

EMX-TWLP

Onboard Intel® Processor N150, N250 & Intel® Core™ 3 Processor N355, Thin Mini ITX Motherboard



Product Features

- Onboard Intel® Processor N150, N250 & Intel® Core™ 3 N355 series processors, Thin Mini ITX Motherboard
- HDMI, DP++, DP, eDP or LVDS, Supports up to triple display
- 2 x Intel® i226V
- 1 x M.2 Type B, 1 x M.2 Key E, 1 x M.2 Key M
- DC in +12V~24V
- 1 x 262-pin DDR5 4800 MHz SO-DIMM Socket, Supports up to 16GB Max
- 1 x PCIe Gen3 x1
- 2 x USB3.2 Gen2, 3 x USB3.2 Gen1, 4 x USB 2.0
- 6 x COM

Specification

System Information

Processor Onboard Intel® Processor N150, N250 & Intel® Core™ 3 Processor N355

System Memory 1 x 262-Pin DDR5 4800MHz SO-DIMM Socket Supports Up to 16GB

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 NPCT754AADYX support SPI TPM 2.0

Board Thin Mini ITX

Expansion

Expansion	1 x M.2 Type B slot for 3042/3052/2242 size with USB 3.2 Gen1x1, USB 2.0, SIM Slot for LTE/IO Cards support WWAN+GNSS 1 x M.2 Key E 2230 (1 x PCIe Gen3 x1 & USB 2.0 Signal) 1 x M.2 Type M 2242/2280 SSD Support PCIe Gen3 x1 or SATA III 1 x PCIe Gen3 x1 slot
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Display

Graphic Chipset	Intel® Graphics
Spec. & Resolution	1 x HDMI 2.0b HDMI 2.0b Max resolution 4096 x 2160@60Hz 1 x DP++ DP++ Max resolution 1920 x 1080@60Hz 1 x DP 1.4a Max resolution 4096 x 2160@60Hz 1 x eDP or LVDS eDP 1920 x 1080@60Hz (2 Lanes) LVDS 1920 x 1080 (Dual Channel 18/24-bits)
Multiple Display	Triple Display
LVDS	1 x LVDS (Dual Channel 18/24-bits) or 1 x eDP (2 Lanes) Chrontel CH7513A-BF eDP to LVDS Converter

Audio

Audio Codec	Realtek ALC888S HD Audio Decoding Controller
Audio Interface	Mic-in, Line-out
Audio Amplifier	2 x 2W 4Ω Amplifier

Ethernet

LAN Chipset	2 x Intel® i226V 2.5 Gigabit Ethernet
Ethernet Interface	100/1000/2500 Base-Tx GbE compatible Gigabit Ethernet
LAN Port	2 x RJ-45

Software Support

OS	Windows 11, Linux
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Certification

Certification Information	CE, FCC, RoHS Compliant
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I/O

USB	2 x USB 3.2 Gen2 2 x USB 3.2 Gen1 1 x USB 3.2 Gen1 Vertical Type A 4 x USB 2.0
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COM Port	4 x RS232 2 x RS232/422/485
SIM Slot	Co-lay 1 x 10pin FPC Connector for SIM Card Adapter
SATA	1 x SATA III 1 x SATA Power
DIO	1 x 16-bit GPIO

Mechanical & Environmental

Operating Temp.	0~60°C (32~140°F) with 0.5m/s air flow
Storage Temp.	-40 ~ 75°C (-40 ~ 167°F)
Operating Humidity	40°C at 95% relative humidity, non-condensing
Weight	0.88lbs (0.4Kgs)
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-TWLP-N150-A1R EMX-TWLP/N150/6COM/9USB/2LAN/A1
	EMX-TWLP-N250-A1R EMX-TWLP/N250/6COM/9USB/2LAN/A1
	EMX-TWLP-N355-A1R EMX-TWLP/N355/6COM/9USB/2LAN/A1