AIR-055

AI Inference System Based on Qualcomm® Dragonwing IQ9075M

Features

- Compact and high performance Edge AI box up to 100 TOPS AI computing
- Qualcomm® Dragonwing IQ9075M built-in
- 12~24V wide power and -20~55 °C wide temp. supported
- Multiple IO ports: 2 x 2.5G LAN, 1x DIO(DB9), 3x COM, 2x CANFD, 2x USB 3.2 type A and 2x USB type C, 2x USB 2.0 type A
- Support various expansions 1x M.2 M-key 2280(PCIE x4), 1x M.2 E-key2230(PCIE x2/USB2.0) and 1x M.2 B-key 3052(USB 3.2 Gen1)
- Support Edge AI SDK / Inference Kit / WEDA

Specifications

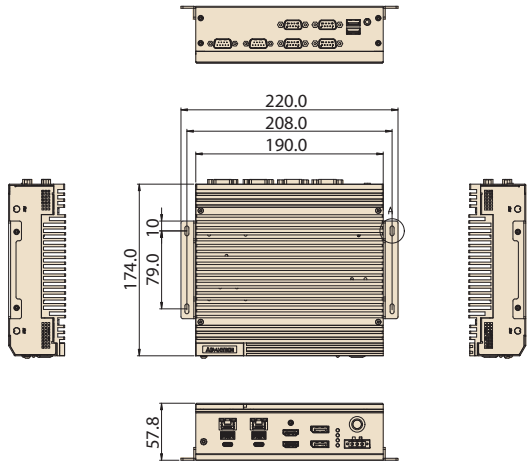
Model		AIR-055D-U2A1U	AIR-055D-U2A1
Processor Module	Qualcomm® Dragonwing Series	IQ-9075M	
	CPU	Qualcomm® Kryo Gen 6 CPU built on Arm v8.2 Cortex technology 2.36 GHz	
	GPU	Adreno 663 GPU support safe GPGPU compute up to 800Mhz	
	AI Performance Reference	Up to 100 dense / 200 sparse INT8 TOPS	
	Memory	36GB 96bit LPDDR5 DRAM	
Ethernet	Interface	2x RJ-45	
	PHY	Realtek RTL8221D	
	Speed	2.5 Gigabit Ethernet (10/100/1000/2500 Mbps, optional PoE support)	
Display	HDMI	2x HDMI 1.4 (Max. resolution 3840 x 2160 @ 30Hz)	
	DP	2x DP 1.4 (Max. resolution 3840 x 2160 @ 60Hz)	
IO Ports	USB	1x USB 3.2 Gen2 Type A* 1x USB 3.2 Gen1 Type A 2x USB 3.2 Gen1 Type C 2x USB 2.0	
	CANFD (8 Mbps)	2x DB9	
	DIO	1x 8 bit (DB9)	
	COM	3 x RS-232/RS-422/RS-485 (COM 1/2 isolation)	
	Audio	3.5mm Headphone out/MIC Combo Jack	
Expansion	M.2	1x M.2 3052 B Key(USB 3.2 Gen1),1x M.2 2230 E Key(PCIE x2/USB2.0)	
Others	TPM	TPM2.0	
Storage	M.2 M Key	1 x M.2 2280 M Key(PCIE x4)	
	128GB UFS3.1	on board (default)	
Power Consumption	Typical (OS idle mode)	7.92W	
	Max. (Full loading)	54.24W	
Power Requirement	Power Supply voltage	12-24V DC-IN, Power adaptor 150W	
	Power Type	ATX/AT mode, ATX default	
Environment	Operational Temperature	-20 ~ 55°C with non-POE w/0.7 m/s airflow -20 ~ 55°C with POE w/0.7 m/s airflow	
	Operating Humidity	95% @ 40 °C (non-condensing)	
	Vibration	3 Grms @ 5 ~ 500 Hz, random, 1 hr/axis	
Mechanical	Dimensions (W x D x H) Weight	190 x 174 x 57.8 mm	
	Weight	2.14 kg	
	Mounting Support	Wall mounting	
Operating System	Linux	Ubuntu 24.04	
Software Support	Software API	Edge AI SDK / Inference Kit / WEDA compatible	
Certifications	EMC/Safety	CE/FCC Class B, CB, UL, CCC and BSMI (No RED Certificate)	

*Not only USB function but also Download Mode Support

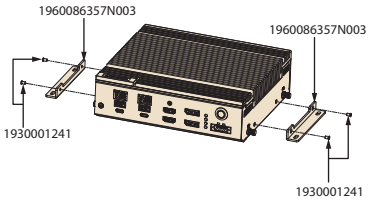
Last updated: 1-Jun-2026

Dimensions

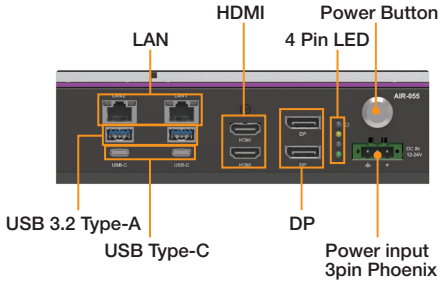
Unit: mm [inch]



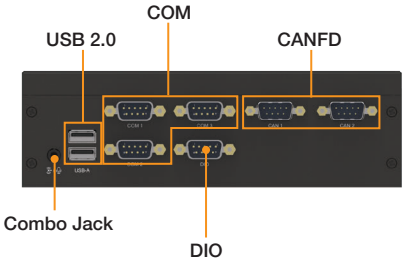
Wall-mount



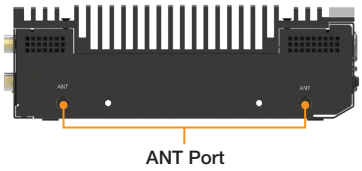
Front I/O



Rear I/O



Side I/O



Ordering Information

Part No.	Thermal solution	Processor Module	Qualcomm Module Memory	Storage	DP	HDMI	GbE	USB	CANFD	RS-232/422/485	GPIO	Power input	Operating Temperature	Made in
AIR-055D-U2A1U	Fanless	IQ-9075M	36GB LPDDR5	128GB UFS3.1	2	2	2	6	2	3	1	12-24V$_{DC}$	-20~55 °C	Taiwan
AIR-055D-U2A1	Fanless	IQ-9075M	36GB LPDDR5	128GB UFS3.1	2	2	2	6	2	3	1	12-24V$_{DC}$	-20~55 °C	China

*The system OS will be pre-installed in a 128GB UFS3.1 (on board).

Packing List

Part Number	Description	Quantity
AIR-055	Qualcomm AI Inference System	1
1652004519	Phoenix connector counterpart	1
-	Simplified Chinese User Manuel	1
-	Thermal-Pad kit (1x M.2 M-key 2280, LAN IC and 1x M.2 B-key 3052)	1
20706U24HS0020	Image Ubuntu V2.0.0 AIR-055	1

Advantech SUSI is a device management and system monitoring suite for hardware configuration, control, and status monitoring.

SUSI information: https://github.com/ADVANTECH-Corp/SUSI

Optional

Part Number	Description
96PSA-A150W24T2-4	Power Adapter 24V 150W
1702002600	Power Cord UL 3P 10A 125V 183cm (US)
1702002605	Power Cord EU 3P 10A 250V 183cm (EU)
1702031801-11	Power Cord BSI 3P 10A 250V 183cm (UK)
1700000237	Power Cord PSE 3P 12A 125V 183cm (Japan)
1700013977	Power Cord CCC 3P 10A 250V 200cm 90°(China)
MIOE-PSE-DPA1	MIOe-PSE POE module
1970006345T001	POE thermal kit for AIR-055
AIW-170BQ-001	Qualcomm Wifi6E M.2 2230 E-Key
1751000622-01	1x Cable Ant. L150mm for WIFI
1751000651-01	1x Antenna for WIFI
AIW-356DQ-E01	Qualcomm 5G M.2 3052 B-Key
1751000625-01	1x Cable Ant. L150mm for 5G
1750009372-01	1x Antenna for 5G
1700028870-01	F Cable 2x5P-2.0/D-SUB 9P(M) 25CM (debug cable)
1960086357N003	Wall Mount Kit for AIR-055

Note: If Wi-Fi/5G module is required, the package must include the module, antenna, and antenna cable
Note: If LAN1 and LAN2 need PoE function, please order MIOe-PSE and 1970006345T001

Edge AI SDK — *Edge AI Inference Deployment and Hardware Validation*

Inference Kit | Production-Ready AI Inference on Edge Devices

Provides a unified and hardware-aligned runtime for deploying and validating AI inference on edge devices

It simplifies integration across CPUs, GPUs, and AI accelerators while enabling performance benchmarking and compatibility verification on target hardware.Designed for production use, Inference Kit helps hardware partners ensure stable, scalable, and repeatable AI deployment across product lines.

Benefits and Features

Unified Inference Runtime

- Consistent inference across CPUs, GPUs, and accelerators
- Vendor-optimized runtime integration
- Built-in UnielnfraI acceleration framework
- Optimized inference pipelines and runtime efficiency

Hardware Validation

- Benchmarking on target devices
- OS and accelerator compatibility validation
- Performance and stability verification

Production-Ready Deployment

- Stable, long-running inference operation
- System monitoring and observability support
- Designed for scalable edge deployment

Global Customer Support

- System reliability certification
- Inference computing enablement
- Edge-to-cloud scalability collaboration

☞ Find More Information about Edge AI SDK