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

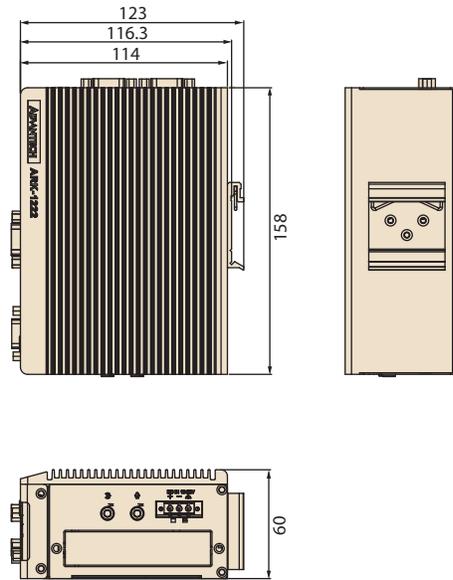| Model Name		ARK-1222		
Processor System	CPU	Intel Atom x7433RE Quad Core SoC	Intel N97 Quad Core SoC	Intel i3-N305
	Frequency	1.50 GHz	2.0 GHz	1.8 Ghz
	Core Number	4	4	8
	BIOS	AMI EFI 256 Mbit		
Memory	Technology	DDR5 4800 MHz		
	Max capacity	16GB (16GB Built-in)		
	Socket	1x 262-pin SO-DIMM (for 16GB 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 Defination Audio, Mic-in, Line-out		
I/O Interface	Seriel 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).
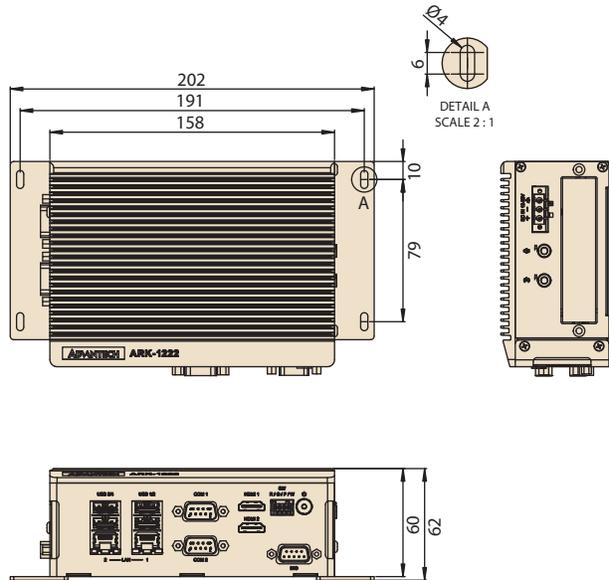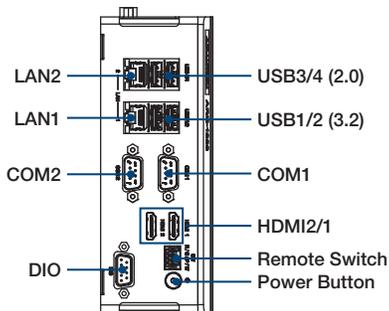M.2 B key requires additional mechanical part and thermal pad for storage cooling (Please see packing list).
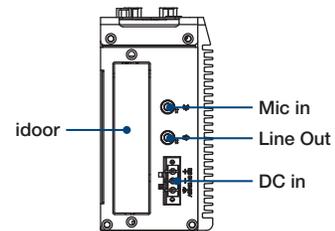
AMC

ADVANTECH iAutomation
Premier Partner

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Vertrieb durch **AMC**

AMC – Analytik & Messtechnik GmbH Chemnitz

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ARK-1222

Dimensions

Unit: mm

DIN Rail   **Wall Mount**

123
116.3
114
158
60

202
191
158
Ø4
6
DETAIL A
SCALE 2 : 1
10
79
A
60
62

Front Panel External I/O Mechanical Layout/Drawing

LAN2 — USB3/4 (2.0)
LAN1 — USB1/2 (3.2)
COM2 — COM1
— HDMI2/1
DIO — Remote Switch
— Power Button

Bottom Panel External I/O Mechanical Layout/Drawing

idoor — Mic in
Line Out
DC in

Top View External I/O Mechanical Layout/Drawing

COM4
COM3
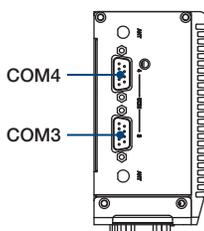
(Optional RF Bottom Cover) Bottom Panel External I/O Mechanical Layout/Drawing
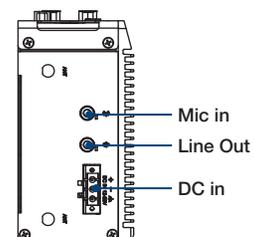
Mic in
Line Out
DC in

Note: Maximum 4 antenna port

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ARK-1222

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

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