



## 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 PC-e 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 PCI-e x16
- > 6 x USB3.1 Gen1, 2 x USB 2.0, PS2 KB/MS + 2 x USB 2.0 at I/O, 2 x USB2.0 by pin header
- > 4 x RS232, 2 x RS232/422/485
- > ATX Power

### Spec

| System Information             |   |
|--------------------------------|---|
| <b>Processor</b>               | Intel® LGA1151 Socket Supports 8/9th Generation Core™ i7/ i5/ i3/ Pentium®/Celeron® Processors  |
| <b>Platform Controller Hub</b> | Intel® H310 Chipset   |
| <b>System Memory</b>           | 2 x 260-pin DDR4 2400/2666MHz SO-DIMM supports up to 64GB   |
| <b>I/O Chipset</b>             | Nuvoton® NCT6106D   |
| <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 monitoring, Voltages monitoring, CPU fan speed control  |
| <b>Board</b>                   | Mini ITX Board  |
| Expansion                      |   |
| <b>Expansion</b>               | 1 x PCI-e x16<br>1 x M.2 (2242/2260/2280) B-Key, supports WWAN+GNSS with SIM card slot & SSD (SATA)<br>1 x M.2 (2230) E-Key, supports WiFi module   |
| I/O                            |   |
| <b>USB Port</b>                | 6 x USB 3.1 Gen1, 2 x USB 2.0, PS2 KB/MS + 2 x USB2.0   |
| <b>COM Port</b>                | 4 x RS232<br>2 x RS232/422/485  |
| <b>SATA</b>                    | 3 x SATA III  |
| <b>DIO</b>                     | 1 x 16-bit GPIO   |
| Display                        |   |
| <b>Graphic Chipset</b>         | Intel® 8/9th Generation CPU integrated  |
| <b>Spec. &amp; Resolution</b>  | VGA: 2048 x 1536 @ 60 Hz<br>HDMI: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 30 Hz<br>DP++: 4096x2160 @ 30Hz<br>Dual channel 18/24-bits LVDS (Chrontel CH7511B eDP to LVDS)- By BOM option  |
| <b>Multiple Display</b>        | Dual Display  |
| <b>LVDS</b>                    | Dual channel 18/24-bits LVDS (Chrontel CH7511B eDP to LVDS)- By BOM option  |
| Ethernet                       |   |
| <b>LAN Chipset</b>             | 1 x Intel® I219LM Gigabit Ethernet PHY<br>3 x Intel® I210AT PC-e Gigabit Ethernet   |
| <b>LAN Port</b>                | 4 x RJ-45   |
| Mechanical & Environmental     |   |
| <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>Weight</b>                  | 0.4 kg  |
| <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  |
| <b>Dimension (L x W)</b>       | 6.7" x 6.7" (170mm x 170mm)   |
| Ordering Information           |   |
| <b>Ordering Information</b>    | EMX-H310P-A1-02R<br>Intel® 8/9th Gen. Core™ i7/i5/i3/Pentium®/Celeron® Processor Mini ITX Motherboard With Intel® H310 Chipset<br>(No Audio Function)<br><br>Intel® 8th Gen Supports LGA 1151 CPU Up to 95W Max.<br>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. |