



## EMX-WHLGP

**Onboard 8th Gen Intel® Whiskey Lake U Core™ SoC i7/i5/i3 & Celeron® BGA Processor Thin Mini ITX Motherboard**

- > Onboard 8th Gen Intel® Whiskey Lake U Core™ SoC i7/i5/i3 & Celeron® BGA Processor
- > Two 260-pin DDR4 2400 MHz SO-DIMM socket, supports up to 32GB Max (non ECC only)
- > 2 x HDMI + 1 x HDMI/Dual-channel LVDS (default LVDS)
- > 1 x Intel® I219LM Gigabit Ethernet PHY, 2 x Intel® I210IT PCI-e Gigabit Ethernet (Co-lay Intel® I211AT/I210AT)
- > Realtek ALC892 Audio Codec, TI TPA3113D2PWP Stereo Class-D 6W x 2 Audio Amplifier
- > 1 x M.2 Key A 2230 support WiFi module ( 1 x PCI-e x 1 & USB 2.0 Signal), 1 x M.2 Key B 3042/2242/2260/2280 support WWAN+GNSS or SSD with 1 x SIM card slot
- > 1 x SATA III, 1 x SATA Power, 4 x USB 2.0, 3 x USB 3.1, 1 x USB Type C(USB 3.1 Gen1)

### + Spec

| System                       |   |
|------------------------------|---|
| <b>Processor</b>             | Onboard 8th Gen Intel® Whiskey Lake U Core™ SoC i7/i5/i3 & Celeron® BGA Processor   |
| <b>System Memory</b>         | Two 260-pin DDR4 2400 MHz SO-DIMM socket, supports up to 32GB Max (non ECC only)  |
| <b>I/O Chip</b>              | EC IT8528E-1  |
| <b>BIOS</b>                  | AMI 256Mbit SPI BIOS  |
| <b>Watchdog Timer</b>        | H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step   |
| <b>H/W Status Monitor</b>    | Monitoring System Temperature and Voltage with Auto Throttling Control  |
| <b>TPM</b>                   | 1 x onboard TPM2.0  |
| Expansion                    |   |
| <b>Expansion</b>             | 1 x M.2 Key B 3042/2242/2260/2280 (with 1 x PCI-e x 1 (default) or SATA by BIOS), USB 2.0 with 1 x SIM card slot, support WWAN+GNSS or SSD with 1 x SIM card slot, support WWAN+GNSS or SSD. 1 x M.2 Key A 2230 support WiFi module ( 1 x PCI-e x 1 & USB 2.0 Signal) |
| I/O                          |   |
| <b>USB</b>                   | 3 x USB 3.1, 1 x USB Type C (USB 3.1 Gen1, without DP signal) at I/O<br>4 x USB 2.0   |
| <b>SATA</b>                  | 1 x SATA Power<br>1 x SATA III  |
| <b>COM Port</b>              | 4 x RS232<br>2 x RS232/422/485  |
| <b>DIO</b>                   | 1 x 16-bit GPIO   |
| Display                      |   |
| <b>Chipset</b>               | Intel® Processor Graphics   |
| <b>Resolution</b>            | 3 x HDMI 1.4b: 3840 x 2160 @ 30 Hz, 2560 x 1600 @ 30 Hz<br>2CH 18/24bits LVDS 1920 x 1080 (Chrontel. CH7511B eDP to LVDS Converter)   |
| <b>LVDS</b>                  | 2CH 18/24bits LVDS 1920 x 1080<br>Chrontel. CH7511B eDP to LVDS Converter   |
| <b>Multiple Display</b>      | Triple Display  |
| Audio                        |   |
| <b>Chipset</b>               | Realtek ALC892 supports 2-CH  |
| <b>Audio Interface</b>       | Mic-in, Line-out  |
| <b>Audio Amplifier</b>       | TI TPA3113D2PWP Stereo Class-D 6W x 2   |
| Ethernet                     |   |
| <b>Chipset</b>               | 1 x Intel® I219LM Gigabit Ethernet PHY v 2 x Intel® I210IT PCI-e Gigabit Ethernet (Co-lay Intel® I211AT/I210AT)   |
| <b>Ethernet Interface</b>    | 10/100/1000 Base-Tx GbE compatible  |
| <b>LAN Port</b>              | 3 x RJ45  |
| Mechanical & Environmental   |   |
| <b>Power Requirement</b>     | +12V~24V  |
| <b>Power Type</b>            | AT/ATX  |
| <b>Operating Temperature</b> | -20~ 60°C (-68 ~ 140°F), 60°C with 0.5 m/s air flow   |
| <b>Storage Temperature</b>   | -40 ~ 75°C (-40 ~ 167°F)  |
| <b>Operating Humidity</b>    | 0 ~ 90% Relative Humidity, Non-condensing   |
| <b>Dimension (L x W)</b>     | 6.69" x 6.69" (170mm x 170mm)   |
| <b>Weight</b>                | 0.88lbs (0.4Kgs)  |

### + Ordering

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