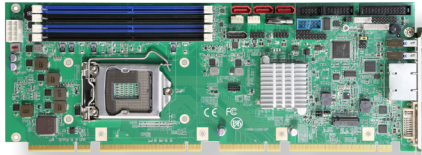


# HiCORE-i89Q1/i89Q2

Intel® LGA1151 6<sup>th</sup>/7<sup>th</sup> Gen. Core™ Full-size SBC



HiCORE-i89Q1



HiCORE-i89Q2

## System

|                |   |
|----------------|---|
| CPU            | Support 6th/7th Generation Intel® Core™ i7/i5/i3 processors in LGA1151 socket |
| Chipset        | Intel® PCH Q170   |
| Memory         | 4 x 288-pin DDR4 Long-DIMM sockets, supporting 2133/1866MHz SDRAM up to 64GB  |
| BIOS           | AMI UEFI BIOS   |
| TPM            | Supports TPM 1.2 & 2.0 daughterboard via LPC connector (optional)             |
| Watchdog Timer | 1~255 levels reset  |

## I/O

|                  |  |
|------------------|--|
| Super I/O        | Fintek F81768  |
| USB Port         | 4 x USB 2.0 ports to Golden finger<br>4 x USB 2.0 ports w/ pin-header<br>2 x USB 3.0/2.0 ports on bracket  |
| Serial Port      | 1 x RS-232   |
| Expansion Bus    | 1 x RS-232/422/485 selectable<br>1 x PCIe x4 Lanes or<br>4 x PCIe x1 Lanes<br>1 x PCIe x16 lanes Gen. 3<br>4 x PCI masters<br>LPC interface                                |
| Storage          | Six Serial ATA ports with 600MB/s HDD transfer rate<br>- 3 ports on board<br>- 1 port to NGFF M.2 socket-M<br>- 2 port to Golden finger<br>SATA RAID 0, 1, 5, 10 supported |
| Ethernet Chipset | 1 x Intel® i219LM PCIe GbE PHY<br>1 x Intel® i210AT PCIe GbE controller  |
| Audio Interface  | One 1x9-pin wafer connector for HD Audio daughterboard   |
| Digital I/O      | 8-bit programmable digital input/output  |
| KB/MS            | 6-pin wafer connector for keyboard and mouse via Y-cable   |
| Parallel Port    | SPP/EPP/ECP mode selectable  |

## Display

|                   |  |
|-------------------|--|
| Graphic Chipset   | Integrated Intel® HD Graphics (depends on CPU)   |
| Graphic Interface | 1 x DVI-I port on board (HiCORE-i89Q1) or<br>1 x VGA port on board (HiCORE-i89Q2)<br>1 x DisplayPort |

## Features

- **PICMG 1.3 Specification**
- Support Intel® LGA1151 6th/7th Gen. i3/i5/i7 Core processors
- Integrated Dual Gigabit Ethernets
- DDR4 Non-ECC Long-DIMM supported
- SATA RAID 0, 1, 5, 10 supported
- Support Intel® M.2 SSD

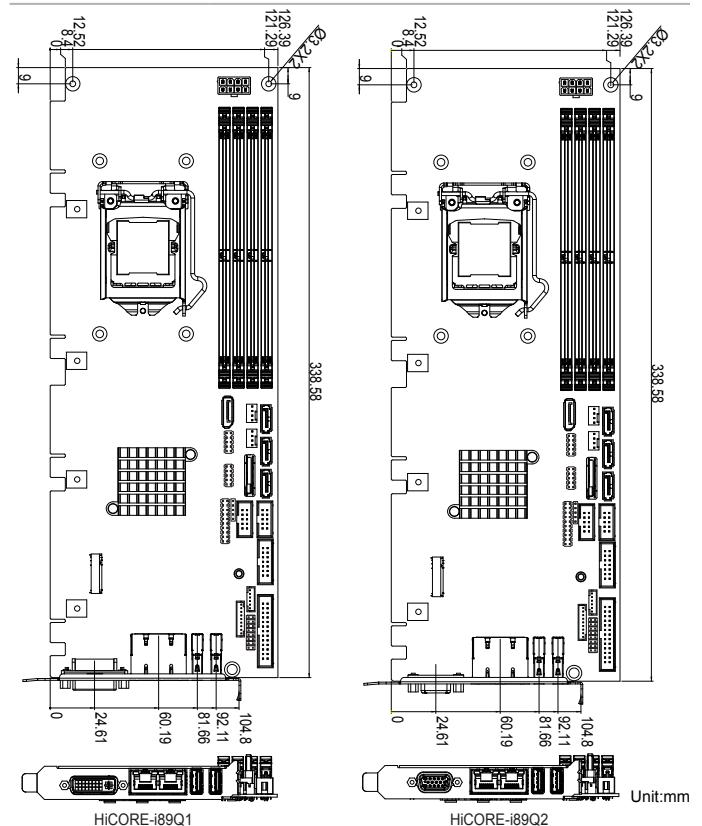
## OS Support

Windows 10 64-bit  
Linux: Ubuntu

## Mechanical & Environmental

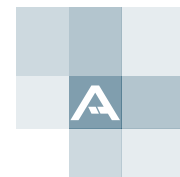
|                    |                                  |
|--------------------|----------------------------------|
| Power Input        | DC 12V, 5V                       |
| Power Consumption  | 2.66A@12V                        |
| Operating Temp.    | 0 ~ 60°C (32 ~ 122°F)            |
| Operating Humidity | 10 ~ 95% @ 60°C (non-condensing) |
| Dimensions (L x W) | 338 x 126 mm (13.3" x 4.96")     |

## Dimensions

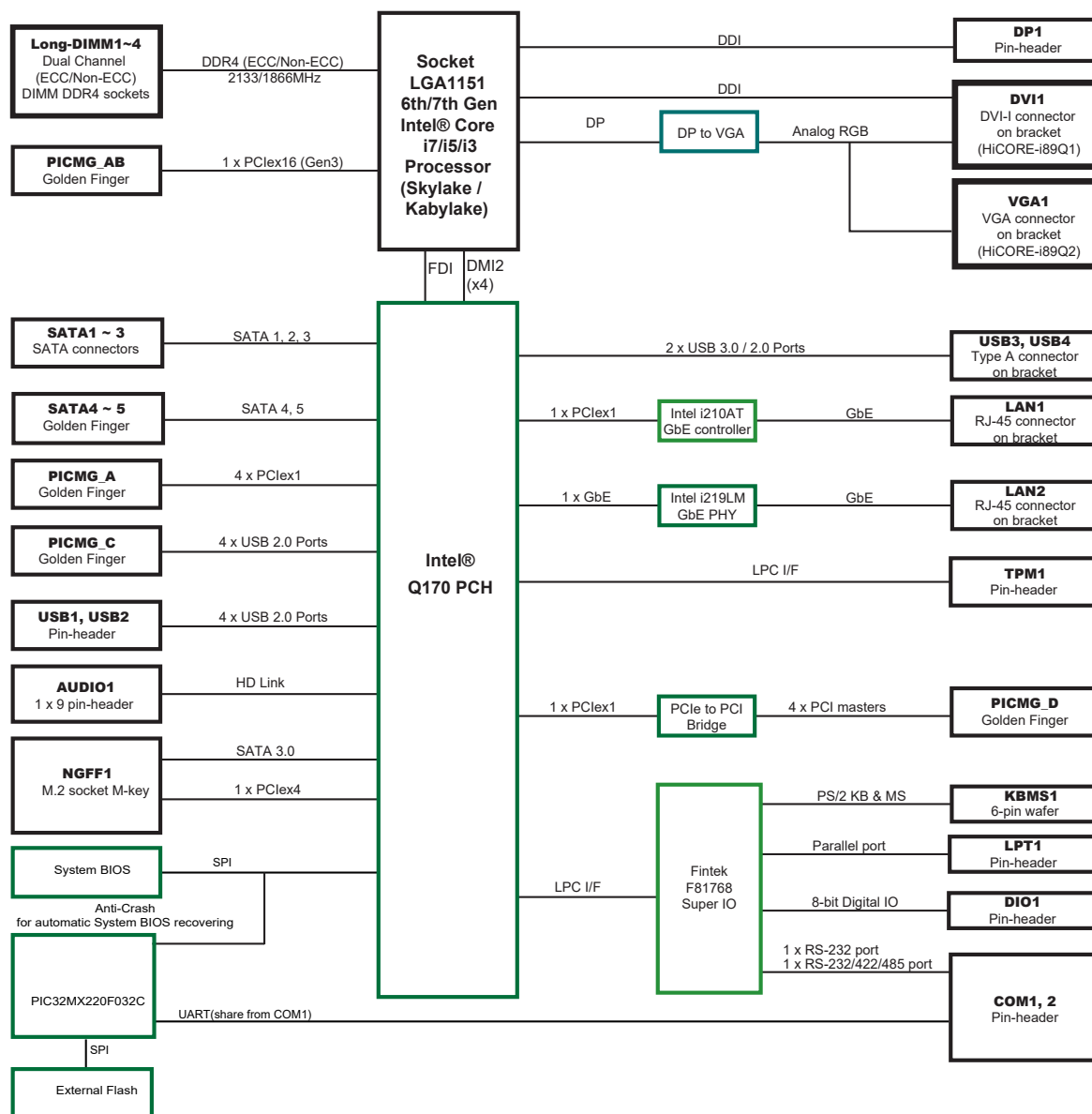


## Recommended CPU List:

i7-6700 Quad-Core 3.4GHz / i7-7700 Quad-Core 3.6GHz  
i5-6500 Quad-Core 3.6GHz / i5-7500 Quad-Core 3.4GHz  
i3-6100 Dual-Core 3.7GHz / i3-7100 Dual-Core 3.9GHz



## Block Diagram



## Ordering Information

|                   |  |
|-------------------|--|
| HiCORE-i89Q1-D-x4 | Socket LGA1151/PCH Q170 for 6th/7th Generation Intel® Core™ i7/ i5/ i3 processors PICMG 1.3 full size SBC with BIOS for 1 x PCIe x4 w/ DVI-I |
| HiCORE-i89Q1-D-x1 | Socket LGA1151/PCH Q170 for 6th/7th Generation Intel® Core™ i7/ i5/ i3 processors PICMG 1.3 full size SBC with BIOS for 4 x PCIe x1 w/ DVI-I |
| HiCORE-i89Q2-V-x4 | Socket LGA1151/PCH Q170 for 6th/7th Generation Intel® Core™ i7/ i5/ i3 processors PICMG 1.3 full size SBC with BIOS for 1 x PCIe x4 w/ VGA   |
| HiCORE-i89Q2-V-x1 | Socket LGA1151/PCH Q170 for 6th/7th Generation Intel® Core™ i7/ i5/ i3 processors PICMG 1.3 full size SBC with BIOS for 4 x PCIe x1 w/ VGA   |

## Optional Accessories

|                         |   |
|-------------------------|---|
| PBPE-07SA               | 7-slot PICMG 1.3 backplane                              |
| PBPE-13SA               | 13-slot PICMG 1.3 backplane                             |
| PBPE-10SA (OEM request) | 10-slot PICMG 1.3 backplane                             |
| HS-89Q1-C1              | Copper CPU cooler for Intel® Core™ processor series     |
| DP Cable                | Male DP port to female DP port cable                    |
| FCDB-1111               | Realtek ALC888 HD Audio daughterboard                   |
| SCDB-3291               | TPM 1.2 Daughter board with Infineon OPTIGA TPM SLB9660 |
| SCDB-3292               | TPM 2.0 Daughter board with Infineon OPTIGA TPM SLB9665 |