

ARK-1222

Intel® N97, x7433RE and i3-N305 Soc on DIN-Rail Fanless Box PC

NEW



Features

- Intel N97& x7433RE Quad Core SoC, and Intel Core i3-N305 Octa Core Soc
- DIN-Rail system with essential I/O ports on front-side bezel
- Dual 4K HDMI Display
- 16GB DDR5 built-in memory
- Support up to 2x GbE, 4x USB, 4x COM, 1x GPIO, 2x CANBus
- Support 1x M.2 B Key, 1x M.2 E Key, 1x full-size mPCIe (share with mSATA slot)
- 12V ~ 28V wide range power input
- Support Windows 10/11 IoT Enterprise LTSC, Ubuntu 24.04
- SUSI API, WISE-DeviceOn, Trellix and Acronis bundled



WISE-DeviceOn SUSI API



Specifications

Model Name	ARK-1222			
Processor System	CPU	Intel Atom x7433RE Quad Core SoC	Intel N97 Quad Core SoC	Intel i3-N305
	Frequency	1.50 GHz	2.0 GHz	1.8 GHz
	Core Number	4	4	8
	BIOS	AMI EFI 256 Mbit		
Memory	Technology	DDR5 4800 MHz		
	Max capacity	16GB (16GB Built-in)		
	Socket	1x 262-pin SO-DIMM (for 16GB Built-in)		
Graphics	Chipset	Intel® UHD Graphics		
	HDMI	Up to 4096 x 2160 @ 60 Hz		
	Dual Display	HDMI2.0 + HDMI2.0		
Ethernet	LAN1	10/100/1000/2500 Mbps Intel i226-IT GbE, support Wake On LAN		
	LAN2	10/100/1000/2500 Mbps Intel i226-IT GbE, support Wake On LAN		
Audio	Interface	Realtek ALC888S, High Definition Audio, Mic-in, Line-out		
I/O Interface	Serial Ports	4 x RS-232/422/485 with auto flow control		
	USB Ports	2 x USB3.2 (Gen 2x1), 2 x USB2.0		
	GPIO	8-bit Programmable DIO		
	Optional CANbus	2 x DB9 (via optional cables; cannot coexist with iDoor)		
Expansion	Mini PCIe	1 x Full-size mPCIe		
	M.2	1 x M.2 Key E 2230 (PCIe x1, USB2.0) and 1 x M.2 Key B 2280 (PCIe x2, USB3) with nano SIM holder #1		
Storage	NVMe	1 x M.2 Key B 2280		
	mSATA	1 x Full-size mSATA (*share with mPCIe slot)		
Other	WatchDog Timer	255 levels timer interval, setup by software		
	TPM	TPM 2.0 (NPCT764AABYX on board)		
Software Support	Microsoft Windows	Windows 10/11 Enterprise		
	Linux	Ubuntu 24.04		
Power Requirement	Power Type	ATX/AT		
	Power Input Voltage	12 ~ 28 V _{DC}		
	Power Adaptor	AC to DC, 90W (Optional)		
Power Consumption	Typical	11.11W	12.95W	14.47W
	Max.	29.3W	32.8W	49.08W
Mechanical	Construction	Aluminum housing		
	Mounting	DIN-rail/Wall Mount (Optional)/VESA Mount (Optional)		
	Dimensions (W x H x D)	60 x 158 x 114 mm (2.34" x 6.22" x 4.49")		
	Weight	0.94 kg (2.07lb)		
Environment	Operating Temperature	With extended temp. peripherals: -40 ~ 70 °C (-40 ~ 158 °F) with 0.7 m/s air flow		
		-20 to 60 °C (-4 ~ 140 °F) with 0.7 m/s air flow (N97/i3-N305)		
	Storage Temperature	-40 ~ 85 °C (-40 ~ 185°F)		
	Relative Humidity	95% @ 40 °C (non-condensing)		
	Vibration during Operation	3 Grms, IEC60068-2-64, random, 5~500 Hz, 1hr/axis (with Wall Mount)		
	Shock during Operation	30 G, IEC-60068-2-27, half sine, 11 ms duration (with Wall Mount)		
	EMC	CE/FCC Class B, CCC, BSMI, UKCA		
	Safety	UL, CB, CCC, UKCA		

#1 SIM holder and M.2 slot are hardware interfaces for wireless communication integration only. System level RF certification is not available.

M.2 B key requires additional mechanical parts to fix for sizes other than 2280 (Please see Optional Items).

M.2 B key requires additional mechanical part and thermal pad for storage cooling (Please see packing list).

ADVANTECH

Fanless Embedded Box PCs

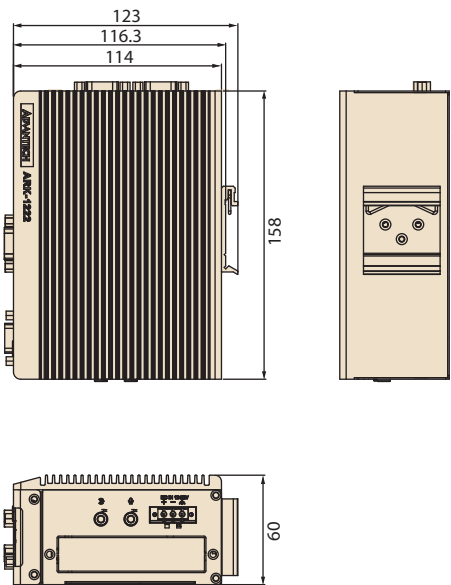
All product specifications are subject to change without notice.

Last updated: 28-Jul-2025

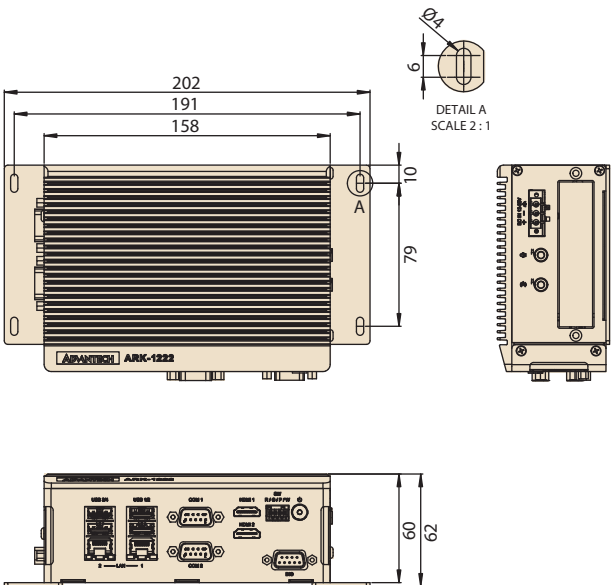
Dimensions

Unit: mm

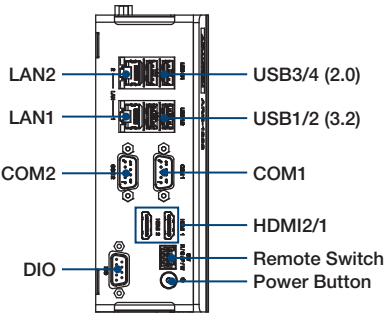
DIN Rail



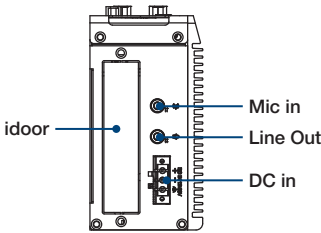
Wall Mount



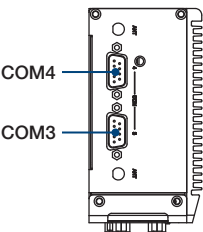
Front Panel External I/O Mechanical Layout/Drawing



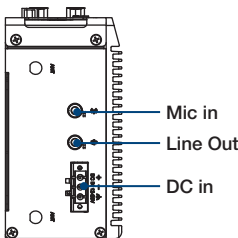
Bottom Panel External I/O Mechanical Layout/Drawing



Top View External I/O Mechanical Layout/Drawing



(Optional RF Bottom Cover) Bottom Panel External I/O Mechanical Layout/Drawing



Note: Maximum 4 antenna port

Ordering Information

Part No.	CPU	RAM	HDMI	LAN	COM	USB	M.2 B	M.2 E	GPIO	Audio	SIM	Full-size MiniPCIe	(Optional CANBus)	Operating Temp.
ARK-1222-S5A1	Intel Atom® x7433RE	16 GB Built-in	2	2	4	2 x USB 3.2 2 x USB 2.0	1	1	1	Mic in and Line out	1	1 (shared with mSATA)	up to 2	-40 ~ 70° C
ARK-1222-U0A1	Intel® Processor N97	16 GB Built-in	2	2	4	2 x USB 3.2 2 x USB 2.0	1	1	1	Mic in and Line out	1	1 (shared with mSATA)	up to 2	-20 ~ 60° C
ARK-1222-S5A1U	Intel Atom® x7433RE	16 GB Built-in	2	2	4	2 x USB 3.2 2 x USB 2.0	1	1	1	Mic in and Line out	1	1 (shared with mSATA)	up to 2	-40 ~ 70° C
ARK-1222-U0A1U	Intel® Processor N97	16 GB Built-in	2	2	4	2 x USB 3.2 2 x USB 2.0	1	1	1	Mic in and Line out	1	1 (shared with mSATA)	up to 2	-20 ~ 60° C
ARK-1222-S8A1	Intel® Core™ i3-N305	16 GB Built-in	2	2	4	2 x USB 3.2 2 x USB 2.0	1	1	1	Mic in and Line out	1	1 (shared with mSATA)	up to 2	-20 ~ 60° C

Note: P/N with alphabet "U" as suffix are Made in Taiwan. Storage and operating system are bundled by request.

Packing List

Part Number	Description
-	1 x ARK-1222 Unit
-	1 x User Manual (Simplified Chinese)
1950016395T101	1 x DIN-rail bracket
1652004519	1 x 3-pin plug-in block for power in
1652007880-01	1 x 4-pin terminal block for switch
-	1 x M.2 thermal bracket
1990039876N000	1 x M.2 thermal pad 65x22x1.5mm

Embedded OS

Part Number	Description
20706WX1ES0140	Win 10 IoT Ent 2021 LTSC (N97& x7433RE)
20706WX1VS0140	Win 10 IoT Ent 2021 LTSC (i3-N305)
20706WLE1S0073	Win 11 IoT Ent 2024 LTSC (N97& x7433RE)
20706WLV1S0073	Win 11 IoT Ent 2024 LTSC (i3-N305)
20706U24DS0015	Ubuntu 24.04 ARK-1222 64b ENU

Optional Items

Part Number	Description
XARK-ADP-90MDH	AC to DC adaptor , 19V/90W
1700001524	Power Cable 3-pin 180cm, USA type
170203183C	Power Cable 3-pin 180cm, Europe type
170203180A	Power Cable 3-pin 180cm, UK type
1700008921	Power Cable 3-pin 180cm, PSE type
1960103315N020	M.2 2242 Extension Bracket
1960103315N010	M.2 3052 Extension Bracket
1960117556N000	M.2 E key thermal bracket (required for Hailo E key module)
196R000021N001	Side cover with 2 more ANT hole
AMK-W007	ARK-1222 Wall mount kit
AMK-V023E	ARK-12XX VESA mount (must be used with AMK-W007)
AMK-A0055	ARK-1222 1 port CANBus Kit
AMK-A0056	ARK-1222 2 port CANBus Kit

Note: For Hailo module installation, please contact PD for configuration.

Optional MOS modules for iDoor

Part Number	Description
MOS-2120-Z1101E	Giga LAN Ethernet module, 1-Ch, PCIe I/F,
MOS-1130Y-0202	Isolated CANBus, 2-Ch, DB9, PCIe I/F
MOS-1110Y-0101E	Isolated 16 DI/8 DO, 1-Ch, DB37, PCIe I/F
MOS-2120-Z1201	Dual Intel I210 GbE LAN iDoor, 2-Ch, PCIe I/F
MOS-1120Y-0202E	Isolated RS-232, 2-Ports, DB9, PCIe I/F
MOS-1120Y-1402E	Non-Isolated RS-232, 4-Ports, DB37, PCIe I/F
MOS-2110Z-1201E	USB module, 2-Ch, PCIe I/F