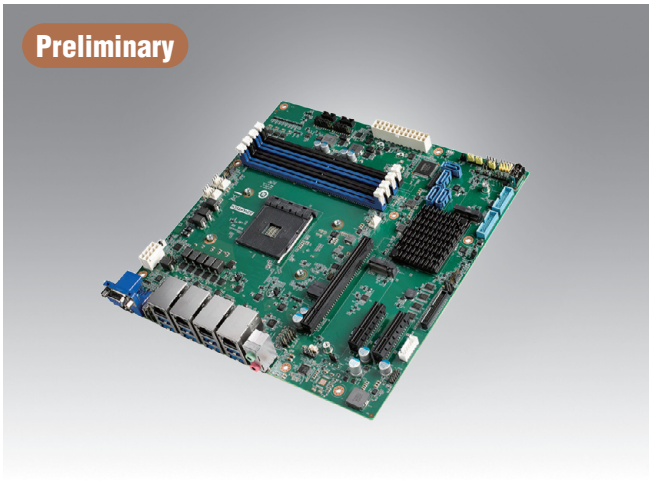
AIMB-522

AMD AM4 Ryzen™ 5000 Series MicroATX with 1 DP/HDMI/VGA, 6 COM, 4 GbE LANs, 8 USB 3.2, 4 USB 3.0, 3 USB2.0



WISE-DeviceOn

Features

- Supports AMD AM4 Ryzen™ 5000 series processor with X570 chipset
- Supports triple displays. (DP, VGA, HDMI display)
- Supports PCIe Gen4, max up to 8 x USB 3.2 Gen2, 4 x USB 3.0 Gen2, 3 x USB 2.0, 4 x SATAIII, 2 x 2.5GbE, 2 x 1GbE, M.2 (M Key)
- Supports DeviceOn and Embedded Software APIs

Software APIs: SMBus, H/W Monitor, Watchdog, GPIO

Utilities: BIOS flash, Monitoring

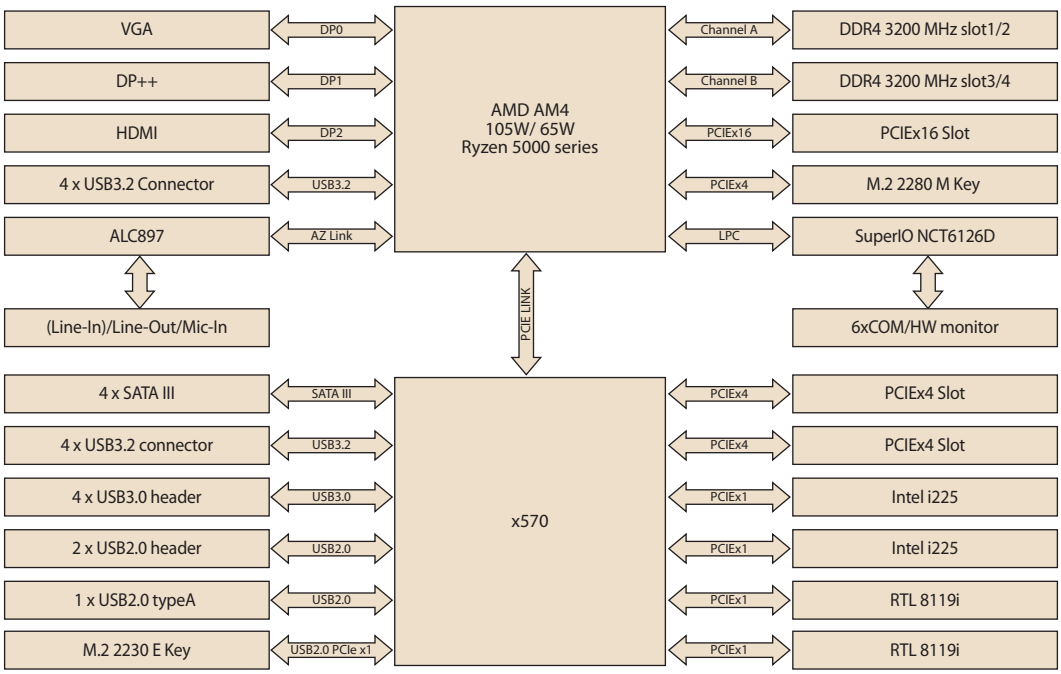
Specifications

Processor System	CPU	5950E	5900E	5800E	5600E	5950X	5900X	5800X	5600G	5700G
	Core Number	12	10	8	6	16	12	8	6	8
	Max. Speed	3.4 GHz	3.7 GHz	3.7 GHz	3.6 GHz	3.4GHz	3.7GHz	3.8GHz	3.9GHz	3.8GHz
	L3 Cache	64 MB	64 MB	32 MB	32 MB	64MB	64MB	32MB	16MB	16MB
	TDP (W)	105W	105W	100W	65W	105W	105W	105W	65W	65W
	CPU/APU	CPU	CPU	CPU	CPU	CPU	CPU	CPU	APU	APU
	Chipset	X570								
	BIOS	AMI EFI 256 Mbit SPI								
Expansion Slot	PCIe x16	1 (x16 Gen4 signal from CPU; Gen3 signal form APU)								
	PCIe x4 slot 1	1 (x4 signal from X570), only support helf-length card and up-to PCIE x8 card								
	PCIe x4 slot 2	1 (x4 signal from X570), only support helf-length card and up-to PCIE x8 card								
	M.2	1 (2280 M key, PCIe Gen4 x4 from CPU, Gen3 x4 from APU) 1 (2230 E key, USB 2.0 and PCIe Gen4 x1 from X570)								
Memory	Technology	Supports Dual Channel DDR4 3200MHz								
	Max. Capacity	128GB (32GB per DIMM)								
	Socket	4 x 288 pin U DIMM								
Graphics	Controller	APU : Radeon™ Graphics CPU: N/A (Discrete Graphics Card Required)								
	VGA	1, up to 1920x1200@60Hz, 2048x1152@60Hz								
	HDMI	1, up to 4096x2304@30Hz								
	Display Port	1, up to 4096x2304@30Hz								
	Triple Display	VGA+DP+HDMI (5600G/5700G only)								
Ethernet	Controller	2 x INTEL LAN i225LM, 2 x Realtek 8119i								
	Connector	4 x RJ 45								
SATA	Max Data Transfer Rate	600 MB/s Max. (SATA 3.0)								
	Q'ty	4								
Rear I/O	Display Port	1								
	VGA	1								
	HDMI	1								
	Ethernet	4								
	USB	8 USB 3.2 ports (4 ports from CPU/APU, 4 ports from X570)								
	Audio	2 Jacks (colay 3 Jacks)								
Internal Connector	USB 3.0	4								
	USB 2.0	2 for pin header and 1 for type A connector								
	Serial	COM1, COM2 with 10pin box header (RS-232/422/485) COM3456 with 40pin box header (RS-232 only)								
	SATA 3.0	4								
	PS/2 (KBMS1)	1 (6-pin header)								
	M.2 (M key)	1 (2280 NVMe PCIex4)								
	GPIO	1, 8bit pin header								
Watchdog Timer	Output	System reset								
	Interval	Programmable 1 ~ 255 sec/min								
Power Requirements	Power On	+5 V	3.3 V	12 V	12 V(8-pin)	-12V	+5VSB	GND		
		23A	17.73A	25.3A	16.1A	0.12A	2.5A	0A		
Environment		Operating				Non-Operating				
	Temperature	0 ~ 45 °C (TBD) 0 ~ 60 °C (TBD)				-40 ~ 85 °C (-40 ~ 185 °F)				
Physical Characteristics	Dimensions	244 x 244 mm								
Power	Input Mode	ATX input								

All product specifications are subject to change without notice.

Last updated: 30-Aug-2022

Block Diagram



Ordering Information

P/N	Chipset	Rear IO USB3.2	Rear IO USB2.0	Internal USB3.2 header	Internal USB2.0 header	Internal USB2.0 typeA	DP++/ VGA	HDMI	GbE LAN	SATA III	COM	M.2 E-key	M.2 M-key	TPM	AMP (6W)
AIMB-52200-00A1E	X570	8	0	4	2	1	1/1	1	4	4	6	1	1	1	(1)
AIMB-52200-01A1E	X570	8	0	4	2	1	1/1	1	2 (Realtek 8119i only)	4	6	1	1	1	(1)

* () means BOM option

Riser Card

Part Number	Description
TBD	

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	2
1960107927T001	I/O port bracket	1
1930001071	1930001071	2

I/O View



AIMB-52200-00A1E



AIMB-52200-01A1E

Optional Accessories

Part Number	Description
1700033177-01	1-to-1 serial port cable kit, 60cm with bracket
1700022363-01	1-to-1 serial port cable kit, 17cm
1700030647-01	1-to-1 serial port cable kit, 30cm
1700000447	1-to-4 serial ports cable kit, 45cm
1700020277-01	Dual port USB 3.0 cable, 30cm with bracket
1700002204	Dual port USB 2.0 cable, 27cm with bracket
1700032182-01	Dual port USB 2.0 cable, 60cm

Note: Purchasing AIMB-588's proprietary CPU cooler from Advantech is a must, other CPU cooler might be not compatible with AIMB-588. Note: screws P/N: 1933030500 for ACP-1010MB, 1930004607 for HPC-7120S

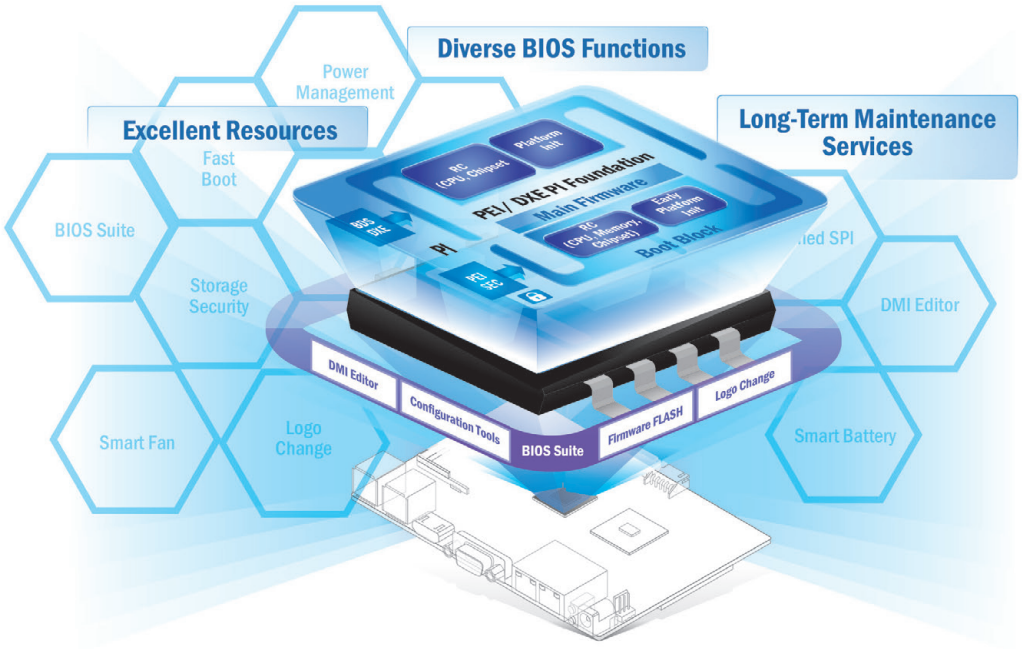
Embedded OS/API

OS/API	Part No.	Description
win10 IoT Ent	TBD	TBD

Reliable Embedded BIOS Solutions

Custom BIOS services with long-term support

Advantech's high-quality embedded BIOS solutions deliver rapid execution and feature expert BIOS team support. These solutions feature multi-functional designs that ensure security and enable power/boot management. Advantech further provides 10+ years of BIOS version management, internal management, and longevity support for both hardware and BIOS — enhancing application efficiency, diversifying functionality, and optimizing performance.



Embedded BIOS Solution Advantages

Sufficient Sources

- Strong partnership with BIOS vendors
- 50+ engineers with extensive industrial BIOS experience

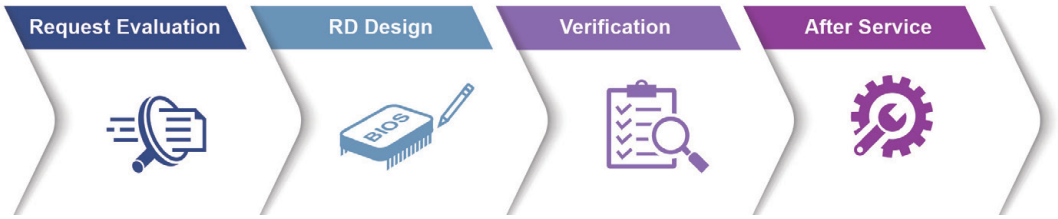
Diverse BIOS Functions

- Multi-layer security
- 3 second fast boot
- Power management
- BIOS suite utility

Long-Term Maintenance Services

- Platform longevity support
- 10-year BIOS version control
- BIOS remote backup

Value-Added Customization Process



WISE-DeviceOn

Massive IoT Device Management Utility

IoT deployment and management typically involves numerous disparate devices installed on multiple sites. These devices require effective monitoring, managing, and tracking. Advantech's easy-to-use WISE-DeviceOn interface enables users to remotely monitor device health, troubleshoot problems, and send software/firmware updates over-the-air (OTA). In sum, DeviceOn empowers quick real-time responsiveness to emerging problems.



Features

Comprehensive Management	Remote Access	Efficient Operations
• Devices status • Peripherals/firmware • Open for extension	• Real-time monitoring • Remote controls • Troubleshooting	• Zero-touch on-boarding • OTA updates • Batch control

Product Highlights



SOM-6883
High-performance 11th Gen Intel® COMe Type 6 Module



MIO-5375
Compact 11th Gen Intel® Outdoor Focused 3.5" SBC



EPC-B5587
10th Gen Intel® Xeon® based Edge server



EPC-R3220
Arm based IoT Edge Gateway

Edge AI Suite

AI development for diverse application at the Edge

Increasing demand for AI inference/analytic capabilities at the Edge make AI training models, software development environments, and hardware configuration key factors in successful solution deployment. Advantech's Edge AI Suite helps users build AI demo devices quickly and choose optimal hardware solutions easily.



5x Performance Boost	All-in-one Installation	One Click AI Experience	Plug-and-play Environment	Discover Cost-effective Hardware
• Integrated Intel® OpenVINO™ technology • Boost AI using Advantech hardware	• Build AI environment in under 5 minutes • Ready-to-use configuration	• User friendly configuration guidance • One-click Benchmark acquisition	• Easy access to 100+ AI inference extensions • Software development package available	• Diverse CPU/RAM options • Find hardware solutions for AI development

Embedded Linux Support and Design-in Services

Hardware Certified Ubuntu and Yocto with Eco Partner Services

Linux is the most popular embedded OS for transportation, outdoor services, factory automation, and mission critical applications. Its open source and kernel reliability features ease security updates, and make it particularly adaptable to new AI and Edge computing technology. Advantech has cooperated with Canonical and other software partners to provide hardware certified Ubuntu image and Yocto BSP as Linux offerings. The Advantech, Embedded Linux, and Android Alliance (ELAA) delivers local software services and consultation.



Features

Certified OS and BSP

- Platform compatibility tests
- Preloaded functional driver and software stacks

Licensed Services

- License authorized Canonical delivers 10-years of bug fixes and security updates
- In-house bundled service

Numerous AI and Edge Resources

- Containerized technology for service provision and deployment
- AI resources from Caffe, TensorFlow, and mxnet

Local Partner Alliance

- Embedded Linux and Android Alliance (ELAA)