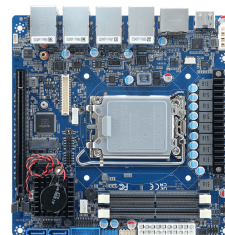




## EMX-R680P

Intel® 12th/13th Gen Core™  
i9/i7/i5/i3/Pentium®/Celeron® Processor Mini ITX  
Motherboard with Intel® R680E Chipset



### Specification

System Information	
H/W Status Monitor	CPU temperature monitoring, Voltage monitoring, CPU fan speed control
Watchdog Timer	H/W Reset, 5~255 seconds/5~255 minutes
BIOS	AMI uEFI BIOS, 256Mbit SPI Flash ROM
I/O Chipset	NuvoTon NCT6126D Ver.B (eSATA super IO)
Platform Controller Hub	Intel® R680E Chipset
Board	Mini ITX Board
System Memory	2 x SO-DIMM Up to 64GB Dual Channel DDR5 4800MHz
Processor	Intel® 12th Gen Core™ i9/i7/i5/i3/Pentium®/Celeron® Processor
Expansion	
Expansion	1 x PCIe x 16 Gen 5 1 x M.2 (2230) E-Key, support Wi-Fi module with PCIe x 2 Gen 4 & USB 2.0 2 x M.2 (2242/2280) M-Key, support PCI-e x 4 Gen 4 SSD
I/O	
SATA	2 x SATA III
DIO	1 x 16-bit GPIO
COM Port	2 x RS232/422/485 by BIOS selection at I/O (COM1~2) 3 x RS232(COM3-5) without DB9 (pin9 without Power)
USB Port	4 x USB 3.2 Gen 2 & 4 x USB 3.2 Gen 1 2 x USB 3.2 Gen 1 by pin header 2 x USB 2.0 by pin header
Display	
LVDS	Dual channel 18/24-bits LVDS (Chrontel CH7513A-BF eDP to LVDS) Or 1 x eDP 1920 x 1080@60Hz (2 Lanes)
Spec. & Resolution	2 x DP++: 4096 x 2304@60Hz / 5120 x 3200@60Hz 1 x HDMI 2.1b (supported with LSPCON): 8K@60Hz 1 x LVDS: 1920 x 1080@60Hz Dual channel 18/24-bits LVDS (Chrontel CH7513A-BF eDP to LVDS) Or 1 x eDP 1920 x 1080@60Hz (2 Lanes)
Graphic Chipset	Intel® 12th Generation CPU Integrated
Multiple Display	4 Independent Displays

**Ethernet**

<b>LAN Port</b>	4 x RJ45
<b>LAN Chipset</b>	4 x Intel® i226LM 2.5 Gigabit Controller

**Power Requirement**

<b>Power Mode</b>	AT / ATX mode Switchable Through Jumper
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**Mechanical & Environmental**

<b>ACPI</b>	Single power ATX Support S0, S3, S4, S5
<b>Power Requirement</b>	+12V / +5V / 5VSB /+3.3V /-12V
<b>Operating Temperature</b>	0~55°C (32~131°F)
<b>Operating Humidity</b>	40°C @ 95% Relative Humidity, Non-condensing
<b>Storage Temperature</b>	-40 ~ 75°C
<b>Dimension (L x W)</b>	6.7 x 6.7 (170mm x 170mm)
<b>Weight</b>	0.44 kg TBC

**Ordering Information**

<b>Ordering Information</b>	EMX-R680P Intel® 12th Gen Core™ i9/i7/i5/i3/Pentium®/Celeron® Processor
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