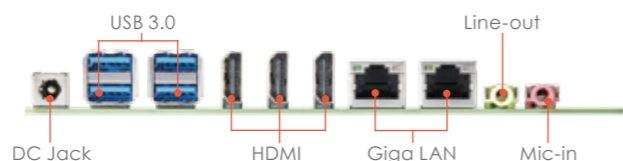
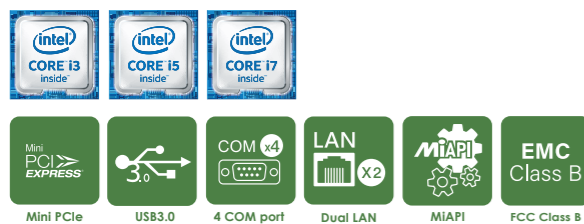
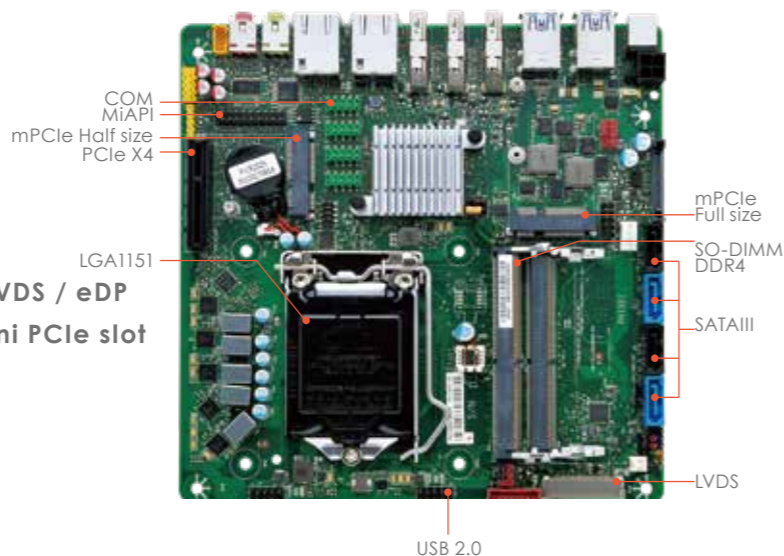


# PH13SI

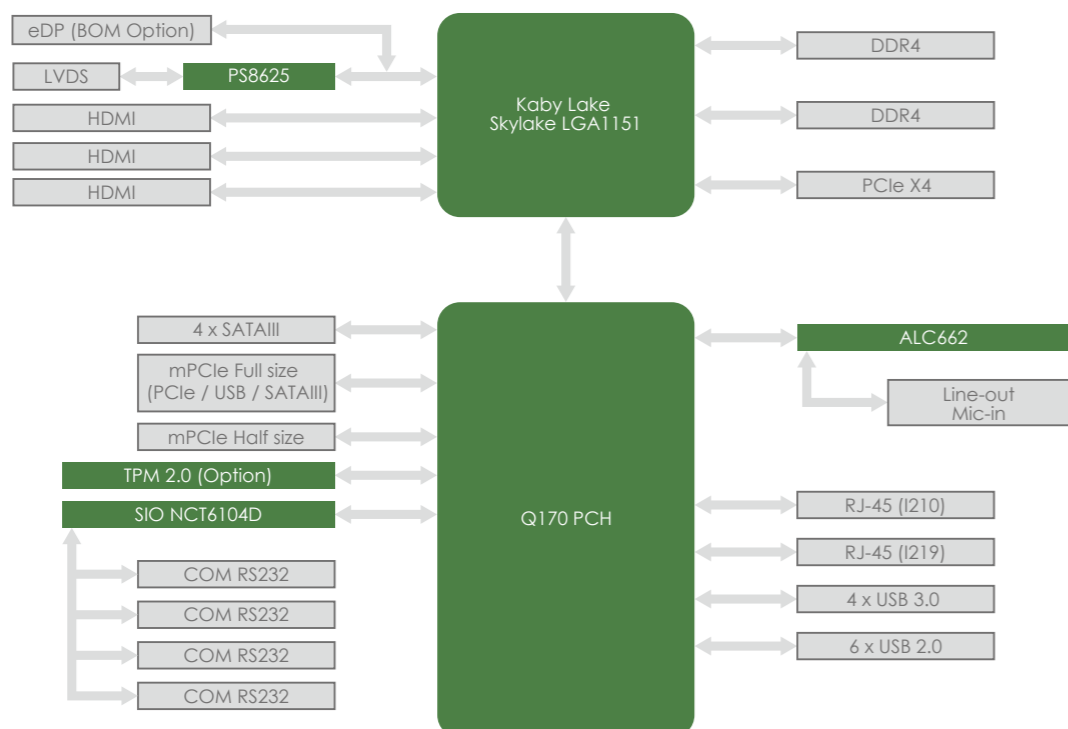
Thin Mini-ITX Form Factor  
Intel® Kaby Lake / Skylake Processor with Q170 Chipset

## Features

- Intel® Skylake / Kaby Lake Core i7/i5/i3 / Pentium / Celeron LGA1151 processors
- Intel® Q170 Chipset
- Intel® vPro technology support
- 2 x DDR4 SO-DIMM, support up to 32GB
- Support triple display for 3 x HDMI and LVDS / eDP
- Support 1 x PCIe X4 (Gen 3) slot & 2 x Mini PCIe slot
- 4 x SATAIII
- 2xIntel® Gigabit Ethernet
- 6 x USB 2.0, 4 x USB 3.0, 4 x COM and 1 x MiAPI (configurable digital I/O)
- DC-in 12V power input



## Block Diagram



# PH13SI Thin Mini-ITX

| MECHANICAL            |   |
|-----------------------|---|
| Form Factor           | Mini-ITX: 6.7" x 6.7" (170mm x 170mm)   |
| SYSTEM                |   |
| Processor             | 7/6th Gen Intel® Kaby Lake / Skylake LGA1151 Socket Processor, TDP Max. 65W   |
| Chipset               | Intel® Q170 (Support RAID 0 / 1 / 5 / 10)   |
| Memory                | DDR4 1866/2133MHz, 2 x 260-pin SO-DIMM, Max. 32GB (Non-ECC)   |
| Graphics              | Intel® HD Graphics  |
| Ethernet              | Intel® I219-LM Giga LAN + Intel® I210-AT Giga LAN   |
| Audio                 | Realtek® ALC662   |
| I/O Chipset           | Nuvoton NCT6104D  |
| TPM                   | Nuvoton NPCT650AAAYX TPM2.0 (Optional)  |
| Expansion Slot        | 1 x PCIe X4 slot<br>1 x Mini PCIe Full/Half size (PCIe / USB / SATA)<br>1 x Mini PCIe Half size (PCIe / USB)                            |
| BIOS                  | 128 Mbit SPI, AMI BIOS  |
| H / W Monitor         | Temperature Monitor, Voltage Monitor, Fan Monitor   |
| Watchdog Timer        | 1~255 Steps by Software Program   |
| Smart Fan Control     | CPU Fan / System Fan  |
| GRAPHICS              |   |
| VGA                   | —   |
| DVI                   | —   |
| HDMI                  | Up to 4K (3840 x 2160) @30 Hz   |
| DisplayPort           | —   |
| LVDS                  | Up to 1920 x 1200 @60 Hz  |
| eDP (Option)          | Up to 4K (4096 x 2304) @60 Hz   |
| REAR I/O              |   |
| USB                   | 4 x USB 3.0   |
| Display I/O           | 3 x HDMI 1.4  |
| Audio I/O             | 1 x Mic-in, 1 x Line-out  |
| LAN I/O               | 2 x RJ-45   |
| Serial Port           | —   |
| PS/2 Port             | —   |
| Others                | 1 x DC Jack   |
| INTERNAL CONNECTORS   |   |
| Storage               | 4 x SATAIII   |
| USB                   | 6 x USB2.0  |
| Display I/O           | 1 x LVDS (colay eDP)<br>1 x Backlight Connector   |
| Audio I/O             | 1 x Line-out  |
| Serial Port           | 4 x RS232   |
| PS/2 Port             | —   |
| Parallel Port         | —   |
| GPIO                  | 1 x MiAPI Header (Programmable)   |
| Fan                   | 1 x 4-pin CPU Fan Connector, 1 x 4-pin System Fan Connector   |
| Power                 | 1 x ATX Power Connector, 1 x AT/ATX Mode Select Jumper  |
| Others                | 1 x Front Audio Header (Mic-in & Line-out), 1 x Chassis Intrusion, 1 x CMOS Jumper  |
| POWER REQUIREMENT     |   |
| Power Input           | DC-in 12V(2.5mm/ ID, 5.5mm/ OD)/ ATX 4-pin 12V  |
| ENVIRONMENTAL         |   |
| Operating Temperature | 0 ~ 60°C (32 ~ 140°F)   |
| Storage Temperature   | -20 ~ 70°C (-4 ~ 158°F)   |
| Operating Humidity    | 10% ~ 95% R/H, non-condensing   |
| Certification         | CE & FCC Class B  |
| OS                    |   |
| OS Support            | Kaby Lake: Windows® 10 64bit, Linux (support by request)<br>Skylake: Windows® 7 32/64bit, Windows® 10 64bit, Linux (support by request) |

## Ordering Information

| Model Number | Processor   | HDMI | LVDS/eDP | USB 3.0 / 2.0 | SATA | Mic-in / Line-out | PCIe X4 | RS232 | LAN | mPCIe Full/Half size | Power     |
|--------------|-------------|------|----------|---------------|------|-------------------|---------|-------|-----|----------------------|-----------|
| PH13SI-Q170  | Intel® Q170 | 3    | 1 / 0    | 4 / 6         | 4    | 1 / 1             | 1       | 4     | 2   | 1 / 1                | DC-in 12V |

## Packing List

|         |                   |                       |  |                             |
|---------|-------------------|-----------------------|--|-----------------------------|
| Packing | • 1 x Motherboard | • 1 x 50cm SATA Cable | • 2 x I/O Bracket (Half and Full Height) | • 1 x 45cm SATA Power Cable |
|---------|-------------------|-----------------------|--|-----------------------------|