



OUR GLOBAL
COMPETENCE
CENTRES

 APOLLO DISPLAY
TECHNOLOGIES



 DISTEC



 DISPLAY
TECHNOLOGY



Datasheet

Advantech

AIMB-229

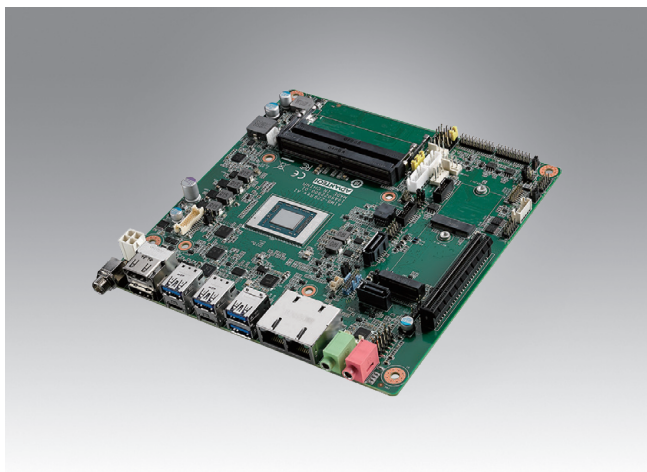
Mini-ITX Motherboard with AMD® Ryzen V2000 Embedded Processor



The information contained in this document has been carefully researched and is, to the best of our knowledge, accurate. However, we assume no liability for any product failures or damages, immediate or consequential, resulting from the use of the information provided herein. Our products are not intended for use in systems in which failures of product could result in personal injury. All trademarks mentioned herein are property of their respective owners. All specifications are subject to change without notice.

AIMB-229

AMD V-series mini-ITX with 2HDMI/2DP/ 8USB/6COM/2Gb/2M.2



Features

- Support AMD V2000 processor
- Two 260-pin SO-DIMM up to 64GB DDR4 3200 SDRAM
- Support multi display, Max up to 4 displays
- Supports 1 PCIe x8, 1 E-Key 2230 M.2 slot, 1 M-Key 2242/2280 M.2 slot
- 6COM, 4 USB3.2 Gen2, 2 USB3.2 Gen1, 2 USB2.0, 2 SATA, 16bit GPIO
- Support SUSI, WISE-DeviceOn and Edge AI Suite

Software APIs:



Utilities:



Windows 10 IoT

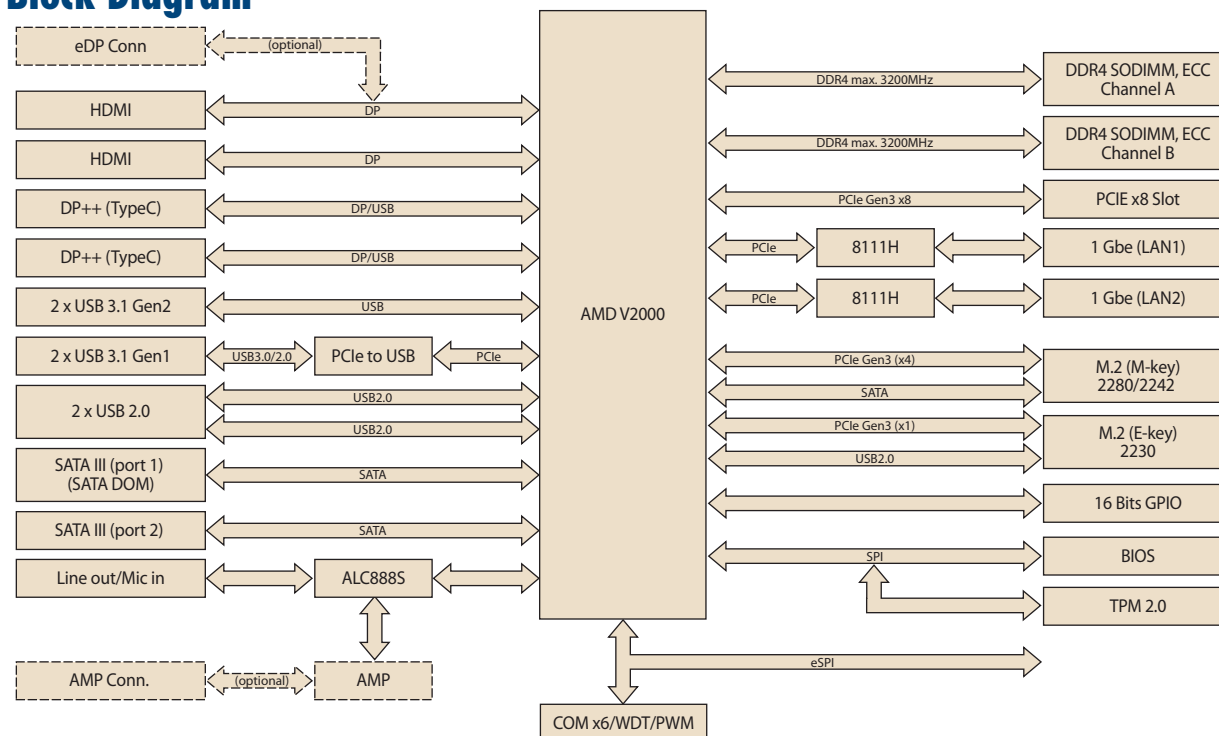
WISE-DeviceOn CE FCC



Specifications

Processor System	SOC (7nm)	V2748	V2718	V2516	
	Max. Speed	4.15Ghz (8 Core 54W)	4.15Ghz (8 Core 25W)	3.95Ghz (6 Core 25W)	
	L2 Cache	4Mb	4Mb	4Mb	
	BIOS	AMI 128Mbit SPI			
Expansion Slot	M.2	1 M-Key (support 2242/2280), 1 E-Key (support 2230)			
	PCIe	1 PCIe x8			
Memory	Technology	Dual Channel DDR4 3200MHz SDRAM			
	Max. Capacity	64 GB/ 32 GB per SO-DIMM			
	Socket	2 x 260-pin DDR4 SO-SIMM with ECC Support			
Graphics	Controller	AMD Integrated Vega GCN			
	eDP	1, resolution up to 5120x2880@60Hz Max (Optional)			
	Display Port	2, Supports DP++(via USB Type-C), resolution up to 4096 x 2160 @ 60Hz			
	HDMI	2, resolution up to 4096x2160@60Hz (HDMI2.0 supported by SKU)			
Multi Display	HDMI/HDMI/DP/DP				
	eDP/HDMI/DP/DP				
Ethernet	Interface	10/100/1000 Mbps			
	Controller	GbE LAN1: Realtek 8111H GbE LAN2: Realtek 8111H			
	Connector	RJ-45 x 2			
SATA	Max Data Transfer Rate	600 MB/s			
	Channel	2, SATA III			
Rear I/O	DP++ Type-C	2			
	Ethernet	2			
	HDMI	2			
	USB	4 x USB3.2 Gen2/2 x USB3.2 Gen1			
	Audio	2 (Line out + Mic/Line in)			
	DC jack	1 (2.5 mm)			
Internal Connector	eDP (Optional)	1			
	USB	2 x USB2.0			
	Serial	6, COM1: support RS-232 with 5V/12V/Ring COM2: support RS-232/422/485 supports 9 bit data/auto flow(select by Jumper) COM3: Colay Cctalk(5/12V; Jumper select) ; signal mix with RS232 COM4: support 5V/12V selection(by jumper); Colay TTL (5V, TX, RX only) ; signal mix with RS232 COM5: support RS-232/422/485 supports 9 bit data/auto flow(select by Jumper) COM6: RS-232			
		SATA	2		
		SATA PWR Connector	2		
		Intrusion Protection	1		
		GPIO	16 bit		
		Watchdog Timer	Output	System reset	
	Interval		Programmable 1 ~ 255 sec/min		
	Power	Power Type	12V DC input; 1 x External DC jack; 1 x Internal 4-pin (2x2) power connector; Supports AT/ATX mode		
Typical Power Consumption		Typical: 76.2W Boost: 92.8W			
Environment	Temperature	Operating	Non-Operating		
		0 ~ 60 °C (32 ~ 140 °F)	-40 ~ 85 °C (-40 ~ 185 °F)		
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")			

Block Diagram



Ordering Information

P/N	Chipset	HDMI	eDP	DP 1.2	GbE LAN	COM	SATAIII	USB3.2 Gen2	USB3.2 Gen1	USB2.0	M.2	PCIex8	TPM	AMP
AIMB-229VG2-00A1E	V2748	2 (HDMI 2.0)	(1)	2	2	6	2	4	2	2	2	1	1	1
AIMB-229VG2-02A1E	V2718	2 (HDMI 1.4)	(1)	2	2	6	2	4	2	2	2	1	1	(1)
AIMB-229VG2-03A1E	V2516	2 (HDMI 1.4)	(1)	(2)	2	6	2	2	2	2	2	1	1	(1)

*() BOM options available on MP version.

Packing List

Part Number	Description	Quantity
1700003194-21	SATA HDD cable	1
1700018785-01	SATA power cable(1 port, 25cm)	1
1701200220-01	1 to 2 Serial port cable	1
1700022363-01	1 to 1 Serial port cable	1
1700023082-11	ATX cable 2*10P-4.2/1*3P-2.0 15cm	1
1960104751T001	IO Bracket	1
1910004710	M.2 POST	1
1930000207-01	M.2 Screw	2

I/O View



Optional Chassis

Part Number	Description
AIMB-B2000-00YE	AIMB-B2000 wallmount chassis w/o adaptor

Optional Accessories

Part Number	Description	Quantity
1960089783T001	CPU Cooler (CPU TDP 54W, V2748/V2546, H: 58.3mm)	1
1960089784T001	CPU Cooler (CPU TDP 25W, V2718/V2516, H: 45mm)	1
1700026162-01	USB 2.0 cable with two ports, 30 cm with bracket	1

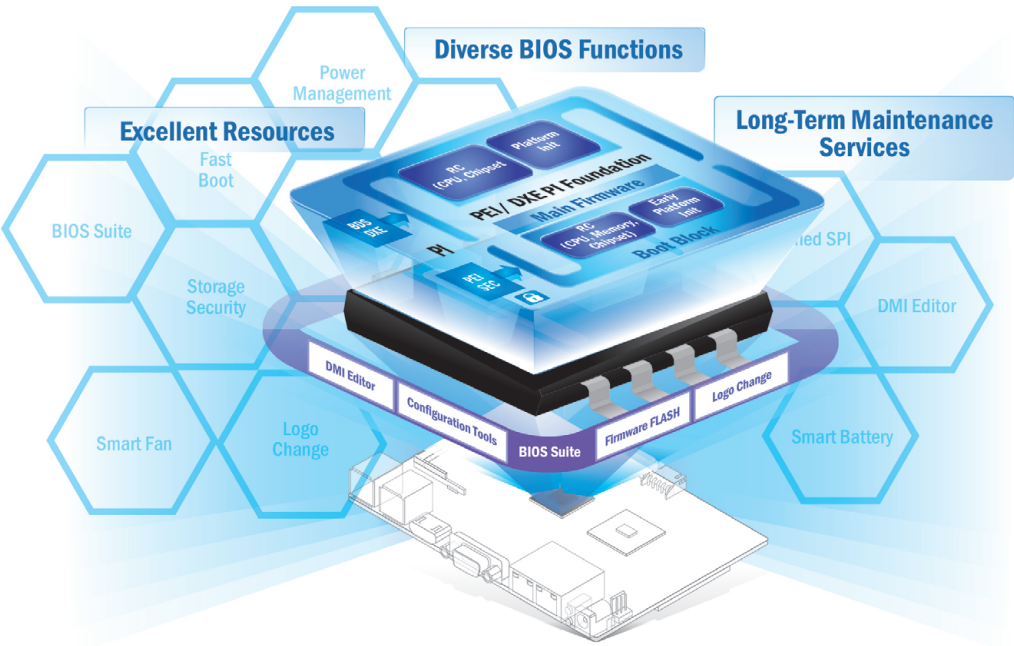
Embedded OS

OS	Part No.	968 P/N	Description
Windows 10	20706WX9HS0147	968QW19HLE	img W10 19HL AIMB-229 64b 1809 ENU
Windows 10	20706WX9VS0151	968QW19VLE	img W10 19VL AIMB-229 64b 1809 ENU
Windows 10	20706WX9ES0162	968QW19ELE	img W10 19EL AIMB-229 64b 1809 ENU
Ubuntu 20.4	20706U20DS0037	968MOU204D	img Ubn20.4 AIMB-229 64b 2004 ENU

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

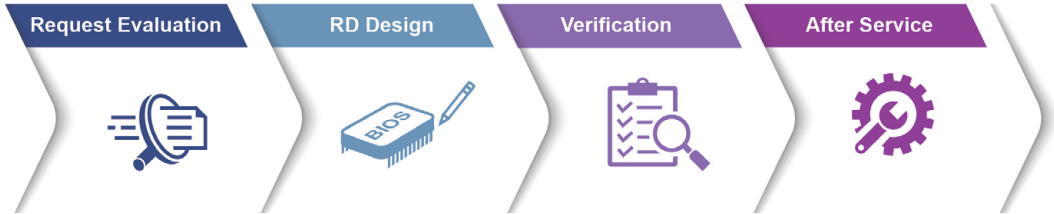
Diverse BIOS Functions

- 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
<ul style="list-style-type: none">• Devices status• Peripherals/firmware• Open for extension	<ul style="list-style-type: none">• Real-time monitoring• Remote controls• Troubleshooting	<ul style="list-style-type: none">• Zero-touch on-boarding• OTA updates• Batch control

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.

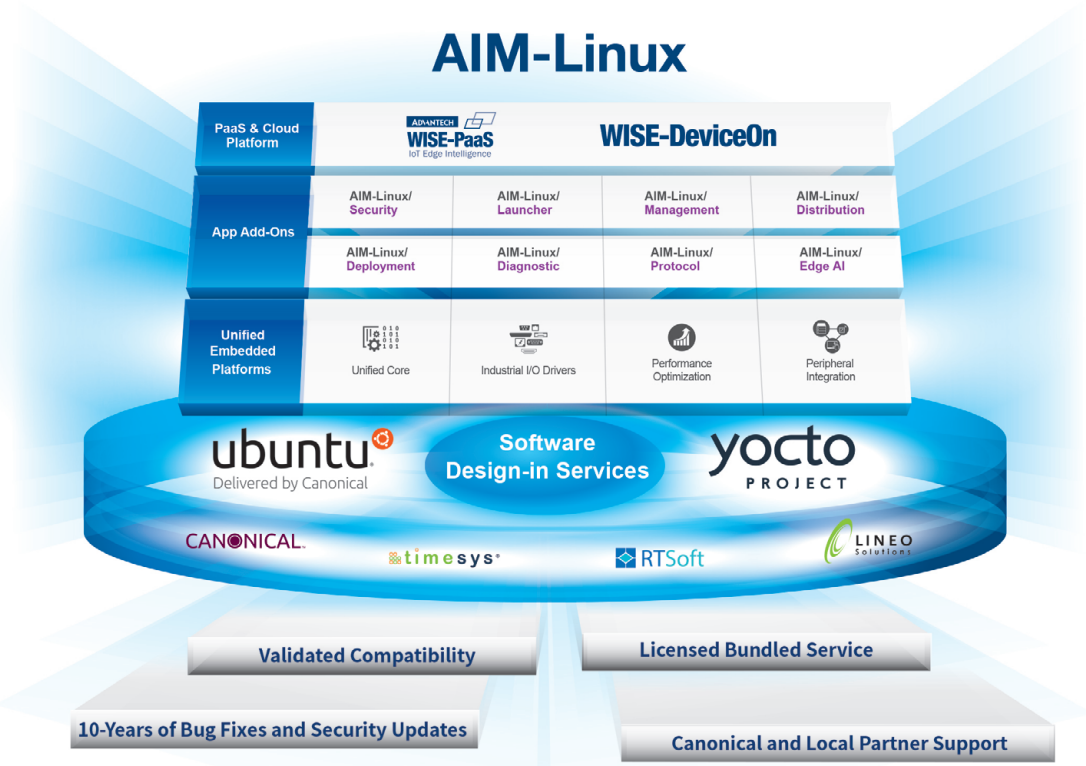


5x Performance Boost	All-in-one Installation	One Click AI Experience	Plug-and-play Environment	Discover Cost-effective Hardware
<ul style="list-style-type: none">Integrated Intel® OpenVINO™ technologyBoost AI using Advantech hardware	<ul style="list-style-type: none">Build AI environment in under 5 minutesReady-to-use configuration	<ul style="list-style-type: none">User friendly configuration guidanceOne-click Benchmark acquisition	<ul style="list-style-type: none">Easy access to 100+ AI inference extensionsSoftware development package available	<ul style="list-style-type: none">Diverse CPU/RAM optionsFind 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	Licensed Services	Numerous AI and Edge Resources	Local Partner Alliance
<ul style="list-style-type: none"> Platform compatibility tests Preloaded functional driver and software stacks 	<ul style="list-style-type: none"> License authorized Canonical delivers 10-years of bug fixes and security updates In-house bundled service 	<ul style="list-style-type: none"> Containerized technology for service provision and deployment AI resources from Caffe, TensorFlow, and mxnet 	<ul style="list-style-type: none"> Embedded Linux and Android Alliance (ELAA)

Our company network supports you worldwide with offices in Germany, Austria, Switzerland, the UK and the USA. For more information please contact:

Headquarters

Germany



FORTEC Elektronik AG

Augsburger Str. 2b
82110 Germering

Phone: +49 89 894450-0
E-Mail: info@fortecaq.de
Internet: www.fortecaq.de

Fortec Group Members

Austria



Distec GmbH Office Vienna

Nuschinggasse 12
1230 Wien

Phone: +43 1 8673492-0
E-Mail: info@distec.de
Internet: www.distec.de

Germany



Distec GmbH

Augsburger Str. 2b
82110 Germering

Phone: +49 89 894363-0
E-Mail: info@distec.de
Internet: www.distec.de

Switzerland



ALTRAC AG

Bahnhofstraße 3
5436 Würenlos

Phone: +41 44 7446111
E-Mail: info@altrac.ch
Internet: www.altrac.ch

United Kingdom



Display Technology Ltd.

Osprey House, 1 Osprey Court
Hinchingsbrooke Business Park
Huntingdon, Cambridgeshire, PE29 6FN

Phone: +44 1480 411600
E-Mail: info@displaytechnology.co.uk
Internet: www.displaytechnology.co.uk

USA



Apollo Display Technologies, Corp.

87 Raynor Avenue, Unit 1
Ronkonkoma, NY 11779

Phone: +1 631 5804360
E-Mail: info@apolloDisplays.com
Internet: www.apolloDisplays.com