

PCIE-Q470

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Full-size PICMG 1.3 CPU Card support Intel® 10th/11th Gen. Core™ i9/i7/i5/i3, Celeron®, Pentium® processor

- Support Intel® Q470/Q470E chipset
- Support Dual Intel® 2.5GbE
- Support 16-lanes PCIe signal from CPU via golden finger, 4-lanes PCIe signal from PCH via golden finger, 4-lanes PCI signal from PCH via golden finger, M.2 A key, M.2 B key, M.2 M key expansion
- Support 1 x USB 3.2 Gen2 (10Gb/s) 5 x USB 3.2 Gen1 (5Gb/s), 6 x USB 2.0
- Support 2 x RS-232, 2 x RS-422/485, 4 x SATA interface

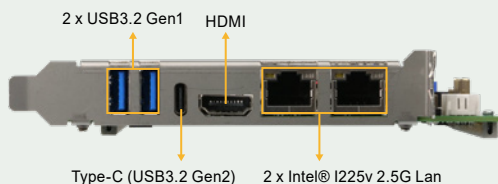
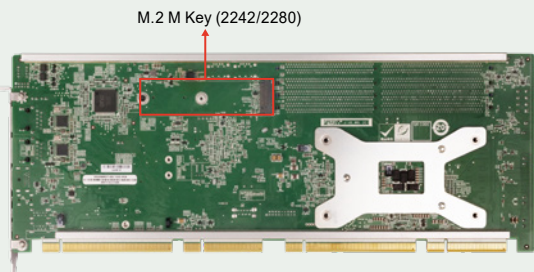
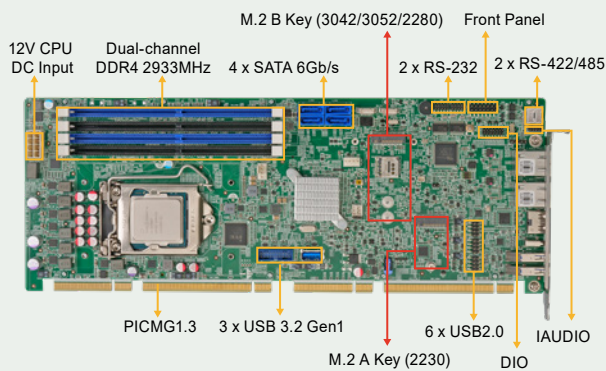
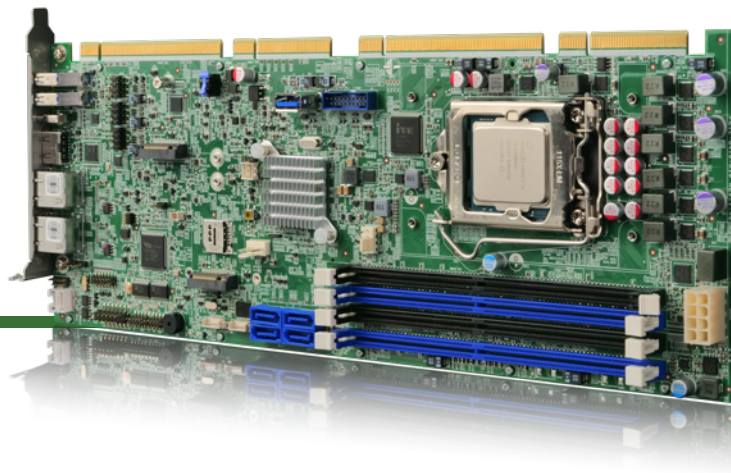
**High Performance Capability
with multi-tasking function**



iei®

PCIE-Q470

Full-size PICMG 1.3 CPU Card supports LGA1200 Intel® 10th/11th Gen. Core™ i9/i7/i5/i3, Pentium®, Celeron® Processor with Q470, DDR4, HDMI, Dual Intel® 2.5GbE, USB 3.2, SATA6Gb/s, M.2, IAUDIO and RoHS



Support Intel® 10th/11th generation processor

Support Intel® 10th/11th generation Core™ i9/i7/i5/i3, Celeron® Pentium® Serise processor (LGA 1200 slot), release super performance, and can handle multiple tasks at the same time



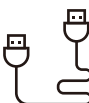
Support Intel® I225V 2.5GbE Ethernet Controller

Support dual RJ45 network interfaces, based on Intel® I225V 2.5GbE network controller core Chip to achieve network transmission rate up to 2.5GbE



Support Multiple Interface

Support 1 x PCIe x16 signal via golden finger (Support x16, or x8 + x8, or x4 + x4 + x8), 4 x PCIe x1 signal from PCH via golden finger (support1 x4, or 4 x1), 4 x PCI signal via golden finger, M.2 A key for Bluetooth, WiFi module expansion, M.2 B key can be used for 5G module expansion and M.2 M key for NVME storage expansion

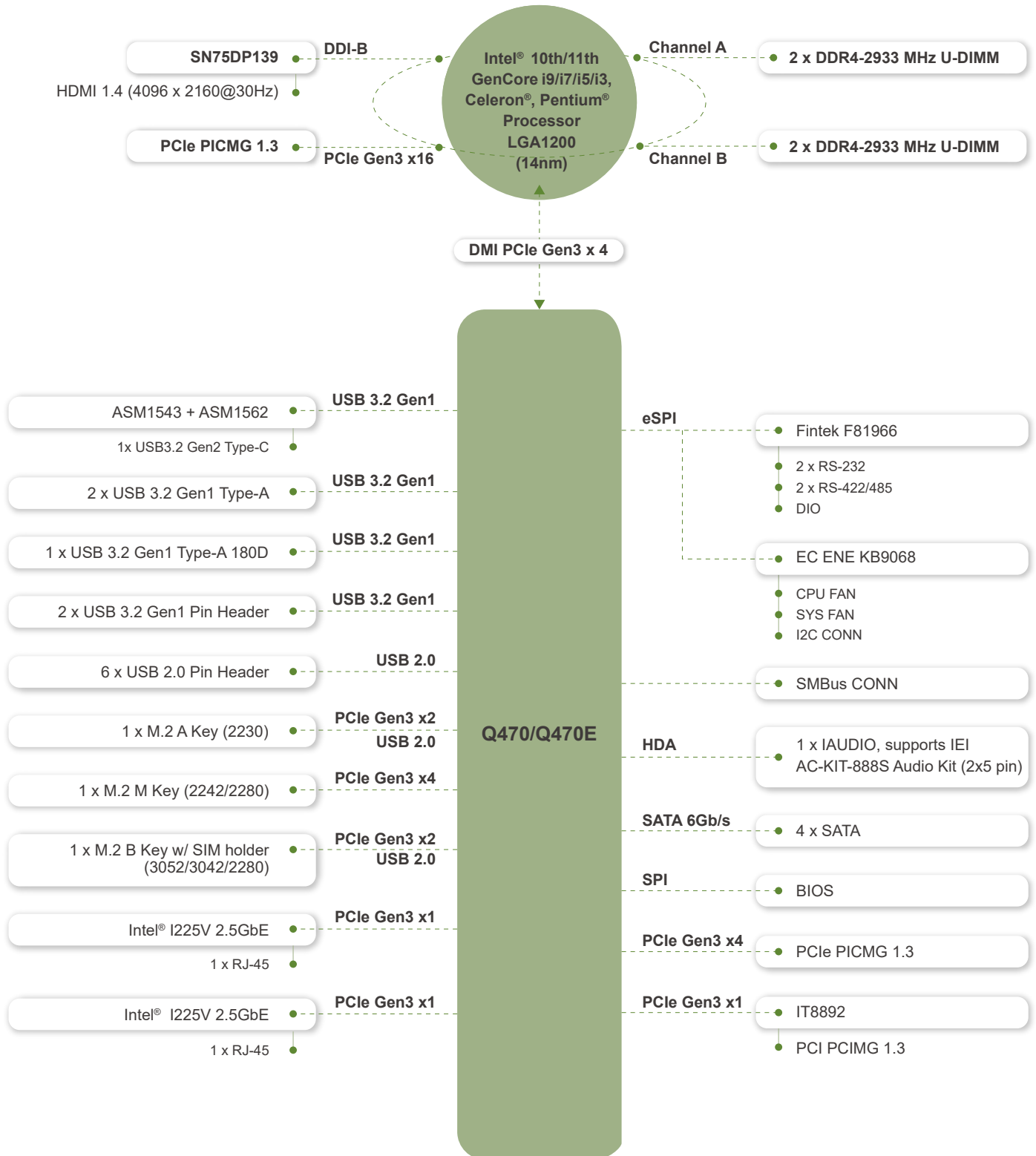


USB 3.2 Gen1/USB 2.0 interface, transmission rate up to 10Gb/s

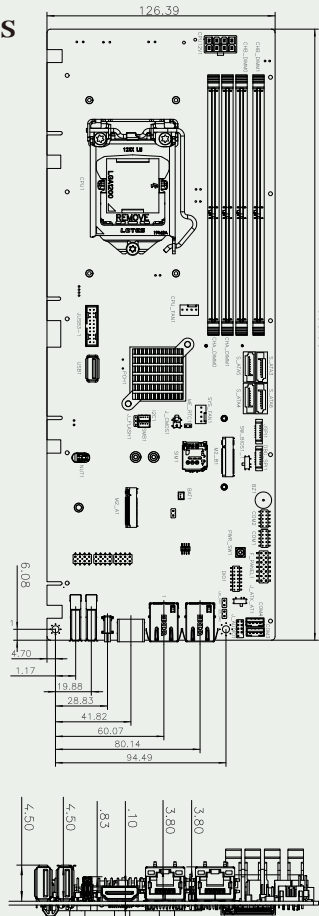
The motherboard design is based on the USB 3.2 protocol, the I/O layout is 1 x Type-C (10Gb/s), 2 x USB 3.2 Gen1(5Gb/s), and there are USB 3.2 Gen1 and USB 2.0 ports for wiring expansion



PCIE-Q470 Block Diagram



Dimensions



Specifications

Model	Description
CPU	LGA1200 Intel® 10th/11th Gen. Core™ i9/i7/i5/i3, Pentium®, Celeron® Processor (Support up to 65w)
Chipset	Intel® Q470/Q470E
BIOS	AMI UEFI BIOS
Memory	4 x 288-pin 2933 MHz Dual-channel DDR4 DIMMs support up to 128G
Graphics Engine	10th Generation CML-S up to Intel® UHD Graphics 630, Intel® HD 9th Generation Display Engine based on 16 low power execution units supporting DX2015, OpenGL 5.X and OpenCL2.x, ES 2.0 11th Generation RKL-S Xe 12th Generation Graphics Architecture, Intel® UHD Graphics 750, supports 12-bit end-to-end, support AV1, VP9, HEVC 12b, HDR10, FP16
Display Output	1 x HDMI 1.4 (up to 4096 x 2160@30Hz)
Ethernet	LAN1: Intel® I225V 2.5GbE controller LAN2: Intel® I225V 2.5GbE controller
External I/O Interface	2 x USB 3.2 Gen1 (5Gb/s) 1 x USB 3.2 Gen2 (10Gb/s) by USB Type-C 4 x SATA 6Gb/s (Support RAID 0/1/5/10) 6 x USB 2.0 (2x4 pin, P=2.54)
Internal I/O Interface	2 x USB 3.2 Gen1 (5Gb/s) (2x10 pin) 1 x USB 3.2 Gen1 (Type A 180°) 2 x RS-232 (2x5 pin, P=2.0) 2 x 422/485 (1x4 pin, P=2.54) (RS485 support AFC)
SMBus/ I²C	1 x SMBus (1x4 pin)
I²C	1 x I²C (1x4 pin)
Audio	1 x IAUDIO, support IEI AC-KIT-888S Audio Module (2 x 5 pin)
Front Panel	1 x Front panel connector (2x7 pin) Power LED&HDD LED, Power Button Reset Button
LAN LED	2 x LAN LED (1x2 pin)
Expansion	1 x PCIe x16 signal via golden finger (Support x16, or x8 + x8, or x4 + x4 + x8) 4 x PCIe x1 signal from PCH via golden finger (support 1 x4, or 4 x1) 4 x PCI signal via golden finger 1 x M.2 A Key (2230) (with PCIe Gen3 x2/USB 2.0) 1 x M.2 B Key (3042/3052/2242/2280) w/ SIM holder (with PCIe Gen3 x2/USB 2.0) 1 x M.2 M Key (2280/2242) (with PCIe x4)
Digital I/O	1 x 12bit digital I/O (2x7 pin)
TPM	Intel® PTT (TPM 2.0)
Fan Connector	1 x CPU fan connector (1x4 pin) 1 x System fan connector (1x4 pin)
Chassis Open	1 x Chassis intrusion (1x2 pin)
Power Supply	ATX/AT power supply Support AT/ATX mode ErP/EuP Compliant
Watchdog Timer	Software programmable, support 1~255 sec. system reset
Power Consumption	3.3V@1.04A, 5V@8.61A, 12V@12.33A (Intel® Core™ i9-11900K CPU with 4 GB 3200 MHz DDR4 memory)
Operating Temperature	0°C ~ 60°C
Storage Temperature	-30°C ~ 70°C
Operating Humidity	5% ~ 95%, non-condensing
Dimension	338 mm x 126 mm
Weight	GW:1000g / NW:500g
Certification	CE/FCC compliant

Optional accessories

CB-USB02-RS	32102-000100-200-RS
32205-002700-200-RS	CF-1150SA-R10
CF-1150SB-R11	CF-1150SC-R20
CF-1150SE-R11	

Packing List

1 x PCIe-Q470 single board computer	1 x Mini jumper pack
1 x SATA cable	1 x QIG

Ordering Information

PCI-E-Q470-R10	Full-size PICMG 1.3 CPU Card supports LGA1200 Intel® 10th/11th Gen. Core™ i9/i7/i5/i3, Pentium®, Celeron® Processor with Q470, DDR4, HDMI, Dual Intel® 2.5GbE, USB 3.2, SATA 6Gb/s, M.2, IAUDIO and RoHS
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Optional Accessories

CB-USB02A-RS	Dual port USB cable with bracket,300mm,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
CF-1150SA-R10	Special cooler kit for LGA1150/1151/1200, high-performance compatible, 95W
CF-1150SB-R11	Special cooler kit for LGA1150/1151/1200, high-performance compatible, 65W
CF-1150SC-R20	Special cooler kit for LGA1150/1151/1200, 1U chassis compatible, 65W
CF-1150SE-R11	Special cooler kit for LGA1150/1151/1200, high-performance compatible, 95W

PICMG 1.3 Passive Backplane

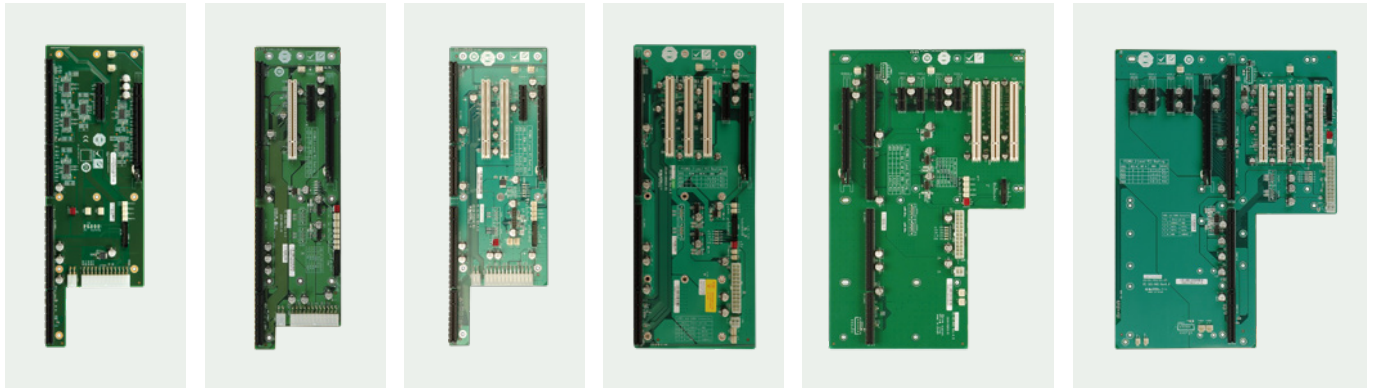
 PAC series wall-mount chassis
 4U/5U rack-mount chassis
 1U/2U rack-mount chassis

PICMG 1.3 (PCIe+PCI)	Model	PE-2SD1	PE-3S1	PE-4S	PE-5S	PE-5S2	PE-6S	PE-6S2	PE-6SD	PE-6SD3
Total Slot		2	5	4	5	5	6	6	5	5
Expansion Slots	PCIe Slots	x16 *	1 (Gen 2.0)	1 (Gen 3.0)	1	1 (Gen 2.0)	1 (Gen 2.0)	1 (Gen 2.0)	1 (Gen 2.0)	1 (Gen 2.0)
		x4		1 (Gen 3.0)	1	1 (Gen 2.0)		1 (Gen 2.0)		1 (Gen 2.0)
	PCI-X Slots					3 (Gen 2.0)	2 (Gen 2.0)		3 (Gen 2.0)	
	PCI Slots			1	2		2	3		2
USB Connectors by Pin Header		4		4	4	4	4	4	4	4
PSU Type		24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX
Chassis		RACK-1150-PE	RACK-500AI	N/A	N/A	N/A	RACK-305G RACK-360G RACK-3000G PAC-1700G PAC-125	PAC-106G PAC-1000G	N/A	N/A
Note		1U Type							2U Type	2U Type

PICMG 1.3 (PCIe+PCI)	Model	PE-7S	PE-8S	PE-9S	PE-10S	PE-10S2	PXE-13S
Total Slot		7	8	9	10	10	13
Expansion Slots	PCIe Slots	x16 *	1 (Gen 2.0)	1 (Gen 2.0)	1 (Gen 2.0)	1 (Gen 2.0)	1 (Gen 3.0)
		x4					
	PCI-X Slots		2 (Gen 2.0)	3 (Gen 2.0)	4 (Gen 2.0)	4 (Gen 2.0)	4 (Gen 2.0)
	PCI Slots						
USB Connectors by Pin Header		3	3	3	4	4	8
PSU Type		4	4	4	4	4	4
PSU Type		24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX
Chassis		PAC-1700G	PAC-125G	N/A	RACK-305G RACK-360G RACK-3000G	RACK-3000G RACK-305G RACK-360G	RACK-3000G RACK-305G RACK-360G
Note							PCIe to PCI Bridge Backplane

*When using a PCIe x16 add-on card, the length of the card must not exceed 167mm or 6.57 inches.

| PE-3S1
 | PE-4S
 | PE-5S
 | PE-6S2
 | PE-9S
 | PE-10S



| PE-10S2
 | PXE-13S

