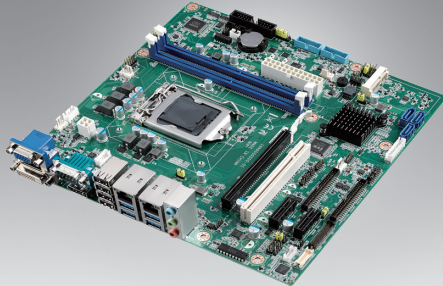


# AIMB-505

Intel® Core™ i7/i5/i3 LGA1151 MicroATX with VGA/DP/DVI-D/eDP(LVDS), 10 COM, 8 USB 3.0, 6 USB 2.0, Dual LAN

NEW



Quiet

WISE-PaaS/RMM



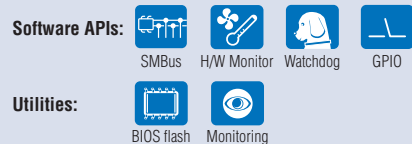
CE FCC

## Specifications

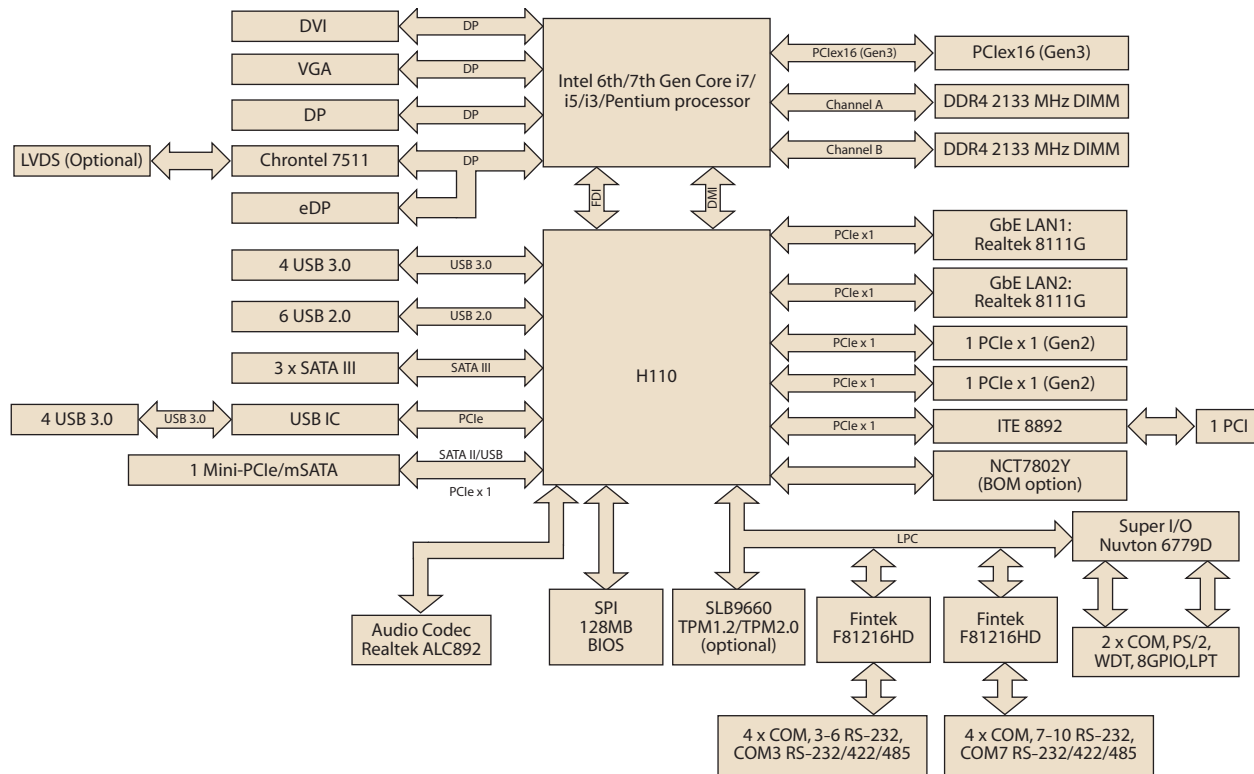
|                          | CPU   | i7-7700/<br>i7-7700T   | i7-6700 | i7-6700TE | i5-7500/<br>i5-7500T | i5-6500 | i5-6500TE | i3-7101/<br>i3-7101TE | i3-6100 | i3-6100TE | Pentium<br>G4400/<br>G4400TE | Celeron<br>G3900/<br>G3900TE |       |       |       |
|--------------------------|---|--|---------|-----------|----------------------|---------|-----------|-----------------------|---------|-----------|------------------------------|------------------------------|-------|-------|-------|
| Processor System         | Core Number   | 4/4  | 4       | 4         | 4/4                  | 4       | 4         | 2/2                   | 2       | 2         | 2                            | 2                            |       |       |       |
|                          | Max. Speed  | 3.6GHz/<br>2.9GHz  | 3.4 GHz | 2.4 GHz   | 3.4GHz/<br>2.7GHz    | 3.2 GHz | 2.3 GHz   | 3.9GHz/<br>3.4GHz     | 3.7GHz  | 2.7 GHz   | 3.3GHz /<br>2.9GHz           | 2.8GHz /<br>2.6GHz           |       |       |       |
|                          | L3 Cache  | 8M/8M  | 8M      | 8M        | Yes                  | 6M      | 6M        | Yes                   | 4M      | 4M        | 3M/3M                        | 2M/2M                        |       |       |       |
|                          | TDP (W)   | 65W/35W  | 65W     | 35W       | 6M/6M                | 65W     | 35W       | 3M/3M                 | 51W     | 35W       | 65W/35W                      | 65W/35W                      |       |       |       |
|                          | Chipset   | H110   |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | BIOS  | AMI EFI 128 Mbit SPI   |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
| Expansion Slot           | PCI   | 32-bit/33 MHz, 1 slot (G2)   |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | PCIe x1 (Gen2)  | 0.5 GB/s per direction, 2 slot   |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | PCIe x16 (Gen3)   | 16 GB/s per direction, 1 slot  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | Full-size Mini-PCIe                                     | 1, F/S support mSATA (co-lay with onboard USB 3.0) (G2)  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
| Memory                   | Technology  | Dual Channel DDR4 2133 MHz SDRAM   |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | Max. Capacity   | 32 GB/16 GB per DIMM   |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | Socket  | 2 x 288-pin DIMM (Non-ECC)   |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
| Graphics                 | Controller  | Intel HD Graphics  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | LVDS  | Supports dual channel 48 bit and up to 1920 x 1200 (optional)  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | eDP   | Internal pin header, supports max. resolution 3840 x 2160 @ 60 Hz (on board)   |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | VGA   | Yes, Max resolution 1920 x 1200 @ 60 Hz  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | DP  | Supports max resolution 4096 x 2304 @ 60 Hz  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | DVI-D   | Up to 1920 x 1200 @ 60Hz refresh rate  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
| Dual Display             | DP+DVI-D, DP+VGA, DVI-D+VGA, DP+EDP, EDP+DVI-D, EDP+VGA |  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
| Ethernet                 | Interface   | 10/100/1000 Mbps   |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | Controller  | GbE LAN1:Realtek RTL8111G<br>GbE LAN2:Realtek RTL8111G   |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | Connector   | RJ-45 x 2  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
| SATA                     | Max Data Transfer Rate                                  | 600 MB/s (SATA 3.0)  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
| Rear I/O                 | Channel   | 3  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | VGA   | 1  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | DVI-D   | 1  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | Ethernet  | 2 (G2 x 2, L x 1)  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | USB   | 8 (G2*8 ; L: 6)  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | Display port  | 1  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | Audio   | 2 (Mic-In, Line-out)   |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | Serial  | 1 (RS-232, COM1 support 5V/12V )   |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
| Internal Connector       | USB   | 6 (G2: USB 3.0 x 4, USB 2.0 x 2; L: USB 2.0 x 2)   |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | Serial  | 9 (7 x RS-232, 2 x RS-232/422/485; COM 3 and COM 7 support RS-232/422/485 auto flow control; COM 2 support 5V/12V by jumper selection) |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | IDE   | -  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | SATA  | 3 x 600 MB/s (SATA 3.0)  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | eDP/LVDS & Inverter                                     | 1/1 (LVDS optional)  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | GPIO  | 8-bit GPIO   |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
| Watchdog Timer           | LPT   | 1  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | Output  | System reset   |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
| Power Requirements       | Interval  | Programmable 1 – 255 sec/min   |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
|                          | Power On  | Intel® Core™ i7-6700 CPU @ 3.4GHz  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |
| Environment              | Operating   | 5V   |         |           |                      |         |           |                       |         |           | +3.3V                        |                              | 12V   | -12V  | 5VSB  |
|                          | Temperature   | 1.73A  |         |           |                      |         |           |                       |         |           | 1.92A                        |                              | 3.45A | 0.18A | 0.09A |
| Physical Characteristics | Non-Operating   | 0 – 60° C (32 – 140° F), depends on CPU speed and cooler solution  |         |           |                      |         |           |                       |         |           | -40 – 85° C (-40 – 185° F)   |                              |       |       |       |
|                          | Dimensions  | 244 mm x 244 mm (9.6" x 9.6")  |         |           |                      |         |           |                       |         |           |                              |                              |       |       |       |

## Features

- Supports Intel® 6th/7th Gen Core i7/i5/i3 processor with H110 chipset
- Two DIMM sockets support up to 32 GB DDR4 2133 MHz SDRAM
- Supports Dual display of VGA, DP, DVI, eDP, LVDS (optional) and two GbE LAN
- Supports 10 COM, 8 USB 3.0, 6 USB 2.0, TPM 1.2/2.0 (optional)
- Supports WISE PaaS/RMM, McAfee, Acronis and Embedded Software APIs



## Block Diagram



## Ordering Information

| Part Number      | PCH  | Memory  | VGA | DVI | DP | eDP/LVDS | USB 3.0/2.0 | COM | SATA | LAN | PCIe x 16 | PCIe x 1 | mini-PCle 1** (default mSATA only) | PCI slot | AMP |
|------------------|------|---------|-----|-----|----|----------|-------------|-----|------|-----|-----------|----------|------------------------------------|----------|-----|
| AIMB-505G2-00A1E | H110 | Non ECC | 1   | 1   | 1  | 1/(1)    | 8/6         | 10  | 3    | 2   | 1         | 2        | 1                                  | 1        | 1   |
| AIMB-505L-00A1E  | H110 | Non ECC | 1   | 1   | 1  | 1/(1)    | 2/6         | 2   | 3    | 1   | 1         | 2        | 0                                  | 0        | (1) |

\*() BOM options available on MP version.

\*\* MiniPCle is co-layout with the additional USB Port (port 11-14). So, miniPCle is available only when 10 USB Ports populated.

## Riser Card

| Part Number      | Description                                       |
|------------------|---|
| AIMB-RP10P-01A1E | 1U riser card with 1 PCI expansion                |
| AIMB-RP30P-03A1E | 2U riser card with 3 PCI expansion                |
| AIMB-RP3PF-21A1E | 2U riser card with 1 PCIe x16 and 2 PCI expansion |
| AIMB-RF10F-01A1E | 1U riser card with 1 PCIe x16 expansion           |

## Packing List

| Part Number        | Description                               | Quantity |
|--------------------|---|----------|
| 1700003194         | Serial ATA HDD data cable                 | 2        |
| 17AD14GS1400013V04 | 4 in 1 COM cable 500mm (IDE 40-pin 2.0mm) | 2        |
| 1700026163-01      | 1 to 1 COM cable 60cm (IDE 10P-2.0)       | 1        |
| 1960076813T000     | I/O port bracket                          | 1        |
| 2006050510         | Startup manual                            | 1        |

## Optional Accessories

| Part Number    | Description   |
|----------------|---|
| 1700026162-01  | A CABLE USB 2.0 A/F*2 BREAKET/2*9P 2.0 30CM                         |
| 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 45W, 80 (W) x 80 (L) x 32.2 (H) mm   |
| 1700000447     | 1-to-4 serial ports cable kit, 45cm                                 |
| 1701400181     | 1-to-4 serial ports cable kit, 18cm                                 |
| 1700020277-01  | Dual port USB 3.0 cable 30cm with IO bracket                        |
| 1703060191     | KBMS cable 1*6P-2.0/DIN-6P(F)*2, 22 cm                              |
| 1700025715-01  | KBMS cable 1*6P WAFER/PS2*2 w/ BRAKET 35CM                          |
| 1700008809     | Printer port cable kit,25cm W/BNK                                   |

Note: Purchasing AIMB-505's proprietary CPU cooler from Advantech is a must; other brands of CPU coolers are NOT compatible with AIMB-505.

## I/O View



## Embedded OS/API

| OS/API | Part No    | Description |
|--------|------------|-------------|
| WES7E  | 2070014651 | Image WES7E |
| WE8.1  | 2070014658 | Image WE8.1 |