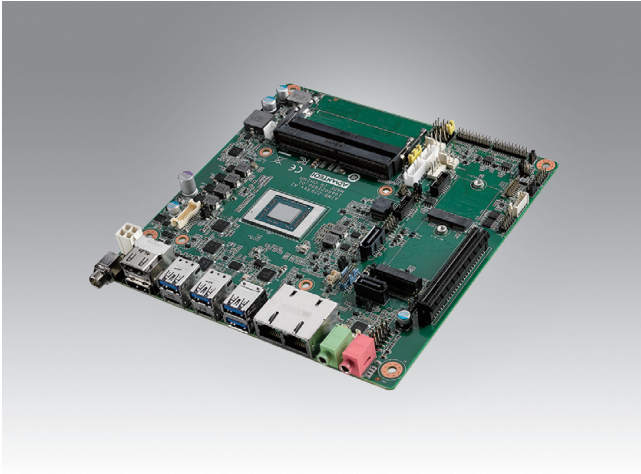


AIMB-229

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:  SMBus  H/W Monitor  Watchdog  GPIO  Brightness

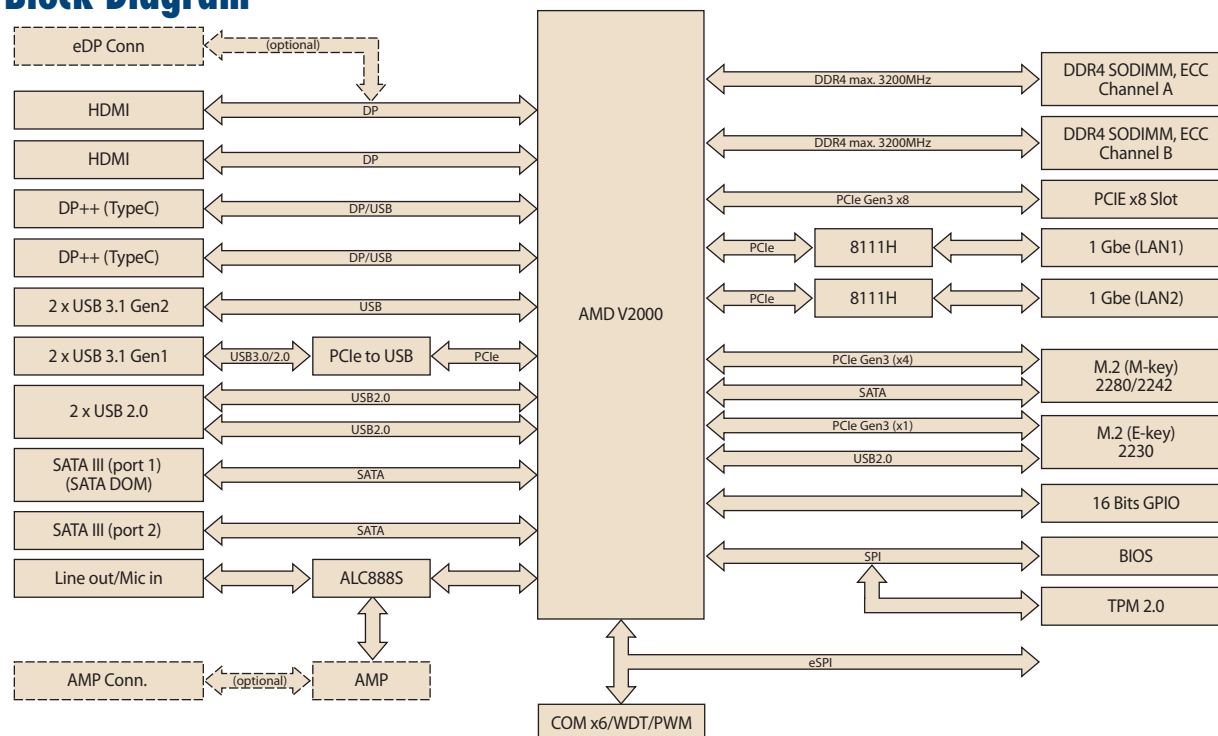
Utilities:  BIOS flash  Monitoring 



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) |

*(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 |

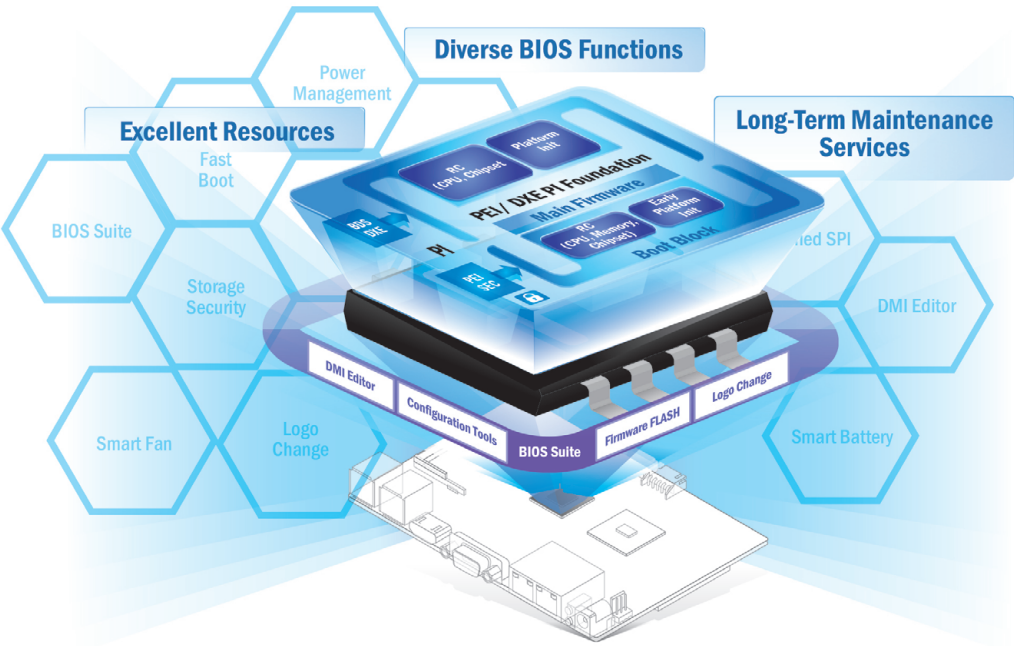
Embedded OS

| 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

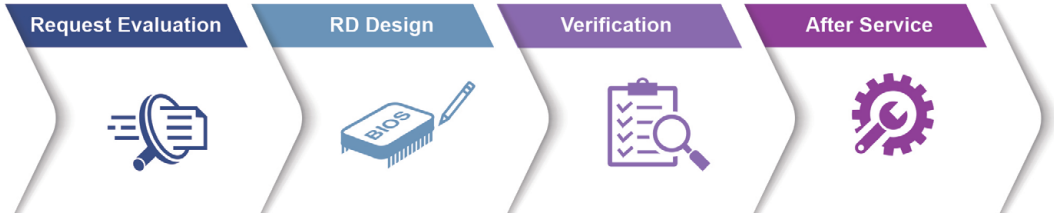
Diverse BIOS Functions

- 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.

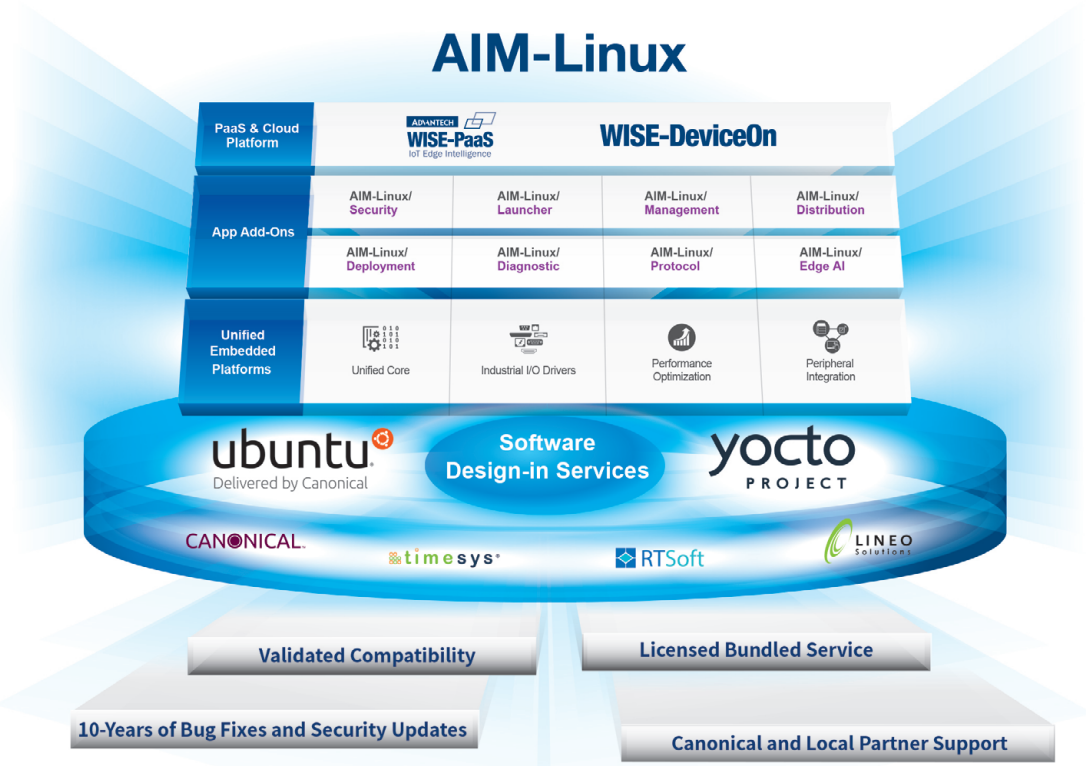


| 5x Performance Boost | All-in-one Installation | One Click AI Experience | Plug-and-play Environment | Discover Cost-effective Hardware |
|---|---|---|---|---|
| <ul style="list-style-type: none"> Integrated Intel® OpenVINO™ technology Boost AI using Advantech hardware | <ul style="list-style-type: none"> Build AI environment in under 5 minutes Ready-to-use configuration | <ul style="list-style-type: none"> User friendly configuration guidance One-click Benchmark acquisition | <ul style="list-style-type: none"> Easy access to 100+ AI inference extensions Software development package available | <ul style="list-style-type: none"> 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 | 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) |