



## EMX-H310P

Intel® 8/9th Gen. Core™  
i7/i5/i3/Pentium®/Celeron®/Processor Mini ITX  
Motherboard With Intel® H310 Chipset

- > Intel® 8/9th Gen. Core™ i7/i5/i3/Pentium®/Celeron®/Processor
- > Intel® H310 Chipset
- > 2 x 260-pin DDR4 2400/2666MHz SO-DIMM socket, supports up to 64GB
- > 1 x Intel® I219LM Gigabit Ethernet PHY
- > 3 x Intel® I210AT PCIe Gigabit Ethernet
- > VGA, HDMI, DP++, Dual-CH LVDS co-layer eDP (By BOM option)
- > 3 x SATA III
- > 1 x M.2 (2242/2260/2280) B-Key, support WWAN+GNSS with SIM card slot & SSD (SATA)
- > 1 x M.2 (2230) E-Key, support WiFi module
- > 1 x PCIe x16
- > 6 x USB3.1 Gen1, 2 x USB 2.0, PS2 KB/MS + 2 x USB 2.0 at I/O, 2

### + Spec

System	
<b>Processor</b>	Intel® LGA1151 Socket Supports 8/9th Generation Core™ i7/ i5/ i3/ Pentium®/Celeron® Processors
<b>System Chipset</b>	Intel® H310 Chipset
<b>System Memory</b>	2 x 260-pin DDR4 2400/2666MHz SO-DIMM supports up to 64GB
<b>I/O Chip</b>	Nuvoton® NCT6106D
<b>BIOS</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 monitoring, Voltages monitoring, CPU fan speed control
<b>Board</b>	Mini ITX Board
Expansion	
<b>Expansion</b>	1 x PCIe x16 1 x M.2 (2242/2260/2280) B-Key, supports WWAN+GNSS with SIM card slot & SSD (SATA) 1 x M.2 (2230) E-Key, supports WiFi module
I/O	
<b>USB</b>	6 x USB 3.1 Gen1, 2 x USB 2.0, PS2 KB/MS + 2 x USB2.0
<b>SATA</b>	3 x SATA III
<b>COM Port</b>	4 x RS232 2 x RS232/422/485
<b>DIO</b>	1 x 16-bit GPIO
Display	
<b>Chipset</b>	Intel® 8/9th Generation CPU integrated
<b>Resolution</b>	VGA: 2048 x 1536 @ 60 Hz HDMI: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 30 Hz DP++: 4096x2160 @ 30Hz Dual channel 18/24-bits LVDS (Chrontel CH7511B eDP to LVDS)- By BOM option
<b>LVDS</b>	Dual channel 18/24-bits LVDS (Chrontel CH7511B eDP to LVDS)- By BOM option
<b>Multiple Display</b>	Dual Display
Audio	
<b>Chipset</b>	Realtek ALC662
<b>Audio Amplifier</b>	3W Amplifier
Ethernet	
<b>Chipset</b>	1 x Intel® I219LM Gigabit Ethernet PHY 3 x Intel® I210AT PCIe Gigabit Ethernet
<b>LAN Port</b>	4 x RJ-45
Mechanical & Environmental	
<b>Power Requirement</b>	+12V/+5V/5VSB/+3.3V/-12V
<b>ACPI</b>	Single power ATX Support S0, S3, S4, S5
<b>Power Type</b>	AT/ATX
<b>Operating Temperature</b>	0~60°C (32~140°F)
<b>Storage Temperature</b>	-40 ~ 75°C
<b>Operating Humidity</b>	40°C @ 95% Relative Humidity, Non-condensing
<b>Dimension (L x W)</b>	6.7" x 6.7" (170mm x 170mm)
<b>Weight</b>	0.4 kg



**+** Ordering

EMX-H310P-A1R

Intel® 8/9th Gen. Core™ i7/i5/i3/Pentium®/Celeron® Processor Mini ITX Motherboard With Intel® H310 Chipset

Intel® 8th Gen Supports LGA 1151 CPU Up to 95W Max

Intel® 9th Gen Supports LGA 1151 CPU 4 core & 6 core CPU Up to 95W, but kindly note: with 8 core CPU, only support CPU up to 35W Max

