



# IMB-1311-L/ IMB-1311-D

Micro-ATX Motherboard



## KEY FEATURES

- Intel® 9<sup>th</sup>/ 8<sup>th</sup> Gen (Coffee Lake-S) Core™ Processors with Q370 chipset
- 4 x 288-pin Long-DIMM up to 128GB\* DDR4 2666MHz
- 1 x PCIe x16 (Gen3), 1 x PCIe x4 (Gen3), 2 x PCI, 6 x USB 3.1 Gen1, 6 x USB 2.0, 1 x M.2 Key E, 1 x mini-PCIe, 1 x M.2 Key M, 6 x COM, 6 x SATA3
- 2 x Intel 1 Gigabit LAN
- Supports triple display, 1 x HDMI 1.4, 1 x DP 1.2, 1 x VGA, 1 x LVDS, 1 x DVI-D (IMB-1311-L)
- Supports triple display, 1 x HDMI 1.4, 1 x DP 1.2, 1 x eDP, 1 x DVI-D (IMB-1311-D)
- TPM 2.0 onboard IC
- Supports Intel® vPro, AMT, RAID 0/1/5/10
- ATX PWR



IMB-1311-L

IMB-1311-D

## SPECIFICATIONS

| Form Factor | IMB-1311-L                  | IMB-1311-D |
|-------------|-----------------------------|------------|
| Dimensions  | Micro ATX (9.6-in x 9.6-in) |            |

### Processor System

|         |  |
|---------|--|
| CPU     | Intel® 9 <sup>th</sup> / 8 <sup>th</sup> Gen (Coffee Lake-S) Core™ Processors, up to 65W |
| Chipset | Intel® Q370  |
| Socket  | LGA1151  |
| BIOS    | AMI SPI 128 Mbit   |

### Memory

|            |   |
|------------|---|
| Technology | Dual Channel DDR4 2666 MHz  |
| Capacity   | 128GB*<br>* Intel Core i9/i7/i5 CPUs support up to 128GB (32GB per DIMM)<br>Intel Core i3/Pentium/Celeron CPUs support up to 64GB (16GB per DIMM) |
| Socket     | 4 x 288-pin Long-DIMM   |

### Graphics

|              |  |  |
|--------------|--|--|
| Controller   | Coffee Lake integrated graphics                              |  |
| HDMI         | HDMI 1.4<br>Max resolution up to 4096x2160@24Hz              |  |
| DisplayPort  | DisplayPort 1.2, DP++<br>Max resolution up to 4096x2304@60Hz |  |
| VGA          | Max resolution up to 1920x1200@60Hz                          | N/A  |
| LVDS         | Dual channel 24 bit up to 1920x1200@60Hz                     | N/A  |
| eDP          | N/A  | eDP 1.4<br>Max resolution up to 4096x2304@60Hz |
| DVI-D        | Max resolution up to 1920x1200@60Hz                          |  |
| MultiDisplay | Triple Display   |  |

### Expansion Slot

|           |   |
|-----------|---|
| PCIe      | 1 x PCIe x16 (Gen3, Support riser card x8/x8, x8/x4/x4)<br>1 x PCIe x4 (Gen3) |
| PCI       | 2   |
| mini-PCIe | 1 x Full/Half size with PCIe x1 and USB 2.0                                   |
| M.2       | 1 x M.2 (Key E, 2230) with PCIe x1, USB 2.0 and CNVi for Wireless             |

### Audio

|           |  |
|-----------|--|
| Interface | Realtek ALC887, High Definition Audio. Line-out, Mic-in, Line-in |
|-----------|--|

### Ethernet

|                   |   |
|-------------------|---|
| Controller/ Speed | LAN1: 1 x Intel® I210 with 10/100/1000 Mbps<br>LAN2: 1 x Intel® I219LM with 10/100/1000 Mbps, supports AMT/vPro |
| Connector         | 2 x RJ-45   |

| Rear I/O | IMB-1311-L | IMB-1311-D |
|----------|------------|------------|
|----------|------------|------------|

|             |                               |     |
|-------------|-------------------------------|-----|
| HDMI        | 1 x HDMI 1.4                  |     |
| DisplayPort | 1 x DP 1.2                    |     |
| VGA         | 1                             | N/A |
| DVI-D       | 1                             |     |
| Ethernet    | 2 x 1 Gigabit LAN             |     |
| USB         | 4 x USB 3.1 (Gen1)            |     |
| Audio       | 3 (Mic-in, Line-in, Line-out) |     |
| COM         | COM3(RS-232/422/485)          |     |
| PS2         | 1                             |     |

### Internal Connector

|                 |   |     |
|-----------------|---|-----|
| USB             | 2 x USB 3.1 (Gen1) (1 x USB3.1 header)<br>6 x USB 2.0 (3 x 2.54 pitch header) |     |
| COM             | COM1, 2, 4, 5, 6(RS232)   |     |
| Parallel        | 1 (shared with GPIO)  |     |
| GPIO            | 8 x GPI, 8 x GPO (shared with LPT header)                                     |     |
| TPM             | TPM 2.0 onboard IC  |     |
| LVDS            | 1   | N/A |
| eDP             | N/A   | 1   |
| VGA             | N/A   |     |
| SATA PWR Output | N/A   |     |
| Speaker Header  | 1   |     |

### Storage

|       |   |
|-------|---|
| M.2   | 1 x M.2 (Key M, 2242/2260/2280) with PCIe x4 and shared SATA3 for SSD |
| mSATA | N/A   |
| SATA  | 6 x SATA3 (6Gb/s), SATA3_1 shared with M.2 Key M                      |
| RAID  | Intel® SATA RAID 0/1/5/10   |
| eMMC  | N/A   |

### Watchdog Timer

|                 |  |
|-----------------|--|
| Output Interval | From Super I/O to drag RESETCON#<br>256 Segments, 0, 1, 2, ...255sec |
|-----------------|--|

### Power Requirements

|                    |   |
|--------------------|---|
| Input PWR Power On | ATX PWR (24+8-pin)<br>AT/ATX Supported<br>- AT : Directly PWR on as power input ready<br>- ATX : Press button to PWR on after power input ready |
|--------------------|---|

### Environment

|                    |                |
|--------------------|----------------|
| Operating Temp     | 0°C ~ 60°C     |
| Storage Temp       | -40° C ~ 85° C |
| Operating Humidity | 5% ~ 90%       |
| Storage Humidity   | 5% ~ 90%       |

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