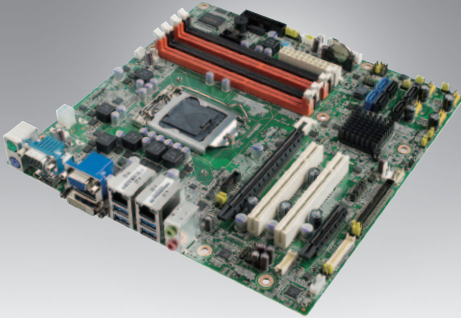


# AIMB-584

Intel® Xeon® E3/ Core™ i7/i5/i3 LGA1150  
MicroATX with CRT/DVI/eDP/LVDS/DP,  
6 COM, Dual LAN, SATAIII

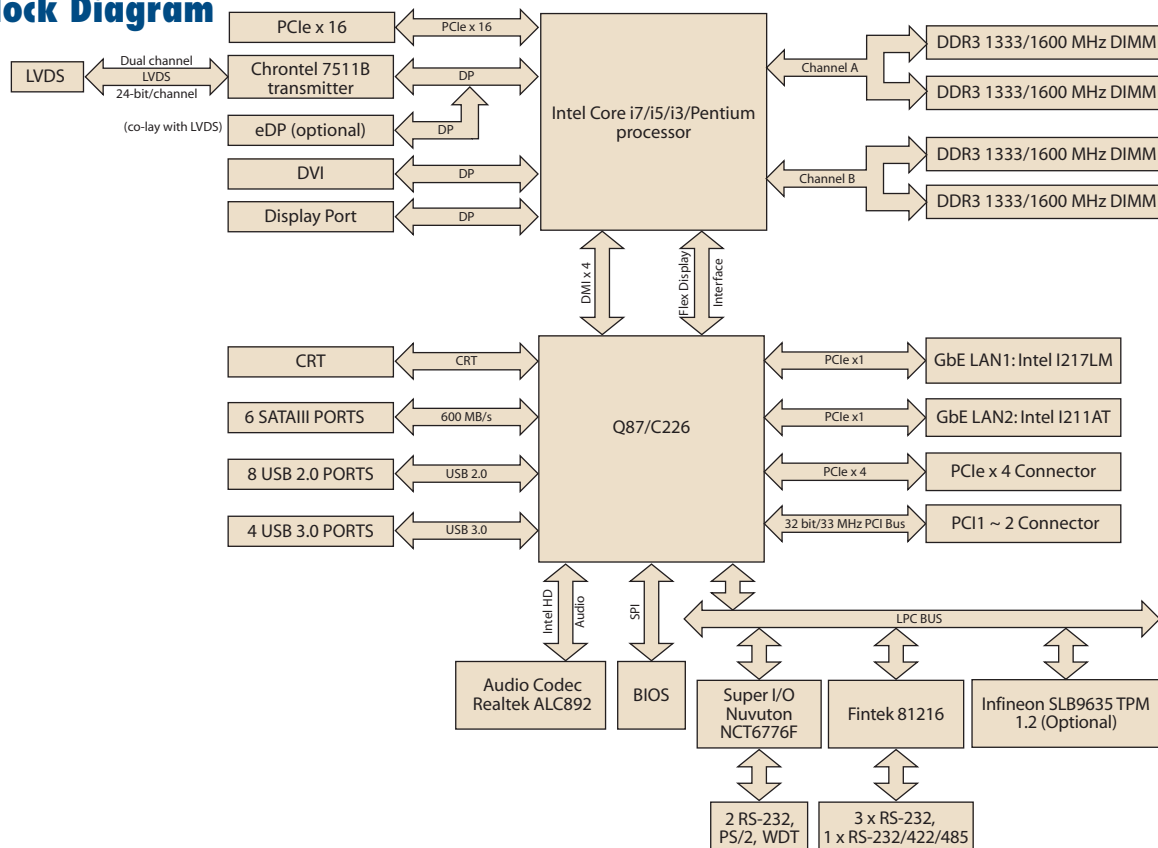
NEW



## Specifications

|                          | CPU                         | E3-1275 v3                                                                       | E3-1225 v3 | E3-1268L v3 | i7-4790S | i7-4770S/<br>4770TE | i5-4590S/<br>4590T | i5-4570S/<br>4570TE         | i3-4360/<br>4350T/4340TE | i3-4330 /<br>i3-4330TE | Pentium<br>G3420 | Pentium<br>G3320TE |  |
|--------------------------|-----------------------------|----------------------------------------------------------------------------------|------------|-------------|----------|---------------------|--------------------|-----------------------------|--------------------------|------------------------|------------------|--------------------|--|
| Processor System         | Core Number                 | 4                                                                                | 4          | 4           | 4        | 4 / 4               | 4/4                | 4 / 2                       | 2/2/2                    | 2 / 2                  | 2                | 2                  |  |
|                          | Max. Speed                  | 3.5 GHz                                                                          | 3.2 GHz    | 2.3 GHz     | 3.2GHz   | 3.1G/ 2.3GHz        | 3.0G/ 2.0GHz       | 2.9G/ 2.7GHz                | 3.7G/ 3.1G/<br>2.6GHz    | 3.5G / 2.4 GHz         | 3.2 GHz          | 2.3 GHz            |  |
|                          | Integrated Graphics         | Yes                                                                              | Yes        | Yes         | Yes      | Yes                 | Yes                | Yes                         | Yes                      | Yes                    | Yes              | Yes                |  |
|                          | L3 Cache                    | 8M                                                                               | 8M         | 8M          | 8M       | 8M / 8M             | 6M/6M              | 6M / 4M                     | 4M/4M/4M                 | 4M/4M                  | 3M               | 3M                 |  |
|                          | TDP (W)                     | 84W                                                                              | 84W        | 45W         | 65W      | 65W / 45W           | 65W/35W            | 65W / 35W                   | 54W/35W/35W              | 54W / 35W              | 54W              | 35W                |  |
|                          | Supports Model              | WG2                                                                              | WG2        | WG2/QG2     | QG2      | QG2                 | QG2                | QG2/WG2<br>(i5-4570TE only) | QG2                      | WG2/QG2                | WG2/QG2          | WG2/QG2            |  |
|                          | Chipset                     | Q87/C226                                                                         |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
| Expansion Slot           | BIOS                        | AMI EFI 128 Mbit SPI                                                             |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | PCI                         | 32-bit/33 MHz, 2 slots                                                           |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | PCIe x4 (Gen2)              | 2.0 GB/s per direction, 1 slot                                                   |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | PCIe x16 (Gen3)             | 16 GB/s per direction, 1 slot                                                    |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
| Memory                   | Technology                  | Dual Channel DDR3 1333/1600 MHz SDRAM                                            |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | Max. Capacity               | 32 GB/8 GB per DIMM                                                              |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | Socket                      | 4 x 240-pin DIMM                                                                 |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
| Graphics                 | Controller                  | Intel HD Graphics<br>Supports DirectX11.1, OpenGL 4.0 and OpenCL 1.2             |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | VRAM                        | 1 GB maximum shared memory with 2 GB and above system memory installed           |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | LVDS                        | Supports dual channel 48 bit up to 1920 x 1200                                   |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | CRT                         | v max resolution 2048 x 1536 at 60 Hz                                            |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | DVI                         | Supports max. resolution 1920 x 1200 at 60 Hz                                    |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | eDP                         | Internal pin header, supports max. resolution 3840 x 2160 @ 60 Hz                |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | Display Port                | Supports max resolution 3840 x 2160 @ 60 Hz                                      |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | Triple Display              | CRT+eDP (or LVDS)+DP, CRT+eDP (or LVDS)+ DVI<br>CRT+DP+DVI, DP+DVI+eDP (or LVDS) |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
| Ethernet                 | Dual Display                | CRT+eDP (or LVDS), CRT+DVI, eDP (or LVDS)+ DVI<br>DP+DVI, DP+eDP (or LVDS)       |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | Interface                   | 10/100/1000 Mbps                                                                 |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | Controller                  | GbE LAN1: Intel I217LM, GbE LAN2: Intel I211AT                                   |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | Connector                   | RJ-45 x 2                                                                        |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
| SATA                     | Max Data Transfer Rate      | 600 MB/s (SATA 3.0)                                                              |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | Channel                     | 6                                                                                |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
| Rear I/O                 | CRT                         | 1                                                                                |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | DVI                         | 1                                                                                |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | Display Port                | 1                                                                                |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | Ethernet                    | 2                                                                                |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | USB                         | 4 (4 x USB 3.0)                                                                  |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | Audio                       | 2 (Mic-in, Line-out)                                                             |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | Serial                      | 1 (RS-232)                                                                       |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | PS/2                        | 2 (1 x keyboard and 1 x mouse)                                                   |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
| Internal Connector       | USB                         | 8 (USB 2.0)                                                                      |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | Serial                      | 5 (4 x RS-232, 1 x RS-232/422/485 to support auto flow control)                  |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | IDE                         | -                                                                                |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | SATA                        | 6 (SATA 3.0)                                                                     |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | LVDS & Inverter             | 1 (default)                                                                      |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | Extended Display Port (eDP) | 1 (optional by removing LVDS)                                                    |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | Parallel                    | 1                                                                                |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | JTAG                        | 1                                                                                |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | IrDA                        | -                                                                                |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
| Watchdog Timer           | GPIO                        | 8-bit GPIO                                                                       |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | Output Interval             | System reset<br>Programmable 1 – 255 sec/min                                     |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
| Power Requirements       | Power On                    | Intel Core i7-4770 3.1 GHz, 8 GB DDR3 1600 MHz x 4pcs                            |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          |                             | +5 V                                                                             | 3.3 V      | 12 V        |          | 5 Vsb               |                    | -12 V                       |                          |                        |                  |                    |  |
| Environment              |                             | 2.22A                                                                            | 1.13A      | 5.18A       |          | 0.49A               |                    | 0A                          |                          |                        |                  |                    |  |
|                          |                             | Operating                                                                        |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
|                          | Temperature                 | 0 – 60° C (32 – 140° F), depends on CPU speed and cooler solution                |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
| Physical Characteristics | Dimensions                  | 244 mm x 244 mm (9.6" x 9.6")                                                    |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |
| Power                    | Input Mode                  | ATX input (Default)                                                              |            |             |          |                     |                    |                             |                          |                        |                  |                    |  |

## Block Diagram



## Ordering Information

| Part Number       | Chipset | Memory      | USB 3.0/2.0 | CRT | DP | DVI | LVDS/eDP | SATAIII | COM | TPM | GbE LAN |
|-------------------|---------|-------------|-------------|-----|----|-----|----------|---------|-----|-----|---------|
| AIMB-584QG2-00A1E | Q87     | Non-ECC     | 4/8         | Yes | 1  | 1   | 1(1)     | 6       | 6   | (1) | 2       |
| AIMB-584WG2-00A1E | C226    | ECC/Non-ECC | 4/8         | Yes | 1  | 1   | 1(1)     | 6       | 6   | (1) | 2       |

\*() BOM options available on MP version.

## 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 for 1 PCIe x 16 and 2 PCI expansion                   |
| AIMB-RF10F-01A1E | 1U riser card with 1 PCIe x 16 expansion                            |
| AIMB-RP3P8-12A1E | 2U riser card with 2 PCIe x 8 & 1 PCI slots expansion (For WG2 Sku) |

Note: AIMB-RP3P8-12A1E is not compatible with ACP-2010MB/2320MB chassis unless change special bracket to 1950014302N001.

## Packing List

| Part Number    | Description      | Quantity |
|----------------|------------------|----------|
| 1700003194     | SATA HDD cable   | 2        |
| 1703150102     | SATA power cable | 2        |
| 1960056089T000 | I/O port bracket | 1        |
| 2002058400     | Startup manual   | 1        |
| 2062058400     | Driver CD        | 1        |

## I/O View



AIMB-584QG2-00A1E  
AIMB-584WG2-00A1E

## Optional Accessories

| Part Number    | Description                                                                                                      |
|----------------|------------------------------------------------------------------------------------------------------------------|
| 1700002204     | Dual port USB cable (27 cm) with bracket                                                                         |
| 1960047669N001 | LGA1156 CPU cooler for 4U and wallmount chassis, for CPU TDP ≤ 84W, 4.72" (W) x 4.72" (L) x 3.03" (H)            |
| 1960047831N001 | LGA1156 CPU cooler for 2U and backplane version of chassis, for CPU TDP ≤ 65W, 3.27" (W) x 3.27" (L) x 2.17" (H) |
| 1960053207N001 | LGA1155 CPU cooler for 2U and wallmount chassis, for CPU TDP ≤ 45W, D=3.66" (W) x 3.66" (L) x 1.81" (H)          |
| 1700018699     | KBMS cable 1*6P-2.5/DIN-6P(F)*2, 25 cm                                                                           |
| 1700000447     | 1-to-4 serial ports cable kit, 45cm                                                                              |
| 1701400181     | 1-to-4 serial ports cable kit, 18cm                                                                              |
| 1950014302N001 | Special bracket for riser card AIMB-RP3P8-12A1E                                                                  |

Note: Purchasing AIMB-584's proprietary CPU cooler from Advantech is a must, other brand's CPU cooler are NOT compatible with AIMB-584. The complete thermal solution is composed of CPU cooler and system fans for the CPU TDP as above.

## Embedded OS/API

| OS/API       | Part No.   | Description                                      |
|--------------|------------|--------------------------------------------------|
| WES7         | 2070012174 | Image WES7E AIMB-584QG2 32bit V5.1.6 Eng/Chs/Jpn |
| WES7         | 2070012168 | Image WES7E AIMB-584QG2 64bit V5.6.6 Eng/Chs/Jpn |
| WE8          | 2070012169 | Image WE8 Std AIMB-584QG2 32bit V6.0.0 Eng       |
| Software API |            | SUSI 3.0 SW API for AIMB-584 WIN 7               |