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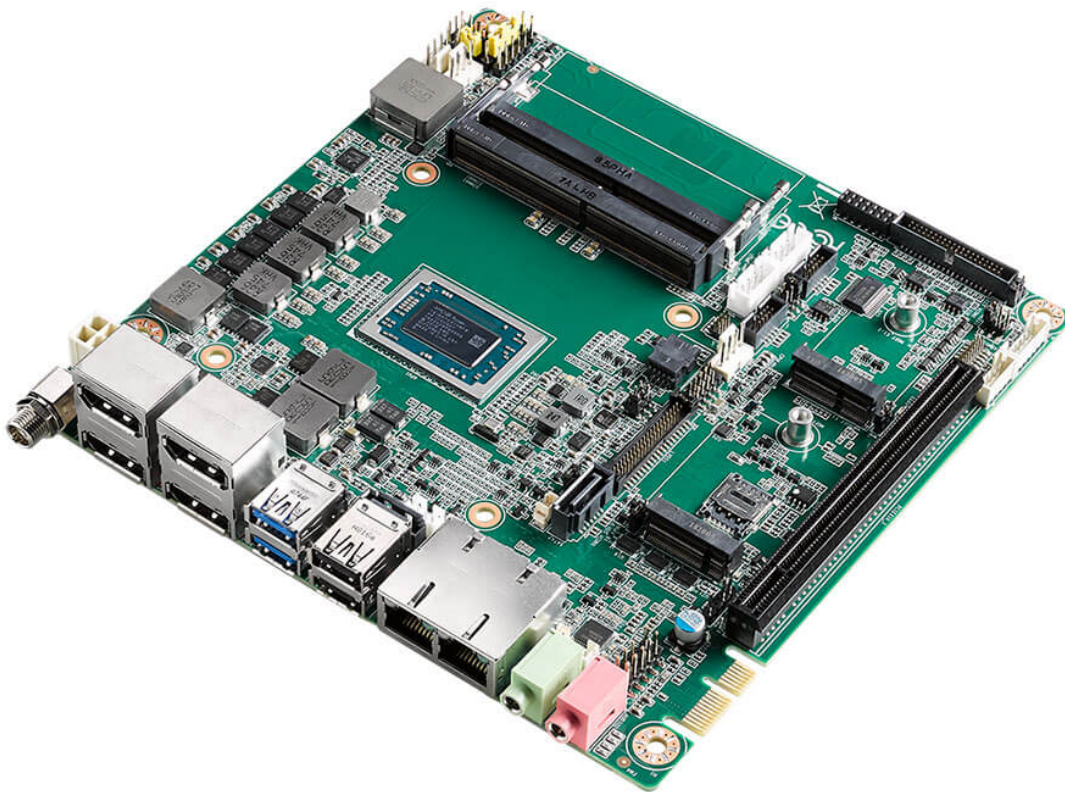


Datasheet

ADVANTECH

AIMB-228

Mini-ITX Motherboard with AMD® Ryzen V1000 Embedded Processor



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AIMB-228

AMD V-series/R-series mini-ITX with 4 DP, 6 USB, 6COM, 12-24V DC-In



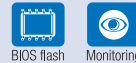
Features

- Support AMD V1000/R1000 processor
- Two 260-pin SO-DIMM up to 32GB DDR4 2400/2666/3200 SDRAM
- Support multi display, Max up to 4 displays
- Supports 1 PCIe x8, 1x PCIe1(Golden finger) and 2 M.2 expansion slots
- 6 COM, 4 USB 2.0, 2 USB 3.1 Gen2
- Supports WISE-PaaS/RMM and Embedded Software APIs
- Support 12-24V wide voltage DC-In

Software APIs:



Utilities:

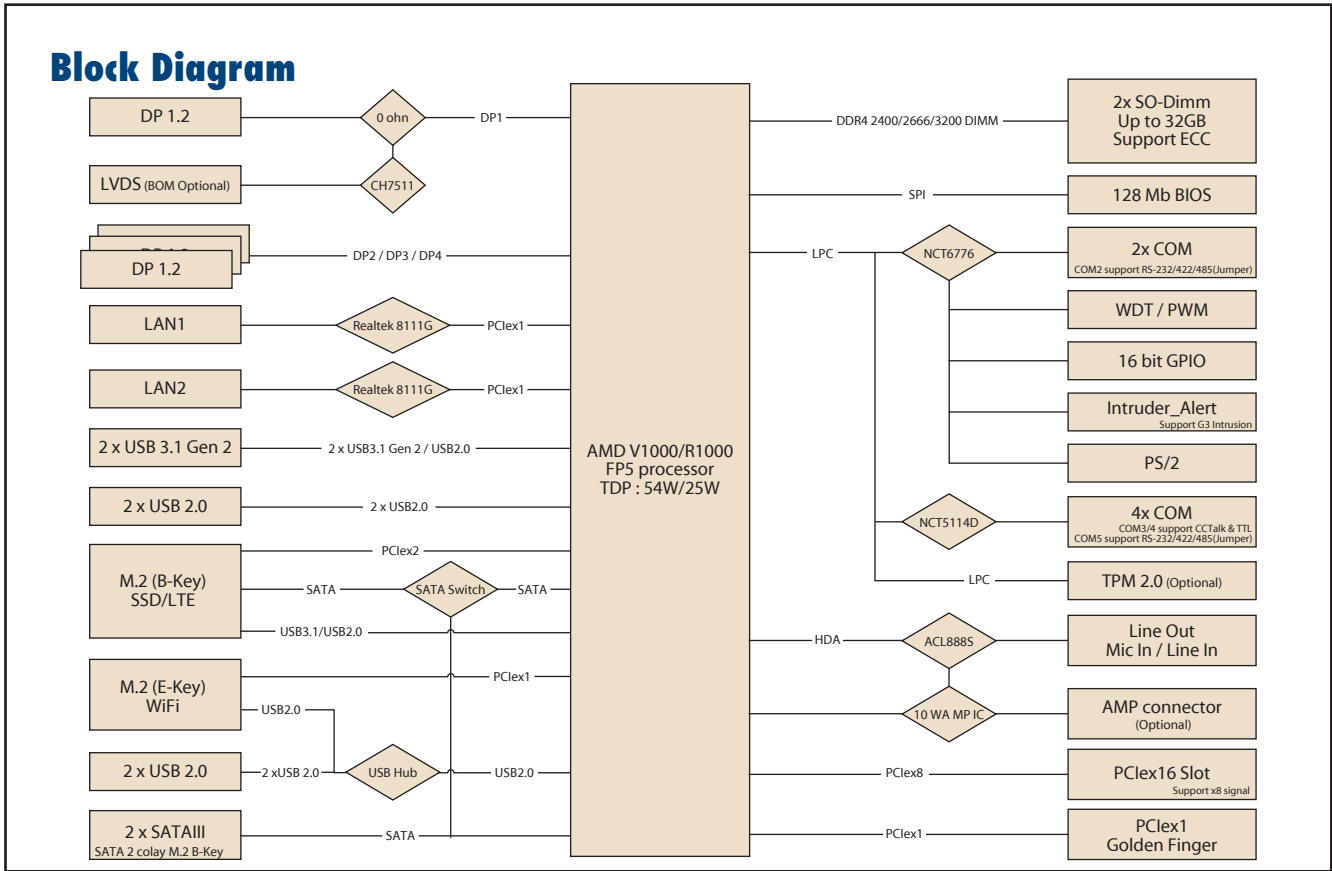


WISE-PaaS/RMM CE FC RoHS COMPLIANT PRODUCT

Specifications

Processor System	SOC (14nm)	V1807B	V1605B	V1202B	R1606G	R1505G	R1305G	R1102G	
	Max. Speed	3.8GHZ (Quad Core 54W)	3.6GHZ (Quad Core 25W)	3.2GHZ (Dual Core 25W)	3.5GHZ (Dual Core 25W)	3.3GHZ (Dual Core 25W)	2.8GHZ (Dual Core 10W)	2.6GHZ (Dual Core 6W)	
	L2 Cache	2Mb	2Mb	2Mb	1Mb	1Mb	1Mb	1Mb	
	BIOS	AMI 128Mbit SPI							
Expansion Slot	M.2	1 B-Key, 1 E-Key (V1000 series only)							
	PCIe	1 PCIe x8 (R1000 Series only support x4 signal, R1102 not support), 1 PCIe x1 (V1000 Series only)							
Memory	Technology	Dual Channel DDR4 2400 / 2666 / 3200MHz SDRAM							
	Max. Capacity	32 GB/16 GB per SO-DIMM							
	Socket	2 x 260-pin DDR4 SO-SIMM with ECC Support (R1102 only support 1 socket)							
Graphics	Controller	AMD Integrated Vega GCN							
	LVDS	1, supports dual channel 48-bit up to 1920 x 1200 (Optional)							
	Display Port 1.2	4, Supports DP++, resolution up to 4096 x 2160 @ 60Hz(V1000 Series) 3, Supports DP++, resolution up to 4096 x 2160 @ 60Hz(R1000 Series) 2, Supports DP++, resolution up to 4096 x 2160 @ 60Hz(R1102G)							
	Multi Display	V1000: DP/LVDS+DP+DP+DP R1000:DP/LVDS+DP+DP R1102G:DP/LVDS+DP							
Ethernet	Interface	10/100/1000 Mbps							
	Controller	GbE LAN1: Realtek 8111G GbE LAN2: Realtek 8111G							
	Connector	RJ-45 x 2							
SATA	Max Data Transfer Rate	600 MB/s							
	Channel	2, SATA 2 colay M.2 B-Key; SATA 1 support SATA-DOM device							
Rear I/O	DP1.2 (Default)	4(V1000 Series)/3(R1000 Series)/2(R1102G)							
	Ethernet	2							
	USB	2 x USB 2.0/2 x USB 3.1 Gen2							
	Audio	2 (Line out + Mic/Line in)							
	DC jack	1 (2.5 mm)							
Internal Connector	LVDS & Inverter (Optional)	1/1							
	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) ; singlar mix with RS232 COM4: support 5V/12V selection(by jumper); Colay TTL (5V, TX, RX only) ; singlar 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							
	PS/2 KB & MS	1							
	Intrusion Protection	1							
	GPIO	16 bit							
	Watchdog Timer	Output	System reset						
		Interval	Programmable 1 ~ 255 sec/min						
Power	Power Type	Wide voltage 12-24V DC input; 1 x External DC jack; 1 x Internal 4-pin (2x2) power connector; Supports AT/ATX mode							
	Typical Power Consumption	TBD							
Environment		Operating			Non-Operating				
	Temperature	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

Part Number	CPU	Display	TPM	LVDS	PCIe Slot	USB 3.1/2.0	GbE	SATA	COM	Thermal Solution
AIMB-228VG2-00A1E	V1807B	DP/LVDS, DP, DP, DP	(1)	(1)	x8	2/4	2	2	6	Active
AIMB-228VG2-02A1E	V1605B	DP/LVDS, DP, DP, DP	(1)	(1)	x8	2/4	2	2	6	Active
AIMB-228VG2-03A1E	V1202B	DP/LVDS, DP, DP, DP	(1)	(1)	x8	2/4	2	2	6	Active
AIMB-228RG2-00A1E	R1606G	DP/LVDS, DP, DP	(1)	(1)	x4	2/4	2	2	6	Active
AIMB-228RG2-01A1E	R1505G	DP/LVDS, DP, DP	(1)	(1)	x4	2/4	2	2	6	Active
AIMB-228RG2-02A1E	R1305G	DP/LVDS, DP, DP	(1)	(1)	x4	2/4	2	2	6	Active
AIMB-228RG2-03A1E	R1102G	DP/LVDS, DP	(1)	(1)	NA	2/4	2	2	6	Active

*) BOM options available on MP version.

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	1
1700018785	SATA power cable (1 port, 25cm)	1
1700022363-01	1-to-1 serial port cable 17CM	2
1960091400T001	I/O port bracket	1
2046022800	Startup manual	1
1960089783T001	CPU Cooler (CPU TDP 54W, V1807B)	1
1960089784T001	CPU Cooler (CPU TDP 25W, V1605B/ V1202B/R1606G/R1505G/R1305G/R1102G)	1

Optional Accessories

Part Number	Description
1700029538-01	F Cable D-SUB 9P(M)*4/IDE#2 40P-1.27 35CM
96PSA-A150W12W7-3	ADP A/D 100-240V 150W 12V LOCKABLE DC JACK
1702002600	Power cable 3-pin 180 cm, USA type
1702002605	Power cable 3-pin 180 cm, Europe type
1702031801	Power cable 3-pin 180 cm, UK type
1700000237	Power cable 3-pin PSE Mark 183 cm
1700000596-11	Power cable 3-pin 180 cm, China type

Optional Chassis

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

Embedded OS

OS	Part No.	968 P/N	Description
Win10	20706WX9VS0039	968QW19VLE	img W10 19VL AIMB-228 64b 1809 ENU (V1807B/V1605B)
Win10	20706WX9ES0049	968QW19ELE	img W10 19EL AIMB-228 64b 1809 ENU (V1202B/R1606G/ R1505G)

I/O View



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