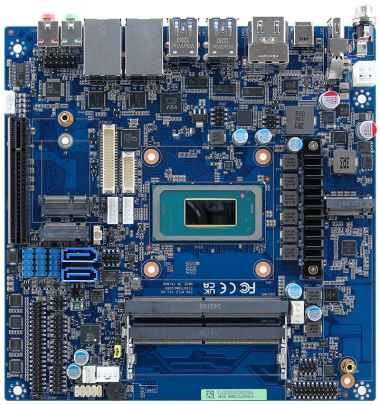
EMX-MTLP

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. and1 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

Expansion	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

Display

Graphic Chipset	Intel® Xe LPG Graphics
Spec. & Resolution	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
Multiple Display	2 x DP, 2 x HDMI, 1 x LVDS, 1 x eDP (Maximum: 6 for Quadruple Independent Displays)
LVDS	1 x Dual Channel 18/24-bits LVDS (Chrontel CH7511B eDP to LVDS)

Audio

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

Ethernet

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

Power Requirement

DC Input	12~24V

Software Support

OS	Windows 11 LTSC Linux

Certification

Certification Information	CE, FCC, RoHS Compliant

I/O

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

Mechanical & Environmental

Operating Temp.	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.
Storage Temp.	-40 ~ 75°C (-40 ~ 167°F)
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Weight	15W (shipping with heatsink): 1.127lbs (0.51Kgs) 28W (shipping w/o cooler): 0.603lbs (0.27kgs)
Power Requirement	DC in +12V~24V
Power Mode	AT/ATX (Default Setting: ATX)
Dimension (L x W)	6.7" x 6.7" (170mm x 170mm)

Ordering Information

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