**AIMB-205**

**Intel® Core™ i7/i5/i3 LGA 1151 Mini-ITX with VGA/DP/DVI-D/LVDS(eDP), 8 COM, Dual LAN, PCIe x16, M.2, DDR4**

RoHS

**COMPLIANT 2002/95/EC**

Standard 7

**Features**

* Supports Intel® 7th Gen Core™ & 6th Gen Core™ i processor /Pentium / Celeron (LGA1151) with Intel H110 chipset
* Two 260-pin SO-DIMM up to 32GB DDR4 2400/2133 MHz SDRAM
* Supports Dual display configuration by multiple interface: DP/DVI-D/VGA/ LVDS(eDP)
* Supports DirectX 12, OpenGL 4.4, OpenCL 2.0 and outstanding 3D graphics performance
* Supports 1 F/S MiniPCIe and 1 M.2 2242 (B key for SSD)

# Specifications

|  |  |
| --- | --- |
| Processor System | CPU i7-7700/ i7-6700/ i5-7500/ i5-6500/ i3-7101/ i3-6100/ Pentium Pentium Celeron Celeron7700T i7-6700TE i5-7500T i5-6500TE i3-7101TE i3-6100TE G4400 G4400TE G3900 G3900TE |
| Core Number 4/4 4/4 4/4 4/4 2/2 2/2 2 2 2 2 |
| Max Speed 3.6GHz/ 3.4GHz/ 3.4GHz/ 3.2GHz/ 3.9GHz/ 3.7GHz/ 3.3G 2.4G 2.8G 2.6G2.9GHz 2.4GHz 2.7GHz 2.3GHz 3.4GHz 2.7GHz |
| 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 |
| Memory | Technology Dual channel DDR4 2400/2133 MHz non ECC SDRAM (Only supports DDR4 2133 MHz SDRAM for SKL-S CPU) |
| Max. Capacity Up to 32GB (16GB per SO-DIMM) |
| Socket 2 x 260-pin SO-DIMM |
| Graphics | Controller Integrated Intel® HD Graphics 530 |
| VRAM Shared system memory, 2 GB and above, total system memory shared 1 GB maximum video memory |
| VGA Max. resolution 1920 x 1200 @ 60 Hz |
| DVI-D Supports max. resolution 1920 x 1200 @ 60Hz |
| Display Port Max. resolution 4096 x 2160 @ 60Hz |
| LVDS/eDP LVDS: Supports dual channel 24-bit up to 1920 x 1200 / eDP:with internal pin header, supports max. resolution 4096 x 2160 @ 60 Hz |
| Dual Display Yes (DP+VGA, DP+LVDS (or eDP), DP+DVI-D, DVI-D+VGA, DVI-D+LVDS (or eDP), VGA+LVDS (or eDP) |
| Ethernet | Interface 10/100/1000 Mbps |
| LAN 1 Controller Realtek RTL8111G GbE LAN |
| LAN 2 Controller Realtek RTL8111G GbE LAN |
| Connector 2 x RJ-45 |
| Expansion Slot | M.2 1 M.2 2242 (B key for SSD) |
| Mini PCIe 1 F/S miniPCIe slot support mSATA |
| PCIe x16 (Gen2/3) 1 (16GB/s per direction) |
| Storage | SATA 3.0 2 (600MB/s per port) |
| Rear I/O Connector | DVI-D 1 |
| VGA 1 |
| DisplayPort 1 |
| RJ-45 2 |
| USB 3.0 4 |
| USB 2.0 4 |
| Audio 3 (line-in, line-out, mic-in) |
| Internal Connector | USB 2.0 6 (USB11-14 is BOM optional) |
| Serial 7 x RS232, 1 x RS232/422/485COM1: supports 5V/12V by jumper selection, COM2: supports RS-232/422/485 by BIOS selection |
| SATA 3.0 2 |
| TPM (optional SLB9660 TPM 1.2/ SLB9665 TPM 2.0) |
| GPIO 1 (8-bit) |
| Watchdog Timer | Output System reset |
| Interval Programmable 1-255 sec/min |
| Power Requirements | Input Power ATXWin Idle 10.43W (Intel core i7-7700 3.6GHz / DDR4 2133MHz 16GB x 2) |
| Environment | Operation Temperature 0 ~ 60° C (32 ~ 140° F) |
| Non-Operation Temperature -40 ~ 85° C (-40 ~ 185° F) |
| Physical Characteristics | Dimensions 170 x 170 mm (6.7" x 6.7") |

 **Industrial Motherboards & Systems**

All product specifications are subject to change without notice. Last updated: 17-Aug-2017

**AIMB-205**

**Ordering Information**

**Block Diagram**

PCIex 16

Display port

Channel A

eDP

Channel B

DMI x 4

SATA3

PCIe x 1

USB 3.0/2.0

PCIe x 1

USB 2.0

PCIE/USB/SATA

USB 2.0

SATA/PCIEx2/USB

PCIe x 1

HD Audio

NCT6106D

3 x RS-232 &

1 x RS-232/422/485 PS/2 , WDT,

8-bit GPIO

F81216HD

4 x RS232

TPM 1.2/2.0 SLB9660&9665

(optional)

Realtek Audio Codec ALC892

4 USB 2.0 (optional)

1 M.2-B for SSD (2242)

2 USB2.0 (internal)

1 F/S mini PCIe (colay mSATA)

4 USB2.0 ports (rear IO)

GbE LAN2: Realtek 8111G

4 USB3.0 ports (rear IO)

GbE LAN1: Realtek 8111G

Intel H110

2 SATA3 ports

VGA (rear IO)

DDR4 SO-DIMM2

LVDS, colay eDP

DDR4 SO-DIMM1

DP (rear IO)

PCIe x 16 Slot

Intel 7th & 6th Gen Core i / Pentium / Celeron

processor

DVI -D (rear IO)

LPC

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **P/N** | **Chipset** | **DP** | **DVI-D** | **VGA** | **LVDS** | **GbE LAN** | **COM** | **SATA** | **USB 3.0/2.0** | **M.2** | **Mini PCIe** | **TPM** | **AMP** | **PCIe x 16** |
| AIMB-205G2-00A1E | H110 | 1 | 1 | 1 | 1 | 2 | 8 | 2 | 4/6 | 1 (1 M.2-B 2242) | 1 F/S | (1) | 1 | 1 |

\*() BOM options available on MP version.

# Packing List

|  |  |  |
| --- | --- | --- |
| **Part Number** | **Description** | **Quantity** |
| 1700003194 | SATA HDD cable | 1 |
| 1700008876 | 1-to-4 serial ports, 35 cm | 2 |
| 1960082356T000 | I/O port bracket | 1 |
| 2006B20500 | Startup manual | 1 |

**Optional Chassis**

|  |  |
| --- | --- |
| **Part Number** | **Description** |
| AIMB-B2000-15ZE | Mini-ITX chassis (w/ 150W PSU) |

**Rear I/O**

**Optional Accessories**

|  |  |
| --- | --- |
| **Part Number** | **Description** |
| 1700026162-01 | USB 2.0 cable with two ports, 30 cm with bracket |
| 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 |
| 1703060191 | KB/MS cable 1\*6P-2.0/M-DIN 6P(F)\*2, 19cm |

**Embedded OS/API**

|  |  |  |
| --- | --- | --- |
| **OS/API** | **Part No.** | **Description** |
| Win10 IoT Ent | 2070015197 | img W10 16HL AIMB-205 64b 1701 ENU |
| Win10 IoT Ent | 2070015198 | img W10 16VL AIMB-205 64b 1701 ENU |
| WE8.1 | 2070015281 | img W81 IP AIMB-205 64b 1609 ENU |

\*\*KBL-S CPU only support windows 10

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