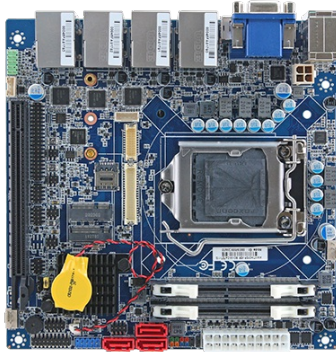




## EMX-H310P

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

- > Intel® 8/9th Gen. Core™/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 PCI-e Gigabit Ethernet
- > VGA, HDMI, DP++, Dual-CH LVDS co-lay 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-       |                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor                  | Intel® LGA1151 Socket Supports 8/9th Generation Core™/Pentium®/Celeron® Processors                                                                                                                                                                                                                                                                |
| Platform Controller Hub    | Intel® H310 Chipset                                                                                                                                                                                                                                                                                                                               |
| System Memory              | 2 x 260-pin DDR4 2400/2666MHz SO-DIMM supports up to 64GB                                                                                                                                                                                                                                                                                         |
| I/O Chipset                | Nuvoton® NCT6106D                                                                                                                                                                                                                                                                                                                                 |
| BIOS Information           | AMI uEFI BIOS, 256Mbit SPI Flash ROM                                                                                                                                                                                                                                                                                                              |
| Watchdog Timer             | H/W Reset, 5~255 seconds/5~255 minutes                                                                                                                                                                                                                                                                                                            |
| H/W Status Monitor         | CPU temperature monitoring, Voltages monitoring, CPU fan speed control                                                                                                                                                                                                                                                                            |
| Board                      | Mini ITX Board                                                                                                                                                                                                                                                                                                                                    |
| Expansion                  |                                                                                                                                                                                                                                                                                                                                                   |
| Expansion                  | 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                        |                                                                                                                                                                                                                                                                                                                                                   |
| USB Port                   | 6 x USB 3.1 Gen1, 2 x USB 2.0, PS2 KB/MS + 2 x USB2.0                                                                                                                                                                                                                                                                                             |
| COM Port                   | 4 x RS232<br>2 x RS232/422/485                                                                                                                                                                                                                                                                                                                    |
| SATA                       | 3 x SATA III                                                                                                                                                                                                                                                                                                                                      |
| DIO                        | 1 x 16-bit GPIO                                                                                                                                                                                                                                                                                                                                   |
| Display                    |                                                                                                                                                                                                                                                                                                                                                   |
| Graphic Chipset            | Intel® 8/9th Generation CPU integrated                                                                                                                                                                                                                                                                                                            |
| Spec. & Resolution         | 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                                                                                                                                                                |
| Multiple Display           | Dual Display                                                                                                                                                                                                                                                                                                                                      |
| LVDS                       | Dual channel 18/24-bits LVDS (Chrontel CH7511B eDP to LVDS)- By BOM option                                                                                                                                                                                                                                                                        |
| Ethernet                   |                                                                                                                                                                                                                                                                                                                                                   |
| LAN Chipset                | 1 x Intel® I219LM Gigabit Ethernet PHY<br>3 x Intel® I210AT PCI-e Gigabit Ethernet                                                                                                                                                                                                                                                                |
| LAN Port                   | 4 x RJ-45                                                                                                                                                                                                                                                                                                                                         |
| Mechanical & Environmental |                                                                                                                                                                                                                                                                                                                                                   |
| Operating Temperature      | 0~60°C (32~140°F)                                                                                                                                                                                                                                                                                                                                 |
| Storage Temperature        | -40 ~ 75°C                                                                                                                                                                                                                                                                                                                                        |
| Operating Humidity         | 40°C @ 95% Relative Humidity, Non-condensing                                                                                                                                                                                                                                                                                                      |
| Weight                     | 0.4 kg                                                                                                                                                                                                                                                                                                                                            |
| Power Requirement          | +12V/+5V/5VSB/+3.3V/-12V                                                                                                                                                                                                                                                                                                                          |
| ACPI                       | Single power ATX Support S0, S3, S4, S5                                                                                                                                                                                                                                                                                                           |
| Power Mode                 | AT/ATX                                                                                                                                                                                                                                                                                                                                            |
| Dimension (L x W)          | 6.7" x 6.7" (170mm x 170mm)                                                                                                                                                                                                                                                                                                                       |
| Ordering Information       |                                                                                                                                                                                                                                                                                                                                                   |
| Ordering Information       | EMX-H310P-A1-02R<br>Intel® 8/9th Gen. Core™ /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. |

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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