



## EMX-R680P

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

- Intel® 12th/13th Gen Core™ i9/i7/i5/i3/Pentium®/Celeron® Processor, Support LGA 1700 CPU Up to 35/65/125W Max
- Intel® R680E Chipset
- 2 x SODIMM up to 64GB Dual Channel DDR5 4800MHz
- 4 x Intel® i226-LM 2.5 Gigabit Controller
- Realtek ALC888S with Stereo Class D 2W4Q x2
- 2 x DP++, 1 x HDMI 2.1b (LSPCON support): 8K@60Hz
- 1 x 2CH LVDS or eDP
- 2 x SATA III
- 4 x USB 3.2 Gen 2 & 4x USB 3.2 Gen 1 in I/O, 2 x USB 3.2 Gen 1, 2 x USB 2.0 via headers
- 1 x PCIe x16 Gen 5
- 1 x M.2 (2230) E-Key, supports Wi-Fi module with PCIe x2 Gen 4 & USB 2.0
- 2 x M.2 (2242/2280) M-Key, supports PCI-e x4 Gen 4 SSD
- 2 x RS232/422/485, 3 x RS232
- 16-bits GPIO, support RAID 0, 1 ATX Power

### + Spec

-System Information-	
<b>Processor</b>	Intel® 12th Gen Core™ i9/i7/i5/i3/Pentium®/Celeron® Processor
<b>Platform Controller Hub</b>	Intel® R680E Chipset
<b>System Memory</b>	2 x SO-DIMM Up to 64GB Dual Channel DDR5 4800MHz
<b>I/O Chipset</b>	NuvoTon NCT6126D Ver.B (eSPI super IO)
<b>BIOS Information</b>	AMI uEFI BIOS, 256Mbit SPI Flash ROM
<b>Watchdog Timer</b>	H/W Reset, 5~255 seconds/5~255 minutes
<b>H/W Status Monitor</b>	CPU temperature monitoringt, Voltage monitoringt, CPU fan speed controlt
<b>Board</b>	Mini ITX Board
Expansion	
<b>Expansion</b>	1 x PCIe x16 Gen 5 1 x M.2 (2230) E-Key, support Wi-Fi module with PCIe x2 Gen 4 & USB 2.0 2 x M.2 (2242/2280) M-Key, support PCI-e x4 Gen 4 SSD
I/O	
<b>USB Port</b>	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
<b>COM Port</b>	2 x RS232/422/485 by BIOS selection at I/O (COM1~2) 3 x RS232(COM3-5) without DB9 (pin9 without Power)
<b>SATA</b>	2 x SATA III
<b>DIO</b>	1 x 16-bit GPIO
Display	
<b>Graphic Chipset</b>	Intel® 12th Generation CPU Integrated
<b>Spec. &amp; Resolution</b>	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)
<b>Multiple Display</b>	4 Independent Displays
<b>LVDS</b>	Dual channel 18/24-bits LVDS (Chrontel CH7513A-BF eDP to LVDS) Or 1 x eDP 1920 x 1080@60Hz (2 Lanes)
Ethernet	
<b>LAN Chipset</b>	4 x Intel® i226LM 2.5 Gigabit Controller
<b>LAN Port</b>	4 x 2.5 Gigabit Ethernet
Mechanical & Environmental	
<b>Operating Temperature</b>	0~55°C (32~131°F)
<b>Storage Temperature</b>	-40 ~ 75°C
<b>Operating Humidity</b>	40°C @ 95% Relative Humidity, Non-condensing
<b>Weight</b>	0.44 kg TBC
<b>Power Requirement</b>	+12V / +5V / 5VSB /+3.3V /-12V
<b>ACPI</b>	Single power ATX Support S0, S3, S4, S5
<b>Power Mode</b>	AT / ATX mode Switchable Through Jumper
<b>Dimension (L x W)</b>	6.7" x 6.7" (170mm x 170mm)
Ordering Information	

www.avalue.com.tw

