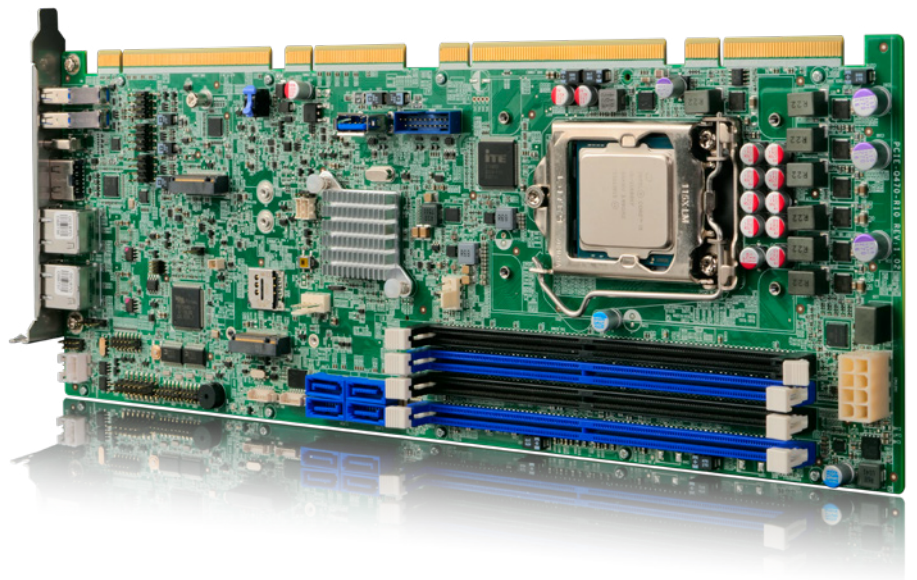


# PCIE-Q470

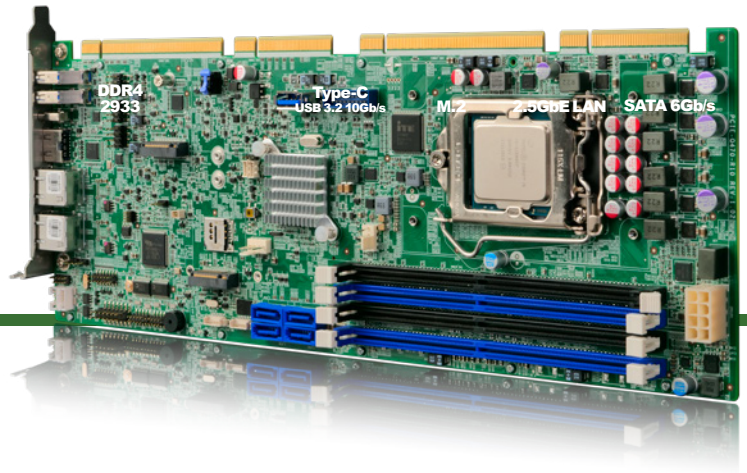
**High Performance Capability  
with multi-tasking function**



# PCIe-Q470

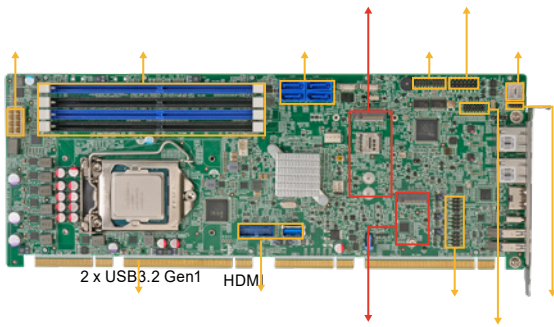
12V CPU DC Input    Dual Channel    M.2 M Key (2242/2280)    Front Panel  
 DDR4 2933MHz    4 x SATA 6Gb/s    2 x RS-232    2 x RS-422/485

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



PICMG1.3    3 x USB 3.2 Gen1    6 x USB2.0    IAUDIO  
 M.2 A Key (2230)    DIO

M.2 M Key (2242/2280)



2 x USB3.2 Gen1    HDM



## Support Intel® 10th/11th generation processor

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



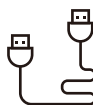
## Support Intel® I225V 2.5GbE Ethernet Controller

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



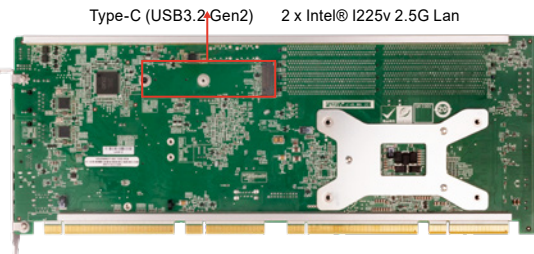
## Support Multiple Interface

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

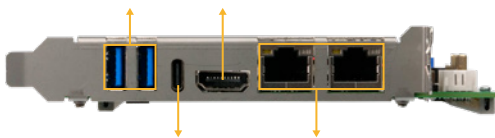


## USB 3.2 Gen1/USB 2.0 interface, transmission rate up to 10Gb/s

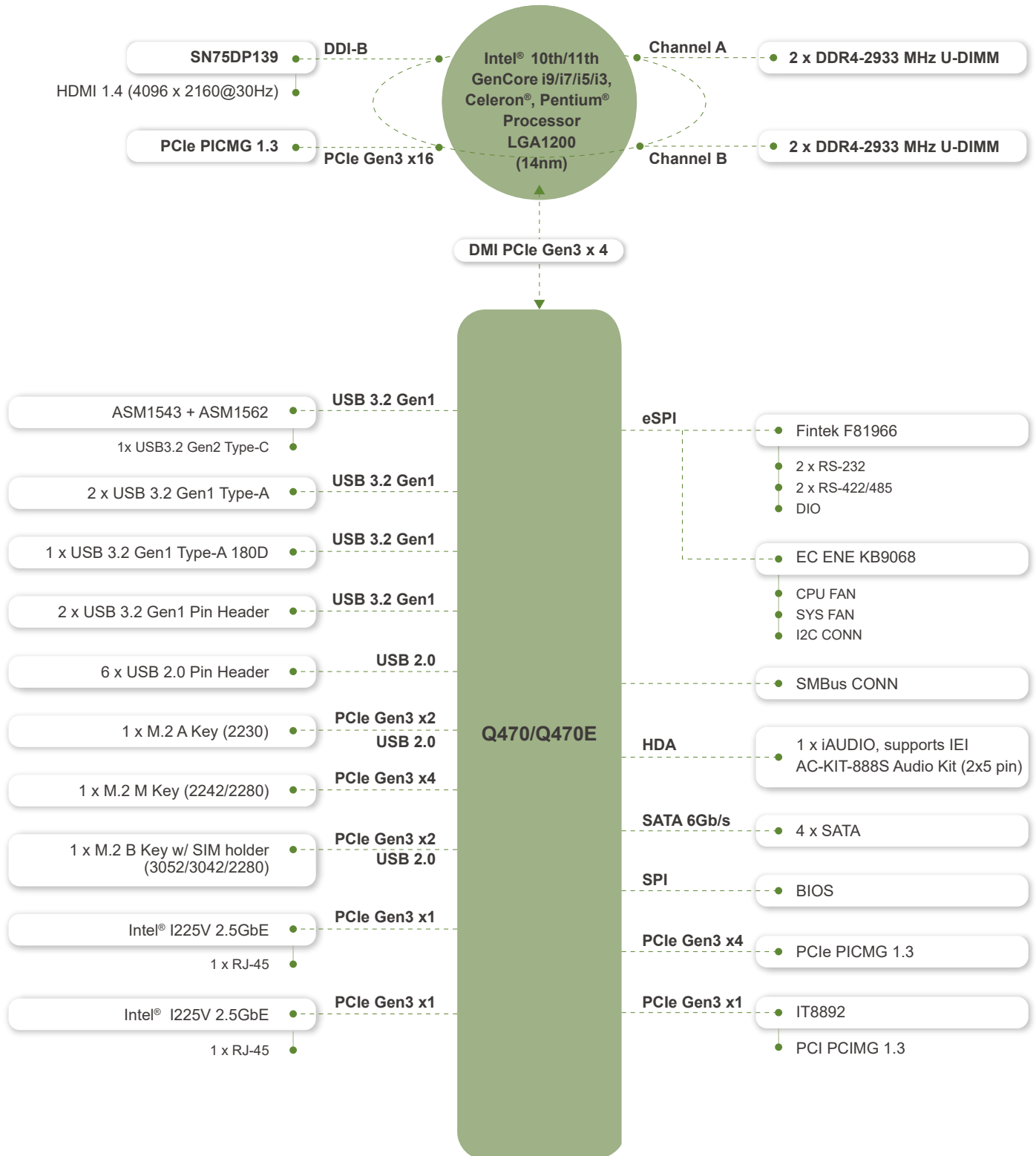
The motherboard design is based on the USB 3.2 protocol, the I/O layout is 1 x Type-C (10Gb/s), 2 x USB 3.2 Gen1(5Gb/s), and there are USB 3.2 Gen1 and USB 2.0 ports for wiring expansion



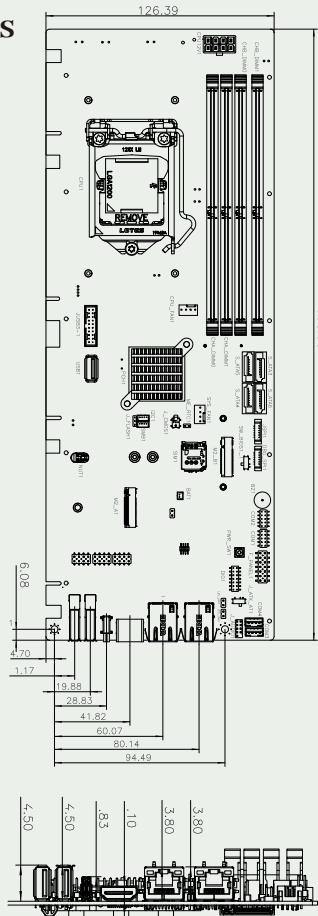
Type-C (USB3.2 Gen2)    2 x Intel® I225v 2.5G Lan



# PCIE-Q470 Block Diagram



Dimensions



Optional accessories

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

Specifications

Model	PCIe-Q470
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
Internal I/O Interface	4 x SATA 6Gb/s (Support RAID 0/1/5/10) 6 x USB 2.0 (2x4 pin, P=2,54) 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 RS-422/485 (1x4 pin, P=2.0) (RS-485 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

Packing List

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

Ordering Information

PCIe-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-USB02-RS	Dual port USB cable with bracket, 300mm, P=2.54
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

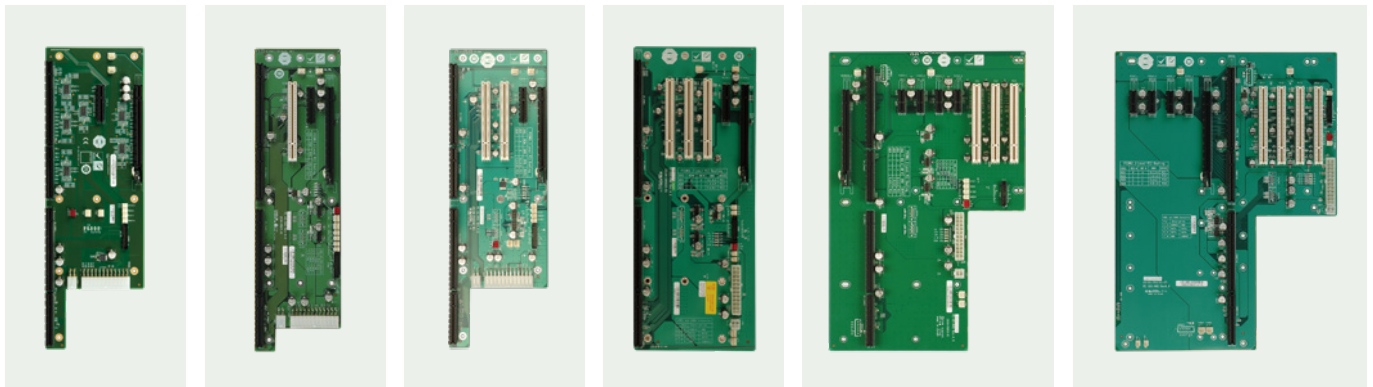
  PAC series wall-mount chassis
   4U/5U rack-mount chassis
   1U/2U rack-mount chassis

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)	1 (Gen 2.0)
		x4		1 (Gen 3.0)	1	1 (Gen 2.0)		1 (Gen 2.0)		1 (Gen 2.0)	1 (Gen 2.0)
	x1					3 (Gen 2.0)	2 (Gen 2.0)			3 (Gen 2.0)	
PCI-X Slots											
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 2.0)	1 (Gen 3.0)
		x4						
	x1	2 (Gen 2.0)	3 (Gen 2.0)	4 (Gen 2.0)	4 (Gen 2.0)	4 (Gen 2.0)	3 (Gen 3.0)	
PCI-X Slots								
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

