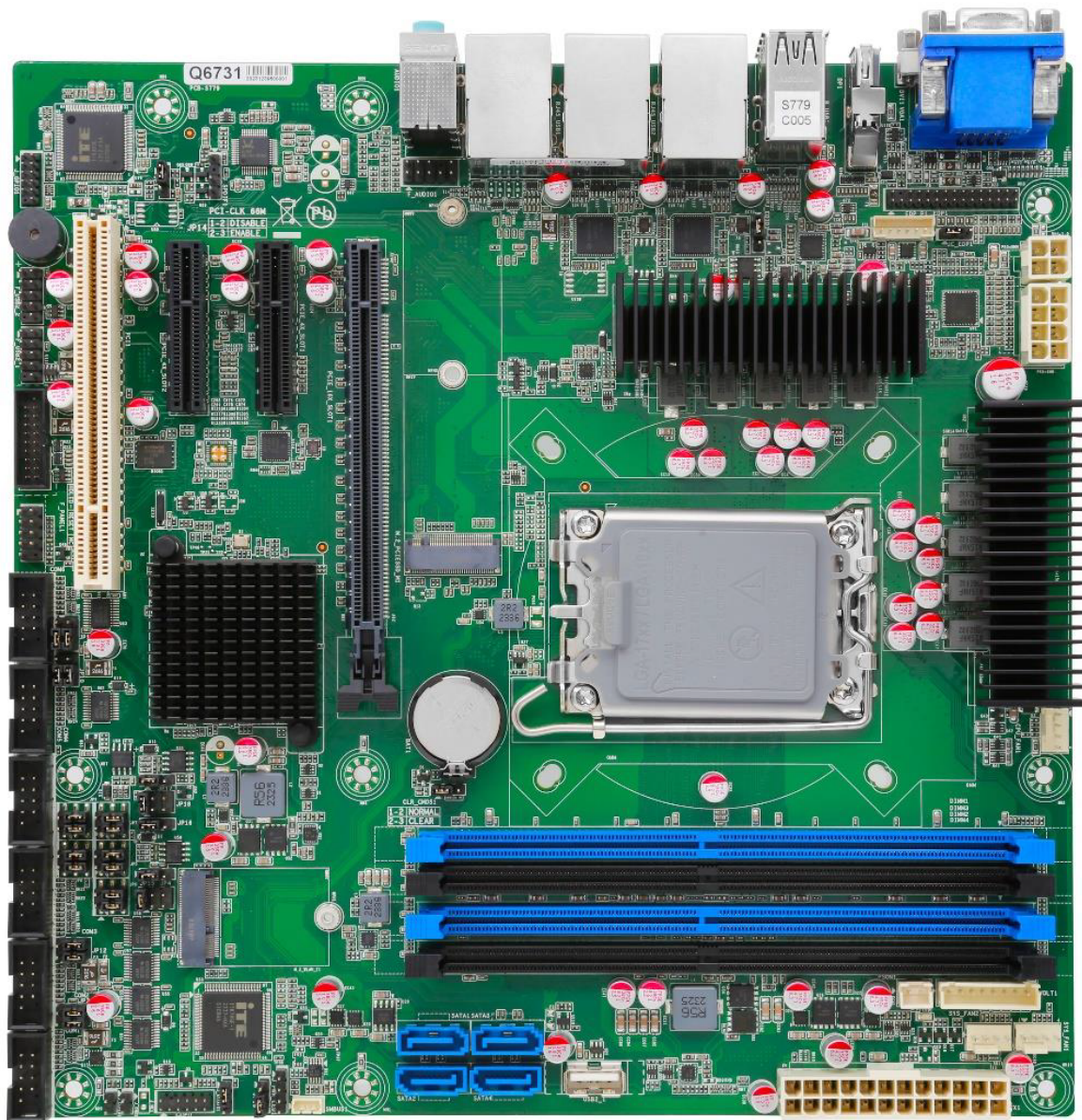


HE-Q670-MA-RC-X81 Brochure



Specification

Model	HE-Q670-MA-RC-X81
CPU	Support Intel® 12/13 th Generation Core / Pentium/ Celeron Desktop CPU, LGA1700 Support MAX CPU TDP: 8+8 Core 125W
Chipset ^[1]	Intel® Q670, TDP 6W
Display ^[2]	1 * DP (TYPE-A): max resolution up to 4096 x 2160@30Hz 1 * DVI-D (24P/F): Support DVI-D, max resolution up to 1920x1200@60Hz 1 * VGA (DB15/F): max resolution up to 1920x1200@60Hz 1 * eDP (Header): max resolution up to 4096x2304@60Hz
Memory ^[3]	Support DDR4-3200MHz, 4 * Non-ECC U-DIMM Slot, up to 128GB
Storage	4 * SATA3.0 7PConnector 1 * M.2 Key-M Slot (PCIE 4x/SATA, Support PCIe 4x Gen4 NVMe/SATA SSD, Auto Detect, 2242/2280)
Ethernet	2 * Intel® i210-AT GbE LAN Chip (10/100/1000 Mbps) 1 * Intel® i226-V 2.5G LAN Chip (10/100/1000/2500Mbps)
Audio	Realtek Audio HDA Codec, 1 * Front Audio Header (Line-Out + MIC) 1 * SPDIF Out Header 1 * Line-out + Line-in + MIC 3.5mm Jack
Expansion Slots	1 * PCIE 16x Slot 1 * PCI Slot 1 * PCI CLK 66MHz/33MHz Select Jumper 2 * PCIE 4x (PCIE 4x Signal) 1 * M.2 Key-E Slot (PCIE +USB2.0, Support WiFi+ Bluetooth, 2230) ^[4]
COM	4 * RS232 (COM1/2/5/6, BOX Header) 1 * RS232/RS485/RS422 (COM3, BOX Header) ^[5] 1 * RS232/RS485 (COM4, BOX Header) ^[5]
USB	8 * USB3.0 (TYPE-A, Rear IO) 2 * USB2.0 (TYPE-A, Rear IO) 2 * USB3.0 (Header, Internal) 1 * USB2.0 (Vertical TYPE-A, Internal) 3 * USB2.0 (Header, Internal) ^[4]
Other Ports	1 * 8-bit GPIO Header 1 * Front Panel Header 1 * CPU FAN Wafer 2 * System FAN Wafer 1 * Case Open Header 1 * DNX Force Reload Disable/Enable Select Jumper 1 * Watch Dog Reset Enable/Disable Select Jumper 1 * SMBUS Wafer 1 * Power On Wafer 1 * Power Monitor Wafer 1 * AT or ATX Select Jumper 1 * Power LED Wafer

TPM	SLB 9670VQ2.0, TPM2.0 (Not onboard by default), Support Intel PTT Default
System	Windows 10 IoT Enterprise 2021 LTSC, Windows 10 (21H2), Windows 11 (21H2) or later, Linux Kernel 5.17 or later
Temperature	Storage: -20~75°C Operating: 0~60°C
Humidity	5~95%, non-condensing
BIOS	AMI UEFI BIOS (Support Watchdog Timer)
Power Supply	ATX Standard (24P + 8P + 4P) 1 * ATX 4P CPU Power Input Connector 1 * ATX 8P CPU Power Input Connector 1 * ATX 24P Power Input Connector
Factor	244mm*244mm

Notes:

[1]: Chipset can be customized into Intel® Q670E/R680E.

[2]: Intel® Q670 supports four independent displays.

[3]: The maximum memory frequency depends on CPU. Intel® W680/R680E supports ECC.

[4]: USB2.0 signal for M.2 Key-E Slot colay with F_USB2_1. They can't be used at the same time.

[5]: COM3 and COM4 are RS232 by default. COM3 can be RS485 or RS422 selecting by jumper and setting BIOS to RTS mode. COM4 can be RS485 selecting by jumper and setting BIOS to RTS mode.