

# AIMB-285

**Intel® Core™ i7/i5/i3 LGA 1151 Mini-ITX with DP<sup>++</sup>/HDMI/VGA, 2 COM, Dual LAN, PCIe x4, miniPCle, DDR4, DC Input**

**NEW**



**WISE-PaaS/RMM** **RoHS COMPLIANT** **CE** **FCC**

## Specifications

|                          |                        |                                                                                            |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|--------------------------|------------------------|--------------------------------------------------------------------------------------------|-----------------------|----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------------------------------------|------------------|--------------------|
| Processor System         | CPU                    | i7-7700/<br>7700T                                                                          | i7-6700/<br>i7-6700TE | i5-7500/<br>i5-7500T | i5-6500/<br>i5-6500TE | i3-7101/<br>i3-7101TE | i3-6100/<br>i3-6100TE | Pentium<br>G4400 | Pentium<br>G4400TE                          | Celeron<br>G3900 | Celeron<br>G3900TE |
|                          | Core Number            | 4/4                                                                                        | 4/4                   | 4/4                  | 4/4                   | 2/2                   | 2/2                   | 2                | 2                                           | 2                | 2                  |
|                          | Max Speed              | 3.6GHz/<br>2.9GHz                                                                          | 3.4GHz/<br>2.4GHz     | 3.4GHz/<br>2.7GHz    | 3.2GHz/<br>2.3GHz     | 3.9GHz/<br>3.4GHz     | 3.7GHz/<br>2.7GHz     | 3.3G             | 2.4G                                        | 2.8G             | 2.6G               |
|                          | L3 Cache               | 8M/8M                                                                                      | 8M/8M                 | 6M/6M                | 6M/6M                 | 3M/3M                 | 3M/4M                 | 3M               | 3M                                          | 2M               | 2M                 |
|                          | TDP                    | 65W/35W                                                                                    | 65W/35W               | 65W/35W              | 65W/35W               | 54W/35W               | 51W/35W               | 54W              | 35W                                         | 51W              | 35W                |
|                          | Chipset                | H110                                                                                       |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | BIOS                   | AMI EFI 128 Mbit SPI                                                                       |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
| Expansion Slot           | Mini-PCle              | 1 F/S miniPCle slot support mSATA; 1 H/S miniPCle slot with SIM card holder                |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | PCIe x4 (Gen3)         | 4 GB/s per direction, 1 slot                                                               |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
| Memory                   | Technology             | Dual Channel DDR4 2133 MHz SDRAM                                                           |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | Max. Capacity          | 32GB (up to 16GB per SO-DIMM)                                                              |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | Socket                 | 2 x 260 PIN DDR4 SO-DIMM (Non-ECC)                                                         |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
| Graphics                 | Controller             | Supports OpenGL 5.x, DirectX12, OpenCL 2.X                                                 |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | VRAM                   | Shared system memory, 2 GB and above, total system memory shared 1 GB maximum video memory |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | VGA                    | Yes, supports max. resolution 1920 x 1200 @ 60 Hz                                          |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | LVDS                   | Supports dual channel 48-bit up to 1920 x 1200 (BOM Option)                                |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | HDMI                   | Yes, supports max. resolution 4096 x 2160 @ 24 Hz (HDMI 1.4)                               |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | Display Port 1.2       | Yes, supports max. resolution 4096 x 2160 @ 60Hz                                           |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | Dual Display           | DP+HDMI, DP+VGA, HDMI+VGA,DP+LVDS, HDMI+LVDS, VGA+ LVDS                                    |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
| Ethernet                 | Interface              | 10/100/1000 Mbps                                                                           |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | Controller             | GbE LAN: Realtek 8111G x2                                                                  |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | Connector              | RJ-45 x 2                                                                                  |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
| SATA                     | Max Data Transfer Rate | 600 MB/s (SATA 3.0)                                                                        |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | Channel                | 3 (SATA III)                                                                               |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
| Rear I/O                 | HDMI                   | 1 (HDMI 1.4)                                                                               |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | Display Port 1.2       | 1                                                                                          |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | Ethernet               | 2                                                                                          |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | USB                    | 4 (USB 3.0)                                                                                |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | Audio                  | 2 (Mac-in, Line-out) *("Mic-in" could be configured as "Line-in" under Win OS.)            |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | DC Jack                | 1                                                                                          |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
| Internal Connector       | USB                    | 4 (USB 2.0)                                                                                |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | LVDS/<br>inverter      | 1 (bom optional)                                                                           |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | Serial                 | 2 (one support RS-232/422/485 and one support 5V/12V)                                      |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | SATA                   | 3 (SATA III)                                                                               |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | Mini-PCle              | 2 (1 F/S and 1 H/S)                                                                        |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
| Watchdog Timer           | GPIO                   | 8-bit                                                                                      |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
|                          | Output<br>Interval     | System reset<br>Programmable 1 ~ 255 sec/min                                               |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
| Power Requirements       | Input power            | 12V DC Input<br>Win Idle 8.52W (Intel core i7-6700 3.4GHz / DDR4 2133MHz 16G x 2)          |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
| Environment              | Temperature            | Operating<br>0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution             |                       |                      |                       |                       |                       |                  | Non-Operating<br>-40 ~ 85° C (-40 ~ 185° F) |                  |                    |
|                          |                        |                                                                                            |                       |                      |                       |                       |                       |                  |                                             |                  |                    |
| Physical Characteristics | Dimensions             | 170 mm x 170 mm (6.69" x 6.69")                                                            |                       |                      |                       |                       |                       |                  |                                             |                  |                    |

## Features

- Supports Intel® 7th & 6th Gen Core™ i processor (LGA1151) with Intel H110 chipset
- Two 260-pin SO-DIMM up to 32GB DDR4 2133 MHz SDRAM
- Supports Dual display of DP/HDMI/VGA
- Supports PCIe x4 (Gen 3), 1 F/S miniPCle and 1 H/S miniPCle
- Support 12V DC Input and low profile height
- Supports 4 USB 3.0, 4 USB 2.0, 3 SATAIII, TPM 1.2 / 2.0 (optional)
- Supports WISE-PaaS/RMM and Embedded Software APIs

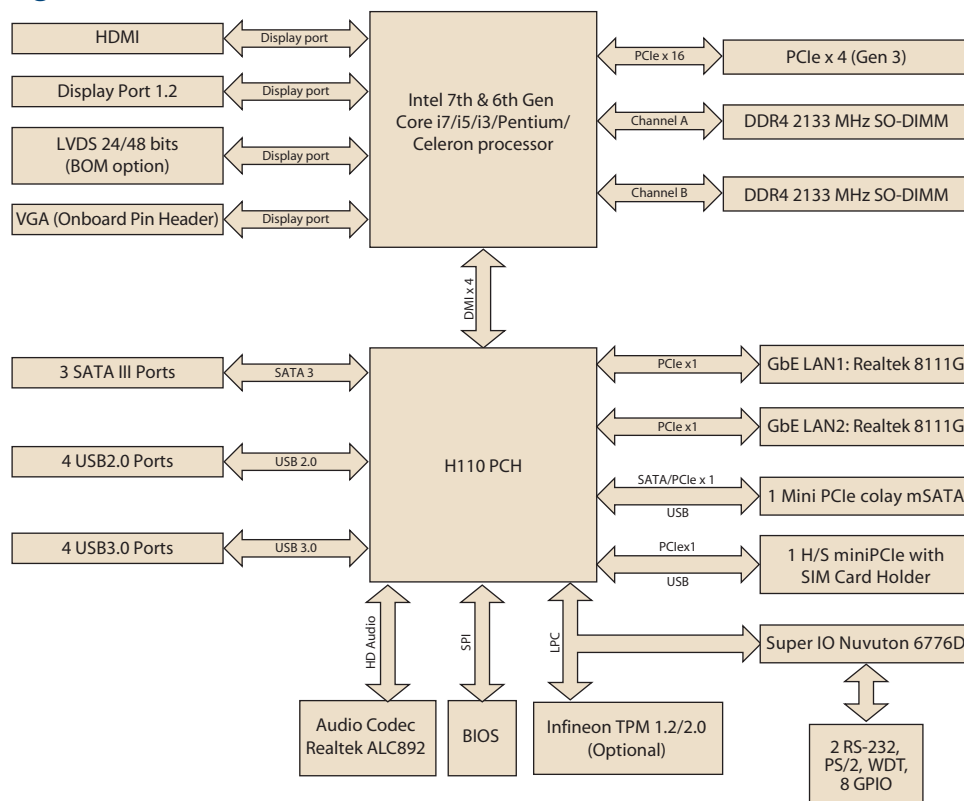
### Software APIs:



### Utilities:



## Block Diagram



## Ordering Information

| P/N              | Chipset | DP | VGA            | LVDS | HDMI         | GbE LAN | COM | SATA | USB 3.0/2.0 | MiniPCIe          | TPM | AMP | PCIex4 |
|------------------|---------|----|----------------|------|--------------|---------|-----|------|-------------|-------------------|-----|-----|--------|
| AIMB-285G2-00A1E | H110    | 1  | 1 (pin header) | (1)  | 1 (HDMI 1.4) | 2       | 2   | 3    | 4/4         | 2 (1 F/S & 1 H/S) | (1) | (1) | 1      |
| AIMB-285L-00A1E  | H110    | 1  | 0              | (1)  | 1 (HDMI 1.4) | 1       | 1   | 2    | 4/0         | 1(F/S)            | (1) | 0   | 0      |
| AIMB-285G2-LVA1E | H110    | 1  | 1 (pin header) | 1    | 1 (HDMI 1.4) | 2       | 2   | 3    | 4/4         | 2 (1 F/S & 1 H/S) | (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        |
| 1700100250     | Serial port cable (1 port, 25cm) | 2        |
| 19Z0001209T000 | I/O port bracket                 | 1        |
| 2006028510     | Startup manual                   | 1        |

## Optional Chassis

| Part Number     | Description                                                 |
|-----------------|-------------------------------------------------------------|
| AIMB-B2000-00YE | Mini-ITX chassis (Optional external AC-DC 84W/120W Adaptor) |
| EPC-T2000       | Mini-ITX chassis (optional external AC-DC 120W adapter)     |

## Rear I/O



## Optional Accessories

| Part Number     | Description                                                         |
|-----------------|---------------------------------------------------------------------|
| 1700026162-01   | USB 2.0 cable with two ports, 30 cm with bracket                    |
| 1703060191      | KB/MS cable 1*6P-2.0/M-DIN 6P(F)*2, 19cm                            |
| 1960053207N001  | LGA1150 CPU cooler for CPU TDP 65W, 92.9 (W) x 92.9 (L) x 46 (H) mm |
| 1960060732N001  | LGA1150 CPU cooler for CPU TDP ≤ 35W, 80 (W) x 80 (L) x 32.2 (H) mm |
| 96PSA-A120W12V1 | ADP A/D 100-240V 120W 12V C14 DC Plug 180°                          |
| 1700023082-11   | A cable 2*10P-4.2/1 *3P-2.0 15cm                                    |
| 1700025816-01   | VGA cable (M cable 2*5P-2.0/D-SUB 15P(F) 35cm)                      |

## Embedded OS/API

| OS/API     | Part No.   | 968 P/N    | Description                                     |
|------------|------------|------------|-------------------------------------------------|
| windows 10 | 2070014483 | 968QW10LTE | Win10 IoT Enterprise x64 multi-language (SKL-S) |
| WE8.1      | 2070014246 | 968QWE8IP1 | WE8.1 Industry Pro x64 multi-language (SKL-S)   |