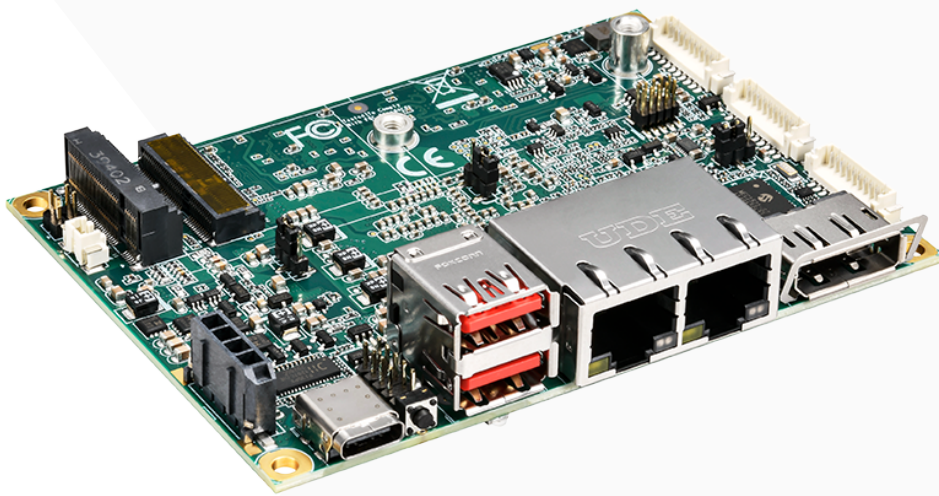


# 2.5"-SBC-AML/ADN



## 2.5" Single Board Computer with Intel® Atom® x7000(R)E Series, Intel® Core™ i3 N-Series & Intel® N-Series Processors

- Upgraded processing and graphics performance + faster AI inference capability
- Next-gen LPDDR5 memory with up to 4800 MT/s data transfer rate
- DP Alt Mode over USB-C support to carry video / audio, data & power over a single port
- Wide input voltage range for more application environments
- Hardware-based security for data protection and reliable authentication

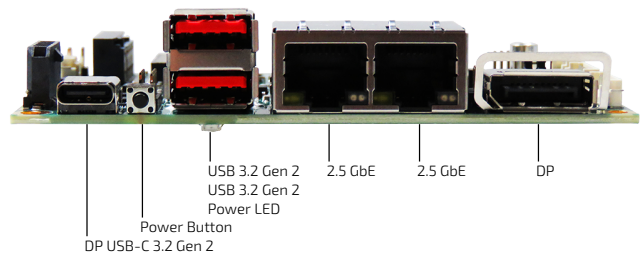
## 2.5" Single Board Computer w/ Intel® Atom® x7000(R)E Series, Core™ i3 N-Series & Intel® N-Series

2.5"-SBC-ADN is a 2.5" single board computer in Pico-ITX form factor powered by Intel® Atom® x7000RE Series (codenamed Amston Lake), Intel® Atom® x7000E Series, Intel® Core™ i3 N-Series and Intel® N-Series (codenamed Alder Lake N) processors integrated with Intel® UHD Graphics Gen12 as well as next-gen high-speed LPDDR5 memory. Thus, it can deliver upgraded performance,

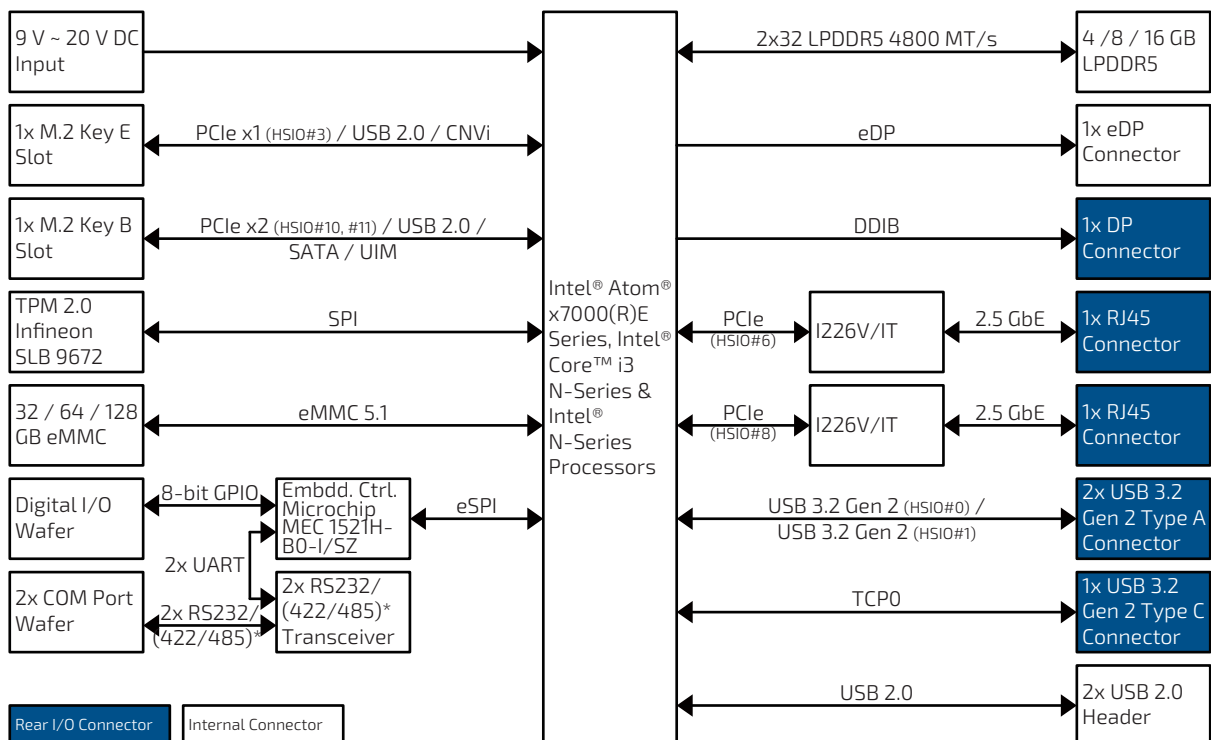
enhanced media transcoding and faster AI inference, making it an ideal baseboard to be integrated into an ultra-compact or portable IoT edge system or an all-in-one solution for a variety of applications, such as smart retail, industrial automation, healthcare, video processing and office automation.

- Intel® Atom® x7000(R)E Series Processors
- Intel® Core™ i3 N-Series Processors
- Intel® N-Series Processors
- 4 GByte / 8 GByte / 16 GByte LPDDR5 memory down
- 2x 2.5 GbE LAN for Ethernet
- 2x DP (1x full DP, 1x USB-C), 1x eDP for 3-display support
- 3x USB 3.2 Gen 2 (2x Type A, 1x Type C), 2x USB 2.0 for USB
- 2x RS232 or 2x RS232/422/485 for serial device connection
- 4x DI, 4x DO for device / signal control
- 32 GByte / 64 GByte / 128 GByte eMMC for storage
- 1x M.2 Key B for SSD, WWAN or other possible expansion

- 1x M.2 Key E for WLAN, Bluetooth or other expansion
- TPM 2.0 support



## Block Diagram



(\*: optional)

SYSTEM	PROCESSOR (STANDARD)	Intel® Atom® x7211RE (Dual Core, 6M Cache, 1.0 / 3.2 GHz, 6 W TDP) Intel® Atom® x7433RE (Quad Core, 6M Cache, 1.5 / 3.4 GHz, 9 W TDP) Intel® Atom® x7835RE (Octa Core, 6M Cache, 1.3 / 3.6 GHz, 12 W TDP) Intel® Core™ i3-N305 (Octa Core, 6M Cache, 1.8 / 3.8 GHz, 9 W ← 15 W TDP) Intel® N97 (Quad Core, 6M Cache, 2.0 / 3.6 GHz, 12 W TDP)
	PROCESSOR (PROJECT BASE)	Intel® Atom® x7213RE (Dual Core, 6M Cache, 2.0 / 3.4 GHz, 9 W TDP) Intel® Atom® x7211E (Dual Core, 6M Cache, 1.0 / 3.2 GHz, 6 W TDP) Intel® Atom® x7213E (Dual Core, 6M Cache, 1.7 / 3.2 GHz, 10 W TDP) Intel® Atom® x7425E (Quad Core, 6M Cache, 1.5 / 3.4 GHz, 12 W TDP) Intel® N50 (Dual Core, 6M Cache, 1.0 / 3.4 GHz, 6 W TDP) Intel® N200 (Quad Core, 6M Cache, 1.0 / 3.7 GHz, 6 W TDP)
	MEMORY	4 GByte / 8 GByte / 16 GByte LPDDR5 4800 memory down
VIDEO	GRAPHICS DISPLAY INTERFACE	Intel® UHD Graphics Gen12 1x eDP (4096 x 2160 @ 60 Hz) 2x DP (4096 x 2160 @ 60 Hz, 1x Full-size DP on rear, 1x DP USB-C on rear)
	MULTIPLE DISPLAY	Triple Display
NETWORK CONNECTION	ETHERNET	2x 2.5 GbE LAN (RJ45 on rear, Intel® I226-V/IT, TSN support*)
PERIPHERAL CONNECTION	USB	3x USB 3.2 Gen 2 (2x Type A on rear, 1x Type C (w/ DP & PD 5 V / 3 A) on rear) 2x USB 2.0 (by header)
	SERIAL PORT OTHER I/Os	2x RS232 (def.) / RS232/422/485 (opt.) (by header, Tx/Rx only for RS232 signal) 4x DI (by wafer) 4x DO (by wafer)
	eMMC M.2	32 GByte / 64 GByte / 128 GByte eMMC 1x M.2 Key B (Type 2242/3042/3052/2280, w/ PCIe x2 / USB 2.0 / SATA / UIM) 1x M.2 Key E (Type 2230, w/ PCIe x1 / USB 2.0 / CNVi)
	SIM CARD HOLDER	1x SIM Card Holder (by Wafer)
POWER	INPUT VOLTAGE CONNECTOR	DC 9 V - 20 V 1x2-pin pitch 1.25 mm Wafer
FIRMWARE	BIOS WATCHDOG H/W MONITOR REAL TIME CLOCK SECURITY	AMI uEFI BIOS w/ 256 Mb SPI Flash Programmable WDT to generate system reset event Voltages, Temperatures Processor integrated RTC TPM 2.0 Support (Infineon SLB 9672)
SYSTEM CONTROL & MONITORING	BUTTON, SWITCH & INDICATOR	1x Power Button (on rear) 1x Power LED (Green, on board)
	FP HEADER	1x Header for Power Button, Reset Button, Power LED & SATA LED
MECHANICAL	DIMENSION (L x W)	Pico-ITX (100 mm x 72 mm / 3.94" x 2.83")
ENVIRONMENTAL	OPERATING TEMPERATURE	0 °C ~ 60 °C / 32 °F ~ 140 °F (Standard) -40 °C ~ 85 °C / -40 °F ~ 185 °F (Extreme)
	STORAGE TEMPERATURE	-20 °C ~ 80 °C / -4 °F ~ 176 °F (Standard) -55 °C ~ 85 °C / -67 °F ~ 185 °F (Extreme)
	HUMIDITY	0 % ~ 95 %
COMPLIANCE	EMC & SAFETY	CE Class B, FCC Class B, ICES Class B, UKCA, UR (UL Recognized)

\* TSN support for models with Atom® processors

# Ordering Information

ARTICLE	PROCESSOR	LAN CHIP	LPDDR5	eMMC	COM PORT	OPERATING TEMP.
2.5"-SBC-ADN-1-i3-N305*	Intel® Core™ i3-N305	Intel® I226-V	16 GByte	128 GByte	2x RS232/422/485	0 °C - 60 °C
2.5"-SBC-ADN-3-N97	Intel® N97	Intel® I226-V	8 GByte	64 GByte	2x RS232	0 °C - 60 °C
2.5"-SBC-ADN-4-N97	Intel® N97	Intel® I226-V	8 GByte	128 GByte	2x RS232	0 °C - 60 °C
2.5"-SBC-ADN-5-i3-N305	Intel® Core™ i3-N305	Intel® I226-V	8 GByte	128 GByte	2x RS232	0 °C - 60 °C
2.5"-SBC-AML-0-x7211RE-XT	Intel® Atom® x7211RE	Intel® I226-IT	8 GByte	64 GByte	2x RS232	-40 °C ~ 85 °C
2.5"-SBC-AML-1-x7433RE-XT	Intel® Atom® x7433RE	Intel® I226-IT	8 GByte	128 GByte	2x RS232	-40 °C ~ 85 °C
2.5"-SBC-AML-2-x7835RE-XT	Intel® Atom® x7835RE	Intel® I226-IT	16 GByte	128 GByte	2x RS232	-40 °C ~ 85 °C
2.5"-SBC-AML-3-x7835RE-XT*	Intel® Atom® x7835RE	Intel® I226-IT	16 GByte	128 GByte	2x RS232/422/485	-40 °C ~ 85 °C

\*: Project based

Contact your account manager for other processor variants, LPDDR5 variants, eMMC variants, COM port configuration or operating temperature ranges.

## Global Headquarters

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The Power of IoT