

# ARK-3535

## AMD Ryzen™ Embedded 8000 Series Processor Fanless Box PC

Preliminary



### Features

- Support AMD Ryzen™ 8640U/8845HS Processor
- DDR5-5600 SO-DIMM memory support up to 96GB
- Triple displays with 2 x HDMI2.1 + 1 x Type C (DP ALT mode)
- M.2 E Key and B Key for storage and wireless module installation
- Up to 1 x GbE, 3 x 2.5 GbE, 6 x COM, 2 x USB3.2 Gen2+ 2 x USB3.2 Gen1+ 4 x USB2.0, 16-bit GPIO, 2 x CANBus
- TPM on board for system security
- 2 x 2.5" SATA storage device
- -20 ~ 50 °C extended operating temperature
- 9V ~ 36V wide range power input



### Specifications

Processor System	CPU	Ryzen 5 Pro 8640U	Ryzen 7 Pro 8845HS
	Frequency	3.5-4.9Ghz	3.8-5.1Ghz
	Core Number	6	8
	TDP	28W	45W
	BIOS	AMI EFI 256 Mbit	
	AI Capacity	31 TOPS	38 TOPS
Memory	Technology	DDR5 5600 MHz	
	Max capacity	Up to 96G	
	Socket	2 x 262 pin SO-DIMM (ECC support)	
Graphics	Chipset	AMD Radeon RDNA3 Graphics	
	HDMI 2.1	Up to 3840x2160@ 60Hz	
	Type C(Alt)	Up to 3840x2160@ 60Hz	
	Triple Display	HDMI 2.1 x 2 + Type C(Alt) x 1	
Ethernet	LAN1/2/3	10/100/1000/2500 Mbps Intel i226V, support Wake On LAN	
	LAN4	10/100/1000 Mbps Intel i210IT GbE, support Wake On LAN, OOB by EdgeBMC	
Audio	Interface	Realtek ALC888S, Mic-in/Line-out (By BIOS settings in Linux operating system)	
	Serial Ports	6x, (2x RS232/422/485 + 4x RS232/485 <sup>#1</sup> ), COM1/COM2 support High speed COM	
I/O Interface	USB Ports Type A	8x (4 x USB3.2, 2 x Gen2, 2xGen1+ 4 x USB2.0)	
	USB Port Type C	1x 20Gbps, DP ALT mode, 15W	
	GPIO	16-bit GPIO	
	CANBus	2	
	Remote Switch	1x (Reset, Power on, Ground, and Watchdog output signal)	
	Antenna holes	6x (3x left, 3x right)	
	Expansion	M.2	1x Key B 2280 PCIe Gen4 x2, USB3.2, with nano SIM holder <sup>#2</sup> 1x Key E 2230 PCIe Gen3 x2, USB2.0
Add-on Card Slot		1 Slot PCIe x16 (by optional AMO-3511 with PCIe x8 signal)	
Storage	2.5" SSD	2 x 2.5" SATAIII Max. 9.5mm height HDD bays <sup>#4</sup>	
	NVME <sup>#3</sup>	1x Key B 2280 PCIe Gen4 x2 (need additional AMK-A0058) <sup>#3</sup> 1x Key E 2230 PCIe Gen3 x2 (need additional AMK-A0061) <sup>#3</sup>	
Other	WatchDog Timer	255 levels timer interval, setup by software	
	TPM 2.0	NPCT764AABYX FW7.2.3.1 (On board)	
Software Support	Microsoft Windows	Windows 11	
	Linux	Ubuntu 24.04	
Power Requirement	Power Type	ATX/AT	
	Power Input Voltage	9-36 V <sub>DC</sub>	
	Power Adapter	230W AC to DC (Option)	
Power Consumption	Typical (OS idle mode)	10.8W	9.12W
	Max. (Full loading)	74.4W	94.08W
Mechanical	Construction	Aluminum top + metal bottom	
	Mounting	Wall Mounting Kit	
	Dimensions (W x H x D)	200 x 75 x 215 mm	
	Weight	3.285Kg	
Environment	Operating Temperature	With extended temp. peripherals: -20 ~ 50° C with 0.7m/s air flow	
	Storage Temperature	-40 ~ 85 °C (-40 ~ 185°F)	
	Relative Humidity	95% @ 40 °C (non-condensing)	
	Vibration during Operation	With SSD: 3 Grms, IEC60068-2-64, random, 5-500 Hz, 1hr/axis (with Wall Mount and SSD)	
	Shock during Operation	With SSD: 30 G, IEC-60068-2-27, half sine, 11 ms duration (with Wall Mount and SSD)	
	EMC	CE/FCC Class B, CCC, UKCA	
	Safety	UL, CB, CCC, BSMI	

#1 COM3-COM6 default RS232, setting needs to adjust BIOS and jumpers.

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

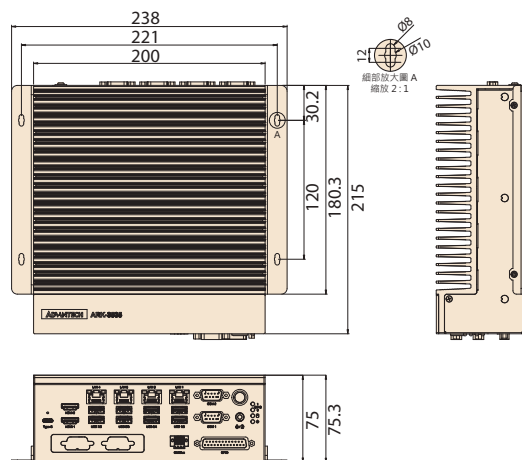
#3 Not applicable when bundled with AMO-3511

#4 Storage RAID 0/1 mode supports NVME, but doesn't support 2.5" SSD SATA

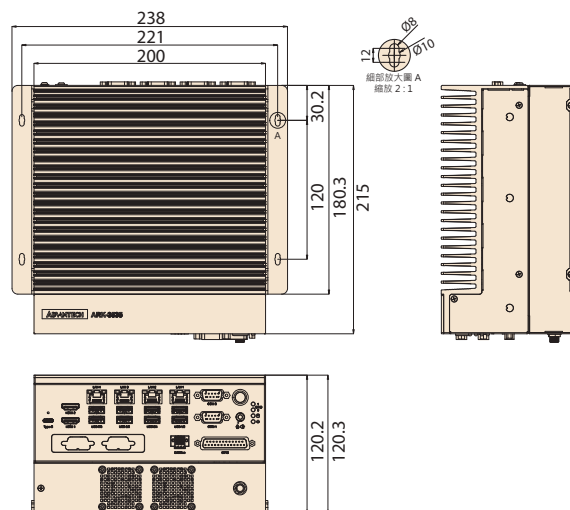
## Dimensions

Unit: mm

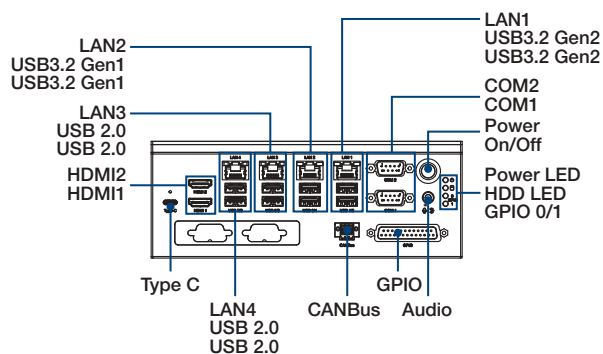
### Wall Mount



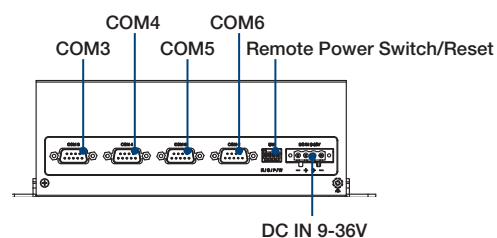
### Expansion



### Front Panel External I/O Mechanical Layout/Drawing



### Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

Part No.	CPU	DDR5	HDMI	LAN	COM	USB Type-A	USB Type-C	M.2 B	M.2 E	Audio
ARK-3535-T5A1	8640U	Up to 96G	2	4	6	4 x USB 3.2, 4 x USB 2.0	1	1	1	Mic in/Line out
ARK-3535-T8A1	8845HS	Up to 96G	2	4	6	4 x USB 3.2, 4 x USB 2.0	1	1	1	Mic in/Line out
ARK-3535-T5A1U*	8640U	Up to 96G	2	4	6	4 x USB 3.2, 4 x USB 2.0	1	1	1	Mic in/Line out
ARK-3535-T8A1U*	8845HS	Up to 96G	2	4	6	4 x USB 3.2, 4 x USB 2.0	1	1	1	Mic in/Line out

\*P/N with alphabet "U" as suffix are Made in Made in TW

## Packing List

Part Number	Description
-	1 x ARK-3535 Unit
2006353510	1 x User Manual (Simplified Chinese)
-	China RoHS
1960093556N021	1 x Wall Mount BKT
36WSWPD0BUND11	WISE-DeviceOn
36WSWPD0BD0211	Trellix Application Control Lite/Acronis Backup 11.7 for Windows PC
1652003234	4-pin plug-in block for power in
1652008233-01	6-pin terminal block for CANBus
1652007880-01	4-pin terminal block for switch
-	1 x DDR5 Thermal kit

## Embedded OS

Part Number	Description
20706WLH1S0122	img W11 24HL ARK-3535 64b 24H2 ENU
20706U24DS0044	img UbuntuD ARK-3535 64b 24.04 ENU

## Optional Item for M.2 Thermal Kit

Part Number	Description
AMK-A0058	Thermal kit of ARK-3535 for 5G or Hailo B key module
AMK-A0061	Thermal kit of ARK-3535 for Hailo E key module

## Optional Item for Default SKU

Part Number	Description
96PSA-A230W24P4-3	AC to DC adapter, DC 24V 230W, -20 ~ 60 °C
1702002600	Power cable 3-pin 183cm, USA type
1702002605	Power cable 3-pin 183cm, EU type
1700032693-11	Power cable 3-pin 183cm, UK type
1700000237	Power cable, 3-Pin 183cm, PSE type
1700001714	Power cable, 3-Pin 183cm, BSMI type
1960103315N010	M.2 Bracket (for 3052 device on M.2 B key)
1960103315N020	M.2 Bracket (for 2242 device on M.2 B key)

## ARK-3535 Optional Expansion Kit for add-on Cards

Part Number	Description
AMO-3511	ARK-3535 expansion kit for PCIe x 16 slot*1(Signal x 8)
96PSA-A150W12W7-4	ADP A/D 100-240V 150W 12V LOCKABLE DC JACK