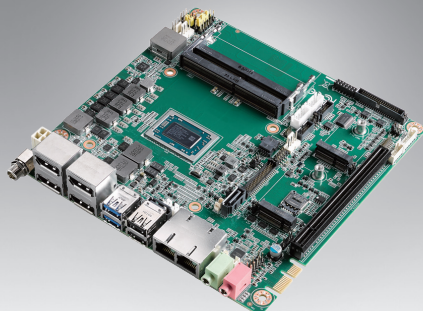


# AIMB-228 A2

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

NEW



WISE-PaaS/RMM CE FCC RoHS COMPLIANT PRODUCT

## Specifications

|                          |                            |                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                               |                           |                           |                           |                            |                          |                           |                           |                           |                           |  |
|--------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|----------------------------|--------------------------|---------------------------|---------------------------|---------------------------|---------------------------|--|
| Processor System         | SOC (14nm)                 | V1807B                                                                                                                                                                                                                                                                                                                                                                                              | V1605B                                                                                        | V1202B                    | R1606G                    | R1505G                    | R1305G.                    | R1102G                   | R2544                     | R2514                     | R2314                     | R2312                     |  |
|                          | Max. Speed                 | 3.8GHZ<br>(Quad Core 54W)                                                                                                                                                                                                                                                                                                                                                                           | 3.6GHZ<br>(Quad Core 25W)                                                                     | 3.2GHZ<br>(Dual Core 25W) | 3.5GHz<br>(Dual Core 25W) | 3.3GHz<br>(Dual Core 25W) | 2.8GHz<br>(Dual Core 10W)  | 2.6GHz<br>(Dual Core 6W) | 3.7GHZ<br>(Quad Core 54W) | 3.7GHZ<br>(Quad Core 35W) | 3.5GHZ<br>(Quad Core 35W) | 3.5GHZ<br>(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 / 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 (R2544/R2514/R2314/V1000 Series)<br>3, Supports DP++, resolution up to 4096 x 2160 @ 60Hz (R2312/R1000 Series)<br>2, Supports DP++, resolution up to 4096 x 2160 @ 60Hz (R1102G)                                                                                                                                                              |                                                                                               |                           |                           |                           |                            |                          |                           |                           |                           |                           |  |
|                          |                            | Multi Display                                                                                                                                                                                                                                                                                                                                                                                       | R2544/R2514/R2314/V1000: DP/LVDS+DP+DP+DP<br>R2312/R1000: DP/LVDS+DP+DP<br>R1102G: DP/LVDS+DP |                           |                           |                           |                            |                          |                           |                           |                           |                           |  |
|                          | Ethernet                   | Interface                                                                                                                                                                                                                                                                                                                                                                                           | 10/100/1000 Mbps                                                                              |                           |                           |                           |                            |                          |                           |                           |                           |                           |  |
| Controller               |                            | GbE LAN1: Realtek 8111K<br>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,<br>COM1: support RS-232 with 5V/12V/Ring<br>COM2: support RS-232/422/485 supports 9 bit data/auto flow(select by Jumper)<br>COM3: Colay Cctalk(5/12V; Jumper select) ; singnal mix with RS232<br>COM4: support 5V/12V selection(by jumper); Colay TTL (5V, TX, RX only) ; singnal mix with RS232<br>COM5: support RS-232/422/485 supports 9 bit data/auto flow(select by Jumper)<br>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                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                               |                           |                           |                           | 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")                                                                                                                                                                                                                                                                                                                                                                     |                                                                                               |                           |                           |                           |                            |                          |                           |                           |                           |                           |  |

## Features

- Support AMD V1000/R1000/R2000 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, 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

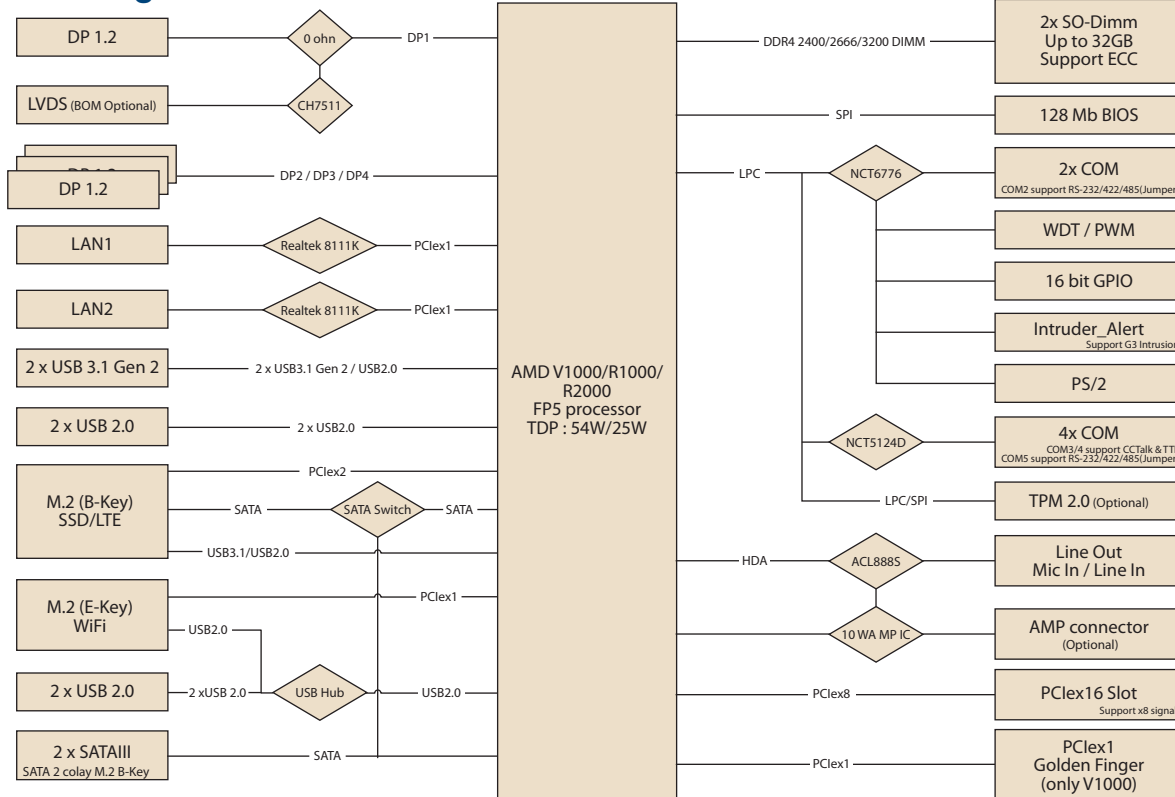
### Software APIs:



### Utilities:



## Block Diagram



## Ordering Information

| P/N                | Chipset | DP | GbE LAN | COM | SATAIII | USB3.1/2.0 | M.2(B Key) | M.2(E key) | PClex8 | 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 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       |

## Optional Chassis

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

## I/O View



## 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) |
| Win10 | 20706WX1ES0097 | 968QW21ELE | img W10 21EL AIMB-228 64b 21H2 ENU (R2000)                |
| Win10 | 20706WX1HS0097 | 968QW21HLE | img W10 21HL AIMB-228 64b 21H2 ENU (R2000)                |
| Win10 | 20706WX1VS0097 | 968QW21VLE | img W10 21VL AIMB-228 64b 21H2 ENU (R2000)                |

# Tento produkt můžete zakoupit u společnosti AutoCont IPC a.s.



## AutoCont IPC a.s.

Váš dodavatel průmyslových počítačů, komponent a speciálních průmyslových IT systémů.

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### PRŮMYSLOVÉ POČÍTAČE

*fanless embedded PC, do racku, ...*



### POČÍTAČE S DISPLEJEM

*panelové PC, terminály, do vozidel, ...*



### AUTOMATIZACE A SBĚR DAT

*převodníky, karty, moduly, switche, ...*



### PERIFERIE A KOMPONENTY

*monitory, klávesnice, desky, skříně, ...*



### NOTEBOOKY A TABLETY

*odolné, windows, android, IP65, ...*



### INFORMAČNÍ KIOSKY

*interiérové, venkovní, ...*



### MEDICÍNSKÁ TECHNIKA

*počítače, tablety, LCD, klávesnice, ...*



### SOFTWAREVÁ ŘEŠENÍ

*pro výrobu, zaměstnance, kiosky, ...*



### PŘEJÍT DO E-SHOPU

[eshop.autocont-ipc.cz](http://eshop.autocont-ipc.cz)



### DOPRAVA ZDARMA

Doprava zdarma v ČR a SR při objednávce nad 10 000 Kč bez DPH nebo nad 400 EUR.



### PRODLOUŽENÁ ZÁRUKA

Záruka 2 roky na vyráběné počítače s možností jejího prodloužení až na 5 let.



### ODMĚNA ZA VĚRNOST

Pravidelní zákazníci u nás nakupují za nižší ceny. Výše slevy se odvíjí od realizovaného obrátu.



### SERVIS ON-SITE A IN-TIME

K projektovým dodávkám nabízíme rozšířenou podporu a servis s garancí výměny zařízení do 48 hodin.