

AIMB-228 A2

Mini-ITX Motherboard AMD Ryzen™ Embedded V1000/R1000/ R2000 Processor

NEW



WISE-PaaS/RMM C E FC RoHS COMPLIANT PRODUCT

Specifications

Processor System	SOC (14nm)	V1807B	V1605B	V1202B	R1606G	R1505G	R1305G	R1102G	R2544	R2514	R2314	R2312
	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)	3.7GHz (Quad Core 54W)	3.7GHz (Quad Core 35W)	3.5GHz (Quad Core 35W)	3.5GHz (Dual Core 25W)
	L2 Cache	2Mb	2Mb	2Mb	1Mb	1Mb	1Mb	1Mb	2Mb	2Mb	2Mb	1Mb
	BIOS	AMI 128Mbit SPI										
Expansion Slot	M.2	1 B-Key, 1 E-Key (V1000/R2000 series only)										
	PCIe	1 PCIe x8 (R1000/R2312 Series only support x4 signal, R1102 not support), 1 PCIe x1 (V1000 Series only)										
Memory	Technology	Dual Channel DDR4 2400 / 2666 / 3200MT/s 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 (R2544/R2514/R2314/V1000 Series) 3, Supports DP++, resolution up to 4096 x 2160 @ 60Hz (R2312/R1000 Series) 2, Supports DP++, resolution up to 4096 x 2160 @ 60Hz (R1102G)										
	Multi Display	R2544/R2514/R2314/V1000: DP/LVDS+DP+DP+DP R2312/R1000: DP/LVDS+DP+DP R1102G: DP/LVDS+DP										
Ethernet	Interface	10/100/1000 Mbps										
	Controller	GbE LAN1: Realtek 8111K GbE LAN2: Realtek 8111K										
	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 (R2544/R2514/R2314/V1000 Series)/3 (R2312/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, 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) ; singnal mix with RS232 COM4: support 5V/12V selection(by jumper); Colay TTL (5V, TX, RX only) ; singnal 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 (second or minute)										
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	Typical: 53W										
Environment	Operating	0 ~ 60° C (32 ~ 140° F)										
	Non-Operating	-40 ~ 85° C (-40 ~ 185° F)										
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")										

Features

- Support AMD V1000/R1000/R2000 processor
- Two 260-pin SO-DIMM up to 32GB DDR4 2400/2666/3200 MT/s
- Support multi display, up to 4 displays
- Supports 1 PCIe x8, 1 PClex1 (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:



SMBus



H/W Monitor



Brightness



Watchdog



GPIO

Utilities:

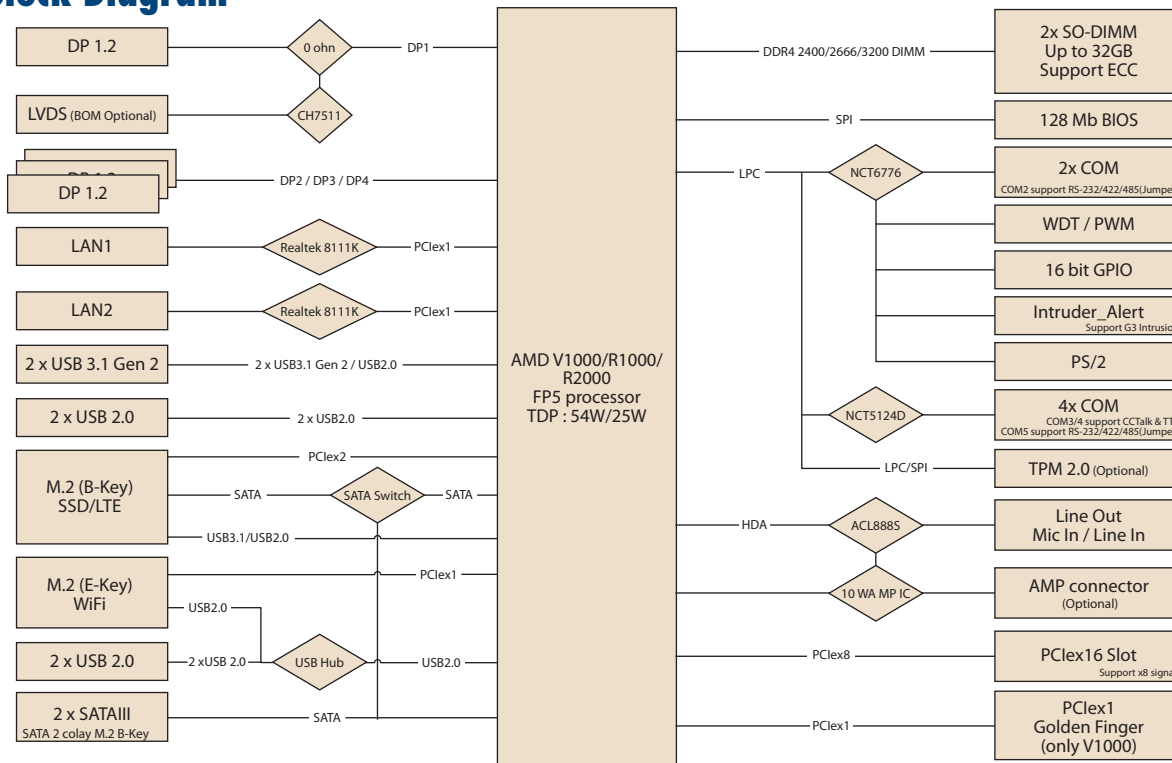


BIOS flash



Monitoring

Block Diagram



Ordering Information

Part Number	Chipset	DP	GbE LAN	COM	SATAIII	USB3.1/2.0	M.2(B Key)	M.2(E key)	PCIex8	LVDS	TPM	AMP
AIMB-228VG2-00A2E	V1807B	4	2	6	2	2/4	1	1	X8	(1)	(1)	(1)
AIMB-228VG2-02A2E	V1605B	4	2	6	2	2/4	1	1	X8	(1)	(1)	(1)
AIMB-228VG2-03A2E	V1202B	4	2	6	2	2/4	1	1	X8	(1)	(1)	(1)
AIMB-228RG2-00A2E	R1606G	3	2	6	2	2/4	1	0	x4	(1)	(1)	(1)
AIMB-228RG2-01A2E	R1505G	3	2	6	2	2/4	1	0	x4	(1)	(1)	(1)
AIMB-228RG2-02A2E	R1305G	3	2	6	2	2/4	1	0	x4	(1)	(1)	(1)
AIMB-228RG2-03A2E	R1102G	2	2	6	2	2/4	1	0	NA	(1)	(1)	(1)
AIMB-228R2G2-00A2E	R2544	4	2	6	2	2/4	1	1	X8	(1)	(1)	(1)
AIMB-228R2G2-01A2E	R2514	4	2	6	2	2/4	1	1	X8	(1)	(1)	(1)
AIMB-228R2G2-02A2E	R2314	4	2	6	2	2/4	1	1	X8	(1)	(1)	(1)
AIMB-228R2G2-03A2E	R2312	3	2	6	2	2/4	1	0	x4	(1)	(1)	(1)

*() BOM options available on MP version.

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	1
1700018785	SATA power cable (1 port, 35cm)	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/R2544)	1
1960089784T001	CPU Cooler (CPU TDP 35W)	1

Optional Chassis

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

I/O View



Optional Accessories

Part Number	Description
1700029538-01	F Cable D-SUB 9P(M)*4/IDE#2 40P-1.27 35CM
96PSA-A150W12W7-4	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
1960091400T003	I/O port bracket (with 2 Serial ports output)

Embedded OS

OS	Part Number	968 P/N	Description
Win10	20706WX9VS0039	968QW19VLE	img W10 19VL 64b 1809 ENU (V1807B/V1605B)
Win10	20706WX9ES0049	968QW19ELE	img W10 19EL 64b 1809 ENU (V1202B/R1606G/R1505G)
Win10	20706WX1ES0097	968QW21ELE	img W10 21EL 64b 21H2 ENU (R2000)
Win10	20706WX1HS0097	968QW21HLE	img W10 21HL 64b 21H2 ENU (R2000)
Win10	20706WX1VS0097	968QW21VLE	img W10 21VL 64b 21H2 ENU (R2000)
Ubuntu	20706U20DS0046	968MOU204D	img Ubuntu Desktop 20.4 64b 2004 ENU