

ARK-2252

Intel® Core™ Ultra Series 3 PTL processors Fanless Box PC

Preliminary



Features

- Intel® Core Ultra Panther Lake Processor
- DDR5-6400/7200 CSODIMM memory support up to 128G
- M.2 E Key, B Key and M Key for storage and wireless module installation
- Up to 4 x Intel GbE, 6 x serial ports, 8-bit DIO, 2xCANBus
- TPM on board for system security
- 3 displays with 2 x 4K HDMI, 1x4K typeC
- 4 x USB 3.2 and 2 x USB 2.0
- 12V~24V wide range power input
- -20 ~ 60 °C extended operating temperature
- Support Advantech idoor, POE module, or GMSL camera



WISE-DeviceOn

SUSI API

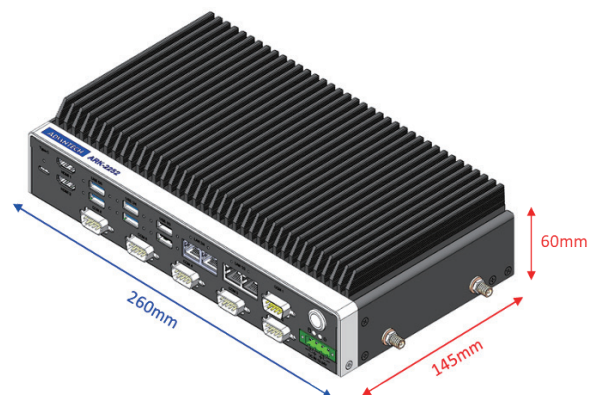


Specifications

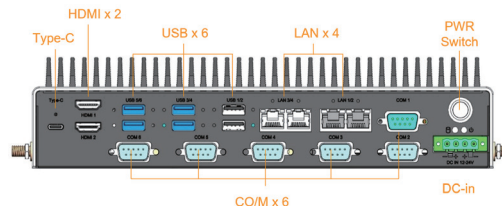
Processor System	CPU	Intel® Core™ Ultra 5 335	Intel® Core™ Ultra 7 366H
	Frequency	2.2GHz up to 4.6GHz	2.0GHz up to 4.8GHz
	Core Number	8	16
	BIOS	AMI EFI 512 Mbit	
	AI Capability	Up to 95 TOPS	Up to 100 TOPS
Memory	Technology	PTL Ultra 5 335: up to DDR5-6400 MT/s CSODIMM PTL Ultra 7 366H: up to DDR5-7200 MT/s CSODIMM	
	Max capacity	Up to 128 GB	
	Socket	2x 262-pin SODIMM (no support ECC)	
Graphics	Chipset	Intel® Xe 3 LPG (4Xe Cores)	
	HDMI	2x HDMI 2.1 TMDS: 3840x2160@ 60Hz	
	TypeC DP	1x DP via USB Type C Alt mode: 3840x2160@ 60Hz	
	Triple Display	2 x HDMI + 1 x Type C DP	
Ethernet	LAN1	10/100/1000/2500 Mbps Intel i226-LM GbE, support Wake On LAN	
	LAN2	10/100/1000/2500 Mbps Intel i226-LM GbE, support Wake On LAN	
	LAN3	10/100/1000/2500 Mbps Intel i226-LM GbE, support Wake On LAN, support PoE module	
	LAN4	10/100/1000/2500 Mbps Intel i226-LM GbE, support Wake On LAN, support PoE module	
Audio	Interface	1x, (Mic-in or Line-out, by Realtek ALC888S, modified by OS)	
I/O Interface	Serial Ports	2 x RS232/422/485 (COM1/2) (RS-232 support High speed COM), modified by switch 4 x RS232/485 (COM3/4/5/6), modified by switch	
	USB Ports	4 x USB3.2 Gen1 2 x USB2.0 1 x internal USB 2.0 Type A for security dongle	
	GPIO	8-bit Programmable DIO	
	CANBus	2x CANBus 2.0	
	Expansion	3x, 1 x Key-B 3042/ 3052 (PCIe Gen4 x2, USB3.2) w. 1 x with nano SIM holder, for 5G/AI/idoor module 1 x Key-E 2230 (PCIe Gen4 x1, USB2.0) for WiFi Module 1 x Key-M 2280 (PCIe Gen5 x4)	
Storage	NVMe	Default: 1x M.2 2280 M key (PCIe Gen5 x4) Optional: 1x M.2 2242 B key (PCIe Gen4x2)	
Other	WatchDog Timer	255 levels timer interval, setup by software	
	TPM	TPM2.0, NPCT764AAEYX FW7.2.4.1	
Software Support	Microsoft Windows	Windows 11 (LTSC)	
	Linux	Ubuntu 24.04	
Power Requirement	Power Type	ATX/AT	
	Power Input Voltage	12~24 V _{DC}	
Power Consumption	Typical (OS idle mode)	TBD	TBD
	Max. (Full loading)	TBD	TBD
Mechanical	Construction	Aluminum housing	
	Mounting	DIN-rail/Wall Mount/VESA Mount	
	Dimensions (W x H x D)	260 x 60 x 145 mm	
	Weight	TBD	
Environment	Operating Temperature	With extended temp. peripherals: -20 ~ 60 °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)	
	Shock during Operation	With SSD: 30 G, IEC-60068-2-27, half sine, 11 ms duration (with Wall Mount)	
	EMC	CE/FCC Class B, CCC, UKCA	
	Safety	UL, CB, CCC, UKCA	

Dimensions

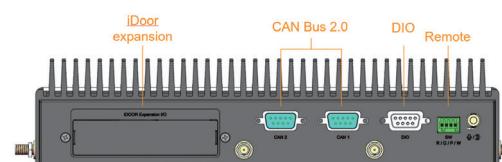
Unit: mm



Front Panel External I/O View



Rear Panel External I/O View



Ordering Information

Part No.	CPU	RAM	HDMI	TypeC DP	LAN	COM	USB	M.2 B	M.2 E	M.2 M	SIM	Option Module
TBD	Ultra 5 335	2 socket (up to 128G)	2	1	4	6	4 x USB 3.2 2 x USB 2.0	1	1	1	1	5G/WiFi/iDoor/GMSL/PoE
TBD	Ultra 7 366H	2 socket (up to 128G)	2	1	4	6	4 x USB 3.2 2 x USB 2.0	1	1	1	1	5G/WiFi/iDoor/GMSL/PoE

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

Packing List

Part Number	Description
-	1 x ARK-2251 Unit
-	1 x User Manual (Simplified Chinese)
-	Wrench for top cover
TBD	1 x mounting kit
TBD	Bracket & thermal pad for M.2 M Key SSD (NVMe)
36WSWPDOBD0211	WISE-DeviceOn
36WSWPDOBUND11	McAfee
1652007880-01	1 x 4-pin terminal block for switch

Optional Items

Part Number	Description
96PSA-A230W24P4-3	ADP A/D 100-240V 230W 24V C14 TERMINAL BLOCK 4P
1702002600	Power cable 3-pin 183cm, USA type
1702002605	Power cable 3-pin 183cm, EU type
1702031801-11	Power cable 3-pin 183cm, UK type
1700000237	Power cable 3-pin 183cm, PSE type
1700001714	Power cable 3-pin 183cm, Taiwan BSMI
TBD	VESA mount kits
TBD	DIN Rail mount kits

Embedded OS

Part Number	Description
TBD	Win 10
TBD	Win 11
TBD	img Ubun24.04

Optional POE modules

Part Number	Description
MIOE-PSE-SPA1	MIOE-PSE PoE Module A1 Single 30W w/ Heatsink
MIOE-PSE-DPA1	MIOE-PSE PoE Module A1 dual 15.4W w/ Heatsink

1: 30W PoE can be supported by LAN4 only

2: 15W PoE can be supported by LAN3 and LAN4

Optional modules for iDoor

Part Number	Description
96PSA-A230W24P4-3	ADP A/D 100-240V 230W 24V C14 TERMINAL BLOCK 4P
PCM-34D4R2	Non-Isolated RS-232, DB37x1, M.2 Bkey(2242, USB)
PCM-34D2R2	Isolated RS-232, DB9 x2, M.2 Bkey(2242, USB)
PCM-37D24DI	24ch Isolation Digital I/O, 16DI/ 8DO, DB37 x1
PCM-34R1TP	Intel I225, 2.5Gb/s, IEEE 1588, TSN, RJ45*1, M.2
PCM-34R2GL-AE	2 Port Giga LAN Intel i350, M.2 B+M key
TBD	2 port USB module