# Single Board Computer

***Full-size***

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**HPCIE-Q170**

***Half-size PICMG 1.3 CPU Card supports LGA 1151 Intel® Core™ i7/i5/i3, Pentium® or Celeron® CPU with Intel® Q170, DDR4 SO-DIMM, VGA/iDP, Dual Intel® PCIe GbE, USB 3.1 Gen 1 (5Gb/s), SATA 6Gb/s, mSATA, HD Audio, Intel® AMT and RoHS***

Dual-channel DDR4

2 x RS-232/422/485

## Intel*®* 6th generation Core™ CPU + Intel*®* Q170 support 3

1600/2133 MHz 2 x SATA 6Gb/s Front panel

HD Audio KB/MS

LAN

## controllers of PCI Express Gen 3

|  |  |
| --- | --- |
| **Number of PCIe Controller** | **Configuration** |
| 1 | PCIe x16 |
| 2 | PCIe x8, PCIe x8 |
| 3 | PCIe x4, PCIe x4, PCIe x8 |

Sets PCIe x16 signal via BIOS


### LGA 1151

**Intel** ®

**Q170**

VGA

PCIe Mini slot provides mSATA and USB signal for full-size or half-size mSATA SSD and wireless LAN card.

**USB Type**

**mSATA**

USB 3.1

3G/Wi-Fi/USB devices

Gen 1

# *Specifications*

CPU

4 x USB 2.0

LGA 1151 socket supports Intel® 6th/7th generation Core™ i7/i5/i3, Pentium® or Celeron® processor

HPCIE-Q170-2019-V11

AMT 11.0

Intel®

Chipset Intel® Q170 Memory

Two 260-pin 1866/2133 MHz dual-channel DDR4 non-ECC unbuffered SO-DIMMs

support up to 32 GB BIOS

UEFI BIOS

Graphics Engine

Intel® HD Graphics Gen 9 supports DX11/12, OpenCL 2.x and OpenGL 4.3/4.4 Decode/Encode for HEVC, VP8, VP9, VDENC

Display Output

1 x VGA (up to 1920x1200@60 Hz)

1. x iDP interface for HDMI, LVDS, VGA, DVI, DP (up to 3840x2160@60 Hz) Ethernet

LAN1: Intel® I219LM Clarkville-V with Intel® AMT 11.0 support

LAN2: Intel® I211 PCIe controller External I/O Interface

1. x USB 3.1 Gen 1 (5Gb/s)

Internal I/O Interface

1 x KB/MS (1x6 pin) 2 x SATA 6Gb/s (RAID 0, 1 supported) 1 x mSATA (SATA & USB signal) 4 x USB 2.0 (2x4 pin, P=2.0)

2 x RS-232/422/485 (2x5 pin, P=2.0)

Front Panel

1. x Front panel (1x10 pin, power LED, HDD LED, speaker, power button, reset button) LAN LED
2. x LAN LED (1x2 pin)

Audio

Support 7.1-channel HD Audio by IEI AC-KIT-892HD kit SMBus

1 x SMBus (1x4 pin)

I²C

1 x I²C (1x4 pin) Expansion

16-lane PCIe signal from CPU via golden finger

(supports x16, or x8 + x8, or x4 + x4 + x8)

4-lane PCIe signal from Q170 via golden finger

1 x Full/Half-size PCIe Mini card slot (supports mSATA) Watchdog Timer

Software programmable supports 1~255 sec. system reset

Digital I/O

8-bit digital I/O (2x5 pin) Fan Connector

1 x CPU smart fan (1x4 pin)

Power Supply

5V/12V, AT/ATX support Power Consumption

5V@0.15A, 12V@8.39A, 3.3V@0.11A, 5VSB@0.21A

(Intel® Core™ i7-6700K 4.0GHz with two 16 GB 2133 MHz DDR4 memory) Operating Temperature

-20°C ~ 60°C

Operating Humidity

5% ~ 95%, non-condensing Dimensions

169 mm x 126 mm

Weight

GW: 1000g / NW: 420g

CE/FCC compliant

# *Features*

DDR4

2133

***USB***

USB 3.1 SATA 6Gb/s Dual GbE

mSATA

iDP

* PICMG 1.3 half-size CPU card
* LGA 1151 Intel® 6th/7th generation Core™ i7/i5/i3, Pentium® or Celeron® processor supported
* Two 260-pin 1866/2133 MHz dual-channel DDR4 SO-DIMMs support up to 32 GB
* Supports dual independent display by VGA & internal DP pin header
* PCIe Mini card slot supports mSATA & USB 2.0
* Intel® PCIe GbE with Intel® AMT 11.0 supported
* Supports RAID 0, 1 function via SATA 6Gb/s
* IEI jumper-less function

# *Packing List*

|  |
| --- |
| 1 x HPCIE-Q170 single board computer |
| 1 x SATA cable |
| 1 x QIG |

***Ordering Information***

|  |  |
| --- | --- |
| Part No. | Description |
| HPCIE-Q170-R10 | Half-size PICMG 1.3 CPU card supports LGA 1151 Intel® Core™ i7/i5/i3, Pentium® or Celeron® CPU with Intel® Q170, DDR4 SO- DIMM, VGA, iDP, dual Intel® PCIe GbE, SATA 6Gb/s, mSATA, USB3.1 Gen 1 (5Gb/s), PCIe Mini, HD Audio, Intel® AMT and RoHS |
| 19800-000075-RS | PS/2 KB/MS cable with bracket, 220mm, P=2.0 |
| 32102-000100-200-RS | SATA power cable, MOLEX 5264-4P to SATA15P |
| 32205-002700-200-RS | RS-232/422/485 cable, 200mm, P=2.0 |
| AC-KIT-892HD-R10 | 7.1-channel HD Audio kit with Realtek ALC892 supports dual audio streams |
| CF-115XA-R10 | High-performance LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 73W |
| CF-115XC-R10 | LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 45W |
| CF-115XD-R10 | LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 65W |
| DP-DP-R10 | DisplayPort to DisplayPort converter board (for IEI iDP connector) |
| DP-DVI-R10 | DisplayPort to DVI-D converter board (for IEI iDP connector) |
| DP-HDMI-R10 | DisplayPort to HDMI converter board (for IEI iDP connector) |
| DP-LVDS-R10 | DisplayPort to LVDS converter board (for IEI iDP connector) |
| DP-VGA-R10 | DisplayPort to VGA converter board (for IEI iDP connector) |
| SAIDE-KIT01-R10 | SATA to IDE/CF converter board |