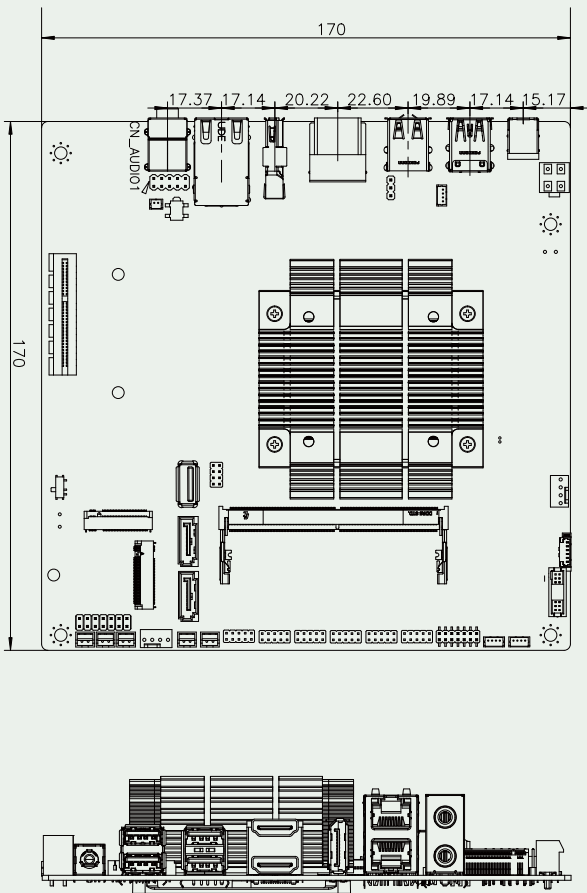
It is equipped with two USB 3.2 Gen 2 (10Gb/s) ports, four USB 2.0 ports on the rear panel. Additionally, two RS-232/422/485 and four RS-232 ports are supported via internal connectors.



# Block Diagram



Dimensions



Specifications

Model	KINO-ADL-N / KINO-ASL
CPU	Onboard Intel® Atom™ / Pentium® / Celeron® processor (Alder Lake N platform) Intel® Alder Lake-N N97 SoC Processor (up to 2.9GHz, quad-core, TDP=12W) Intel® Alder Lake-N N200 SoC Processor (up to 3.2GHz, quad-core, TDP=6W) Onboard Intel® Atom™ x7000 series / Pentium® / Celeron® processor (Amston Lake platform) Intel® Amston Lake x7835RE SoC Processor (up to 3.0GHz, 8-core, TDP=12W) Intel® Amston Lake 7433RE SoC Processor (up to 2.7GHz, quad-core, TDP=9W)
BIOS	AMI UEFI BIOS
Memory	1 x 262-pin 4800 MHz DDR5 SO-DIMM, system up to 16G (Support IBEEC)
Graphics Engine	Intel® Gen 12 UHD Graphics with 16/24/32 EU
Display Output	2 x HDMI 1.4 4K@30 1 x DP 1.4 4K@60
Ethernet	LAN1: Intel® i226V 2.5GbE controller LAN2: Intel® i226V 2.5GbE controller Support TSN (x7000 Series)
External I/O Interface	2 x USB 3.2 Gen 2 (10Gb/s) 2 x USB 2.0
Internal I/O Interface	2 x SATA 6Gb/s 2 x USB 2.0 (2x4 pin, P=2.0) 1 x USB 3.2 (Type A, 180°) (Only embedded CPU) 2 x RS-232/422/485 (2x5 pin, P=2.0) 4 x RS-232 (2x5 pin, P=2.0)
SMBus	1 x SMBus (1x4 pin)
I2C	1 x I <sup>2</sup> C (1x4 pin)
Audio	Realtek ALC888S HD Audio codec 1 x Audio Jack (line-out/MIC-in) on rear IO 1 x Front audio (2x5 pin)
Front Panel	1 x Front Panel (2x7 pin, Power LED, HDD LED, Speaker, Power Button, Reset Button)
Expansion	1 x PCIe x4 Slot Open-ended (PCIe Gen3 x1 signal) 1 x M.2 A Key 2230 for WIFI & BT (PCIe Gen3 x1 & USB 2.0) 1 x M.2 M key 2242/2280 (PCIe Gen3 x1)
Digital I/O	1 x 12-bit digital I/O (2x7 pin)
TPM	1 x TPM (2x10 pin)
Fan connector	1 x CPU fan connector (1x4 pin) 1 x System fan connector (1x4 pin)
Power Supply	Input voltage range: 12~28V 1 x internal power connector (2x2 pin) 1 x external DC power jack (Ø2.6mm) ErP/EuP Compliant*
Watchdog Timer	Software Programmable support 1~255 sec. System reset
Power Consumption	12V@4.304A, 19V@2.744A, 24V@2.241A, 28V@1.943A (Intel® N97 @2.00GHz CPU with Innodisk M550-AGS2NCVP 4800 16GB memory, max. loading, EuP mode enabled)
Operating Temperature	-10°C ~ 60°C
Storage Temperature	-30°C ~ 70°C
Operating Humidity	5% ~95%, non-condensing
Dimension	170 mm x 170 mm
Weight	GW:900g / NW:450g
Certification	CE/FCC Compliant

Optional Accessories



Packing List

1 x KINO-ADL-N single board computer	1 x SATA cable (PN: 32801-000100-300-RS)
1 x I/O Shielding	1 x QIG

Ordering Informaiton

KINO-ADL-N200-R10	Mini-ITX SBC with Intel® Alder Lake-N N200 SoC Processor,DDR5 SO-DIMM, 12~28V DC input, Triple Display, Intel 2.5GbE, M.2, RoHS
KINO-ADL-N97-R10	Mini-ITX SBC with Intel® Alder Lake-N N97 SoC Processor,DDR5 SO-DIMM, 12~28V DC input, Triple Display, Intel 2.5GbE, M.2, RoHS
KINO-ASL-R3-R10	Mini-ITX SBC with Intel® Atom™ x7433RE SoC Processor,DDR5 SO-DIMM, 12~28V DC input, Triple Display, dual Intel 2.5GbE, USB 3.2, M.2, SATA, RoHS
KINO-ASL-R4-R10	Mini-ITX SBC with Intel® Atom™ x7835RE SoC Processor,DDR5 SO-DIMM, 12~28V DC input, Triple Display, dual Intel 2.5GbE, USB 3.2, M.2, SATA, RoHS

Optional Accessories

CB-USB02A-RS	Dual port USB cable with bracket, 300mm, P=2.0
32205-002700-RS	RS-232/422/485 cable, 200 mm, 2*5pin, p=2.0 mm