

# EMX-MTLP

Onboard Intel® Core™ Meteor Lake-U & H series Ultra 7/ Ultra 5 BGA Processor, supports TDP 15W & 28W



## Product Features

- Intel® Core™ Ultra 5 Processor 125U (15W) & 125H (28W) BGA Processor
- 2 x DP (1 from Type C), 2 x HDMI, 1 x LVDS, 1 x eDP
- 1 x Intel® I226LM, 1 x Intel® I226V
- 2 x M.2 Type M, 1 x M.2 Type B, 1 x M.2 Type E
- DC in +12V~24V
- 2 x 262-Pin DDR5 5600MHz SO-DIMM Socket Supports Up to 64GB
- 1 x PCIe x4 Gen4
- 2 x USB 3.2 Gen2, 2 x USB 3.2 Gen1, 6 x USB 2.0
- 1 x USB Type C, 5V@3A, supports USB3.2 Gen2 and DP
- 6 x COM

## Specification

### System Information

Processor	Intel® Core™ Ultra 5 Processor 125U & 125H BGA Processor (TDP: 15W & 28W)
System Memory	2 x 262-Pin DDR5 5600MHz SO-DIMM Socket Supports Up to 64GB
I/O Chipset	EC iTE IT5782VG
Watchdog Timer	H/W Reset: 1Sec. ~ 65535Sec./Min. and 1 Sec. or 1Min./Step
BIOS	AMI uEFI BIOS, 256Mbit SPI Flash ROM
H/W Status Monitor	CPU Temperature Monitoring Voltage Monitoring CPU Fan Speed Control
TPM	Onboard nuvoTon NPCT760AABYX support TPM 2.0
Board	Thin Mini ITX

## Expansion

<b>Expansion</b>	1 x M.2 Type B 2242/3042/3052 (with 1 x PCIe x1 (Default), USB2.0, USB 3.2 Gen2 with 1 x SIM Card Slot Support WWAN+GNSS (Note: this Type B conn. shares SATA signal with SATA2, supports SSD storage) 1 x M.2 Key E 2230 Support Wi-Fi Module and CNVi (1 x PCIe x1 & USB 2.0 Signal) 2 x M.2 Key M 2280 (PCIe x4) Slot for Storage NVMe SSD
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## Display

<b>Graphic Chipset</b>	Intel® Xe LPG Graphics
<b>Spec. &amp; Resolution</b>	2 x HDMI 2.0: 3840 X 2160 @60Hz 1 x DP1.4a: Max: 7680 x 4320@30Hz 1 x USB Type C supports 3840 x 2160@60Hz LVDS: 1920 x 1080 Dual channel 18/24-bits LVDS (Chrontel CH7511B eDP to LVDS) eDP1.2: Max 4096 x 2304@60 Hz
<b>Multiple Display</b>	2 x DP, 2 x HDMI, 1 x LVDS, 1 x eDP (Maximum: 6 for Quadruple Independent Displays)
<b>LVDS</b>	1 x Dual Channel 18/24-bits LVDS (Chrontel CH7511B eDP to LVDS)

## Audio

<b>Audio Codec</b>	Realtek ALC888S HD Audio Decoding Controller
<b>Audio Interface</b>	Support Line-out & Mic-in on rear I/O
<b>Audio Amplifier</b>	2 x 6W 8Ω Amplifier

## Ethernet

<b>LAN Chipset</b>	1 x Intel® i226LM 2.5 Gigabit Ethernet Controller 1 x Intel® i226V 2.5 Gigabit Ethernet Controller
<b>Ethernet Interface</b>	10/100/1000 Base-Tx GbE compatible & 2.5 Gigabit Ethernet
<b>LAN Port</b>	2 x RJ-45

## Power Requirement

<b>DC Input</b>	12~24V
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## Software Support

<b>OS</b>	Windows 11 LTSC Linux
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## Certification

<b>Certification Information</b>	CE, FCC, RoHS Compliant
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## I/O

<b>USB</b>	3 x USB 3.2 Gen2 (1 from Type C) 2 x USB 3.2 Gen1 6 x USB 2.0
<b>COM Port</b>	4 x RS232 (JCOM1 ~ JCOM4) 2 x RS22/485 (JCOM1 and JCOM2, need to modify BIOS Setup settings and change pin header & cable)
<b>SATA</b>	2 x SATA III 1 x SATA Power
<b>DIO</b>	1 x 16-bit GPIO

## Mechanical & Environmental

<b>Operating Temp.</b>	125U (15W) with fanless support: 0~55°C. 125H (28W) with CPU cooler support: 0~50°C. With HDD/SSD, ambient with 0.5 m/s Air flow.
<b>Storage Temp.</b>	-40 ~ 75°C (-40 ~ 167°F)
<b>Operating Humidity</b>	40°C @ 95% Relative Humidity, Non-condensing
<b>Weight</b>	15W (shipping with heatsink): 1.127lbs (0.51Kgs) 28W (shipping w/o cooler): 0.603lbs (0.27kgs)
<b>Power Requirement</b>	DC in +12V~24V
<b>Power Mode</b>	AT/ATX (Default Setting: ATX)
<b>Dimension (L x W)</b>	6.7" x 6.7" (170mm x 170mm)

## Ordering Information

<b>Ordering Information</b>	EMX-MTLP-125U-A1R (Intel®Core Ultra 5 125U/15W) EMX-MTLP-125H-A1R (Intel®Core Ultra 5 125H/28W)
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