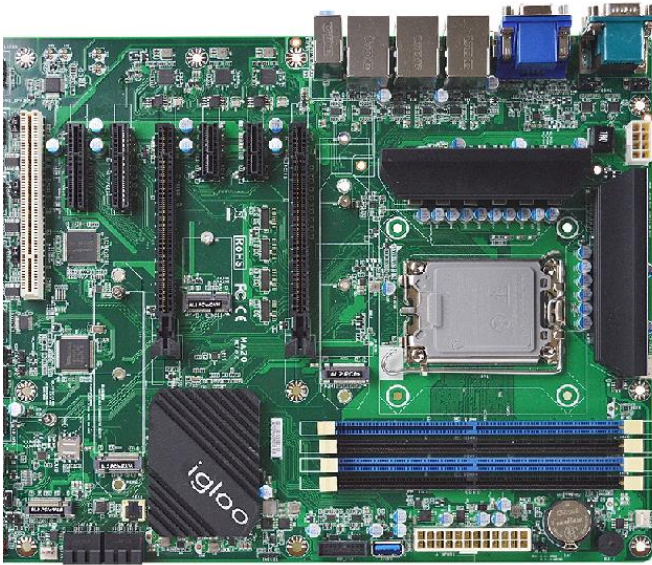


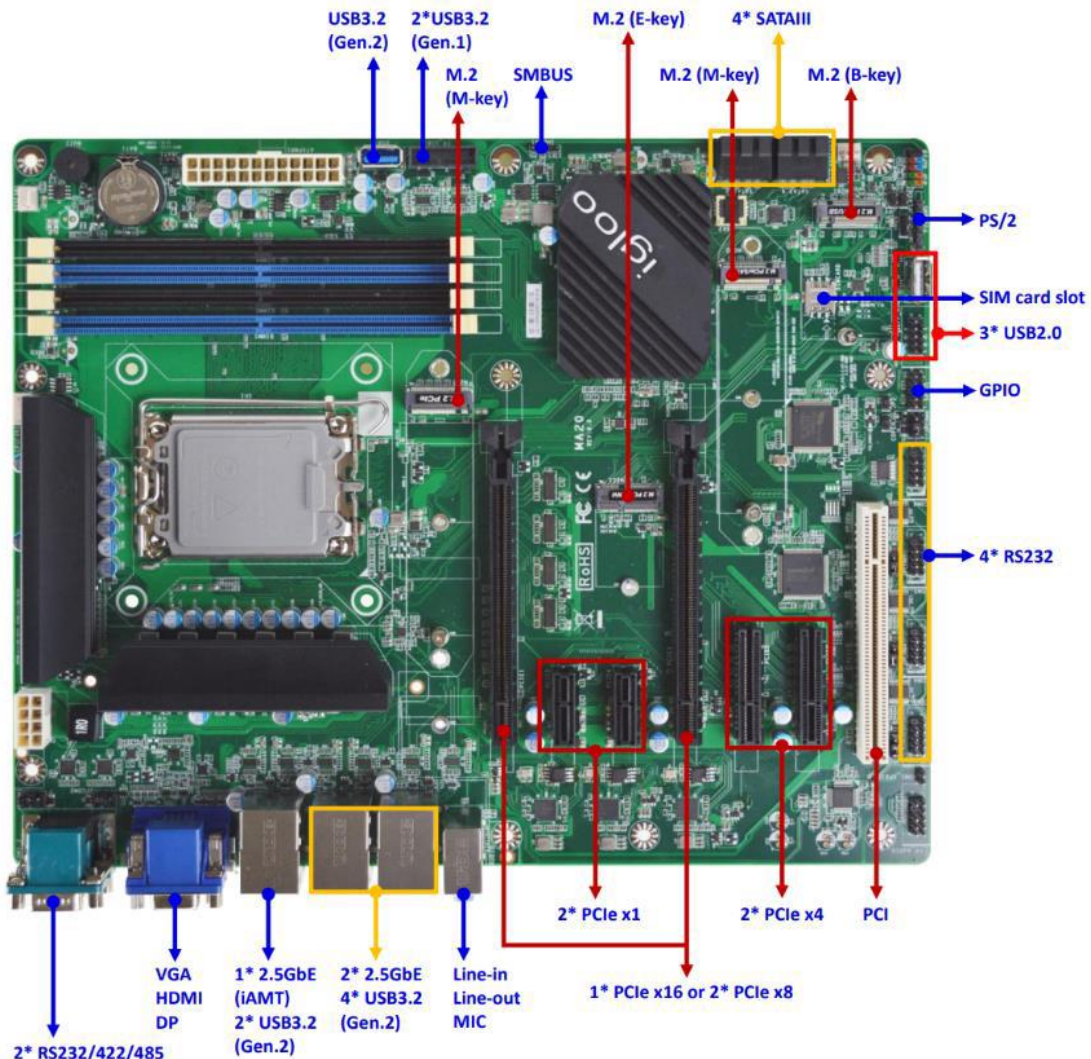
# MA20

## ATX Q670E / R680E Industrial Motherboard Alder Lake / DDR5 / 3\*2.5GBE / 4\*M.2



### Features

1. Long-Life Embedded Class Motherboard with Planned Lifecycle Through Q1'2037
2. Supports 12/13/14<sup>th</sup> Gen Intel Processors up to 125W Max Turbo Boost (Alder Lake/Raptor Lake), IAMT/VPRO
3. 4 \* DDR5 UDIMM up to 128GB (R680E ECC Support)
4. 4 \* SATA3 RAID, 1 \* M.2 SATA & PCIE 4.0x4 NVME, 1 \* M.2 PCIE 4.0 x4 NVME
5. 3 \* Intel 2.5GbE, 3 displays HDMI, DP, VGA
6. 2\*PCIE 4.0 x16, 2\*PCIE 4.0 x4, 2\*PCIE 3.0 x1, 1PCI
7. M.2 for WIFI, M.2 for Cellular, 6 \* Serial Ports, 8-bit GPIO
8. Watchdog Timer, Optional TPM2 IC
9. Compatible with Win10, Win11, UEFI Linux
10. ATX Form Factor (305mm x 244mm)



<b>Model / Series</b>	<b>MM20</b>	
<b>Part No</b>	<b>MA20-Q6700</b> <b>MA20-Q6702 (TPM 2.0)</b>	<b>MA20-R6800</b> <b>MA20-R6802 (TPM 2.0)</b>
<b>Processor</b>	<b>Socket LGA1700, Supports 12/13/14<sup>th</sup> Gen Intel processors up to 125W, Alder Lake, VPRO</b>	
<b>Chipset</b>	<b>Intel Q670E Chipset</b>	<b>Intel R680E Chipset</b>
<b>Video</b>	<b>Intel graphics in processor</b>	
<b>Memory</b>	<b>4* UDIMM slots supporting DDR5-5600 up to 128GB total, Non-ECC</b> <b>*12<sup>th</sup> Gen CPU supports DDR5-4800</b>	<b>4* UDIMM slots supporting DDR5-5600 up to 128GB total, ECC/Non-ECC</b> <b>*12<sup>th</sup> Gen CPU supports DDR5-4800</b>
<b>Expansion Slots</b>	<b>2 * PCIE 4.0 x16 (x16/0 or x8/x8), 2 * PCIE 4.0 x4, 2 * PCIE 3.0 x1, 1 * PCI</b> <b>M.2 E-key 2230 for WIFI, M.2 B-key 3042/3052 for Cellular</b>	
<b>Storage</b>	<b>4 * SATA3 6Gb/s ports, Supporting RAID 0/1/5/10</b> <b>1 * M.2 M-Key SATA &amp; PCIE 4.0 x4 NVME 2242/2280</b> <b>1 * M.2 M-Key PCIE 4.0 x4 NVME 2242/2280</b>	
<b>Audio</b>	<b>Realtek HD Audio</b>	
<b>Network</b>	<b>2 * Intel i225-V 2.5GbE, 1 * Intel i225-LM 2.5GbE (iAMT)</b>	
<b>Other Features</b>	<b>Support ACPI S3, CPU Smart FAN, Watchdog Timer 10-255 min/sec, Optional onboard TPM2 IC</b>	
<b>Rear Panel I/O</b>	<b>6 * USB 3.2 Gen2 ports (10Gb/s)</b> <b>3* RJ-45 Ports, Line-in, Line-out, mic, 2 * Serial RS232/422/485 ports</b> <b>1 * HDMI 2.0b 4K@60Hz, 1 * DP 1.4a 4K@60Hz, 1 * VGA</b>	
<b>Internal I/O</b>	<b>1 * USB Header for 2 * USB 3.2 Gen1 ports (5Gb/s), 1 * Vertical Type-A USB 3.2 Gen1</b> <b>1 * USB Headers for 2 * USB 2.0 ports, 1 * Vertical Type-A USB 2.0</b> <b>4 * RS232 headers, 1 * PS/2 combo connector, SMBUS header</b> <b>8-bit GPIO, Chassis Intrusion Header, AT/ATX mode jumper</b> <b>24-pin ATX and 8-pin 12V_ATX Power connectors</b>	
<b>BIOS</b>	<b>AMI UEFI Flash ROM</b>	
<b>Box Contents</b>	<b>MA20 Motherboard, I/O Shield, SATA cable, COM cable</b>	
<b>Certification</b>	<b>CE, FCC, RoHS, ErP</b>	
<b>Temperature</b>	<b>Operating Temperature -0~60 ° C, Storage Temperature -20-85 ° C</b>	
<b>Form Factor</b>	<b>ATX Form Factor (305mm x 244mm)</b>	
<b>Warranty</b>	<b>2 Years Limited Warranty</b>	

\*Specifications subject to change without notice, not responsible for typographical errors.



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