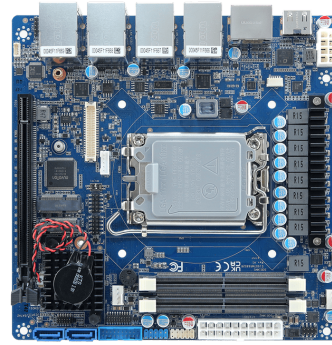


EMX-R680P

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



Product Features

- LGA 1700 Socket Supports 12/13th Generation Intel® Core™ i9/i7/i5/i3 / Pentium® / Celeron® Processors with Intel® R680E Chipset (Max. TDP at 125W)
- 2 x DP++, 1 x HDMI 2.1b, 1 x eDP or LVDS
- 4 x Intel® i226LM 2.5 Gigabit Ethernet
- 1 x M.2 (2230) E-Key, 2 x M.2 (2242/2280) M-Key
- ATX Power
- 2 x 262-Pin DDR5 4800MHz Dual Channel SO-DIMM Socket Supports Up to 64GB
- 1 x PCIe x16 (Gen5)
- 4 x USB 3.2 Gen2, 4 x USB 3.2 Gen1, 2 x USB 3.2 Gen1, 2 x USB 2.0
- 5 x COM

Specification

System Information

Processor	LGA 1700 Socket Supports 12/13th Generation Intel® Core™ i9/i7/i5/i3 / Pentium® / Celeron® Processors (Max. TDP at 125W)
Platform Controller Hub	Intel® R680E Chipset
System Memory	2 x 262-Pin DDR5 4800MHz Dual Channel SO-DIMM Socket Supports Up to 64GB
I/O Chipset	nuvoTon NCT6126D
Watchdog Timer	H/W Reset, 5~255 Seconds/5~255 Minutes
BIOS	AMI uEFI BIOS, 256Mbit SPI Flash ROM
H/W Status Monitor	CPU Temperature Monitoring Voltage Monitoring CPU Fan Speed Control
TPM	fTPM (Firmware TPM)
Board	Mini ITX

Expansion

Expansion	1 x PCIe x16 (Gen5) 1 x M.2 (2230) E-Key, Support WiFi Module with PCIe x2 Gen 4 & USB 2.0 2 x M.2 (2242/2280) M-Key, Support PCIe x4 Gen 4 SSD
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Display

Graphic Chipset	Intel® 12/13th Generation CPU Integrated
Spec. & Resolution	1 x HDMI 2.1b 2 x DP++: 4096 x 2304@60Hz / 5120 x 3200@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)
Multiple Display	4 Independent Displays
LVDS	Dual Channel 18/24-bits LVDS (Chrontel CH7513A-BF eDP to LVDS) or 1 x eDP 1920 x 1080@60Hz (2 Lanes)

Audio

Audio Codec	Realtek ALC888S HD Audio Decoding Controller
Audio Interface	Support Line-out & Mic-in & Front Audio Pin-header
Audio Amplifier	2 x 2W 4Ω Amplifier

Ethernet

LAN Chipset	4 x Intel® i226LM 2.5 Gigabit Ethernet
Ethernet Interface	100/1000/2500 Base-Tx GbE compatible Gigabit Ethernet
LAN Port	4 x RJ-45

Software Support

OS	Windows 10, Windows 11, Linux
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Certification

Certification Information	CE, FCC, RoHS Compliant
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I/O

USB	4 x USB 3.2 Gen2 4 x USB 3.2 Gen1 2 x USB 3.2 Gen1 2 x USB 2.0
COM Port	3 x RS232 2 x RS232/422/485
SATA	2 x SATA III

RAID	Support RAID 0, 1
DIO	1 x 16-bit GPIO
Mechanical & Environmental	
Operating Temp.	0~55°C (32~131°F)
Storage Temp.	-40 ~ 75°C (-40 ~ 167°F)
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Weight	0.88lbs (0.4Kgs)
Power Requirement	+12V / +5V / 5VSB /+3.3V /-12V
Power Mode	AT/ATX (Default Setting: ATX)
Dimension (L x W)	6.7" x 6.7" (170mm x 170mm)
Ordering Information	
Ordering Information	EMX-R680P-A1R Intel® 12/13th Gen Core™ i9/i7/i5/i3 / Pentium® / Celeron® Processors