

Preliminary



Features

- Intel® Core™ Ultra 5 Processor 325 or Intel® Core™ Ultra 7 Processor 356H with integrated GPU and NPU
- 16GB LPDDR5X onboard memory for high-bandwidth AI workloads
- Multi-display support: 3 × HDMI 2.1 + 1 × DP 1.4a (up to dual 8K output)
- Rich I/O connectivity: USB 3.2, USB-C (DP + 5V/3A), dual LAN, RS-232
- Flexible expansion: M.2 2230 (Wi-Fi / AI accelerator e.g. Hailo-8) M.2 2242/2280 (PCIe x4 storage)
- Designed for Edge AI, Digital Signage, and Smart Retail applications

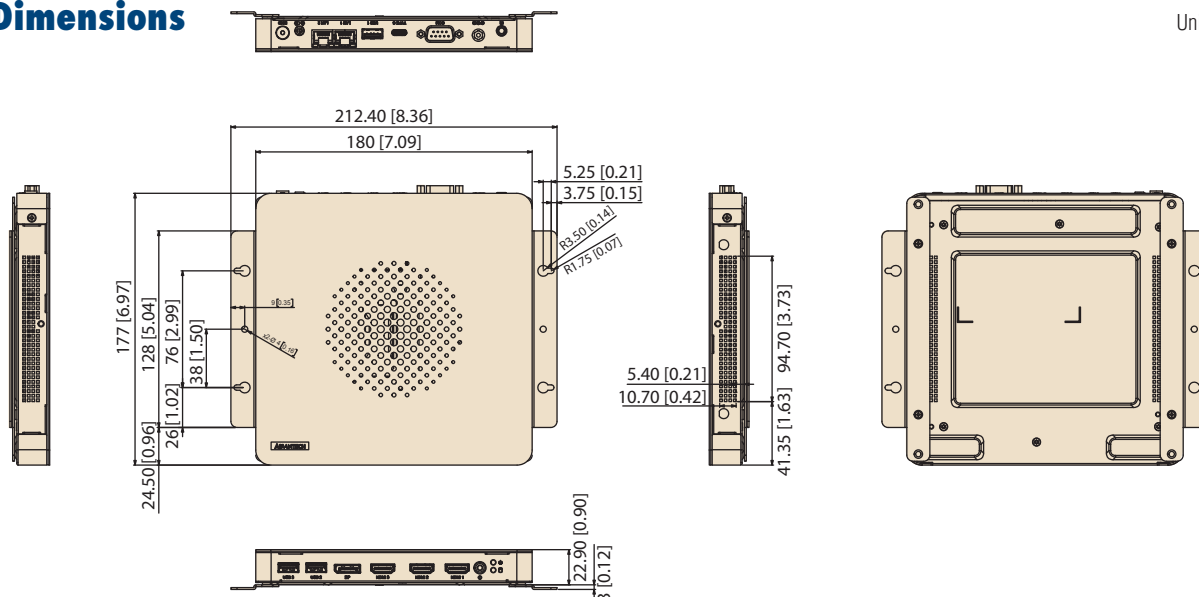


Specifications

Processor System	CPU	Intel® Core™ Ultra 5 Processor 325 (Panther Lake)	Intel® Core™ Ultra 7 Processor 356H (Panther Lake)
	Frequency	2.1 GHz up to 4.5GHz	1.9 GHz up to 4.8GHz
	Core Count	8	16
	TDP	25W	28W
	BIOS	AMI EFI 512 Mbit	
	AI Capability	Up to 95 TOPS	Up to 180 TOPS
Memory	Technology	LPDDR5X	LPDDR5X
	Max capacity	16 GB onboard memory	
Graphics	Chipset	Intel® Xe 3 LPG up to 192EU (12Xe) Intel® Xe 3 LPG (4Xe)	
	Display output	3 x HDMI 2.1 (up to dual HDMI 8K output), 1 x DP 1.4a	
	TypeC DP	USB Type-C with DisplayPort Alt Mode	
Ethernet	LAN	2 x 2.5GbE LAN, Realtek® RTL8125K	
Audio	Interface	1x, (Mic-in or Line-out, by Realtek ALC888S, modified by OS)	
I/O Interface	Audio	3.5mm Audio Jack for jack sense (Line-out or Mic-in)	
	USB	2 x USB 3.2 Gen1, 1 x USB2.0, 1 x USB-C (support DP 5Vx3A)	
	Serial Ports	1 x RS-232	
	EDID	1 x EDID_CLR button	
	LED Indicators	1 x Power, 1 x Storage Access	
	IR	1 x IR	
Expansion	M.2	1 x M.2 2230 E key (PCIe GEN3 x 2) for WiFi/Hailo 8 1 x M.2 2230 E key, PCIe GEN3 x 2(BOM option) 1 x M.2 2242/2280 M Key, PCIe Gen5 x 4 (co-layout, BOM option)	
Storage	NVMe	Default: 1x M.2 2280 M key (PCIe Gen5 x4)	
Other	Watchdog Timer	255 levels timer interval, setup by software	
	TPM	TPM2.0, NPCT764AAEYX FW7.2.4.1	
Software Support	Microsoft Windows	Microsoft Windows 11 IoT Enterprise LTSC 2024	
	Linux	support by project	
Power Requirement	Power Type	ATX/AT (default ATX)	
	Power Input Voltage	12-24 VDC	
Mechanical	Construction	Aluminum housing	
	Mounting	DIN-rail/Wall Mount/VESA Mount	
	Dimensions (W x H x D)	180 x 177 x 23 mm	
	Weight	0.9kg	
Environment	Operating Temperature	0 ~ 45 °C (32 ~ 104 °F) with 0.7 m/s airflow	
	Storage Temperature	-40 ~ 85 °C (-40 ~ 185 °F)	
	Relative Humidity	95% @ 40 °C (non-condensing)	
Certification	EMC	CE/FCC Class B, CCC, UKCA, BSMI	
	Safety	UL, CB, CCC, UKCA	

Dimensions

Unit: mm



Ordering Information

Part No.	CPU	RAM	Display	TypeC DP	LAN	COM	USB	M.2 E	M.2 M	Power Input	Origin
DS-0870B-U0A1E	Ultra5 PTL-325	8 GB LPDDR5X	3 x HDMI 2.1 1 x DP 1.4a	1	2	1	3 x USB 3.2 1 x USB 2.0	2	1	12-24V	China
DS-0870B-U1A1E	Ultra5 PTL-356H	8 GB LPDDR5X	3 x HDMI 2.1 1 x DP 1.4a	1	2	1	3 x USB 3.2 1 x USB 2.0	2	1	12-24V	China
DS-0870B-U0A2E	Ultra5 PTL-325	16 GB LPDDR5X	3 x HDMI 2.1 1 x DP 1.4a	1	2	1	3 x USB 3.2 1 x USB 2.0	2	1	12-24V	China
DS-0870B-U1A2E	Ultra5 PTL-356H	16 GB LPDDR5X	3 x HDMI 2.1 1 x DP 1.4a	1	2	1	3 x USB 3.2 1 x USB 2.0	2	1	12-24V	China
DS-0870B-U0A1U	Ultra5 PTL-325	8 GB LPDDR5X	3 x HDMI 2.1 1 x DP 1.4a	1	2	1	3 x USB 3.2 1 x USB 2.0	2	1	12-24V	Taiwan
DS-0870B-U1A1U	Ultra5 PTL-356H	8 GB LPDDR5X	3 x HDMI 2.1 1 x DP 1.4a	1	2	1	3 x USB 3.2 1 x USB 2.0	2	1	12-24V	Taiwan
DS-0870B-U0A2U	Ultra5 PTL-325	16 GB LPDDR5X	3 x HDMI 2.1 1 x DP 1.4a	1	2	1	3 x USB 3.2 1 x USB 2.0	2	1	12-24V	Taiwan
DS-0870B-U1A2U	Ultra5 PTL-356H	16 GB LPDDR5X	3 x HDMI 2.1 1 x DP 1.4a	1	2	1	3 x USB 3.2 1 x USB 2.0	2	1	12-24V	Taiwan

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

Packing List

Part Number	Description
-	1 x DS-087 Unit
96PSA-A65W19V1-3	1 x 19V 90W power adapter

Optional Items

Part Number	Description

Embedded OS

Part Number	Description
TBD	Win 11 IoT Ent 2024 High End for Ultra 7
TBD	Win 11 IoT Ent 2024 Value for Ultra 5

Optional POE modules

Part Number	Description

- 1: 30W PoE can be supported by LAN4 only
- 2: 15W PoE can be supported by LAN3 and LAN4
- 3: Cannot co-exist w/ internal USB 2.0 or iDoor

Power Cord

Part Number	Description
1700001524	3-pin power cord (US)
170203183C	3-pin power cord (EU)
170203180A-01	3-pin power cord (UK)
1700008921	3-pin power cord with PSE (Japan)
1700019146	3-pin power cord (CCC)
1700018553	3-pin power cord (AU)
1700024849-01	3-pin power cord (TW)