

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

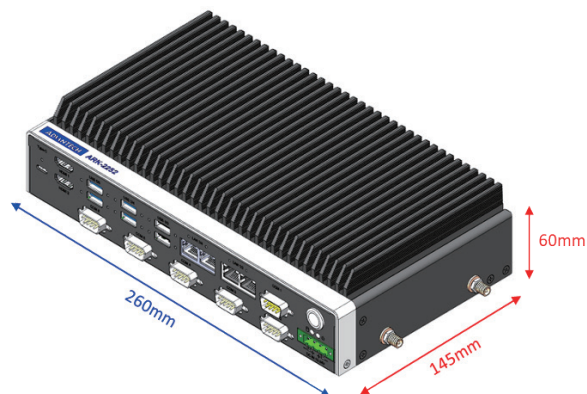


Specifications

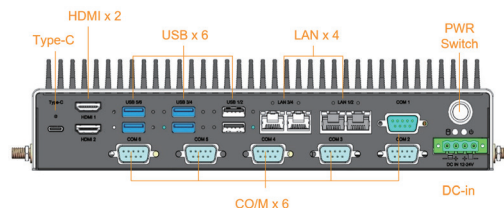
Processor System	CPU	Intel® Core™ Ultra 7 - 358H (12Xe)	Intel® Core™ Ultra 7 - 366H (4Xe)	Intel® Core™ Ultra 5 - 325 (4Xe)
	Frequency	1.9GHz up to 4.8GHz	2.0GHz up to 4.8GHz	2.1GHz up to 4.5GHz
	Core Number	16	16	8
	BIOS	AMI EFI 512 Mbit		
	AI Capability	Up to 180 TOPS	Up to 100 TOPS	Up to 95 TOPS
Memory	Technology	DDR5 6400/7200 MT/s CSODIMM	DDR5 6400/7200 MT/s CSODIMM	DDR5 6400 MT/s CSODIMM
	Max capacity	Up to 128 GB		
	Socket	2x 262-pin SODIMM (no support ECC)		
Graphics	Chipset	Intel® Xe 3 LPG up to 192EU (12Xe Cores) 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 i226V GbE, support Wake On LAN		
	LAN2	10/100/1000/2500 Mbps Intel i226V GbE, support Wake On LAN		
	LAN3	10/100/1000/2500 Mbps Intel i226V GbE, support Wake On LAN, support PoE module		
	LAN4	10/100/1000/2500 Mbps Intel i226V 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 (default: RS-232, default support High speed COM), modified by BIOS 4 x RS232/485 (6 wires), (default: RS-485) modified by switch and BIOS		
	USB Ports Type A	4 x USB3.2 Gen2 (w. Cable locking mechanism) 2 x USB2.0 (w. Cable locking mechanism) 1 x internal USB 2.0 Type A for security dongle		
	USB Port Type C	1x USB Type C w/ USB4, DP alt mode, 5V-3A		
	GPIO	8-bit Programmable DIO		
	CANBus	2x CANBus 2.0		
	Expansion	M.2	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) (modified by jumper)		
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 (default ATX)		
	Power Input Voltage	12-24 V _{oc}		
Power Consumption	Typical (OS idle mode)	TBD		
	Max. (Full loading)	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

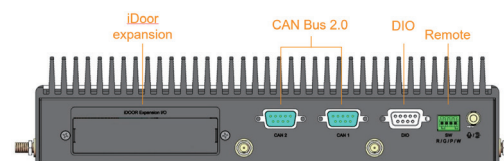
Unit: mm



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
ARK-2252-U1A1	Ultra 5 325	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/PoE
ARK-2252-U0A1	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/PoE
ARK-2252-S9A1	Ultra 7 358H	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/PoE
ARK-2252-U1A1U	Ultra 5 325	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/PoE
ARK-2252-U0A1U	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/PoE
ARK-2252-S9A1U	Ultra 7 358H	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/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)
36WSWPD0BD0211	WISE-DeviceOn
36WSWPD0BUND11	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
AMK-V019E	VESA mount kits
AMK-R005E	DIN Rail mount kits

Embedded OS

Part Number	Description
TBD	Win 10
TBD	Win 11
TBD	img Ubin24.04

Optional POE modules

Part Number	Description
TBD	PSE PoE Module A1 Single 30W w/ Heatsink
TBD	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, DB9x1, 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
AMK-A0066	ARK-2252 2xUSB port expansion Kit