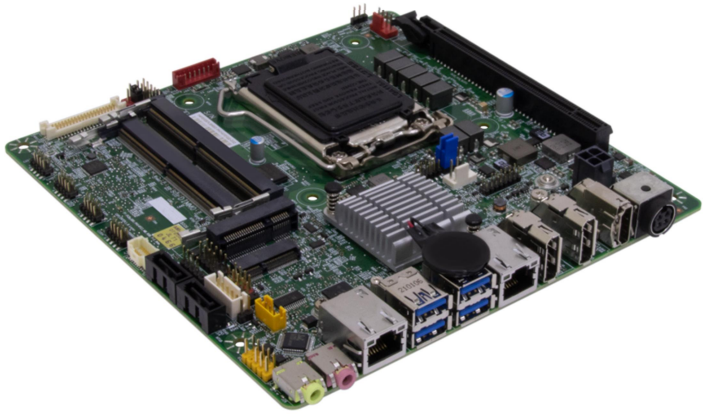
# IMB3656

## Mini-ITX Form Factor Intel® 8/9th Gen. Core™ i9/ i7/ i5 processors



Extended Temperature +85°C -40°C

CPU Full Speed HIGH

- Support 8/9th Intel® Core™ i9/i7/i5 Coffee Lake LGA1151 Socket Processor
- Intel® Q370 Chipset
- Intel® vPro technology support
- 2 x DDR4 SO-DIMM up to 64GB
- Support triple display for HDMI, DisplayPort and LVDS
- 1 x M.2 2280M-key (NVME), 1 x M.2 2230 E-key (CNVi)
  1 x mPCIe Full size, 1 x PCIe X16
- 2 x Intel® Gigabit Ethernet
- 12V DC input
- Operating Temperature : ET : -20°C ~ 70°C ; UT : -40°C ~ 85°C

# Specifications

| System | |
|---|---|
| CPU | 9th & 8th Gen Intel Coffee Lake LGA1151 Socket Processor, Core i7/i5/i3 6-core TDP Max. 95W, Core i9 8-core TDP Max 35W |
| System Memory | DDR4 2666MHz, 2 x 260-pin SO-DIMM, Max. 64GB (Non-ECC) |
| Chipset | Intel Q370 (Support RAID 0 / 1) support vPro |
| Graphics | Intel® HD Graphics |
| I/O Chipset | Nuvoton NCT6116D |
| TPM | TPM Header |
| BIOS | AMI BIOS / 256 Mbit SPI |
| H/W Monitor | Temperature Monitor / Voltage Monitor / Fan Monitor |
| Watchdog Timer | 1~255 steps by software program |
| **Expansion Slot** | |
| M.2 | 1 x M.2 2230 E key(PCIe / USB) / 1 x M.2 2260 / 2280 M key (Gen3 PCIeX4, SATAIII) |
| Mini PCie | 1 x Mini PCIe Full size (PCIe / USB / SATAIII) |
| PCIe Slot | 1 x PCIe 3.0 X16 slot |
| **Display** | |
| HDMI | Up to 4K (4096 x 2160) @30 Hz |
| Dsiplayport | Up to 4K (4096 x 2304) @60 Hz |
| LVDS | Up to 1920 x 1200 @60 Hz |
| **Ethernet** | |
| Chipset | Intel ® I219-LM Giga LAN + Intel ® I211-AT Giga LAN |
| **Audio** | |
| Codec | Realtek® ALC662 |
| **Rear I/O** | |
| USB | 4 x USB 3.0 |
| Display I/O | 1 x HDMI 1.4 / 2 x DisplayPort 1.2 |
| Audio I/O | 1 x Mic-in / 1 x Line-out |
| LAN | 2 x RJ-45 |
| Power | 1 x DIN – 4pin DC Jack |

## Internal I/O

| | |
|---|---|
| Storage | 2 x SATAIII |
| USB | 5 x USB 2.0 |
| Display I/O | 1 x LVDS / 1 x Backlight Connector |
| Audio I/O | 1 x Speaker 2W |
| Serial Port | 4 x RS232 (two supports RS232/422/485 select by BIOS) |
| GPIO | 1 x MiAPI Header (Programmable) |
| Fan | 1 x 4-pin CPU Fan Header / 1 x 4-pin System Fan Header |
| Power | 1 x ATX 4-pin Power Connector, 1 x AT / ATX Mode Select Jumper |
| Others | 1 x Front Audio Header (Mic-in / Line-out), 1 x CMOS Jumper, 1 x panel power select header, 1 x backlight power select header, 1x buzzer header |

## Mechanical and Environmental

| | |
|---|---|
| Form Factor | Mini ITX |
| Power Type | DC-in 12V DIN 4-pin connector / ATX 4pin 12V |
| Dimension | 170 mm x 170mm |
| Operating TEMP. | ET : -20 ~ 70°C<br>UT : -40 ~ 85°C |
| Storage TEMP. | -40 ~ 85°C (-40 ~185°F) |
| Relative Hum. | 10% ~ 95% R/H (Non-condensing) |

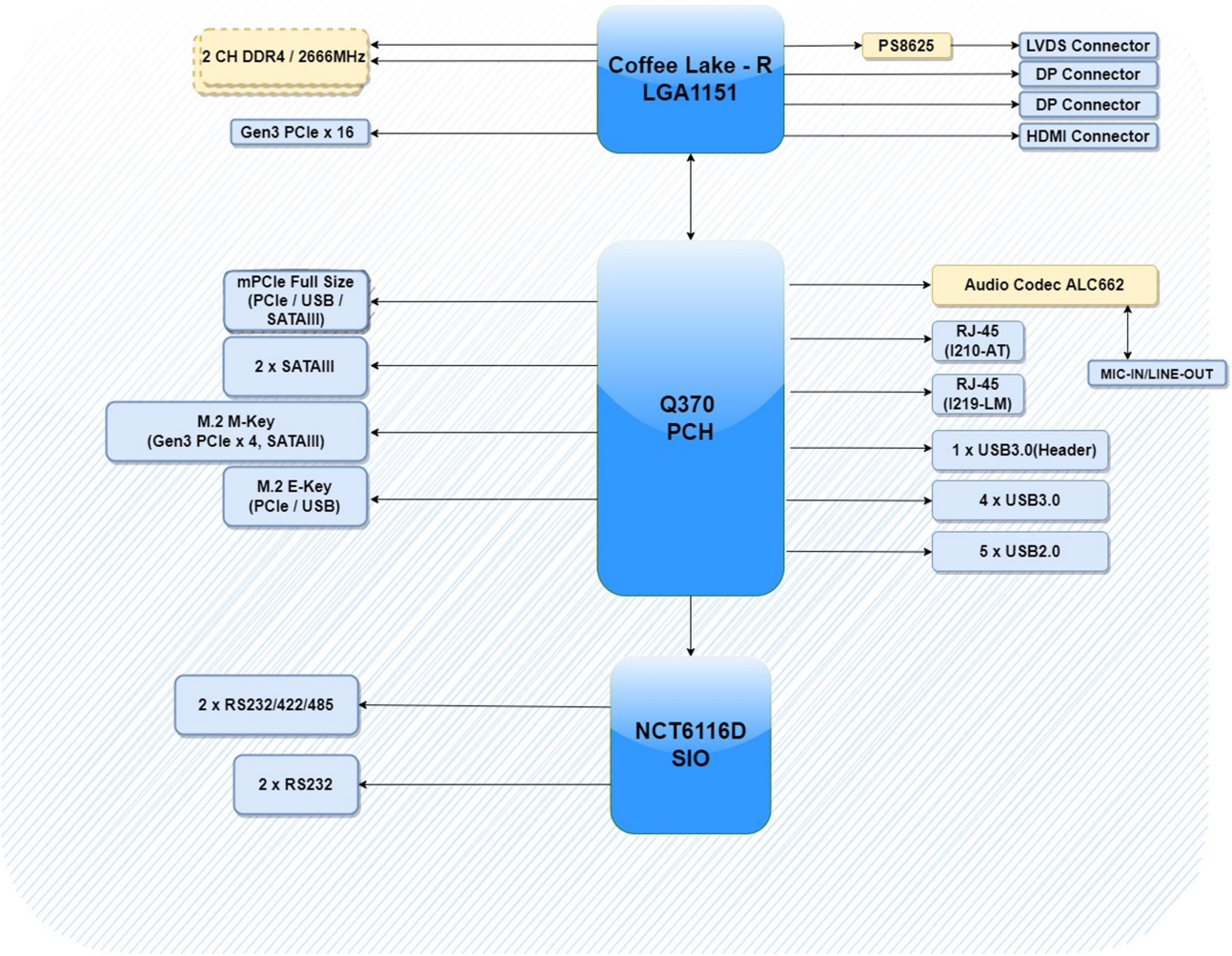
## Standard Compliance

| | |
|---|---|
| Standard Compliance | CE/FCC |

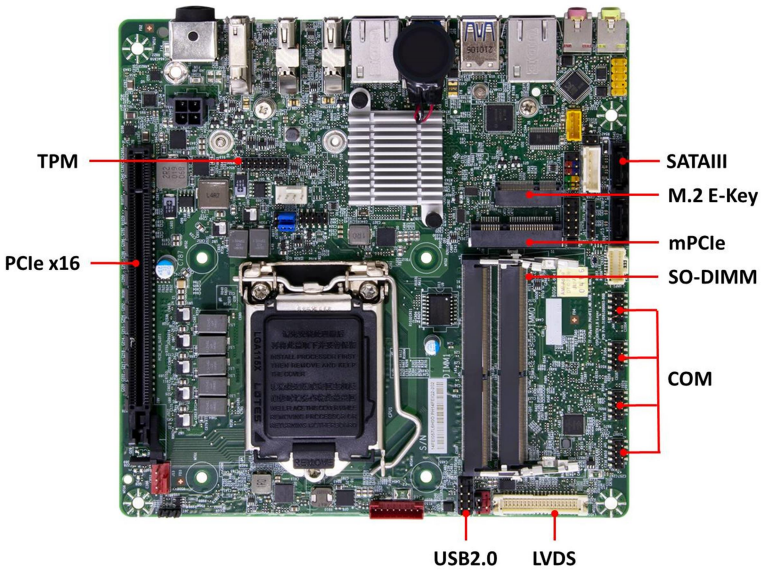
## OS

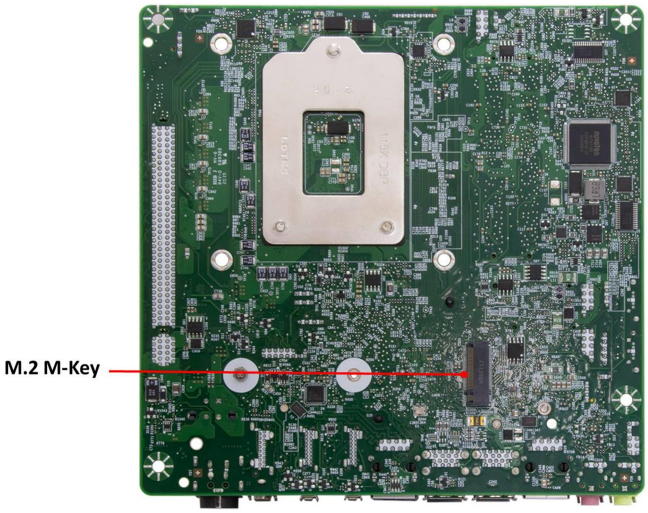
| | |
|---|---|
| OS Support | Windows®10 64-bit<br>Linux(Support by request) |

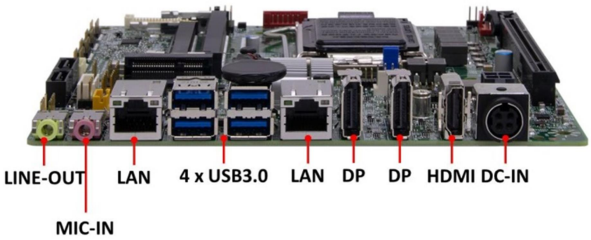
# Block Diagram



# Board Placement



# Ordering Information

| Model | CPU | PCH | Expansion | USB3.0/2.0 | System Power Input | Operation Temp. |
|---|---|---|---|---|---|---|
| INS8365B-ET | 8/9th LGA 1151 (Up to 95W) | Q370 | 1 x M.2 M-Key 2260/2280<br>1 x M.2 E-Key 2230<br>1 x mPCIe Full Size<br>1 x PCIex16 Slot | 4/5 | DC 12V | -20 to 70°C |
| INS8365B-UT | | | | | | -40 to 85°C |