

# AIMB-230

**Intel® Core™ i3-4010U/i5-4300U/  
i7-4650U/ Celeron 2980U Mini-ITX with  
eDP/DP/DP++, 2 COM, and Dual LAN**



iManager susiAccess CE FCC RoHS COMPLIANT PRODUCT

## Features

- Supports Intel® Core™ i3-4010U, i5-4300U, i7-4650U and Intel® Celeron 2980U processor (Dual core), 15W TDP, BGA 1168 (MCP) 22nm Processor
- Two 204-pin SO-DIMM up to 16 GB DDR3L 1600 MHz SDRAM
- Multiple display I/O supports versatile Tri display functions for eDP/LVDS, DP/HDMI, and DP++
- Realtek ALC892 supports 5.1 + 2 channel HD audio
- Dual Realtek RTL8111E Gigabit LAN
- 1 Full-sized Mini-PCIe, 1 Half-sized Mini-PCIe
- 2 COM, 3 SATA III, 1 mSATA
- 4 USB 3.0, 2 USB 2.0

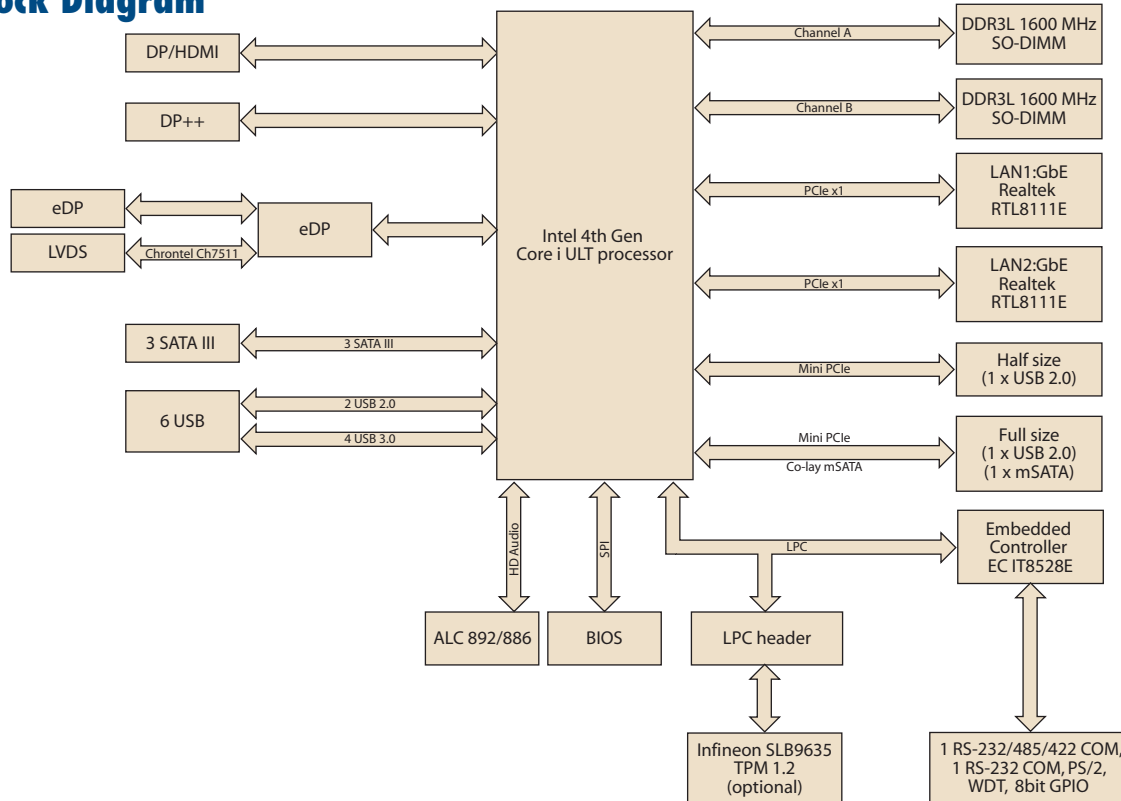
**Software APIs:**   
SMBus H/W Monitor Watchdog GPIO Brightness

**Utilities:**   
BIOS flash Monitoring

## Specifications

|                    |                                      | Intel Core i5-4300U  | Intel Celeron 2980U | Intel i3-4010U  | Intel i7-4650U |
|--------------------|--------------------------------------|--|---------------------|---|----------------|
| Processor System   | CPU                                  | Intel Core i5-4300U  | Intel Celeron 2980U | Intel i3-4010U  | Intel i7-4650U |
|                    | Core Number                          | 2  | 2                   | 2   | 2              |
|                    | Max. Speed                           | 1.9 GHz  | 1.6 GHz             | 1.7 GHz   | 3.3 GHz        |
|                    | L3 Cache                             | 3MB  | 2MB                 | 3MB   | 4MB            |
|                    | Chipset                              | 4th Generation Intel® Core™ ULT processors + Lynx Point-LP   |                     |   |                |
| Expansion Slot     | Full-size Mini-PCIe                  | 1, Supports 1 x USB 2.0 and co-lay 1 x mSATA   |                     |   |                |
|                    | Half-size Mini-PCIe                  | 1, Supports 1 x USB 2.0  |                     |   |                |
| Memory             | Technology                           | Dual Channel DDR3L 1600 MHz  |                     |   |                |
|                    | Max. Capacity                        | 16 GB/8 GB per SO-DIMM   |                     |   |                |
|                    | Socket                               | 2 x 204-pin SO-DIMM (Non-ECC)  |                     |   |                |
| Graphics           | Controller                           | Intel® HD Graphics 5000 Supports DirectX 11.1, OpenCL 4.0, OpenCL 1.3, Full AVC, VC1, MPEG2 H/W encoder  |                     |   |                |
|                    | LVDS+Inverter / eDP                  | Supports dual channel 48-bit up to 1920 x 1200, co-lay eDP (by BOM option)   |                     |   |                |
|                    | DP/HDMI                              | 1, Supports HDMI 1.4 for HD Video playback<br>Max resolution up to 3200 x 2000 at 60 Hz on DisplayPort (GT2), 4096 x 2304 at 24 Hz on HDMI (GT2) |                     |   |                |
|                    | DP++                                 | 1, DP++ connector, available with DP-to-DVI (HDMI) cable (no transmitter) to connector to normal LCD monitor                                     |                     |   |                |
|                    | Dual Display                         | HDMI+LVDS (eDP), HDMI+DP++, LVDS (eDP)+DP++  |                     |   |                |
|                    | Tri Display                          | HDMI + HDMI + DP, DP + DP + eDP, HDMI + DP + eDP   |                     |   |                |
|                    | Dual Display Mode                    | Extended Mode, Clone Mode  |                     |   |                |
| Ethernet           | Interface                            | 10/100/1000 Mbps   |                     |   |                |
|                    | Controller                           | LAN1: Realtek RTL8111E-VB-GR<br>LAN2: Realtek RTL8111E-VB-GR   |                     |   |                |
|                    | Connector                            | RJ-45 x 2  |                     |   |                |
| SATA               | Max Data Transfer Rate               | 600 MB/s (SATA 3.0)/ mSATA   |                     |   |                |
|                    | Channel                              | 3 / 1  |                     |   |                |
|                    | S/W RAID                             | 0,1,5  |                     |   |                |
| Rear I/O           | DP/HDMI                              | 1  |                     |   |                |
|                    | DP++                                 | 1  |                     |   |                |
|                    | Ethernet                             | 2  |                     |   |                |
|                    | USB                                  | 4 x USB 3.0  |                     |   |                |
|                    | Audio                                | 2 single audio jack for Line-Out (Green), Mic-In (Red)   |                     |   |                |
|                    | DC Jack                              | DC 12V Jack, single power  |                     |   |                |
| Internal Connector | LVDS & Inverter                      | 1  |                     |   |                |
|                    | eDP                                  | 1, by BOM optional   |                     |   |                |
|                    | LVDS Inverter                        | 1 (5 pin support 5V and 12V)   |                     |   |                |
|                    | LVDS Connector                       | 1 (3.3V / 5V / 12V) by jumper selected   |                     |   |                |
|                    | USB                                  | 2 ports USB 2.0 with 2.0mm pin-header  |                     |   |                |
|                    | Serial                               | COM 1: RS-232/422/485 supports +5V, +12V(without H/W auto flow control)<br>COM 2: RS-232   |                     |   |                |
|                    | SATA                                 | 4 (3 x SATA 3.0, 1 x mSATA)  |                     |   |                |
|                    | SATA Power                           | 3  |                     |   |                |
|                    | PS/2 K/B & M/S                       | Supports PS/2 K/S, M/S with 5-pin wafer  |                     |   |                |
|                    | CPU/System/Chassis Fan Connector     | 1 CPU fan with 4-pin wafer<br>1 System fan with 4-pin wafer  |                     |   |                |
|                    | Power Connector                      | 4-pin ATX, DC12V   |                     |   |                |
| Watchdog Timer     | GPIO                                 | 8-bit (4-bit DI and 4-bit DO)  |                     |   |                |
|                    | Output                               | System reset   |                     |   |                |
| Power Requirement  | Interval                             | Programmable 1 ~ 255 sec/min   |                     |   |                |
|                    | Power Type                           | Single voltage 12 V DC input; 1 x External DC jack; 1 x Internal 4-pin (2 x 2) power connector, Supports AT/ATX mode                             |                     |   |                |
|                    | Power Consumption (Max, test in HCT) | i5-4300, 3.5" SATA HDD x 1 + 8G RAM x 1<br>12V<br>2.66A  |                     | Celeron-2980U, 3.5" SATA HDD x 1 + 8G RAM x 1<br>12V<br>2.53A |                |
| Environment        | Temperature                          | Operating<br>0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution   |                     | Non-Operating<br>-20 ~ 70° C (-4 ~ 158° F)                    |                |
|                    | Physical Characteristics             | Dimensions<br>170 x 170 mm (6.69" x 6.69")   |                     |   |                |

### Block Diagram



### Ordering Information

| Order Number      | CPU           | Display                            | GbE | TPM | Storage                   | USB                        | PCIe / PCI   | Operating Temp. |
|-------------------|---------------|------------------------------------|-----|-----|---------------------------|----------------------------|--|-----------------|
| AIMB-230G2-U5A1E  | i5-4300U      |                                    |     |     |                           |                            |  | 0 ~ 60° C       |
| AIMB-230G2-U0A1E  | Celeron 2980U |                                    |     |     |                           |                            |  | 0 ~ 60° C       |
| AIMB-230G2-U3A1E  | i3-4010U      | DP/HDMI, DP++, LVDS/eDP (optional) | 2   | (1) | 3 x SATA III<br>1 x mSATA | 4 x USB 3.0<br>2 x USB 2.0 | 1 x Full-size Mini-PCIe<br>1 x Half-size Mini-PCIe | 0 ~ 60° C       |
| AIMB-230G2-U7A1E  | i7-4650U      |                                    |     |     |                           |                            |  | 0 ~ 60° C       |
| AIMB-230G2Z-U3A1E | i3-4010U      |                                    |     |     |                           |                            |  | -20 ~ 70° C     |

\*(1) BOM options available on MP version.

### Packing List

| Part Number    | Description       | Quantity |
|----------------|-------------------|----------|
| 1700003194     | SATA HDD cable    | 2        |
| 1700018785     | SATA Power cable  | 2        |
| 2006023010     | Startup manual    | 1        |
| 1960062823N011 | Fanless Heat Sink | 1        |
| 19Z0000757T000 | IO port bracket   | 1        |

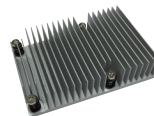
### Optional Accessories

| Part Number      | Description                           |
|------------------|---------------------------------------|
| 96PSA-A84W12V1   | ADAPTER 100-240V 84W 12V 7A           |
| 96PSA-A60W12V1-1 | ADAPTER 100-240V 60W 12V 5A           |
| 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     |
| 1960061914N001   | Fan Cooler                            |
| AIMB-OCLR-0006E  | Heatpipe cooler solution              |

### I/O View



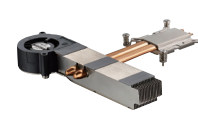
AIMB-230G2-U3A1E  
 AIMB-230G2-U5A1E  
 AIMB-230G2-U0A1E  
 AIMB-230G2-U7A1E  
 AIMB-230G2Z-U3A1E



Fanless Heat Sink



Fan Cooler



Heat Pipe Cooling Module

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Single Board Computers](#) category:*

*Click to view products by [Advantech](#) manufacturer:*

Other Similar products are found below :

[MANO882VPGGA-H81](#) [SSD3200W-S-SLC-INN 20-101-0738](#) [MVME61006E-2173R](#) [SHB230DGGGA-RC](#) [IMB210VGGA](#) [IB915F-3955](#)  
[MI958F-16C](#) [S2600WFT](#) [S2600STB](#) [BBS2600BPS](#) [BLKNUC7I3DNHNC1978015](#) [DEV-17745](#) [BEAGLEBOARD POCKET](#) [MICROSOM](#)  
[I2 + WIFI/BT](#) [HUMMINGBOARD-I2EX](#) [BASE + WIFI/BT](#) [HUMMINGBOARD-I4 PRO + WIFI/BT](#) [VAB-600-B](#) [RT5350F-OLINUXINO-](#)  
[EVB](#) [MITX-440-DVI-2E](#) [ATCA-7365-D-24GB](#) [NITX-315-DEVKIT](#) [A13-SOM-512](#) [NITX-315](#) [BANANA PI BPI-M1+](#) [A13-SOM-WIFI-](#)  
[4GB](#) [AM3359-SOM-EVB-IND](#) [UPS-APLC2-A10-0432](#) [DFR0419](#) [UPS-APLP4-A10-0864](#) [UPS-APLP4-A10-0432](#) [UPS-APLP4-A10-08128](#)  
[MI977F-Q27](#) [BBBLUE](#) [IB811F-I30](#) [DFR0470-ENT](#) [Nit6Q\\_i](#) [M2M \(TELIT\)](#) [RELAY](#) [PROFESSIONAL](#) [GCS22.2.080.2.2.I](#)  
[GCS22.8.100.4.2.I](#) [GLS11.2.053.2.2.E](#) [A20-OLINUXINO-LIME-E16GS16M](#) [A20-OLINUXINO-LIME-S16M](#) [A20-OLINUXINO-LIME2-](#)  
[E16GS16M](#) [A20-OLINUXINO-MICRO-E16GS16M](#) [A20-OLINUXINO-MICRO-S16M](#) [BANANA PI BPI-W2](#) [T2-OLINUXINO-LIME2-](#)  
[S16M-IND](#)