

IMBA-Q470

ATX industrial motherboard supporting 10th/11th Intel® Core™ i9/i7/i5/i3, Celeron®, Pentium® processors

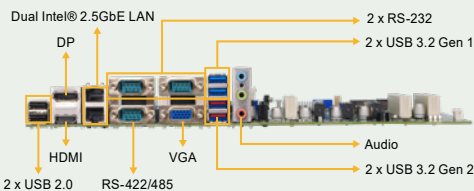
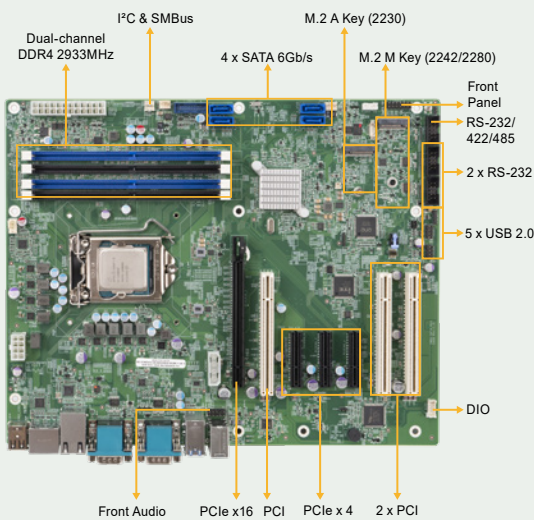
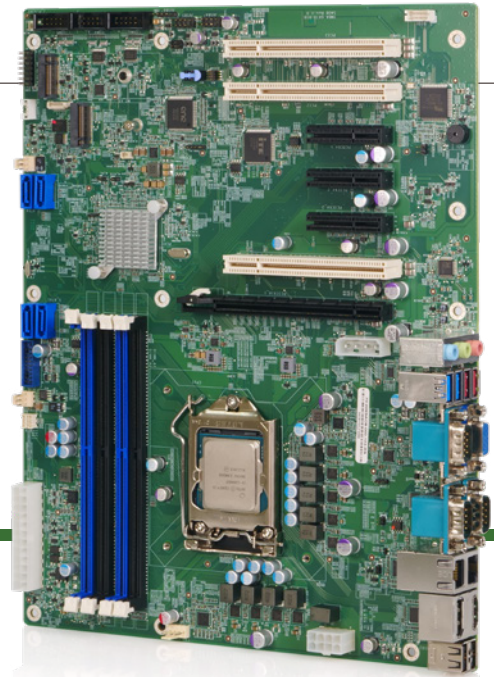
- Support two Intel® I225V 2.5GbE Ethernet controllers
- Support triple independent display via HDMI, DP and VGA
- Support one PCIe x16, three PCIe x4, three PCI, M.2 A key and M.2 M key expansions
- Support two USB 3.2 Gen 2, four USB 3.2 Gen 1, five USB 2.0, with up to 10Gb/s transfer speed
- Support four RS-232, one RS-422/485, one RS-232/422/485 and four SATA ports



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

IMBA-Q470

ATX motherboard supports 10th/11th Generation Intel® Core™ i9/i7/i5/i3, Celeron® and Pentium® processor, DDR4 memory, triple independent display, dual 2.5GbE LAN, M.2, USB 3.2, SATA 6Gb/s, HD Audio and RoHS



Support 10th/11th Gen Intel® Core™ CPU

Built-in with 10th/11th Generation Intel® Core™ i9/i7/i5/i3, Celeron® and Pentium® processor (LGA1200), high performance capability with multi-tasking function



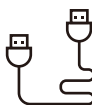
Support Intel® I225V 2.5GbE Controller

The IMBA-Q470 is designed with two 2.5 GbE LAN ports via Intel® I225V Ethernet Controllers



Rich Expansion I/O

It includes one PCIe x16, three PCIe x4 and three PCI slots for functional expansions like graphics cards, LAN cards or motion control cards. It also provides an M.2 A-key slot for Bluetooth and Wi-Fi, and an M.2 M-key for storage.

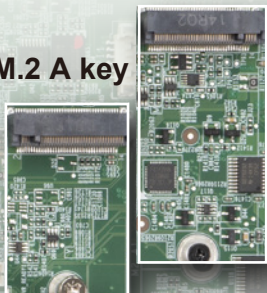


Support USB 3.2 Gen 1 and Gen 2, up to 10Gb/s

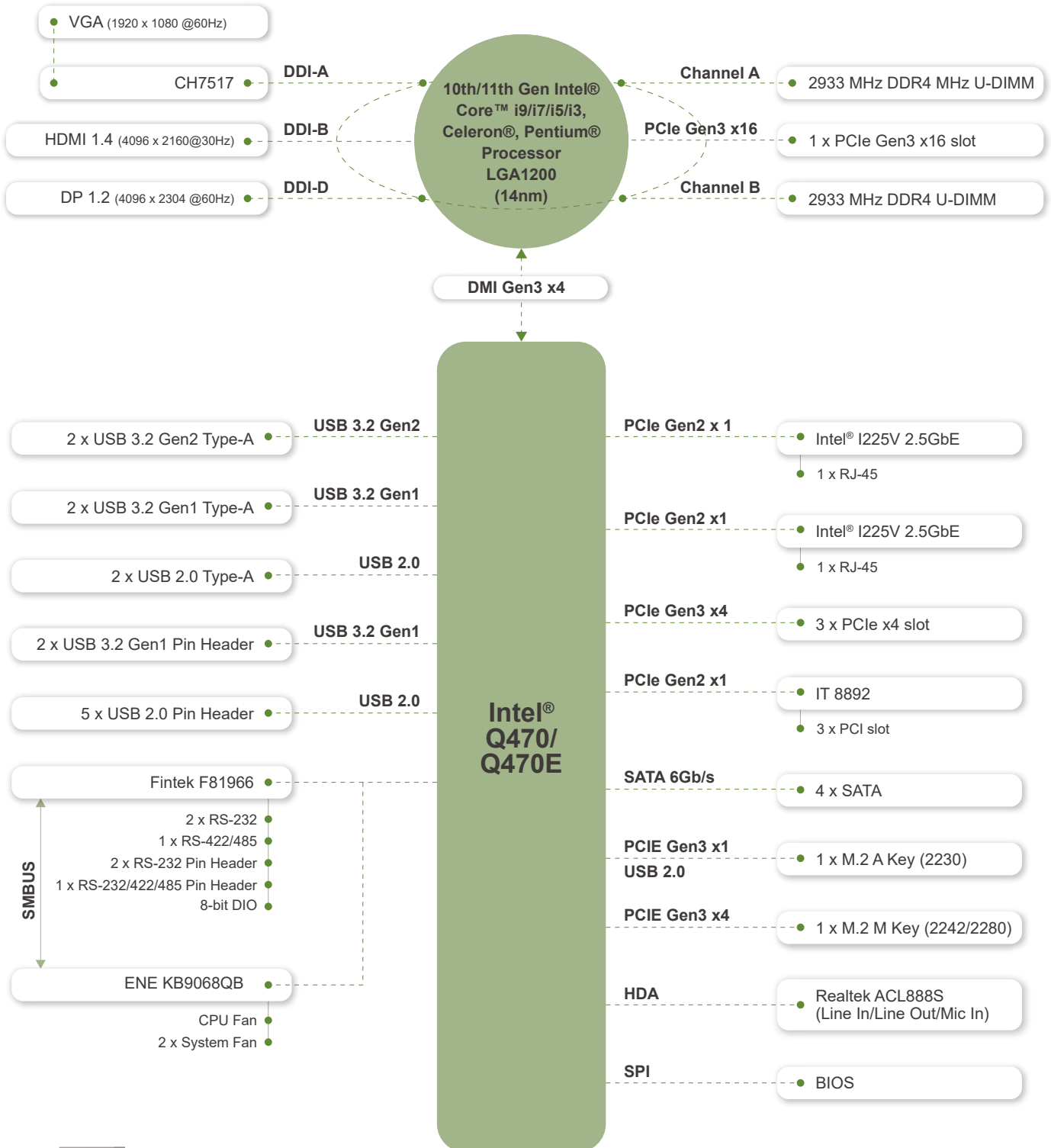
It is equipped with two USB 3.2 Gen 1 (5Gb/s) ports, two USB 3.2 Gen 2 (10Gb/s) and two USB 2.0 ports on the rear panel. Additionally, two USB 3.2 Gen 1 ports and five USB 2.0 ports are supported via internal connectors

M.2 M key

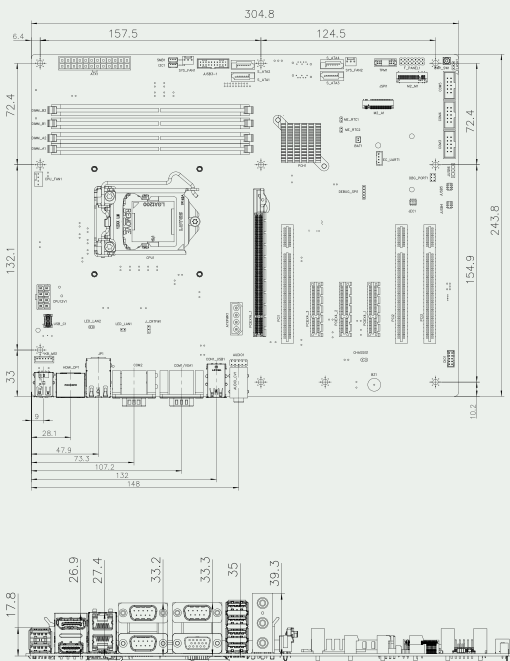
M.2 A key



IMBA-Q470 Block Diagram



Dimensions



Specifications

Model	Description
CPU	LGA1200 socket supports 10th/11th generation Intel® Core™ i9/i7/i5/i3, Pentium® or Celeron® processor. up to 125W TDP
Chipset	Intel® Q470/Q470E
BIOS	AMI UEFI BIOS
Memory	Four 288-pin 2933MHz dual-channel unbuffered DDR4 SDRAM DIMM slots (system max. 128GB)
Graphics Engine	Intel® UHD Graphics 630 Intel® HD Graphics Gen9 Engines with 16 low-power execution units, supporting DX2015, OpenGL 5.X, OpenCL2.x and ES 2.0
Display Output	Triple independent display 1 x VGA (up to 1920 x 1080@60Hz) 1 x DP (up to 4096 x 2304@60Hz) 1 x HDMI (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 2.0 1 x RS-232/422/485 (RS-485 supports AFC) 2 x USB 3.2 Gen 1 (5Gb/s) 2 x RS-232 2 x USB 3.2 Gen 2 (10Gb/s)
Internal I/O Interface	1 x RS-422/485 (2x5 pin, P=2.54) (RS-485 supports AFC) 2 x RS-232 (2x5 pin, P=2.54) 2 x USB 3.2 Gen 1 (2x10 pin, P=2.0) (5Gb/s) 4 x SATA 6Gb/s (supports RAID 0/1/5/10) 5 x USB 2.0 (2x4 pin, P=2.54)
SMBus	1 x SMBus (1x4 pin)
I²C	1 x I²C (1x4 pin)
Audio	Realtek ALC888S HD Audio codec 3 x Audio jack (Line-in, Line-out, Mic-in) 1 x Analog audio (2x5 pin)
Front Panel	1 x Front panel connector (2x7 pin, power LED, HDD LED, speaker, power button, reset button)
Expansions	1 x PCIe 3.0 x16 slot 1 x M.2 2230 A key (PCIe 3.0 x1, USB 2.0) 3 x PCIe 3.0 x4 slot 1 x M.2 2242/2280 M Key (PCIe 3.0 x4) 3 x PCI slot
Digital I/O	1 x 8-bit digital I/O (2x5 pin)
TPM	Support Intel® PTT (TPM 2.0)
Fan Connector	1 x CPU fan connector (1x4 pin) 2 x System fan connector (1x3 pin)
Chassis Intrusion	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@1.36A, 5V@14.16A, 12V@7.5A (Intel® Core™ i9-10900E CPU with four 32 GB 3200 MHz DDR4 DIMMs)
Operating Temperature	0°C ~ 60°C
Storage Temperature	-30°C ~ 70°C
Operating Humidity	5% ~ 95%, non-condensing
Dimensions	244mm x 305mm
Weight	GW:1200g / NW:700g
Certification	CE/FCC compliant

Optional accessories

CB-USB02-RS	19800-010500-200-RS
19800-020100-100-RS	32102-000100-200-RS
19100-000318-00-RS	CF-115XA-R10
CF-1156C-R20	CF-1156D-R30
CF-115XE-R10	

Packing List

1 x IMBA-Q470 single board computer	1 x I/O shielding
2 x SATA cable	1 x QIG

Ordering Information

IMBA-Q470-R10	ATX industrial motherboard supports 10th/11th Generation Intel® Core™ i9/i7/i5/i3, Celeron® and Pentium® processor, DDR4 memory, triple independent display, dual 2.5GbE LAN, M.2, USB 3.2, SATA 6Gb/s, HD Audio and RoHS
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Optional Accessories

CB-USB02-RS	Dual port USB cable with bracket, 300mm, P=2.54
19800-010500-200-RS	USB 3.0/USB3.2 cable 450mm with bracket, P=2.0
19800-020100-100-RS	RS-232 cable, 230mm, P=2.54
32102-000100-200-RS	SATA power cable, MOLEX 8981-4M to SATA15P, 150MM
19100-000318-00-RS**	High-performance LGA1155/1156/1200 cooler kit, 4U chassis compatible 125W, 0°C~50°C
CF-115XA-R10	High-performance LGA1155/1156/1200 cooler kit, 1U chassis compatible 73W
CF-1156C-R20	LGA1155/1156/1200 cooler kit, 1U chassis compatible, 45W
CF-1156D-R30	LGA1155/1156/1200 cooler kit, 1U chassis compatible, 65W
CF-115XE-R10	High-performance LGA1155/1156/1200 cooler kit, 95W

**For more 125W CPU FAN details, Please refer to Chapter 12, Page31