

# AIMB-218

## Mini-ITX Motherboard Intel Atom® x6000E Series, Pentium®, Celeron® N and J Series Processor



### Features

- Supports Intel Pentium, Celeron, Atom, Quad Core & Dual Core processor
- Two 260-pin SO-DIMM up to 32 GB DDR4 3200 MT/s SO-DIMM
- Supports DP++ 1.2/HDMI 1.4b/eDP (option)/LVDS(option)
- Supports 1 PCIe x1 Gen3 or 2 M.2 (B+E-key), 6 COM (4 COM option), 3 USB 3.2 Gen2x1, and 5 USB 2.0
- Lower total cost of ownership with DC12V support and onboard TPM2.0 (option)
- Supports Device-On and Embedded Software APIs

#### Software APIs:



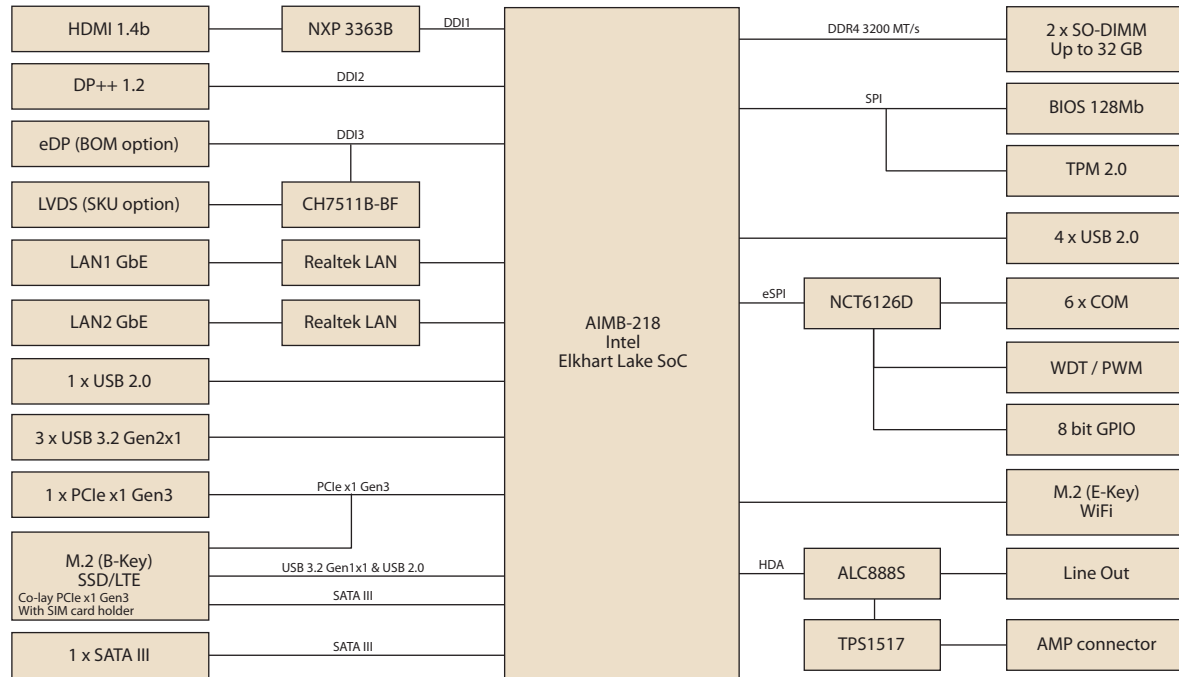
#### Utilities:



### Specifications

|                          |                        |                                                                                                                                  |                                                  |       |       |       |                            |
|--------------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|-------|-------|-------|----------------------------|
| Processor System         | CPU (10nm)             | J6413                                                                                                                            | J6412                                            | J6426 | N6211 | N6210 | x6413E                     |
|                          | Core Number            | 4                                                                                                                                | 4                                                | 4     | 2     | 2     | 4                          |
|                          | Base Frequency (GHz)   | 1.8                                                                                                                              | 2.0                                              | 2.0   | 1.2   | 1.2   | 1.5                        |
|                          | BIOS                   | AMI 256 Mbit SPI                                                                                                                 |                                                  |       |       |       |                            |
| Expansion Slot           | M.2                    | 1 x E-key (2230, for wireless module)<br>1 x B-key (3042/2280, for storage and LTE module)                                       |                                                  |       |       |       |                            |
|                          | PCIe                   | 1 x PCIe x1 Gen3                                                                                                                 |                                                  |       |       |       |                            |
| Memory                   | Technology             | Dual channel DDR4, up to 3200 MT/s                                                                                               |                                                  |       |       |       |                            |
|                          | Max. Capacity          | 32 GB                                                                                                                            |                                                  |       |       |       |                            |
|                          | Socket                 | 2 x 260-pin SO-DIMM                                                                                                              |                                                  |       |       |       |                            |
| Graphics                 | Controller             | Intel® UHD Graphics for 10th Gen Intel® Processors                                                                               |                                                  |       |       |       |                            |
|                          | LVDS/eDP               | 1 (SKU option) / 1 (BOM option)                                                                                                  |                                                  |       |       |       |                            |
|                          | HDMI                   | 1 x HDMI 1.4b                                                                                                                    |                                                  |       |       |       |                            |
|                          | DP                     | 1 x DP++ 1.2                                                                                                                     |                                                  |       |       |       |                            |
|                          | Triple display         | Triple independent display.<br>DP + HDMI<br>DP + HDMI + eDP (option)<br>DP + HDMI + LVDS (option)                                |                                                  |       |       |       |                            |
| Ethernet                 | Interface              | 10/100/1000 Mbps                                                                                                                 |                                                  |       |       |       |                            |
|                          | Controller             | LAN1: 1 GbE Realtek 8111H<br>LAN2: 1 GbE Realtek 8111H                                                                           |                                                  |       |       |       |                            |
|                          | Connector              | 2 x RJ45                                                                                                                         |                                                  |       |       |       |                            |
| Audio                    | Codec                  | Realtek ALC888S, High Definition Audio (HD), Line-out by default, converts to Mic in or Line in                                  |                                                  |       |       |       |                            |
|                          | Amplifier              | Yes (Option, 6.0W)                                                                                                               |                                                  |       |       |       |                            |
| SATA                     | Max Data Transfer Rate | 600 MB/s                                                                                                                         |                                                  |       |       |       |                            |
| Rear I/O                 | Channel                | 1 (SATA III)                                                                                                                     |                                                  |       |       |       |                            |
|                          | DP                     | 1                                                                                                                                |                                                  |       |       |       |                            |
|                          | HDMI                   | 1                                                                                                                                |                                                  |       |       |       |                            |
|                          | Ethernet               | 2                                                                                                                                |                                                  |       |       |       |                            |
|                          | USB                    | 3 x USB 3.2 Gen2x1 + 1 x USB 2.0                                                                                                 |                                                  |       |       |       |                            |
|                          | Audio                  | 1 (Line out by default, Line in/Line out/Mic in programmable)                                                                    |                                                  |       |       |       |                            |
|                          | Power Connector        | 1 x DC jack                                                                                                                      |                                                  |       |       |       |                            |
| Internal Connector       | LVDS/eDP               | 1 (LVDS or eDP by option)                                                                                                        |                                                  |       |       |       |                            |
|                          | USB                    | 4 x USB2.0                                                                                                                       |                                                  |       |       |       |                            |
|                          | Serial                 | 6,<br>COM1 support 5V/12V selection<br>COM2 support RS-232/422/485, select by jumper<br>COM3-COM6 support RS-232 (by BOM option) |                                                  |       |       |       |                            |
|                          | SATA                   | 1                                                                                                                                |                                                  |       |       |       |                            |
|                          | M.2                    | 1 x E-key (2230, for wireless module)<br>1 x B-key (3042/2280, for storage and LTE module)                                       |                                                  |       |       |       |                            |
|                          | GPIO                   | 8-bit                                                                                                                            |                                                  |       |       |       |                            |
| Watchdog Timer           | Output                 | System reset                                                                                                                     |                                                  |       |       |       |                            |
|                          | Interval               | Programmable 1 ~ 255 (second or minute)                                                                                          |                                                  |       |       |       |                            |
| Power Requirements       | Input voltage          | 12V DC input                                                                                                                     |                                                  |       |       |       |                            |
|                          | Connector              | DC Jack, Internal 4-pin ATX, Supports AT/ATX mode                                                                                |                                                  |       |       |       |                            |
|                          | Power consumption      | Configuration                                                                                                                    | Intel J6425 processor, 2pcs DDR4 2666 MT/s 32 GB |       |       |       |                            |
|                          |                        | Max.                                                                                                                             | 21.3 W                                           |       |       |       |                            |
| Environment              |                        | Typical                                                                                                                          | 19.2 W                                           |       |       |       |                            |
|                          |                        | Operating                                                                                                                        | Non-Operating                                    |       |       |       |                            |
| Physical Characteristics | Temperature            | 0 ~ 60 °C (32 ~ 140 °F) with 0.7m/s air flow (for D/J/L SKU)<br>-20 ~ 70 °C (-4 ~ 158 °F) with 0.7m/s air flow (for Z SKU)       |                                                  |       |       |       | -40 ~ 85 °C (-40 ~ 185 °F) |
|                          | Dimensions             | 170 x 170 mm (6.69" x 6.69")                                                                                                     |                                                  |       |       |       |                            |

## Block Diagram



## Ordering Information

| Part Number     | CPU    | Memory | LVDS/eDP | HDMI | DP | GbE LAN | COM             | SATA III | USB 3.2/2.0 | M.2 | TPM | AMP      | PCIe x1 | Thermal Solution | Operating Temp. |
|-----------------|--------|--------|----------|------|----|---------|-----------------|----------|-------------|-----|-----|----------|---------|------------------|-----------------|
| AIMB-218L-S0A2E | N6211  | 2      | -/-      | 1    | 1  | 1       | 2 (RS-232 only) | 1        | 3/5         | 2   | -   | -        | 1       | Passive          | 0 ~ 60 °C       |
| AIMB-218L-S1A2E | N6210  | 2      | -/-      | 1    | 1  | 1       | 2 (RS-232 only) | 1        | 3/5         | 2   | -   | -        | 1       | Passive          | 0 ~ 60 °C       |
| AIMB-218D-S0A2E | J6426  | 2      | 1/(1)    | 1    | 1  | 2       | 6 (High Speed)  | 1        | 3/5         | 2   | 1   | 2 x 6W   | 1       | Passive          | 0 ~ 60 °C       |
| AIMB-218J-S0A2E | J6413  | 2      | (1)/(1)  | 1    | 1  | 2       | 2 (+4)          | 1        | 3/5         | 2   | (1) | (2 x 6W) | 1       | Passive          | 0 ~ 60 °C       |
| AIMB-218J-S1A2E | J6412  | 2      | (1)/(1)  | 1    | 1  | 2       | 2 (+4)          | 1        | 3/5         | 2   | (1) | (2 x 6W) | 1       | Passive          | 0 ~ 60 °C       |
| AIMB-218Z-S0A2E | x6413E | 2      | 1/(1)    | 1    | 1  | 2       | 6 (High Speed)  | 1        | 3/5         | 2   | 1   | (2 x 6W) | 1       | Passive          | -20 ~ 70 °C     |

Note:

1. Passive = fanless
2. () BOM options available on MP version
3. AIMB-218L: w/o Cables, Startup manual, M.2 Screw

## Packing List

| Part Number    | Description                                  | Quantity |
|----------------|----------------------------------------------|----------|
| 1700003194-21  | SATA HDD cable                               | 1        |
| 1700018785-01  | SATA power cable                             | 1        |
| 1701200220-01  | 1-to-2 serial ports cable kit, 22 cm         | 1        |
| 1700029538-01  | 1-to-4 serial port cable, 35cm for AIMB-218D | 1        |
| 1960100026T001 | I/O port bracket                             | 1        |
| 2046021800     | Startup manual                               | 1        |
| 1960064228T011 | Fanless heatsink for AIMB-218L/J/D           | 1        |
| 1700023082-11  | ATX 2*10P to 1*3P-2.0 15cm cable             | 1        |
| 1930006770-01  | M.2 screw (M2.5x4L)                          | 2        |
| 1910001675     | M.2 Post (M2.5x4L)                           | 1        |

## Optional Chassis

| Part Number     | Description                               |
|-----------------|-------------------------------------------|
| AIMB-B2000-00YE | Mini-ITX chassis with optional DC Adaptor |

## I/O View



## Optional Accessories

| Part Number      | Description                    |
|------------------|--------------------------------|
| 1700023474-01    | 1-to-2 USB-A cable, 34.5 cm    |
| 96PSA-A60W12V1-4 | Adapter AC100-240V 60W +12V/5A |
| 96PSA-A84W12V1-4 | Adaptor AC100-240V 84W, 12V/7A |
| 1700031300-01    | Dual ports USB cable for B2000 |
| 1700024790-01    | USB-A 4P(F)*2/2*5P-2.0 20CM    |

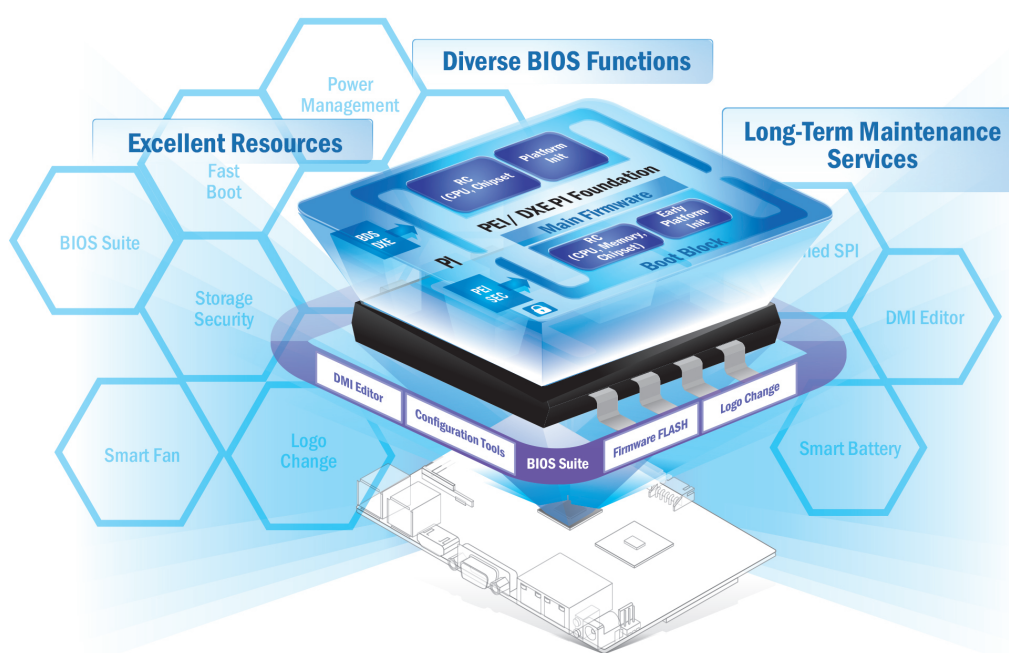
## Embedded OS/API

| OS          | Part Number    | Description                        |
|-------------|----------------|------------------------------------|
| Windows 11  | 20706WLE1S0092 | img W11 24EL 64b 24H2 ENU          |
| Windows 11  | 20706WLH1S0092 | img W11 24HL 64b 24H2 ENU          |
| Windows 11  | 20706WLV1S0092 | img W11 24VL 64b 24H2 ENU          |
| Windows 10  | 20706WX9HS0131 | img W10 19HL AIMB-218 64b 1809 ENU |
| Windows 10  | 20706WX9VS0135 | img W10 19VL AIMB-218 64b 1809 ENU |
| Windows 10  | 20706WX9ES0145 | img W10 19EL AIMB-218 64b 1809 ENU |
| Windows 10  | 20706WX1HM0001 | img W10 21HL AIMB-218 64b 21H2 ENU |
| Windows 10  | 20706WX1VM0001 | img W10 21VL AIMB-218 64b 21H2 ENU |
| Windows 10  | 20706WX1EM0001 | img W10 21EL AIMB-218 64b 21H2 ENU |
| Ubuntu20.04 | 20706U20DS0045 | Ubu20.4 AIMB-218 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

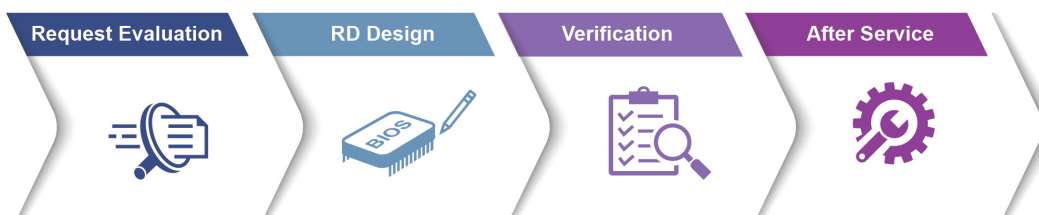
### Diverse BIOS Functions

- 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

- Devices status
- Peripherals/firmware
- Open for extension

#### Remote Access

- Real-time monitoring
- Remote controls
- Troubleshooting

#### Efficient Operations

- 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"> <li>Integrated Intel® OpenVINO™ technology</li> <li>Boost AI using Advantech hardware</li> </ul> | <ul style="list-style-type: none"> <li>Build AI environment in under 5 minutes</li> <li>Ready-to-use configuration</li> </ul> | <ul style="list-style-type: none"> <li>User friendly configuration guidance</li> <li>One-click Benchmark acquisition</li> </ul> | <ul style="list-style-type: none"> <li>Easy access to 100+ AI inference extensions</li> <li>Software development package available</li> </ul> | <ul style="list-style-type: none"> <li>Diverse CPU/RAM options</li> <li>Find hardware solutions for AI development</li> </ul> |

# 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"> <li>Platform compatibility tests</li> <li>Preloaded functional driver and software stacks</li> </ul> | <ul style="list-style-type: none"> <li>License authorized Canonical delivers 10-years of bug fixes and security updates</li> <li>In-house bundled service</li> </ul> | <ul style="list-style-type: none"> <li>Containerized technology for service provision and deployment</li> <li>AI resources from Caffe, TensorFlow, and mxnet</li> </ul> | <ul style="list-style-type: none"> <li>Embedded Linux and Android Alliance (ELAA)</li> </ul> |

# 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.