

# AIR-420

## Compact edge AI HPC supporting two 3.9-slot GPUs



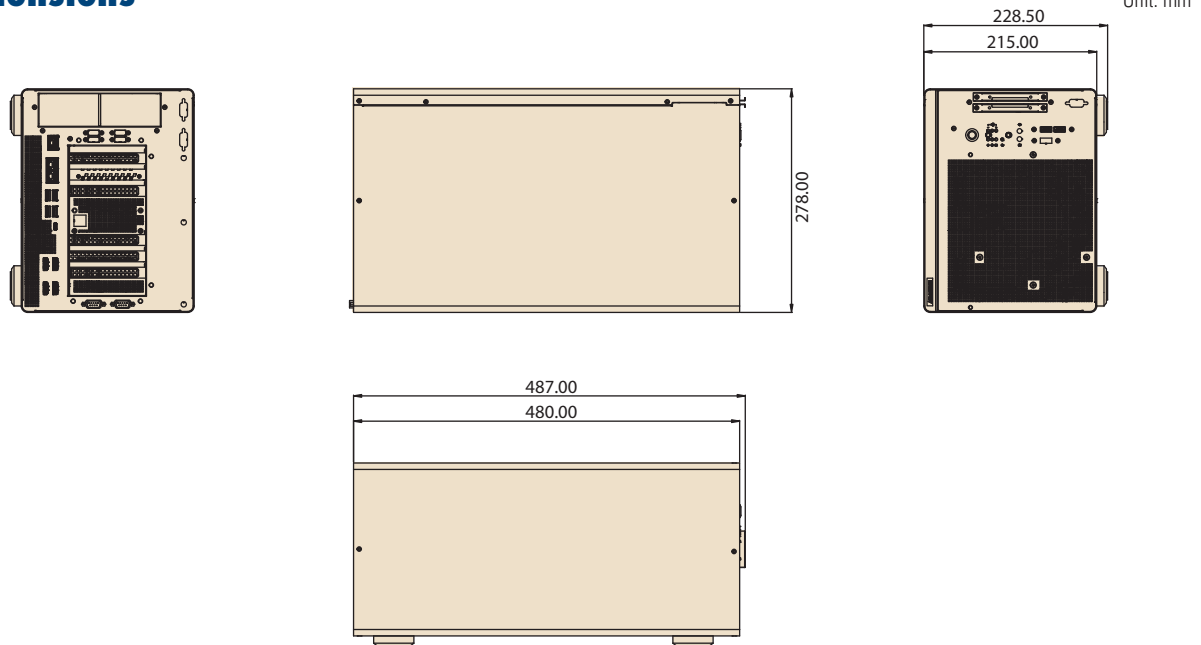
### Features

- Compact 28.6L chassis with two 3.9-Slot Graphics
- Smart fan algorithm for optimal noise control
- Redundant power supply for unmatched reliability
- AMD Ryzen 7000/9000, EYPC 4005 series processor provides up to 16 cores
- Total 4 PCIe slots, 2 for AI cards and 2 for add-on cards

### Specifications

Processor System	CPU Model	Ryzen 7 9700X	Ryzen 5 9600X	Ryzen 9 PRO 7945	Ryzen 5 7645	EPYC 4545P
	Number of Cores	8	6	12	6	16
	Max Clock	5.5 GHz	5.4 GHz	5.4 GHz	5.1 GHz	5.4 GHz
	Base Clock	3.8 GHz	3.9 GHz	3.7 GHz	3.8 GHz	3 GHz
	L2 Cache	8 MB	6 MB	12 MB	6 MB	16 MB
	L3 Cache	32 MB	32 MB	64 MB	32 MB	64 MB
	Default TDP(W)	65	65	65	65	65
Chipset	B650					
BIOS	AMI BIOS UEFI 256 Mbits SPI					
Memory	Technology	DDR5 up to 5600 MT/s (5200 MT/s for Ryzen 7000), 3600 MT/s when 4 DIMMs are installed				
	Max. Capacity	128GB (32GB per DIMM, Ryzen 7000 series) 192GB (48GB per DIMM, Ryzen 9000/EYPC 4005 series)				
	Socket	4 x 288pin UDIMM				
Discrete GPU Slot	PCIe Signal	PCIe Gen5 x16 for a signal GPU card; PCIe Gen5 x8 for two GPU cards. (Auto detection)				
	Slot Qty.	2				
	TDP	Up to 1200W for all graphic cards				
Built-in Display	Chipset	Radeon™ Graphics				
	HDMI	4				
Ethernet	Controller	LAN1: 2.5GbE Intel i226-LM LAN2: 2.5GbE Intel i226-LM LAN3: 10GbE Realtek RTL 8127				
Audio	Mic-in; Line out (Option)					
Others	Watch dog Timer	255-level timer interval, setup by software				
	TPM	TPM 2.0				
I/O Interface	USB 3.2 Gen1	(Front) 2 x USB 2.0 ; 1 x USB 3.2Gen1 (Option) (Rear) 1 x USB Gen 3.2 (Gen2 x2, 20 Gbps) type C; 4 x USB Gen 3.2 (Gen2 x1, 10Gbps) type A; 4 x USB 2.0 (Option)				
	GPIO	8-bit GPIO (Optional)				
	Serial	2 x RS-232/422/485 (select via BIOS) ; 2x RS-232 (optional)				
Expansions	PCIe	2 x PCIe Gen4 x 4 slot				
	M.2	1xM.2 E Key 2230 ( USB2.0, PCIe Gen3 x1)				
Storage	SSD	2 x 2.5" SATAIII hard drive bay with Max Height 7mm				
	NVME	1 x M.2 M Key 2280 NVMe PCIe x4				
Software Support	Microsoft Windows	Windows Win11 IoT				
	Linux	Ubuntu 24.04				
Power Requirements	Power Type	AC in				
	Power Input Voltage	100 - 240 V				
	Power Supply	CRPS up-to 2000W				
Mechanical	Dimensions (W x H x D)	278 x 215 x 480 mm				
	Weight	15.5 Kg				
Environment	Operating Temperature	0 - 50°C (65W CPU, w/o Graphic card)				
	Vibration During Operation	With SSD: 3 Grms, IEC 60068-2-64, random, 5 - 500 Hz, 1 hr/axis.				
	Shock During Operation	With SSD: 10 G, IEC 60068-2-27, half sine, 11 ms duration				
	Storage Temperature	-20 - 60°C				
	Relative Humidity	95% @ 40 °C (non-condensing)				
	EMC	CE/FCC Class A				
	Safety	CB, UL, CCC, BSMI				

## Dimensions



## Ordering Information

Model	PSU	UDIMM 288-Pin Slot	2.5" SATA Bay	HDMI	2.5 GbE	10 GbE	PCIe x16 slot	PCIe x4
AIR-420-000A1 Bare system*	None	4	2	4	2	1	2**	2

Remarks

\*Bare system, NO CPU, NO RAM, NO Storages

\*\* PCIe signal x16 with 1 GPU or x8 with 2 GPUs by auto detection

## Packing List

Part Number	Description	Quantity
1970006262T001	CPU Heatsink	1
1930005836-01	Screw M3*4 To Fix 2.5" Storage	8

Remark

Accessories are mainly based on actual content.

## Embedded OS/API

OS	Part Number	Description
Windows	20706WLH1S0112	Windows 11 IoT
Ubuntu	TBD	Ubuntu 24.04

## Optional Accessory

Item	Part Number	Description
Power Cable	170000596-11	Power cable 3-pin 183cm, China type
	1702031801-11	Power cable 3-pin 183cm, UK type
	1702002600	Power cable 3-pin 183cm, USA type
	1702002605	Power cable 3-pin 183cm, Europe type
	1700000237-01	Power cable 3-pin 183cm, Japan type
	1700001714	Power cable 3-pin 183cm, Taiwan type
GPU Cable*	1700035523-01	180 to 180 16pin power cable (normal GPU)
	1700035522-01	90 to 180 16pin power cable (for 5090)
	"1700028855-01 1700032675-01"	8pin GPU power cable (2 types of cable for 1 GPU)
Accessory	96PSRM-A1K2WCRPA	Power: 1200W CRPS
	96PSRM-A2KWCRPA	Power: 2000W CRPS**
	1700030904-01	COM cable for COM3, COM4
	1700036176-01	DIO cable
	1700022807-01	USB 1 cable
	1700032638-01	"USB9, 10 cable (1pcs); USB 11, 12 cable (1pcs)"
	1700036175-01	Audio Cable
	1990042648N000	Fan Duct for GPU
	TBD	Dust prevent cover
TBD	Passive fan kit (1 set for 1 GPU)	

Remark

\*GPU Cable selection depends on the GPU used.

\*\*2000W CRPS Input Power 110V provide 1000W only, Input Power 220V can provide 2000W.

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>

## GenAI Studio | End-to-End Preparation for Edge AI

A powerful edge-AI model development platform that makes generative AI real on your own hardware. Built on a high-performance LLM foundation, it lets you **fine-tune, customize, and integrate large language models without heavy cloud GPU costs**, bringing AI innovation directly into edge devices and local servers. From multimodal generation to retrieval-augmented workflows, GenAI Studio streamlines the full lifecycle—from dataset preparation to optimized model deployment.



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**Edge AI SDK GenAI Studio**

Streamlined LLM Development

- Integrated Fine-Tuning and Inference
- Optimized AI Computing Resources
- Secure On-Premises Platform
- Integrable Inference API

## Benefits and Features



### Accelerated LLM Customization

- Full-parameter fine-tuning for domain-specific models
- Optimized for limited GPU environments
- Integrated aiSSD middleware for cost-efficient post-training
- Built-in UniInfra acceleration framework



### Flexible Model & Pipeline Integration

- Supports local and cloud-based LLMs
- Compatible with RAG pipelines
- Easy integration with existing data and APIs
- Rapid validation and online deployment



### Global Customer Support

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

