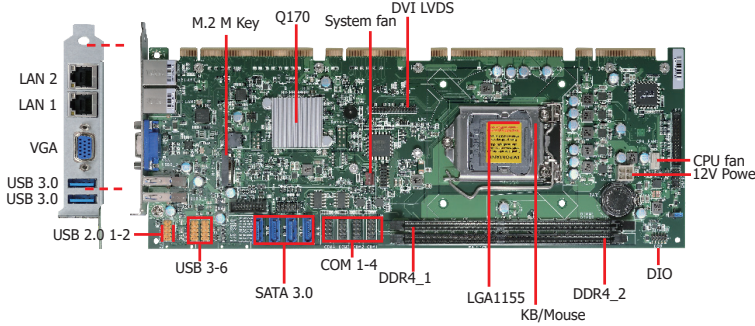


# PIC-Q170/H110

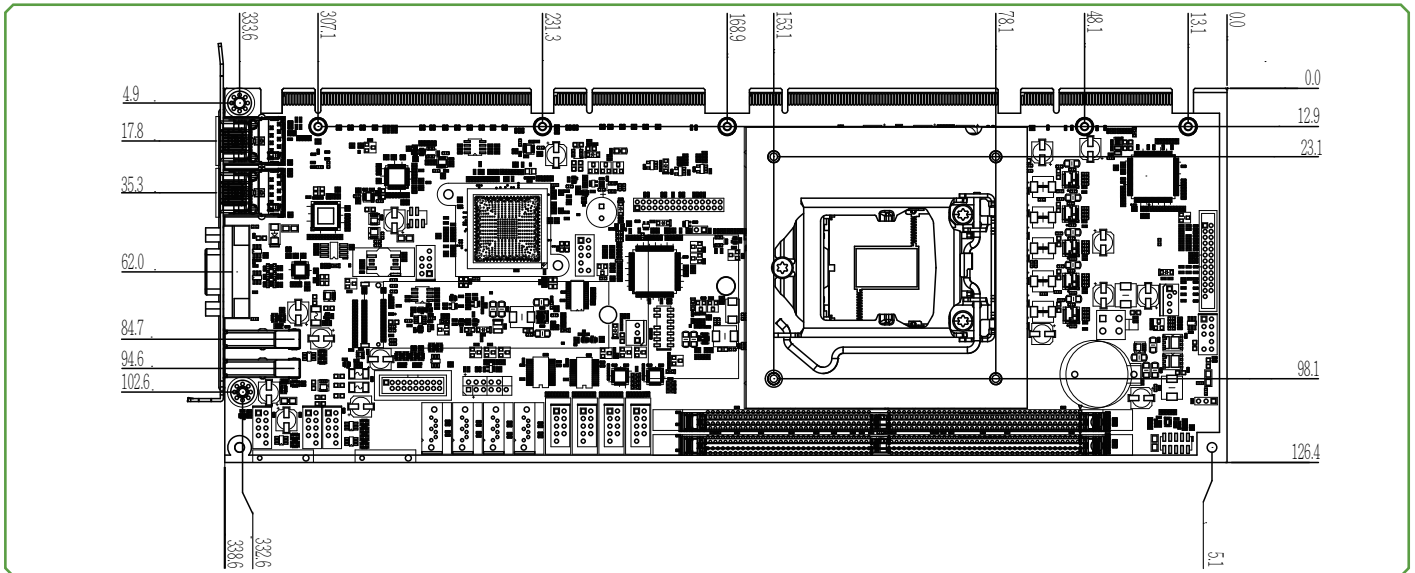
## Features

- 2 DDR4 DIMM up to 32GB
- 2 independent displays:  
VGA + DVI-D (available upon request)
- DVI resolution up to 1920x1200 @ 60Hz
- Expansion Interface:  
PCIe x16 Gen. 3, 4 PCIe x1 Gen. 3, 4 PCI, 1 M.2 2280 M Key
- Rich I/O: 2 Intel GbE, 4 USB 3.0, 6 USB 2.0

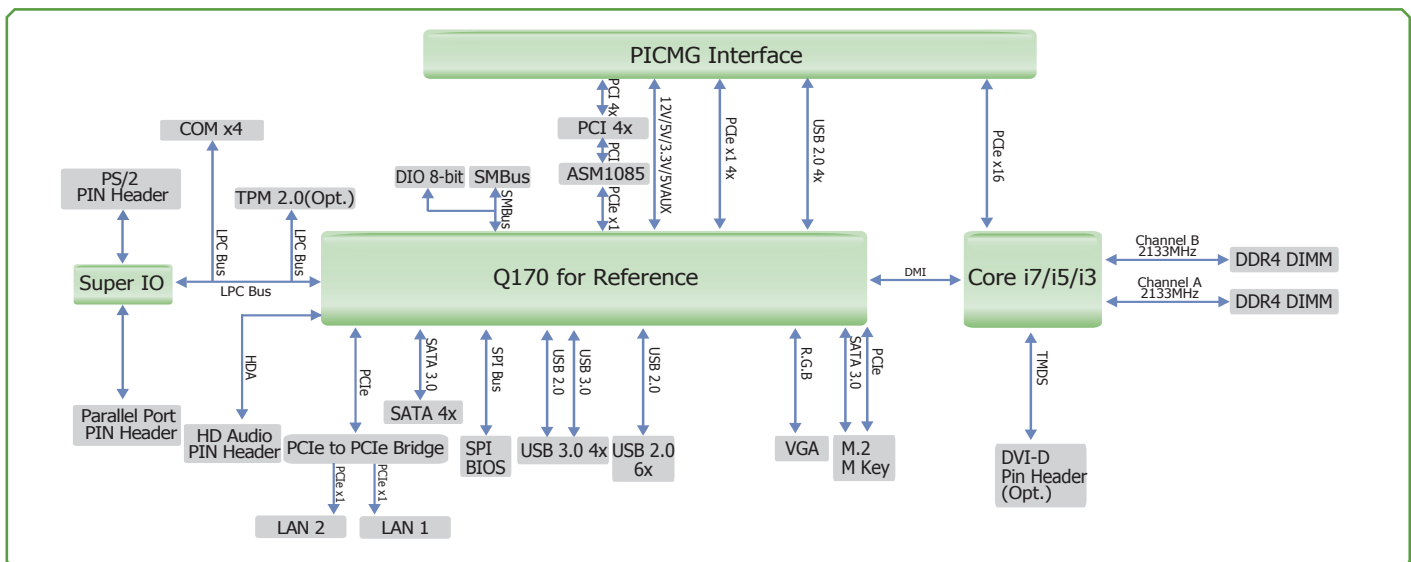


\*The photos above refer to PIC-Q170.

## Mechanical Drawing



## Block Diagram



**Specifications**

<b>SYSTEM</b>	<b>Processor</b>	7th Generation Intel® Core™ Processors, LGA1151 Intel® Core™ i7-7700 Processor, Four Core, 8M, 3.6GHz (4.2GHz), 65W Intel® Core™ i7-7700T Processor, Four Core, 8M, 2.9GHz (3.8GHz), 35W Intel® Core™ i5-7500 Processor, Four Core, 6M, 3.4GHz (3.8GHz), 65W Intel® Core™ i5-7500T Processor, Four Core, 6M, 2.7GHz (3.3GHz), 35W Intel® Core™ i3-7101E Processor, Dual Core, 3M, 3.9GHz, 54W Intel® Core™ i3-7101TE Processor, Dual Core, 3M, 3.4GHz, 35W Intel® Core™ G3930E Processor, Dual Core, 2M, 2.9GHz, 54W Intel® Core™ G3930TE Processor, Dual Core, 2M, 2.7GHz, 35W 6th Generation Intel® Core™ Processors, LGA1151 Intel® Core™ i7-6700 Processor, Four Core, 8M, 3.4GHz (4.0GHz), 65W Intel® Core™ i7-6700TE Processor, Four Core, 8M, 2.4GHz (3.4GHz), 35W Intel® Core™ i5-6500 Processor, Four Core, 6M, 3.2GHz (3.6GHz), 65W Intel® Core™ i5-6500TE Processor, Four Core, 6M, 2.3GHz (3.3GHz), 35W Intel® Core™ i3-6100 Processor, Dual Core, 4M, 65W Intel® Core™ i3-6100TE Processor, Dual Core, 4M, 2.7GHz, 35W Intel® Core™ G4400 Processor, Dual Core, 3M, 3.3GHz, 65W Intel® Core™ G4400TE Processor, Dual Core, 3M, 2.9GHz, 35W Intel® Core™ G3900 Processor, Dual Core, 2M, 2.8GHz, 65W Intel® Core™ G3900TE Processor, Dual Core, 2M, 2.6GHz, 35W	
	<b>Chipset</b>	Intel® Q170/H110 Chipset	
	<b>Memory</b>	Two 288-pin DIMM up to 32GB	Dual Channel DDR4 1866/2133MHz
	<b>BIOS</b>	Insyde SPI 128Mbit	
<b>GRAPHICS</b>	<b>Display</b>	1 x VGA 1 x DVI-D (available upon request)	VGA: resolution up to 1920x1200 @ 60Hz DVI: resolution up to 1920x1200 @ 60Hz
	<b>Dual Displays</b>	VGA + DVI-D (available upon request)	
<b>EXPANSION</b>	<b>Interface</b>	1 x PCIe x16 Gen. 3 4 x PCIe x1 Gen. 3 4 x PCI 1 x M.2 M key 2280 (PCIe/SATA3.0) (Q170 only)	
<b>ETHERNET</b>	<b>Controller/Phy</b>	Q170: 1 x Intel® I219LM PHY, 1 x Intel® I211AT PCIe (10/100/1000Mbps) (only Core i7/i5 support iAMT) H110: 1 x Intel® I219V PHY, 1 x Intel® I211AT PCIe (10/100/1000Mbps)	
<b>REAR I/O</b>	<b>Ethernet</b>	2 x GbE (RJ-45)	
	<b>USB</b>	2 x USB 3.0	
	<b>Display</b>	1 x VGA 1 x DVI-D (available upon request)	
<b>INTERNAL I/O</b>	<b>Serial</b>	2 x RS232/422/485 (2.54mm pitch) 2 x RS232 (2.54mm pitch)	
	<b>USB</b>	2 x USB 3.0 (2.0mm pitch) (Q170 only) 6 x USB 2.0 (2.54mm pitch) (Q170), 4 x USB 2.0 (2.54mm pitch) (H110)	
	<b>SATA</b>	4 x SATA 3.0 (up to 6Gb/s)	
	<b>DIO</b>	1 x 8-bit DIO	
	<b>SMBus</b>	1 x SMBus	
	<b>ATX</b>	ATX 12V Power Connector and Expansion Goldfinger	
<b>WATCHDOG TIMER</b>	<b>Output &amp; Interval</b>	System Reset, Programmable via Software from 1 to 255 Seconds	
<b>SECURITY</b>	<b>TPM</b>	fTPM 2.0/dTPM 2.0 (optional)	
<b>POWER CONSUMPTION</b>		Idle: i7-6700 65W: 12V @ 0.57A (6.84W), 5V @ 0.72A (3.6W), 3.3V @ 0.41A (1.353W) Max: i7-6700 65W: 12V @ 7.19A (86.28W), 5V @ 0.94A (4.7W), 3.3V @ 0.41A (1.353W)	
<b>OS SUPPORT</b>	<b>Microsoft</b>	Windows 7 (32/64 bit) Windows 8.1 (64 bit) Windows 10 IoT Enterprise (64 bit)	7th Gen Intel Core processors only support Win 10
	<b>Linux</b>	Linux	
<b>ENVIRONMENT</b>	<b>Temperature</b>	Operating: 0 to 60°C	Storage: -20 to 85°C
	<b>Humidity</b>	Operating: 5 to 90% RH	
	<b>MTBF</b>	PIC-Q170/H110: 666,097 hrs @ 25°C; 404,733 hrs @ 45°C; 263,381 hrs @ 60°C Calculation model: Telcordia Issue 4 Environment: GB, GC – Ground Benign, Controlled	
<b>MECHANICAL</b>	<b>Dimensions</b>	Full Size PICMG 1.3	338mm (13.3") x 126.39mm (4.98")
<b>CERTIFICATIONS</b>		CE, FCC Class B, RoHS	

**Packing List**

• 1 PIC-Q170/H110 board	
• 1 Dual USB2.0 port cable (with bracket)	332-253010-026G
• 2 COM port cable (with bracket)	332-700730-104G
• 2 Serial ATA data cable	332-553001-005G

**Optional Items**

• Dual USB2.0 port cable (with bracket)	332-253010-026G
• COM port cable (with bracket)	A81-015011-001G
• Serial ATA data cable	332-553001-005G
• DIO cable	A81-020016-018G
• PS2 cable	A81-009133-018G
• PS2 cable	332-353016-009G
• LPT cable	A81-003006-000G
• DVI-D board (with cable)	774-PICDVI-000G