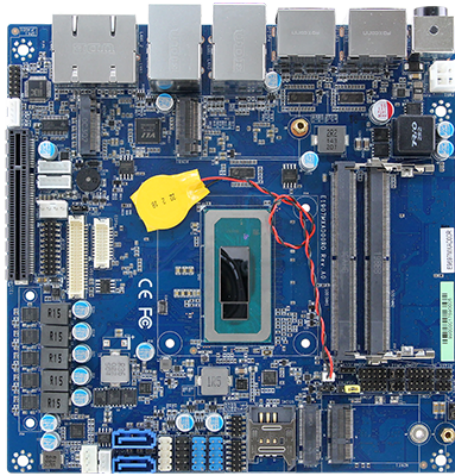




EMX-RPLP

13th Gen Intel® Core™ SoC i7/i5/i3 & Celeron Processor Mini ITX Motherboard

Onboard 13th Gen. Intel® Core™ SoC i7/i5/i3 & BGA Processor
 2 x 262-pin DDR5 4800MHz SO-DIMM supports 64GB (non ECC only)
 2 x DP++, 2 x DP, 1 x LVDS, 1 x eDP (Maximum: quadruple independent displays)
 3 x Intel® I226LM 2.5 Gigabit Ethernet
 1 x Intel® I219LM Gigabit Ethernet PHY
 Realtek ALC888S
 TI TPA3113D2PWP Stereo Class-D 6W x 2 Audio
 1 x M.2 Type B 3042/3052 (with 1 x PCI-e x1 (default), USB2.0, USB 3.2 Gen2 with 1 x SIM card slot support WWAN+GNSS)
 1 x M.2 Key E 2230 support Wi-Fi module and CNVi (1 x PCI-e x1 & USB 2.0 Signal)
 1 x M.2 Key B 2242 (SATA Signal, shared with SATA2) slot support SSD storage
 1 x M.2 Key M 2280 (PCI-e x4) slot for storage NVMe SSD
 H-series: 1 x PCI-e x8 Gen 4 slot (with Redriver mux (DS160PR421 3.2US x1 & DS160PR412 3.2US x1))
 P/U-series: 1 x PCI-e x4 Gen 4 slot (with Redriver mux (DS160PR421 3.2US x1 & DS160PR412 3.2US x1))
 GPIO 16bit
 Onboard NuvoTon NPCT754AADYX support TPI
 Support Line-out & Mic-in & Front audio pin-head
 DC in +12V~24V

+ Spec

System Information

Processor

Onboard Raptor Lake-P 13th Intel® Core™ SoC i7/i5/i3/Celeron Processor (TDP: 15~45W)
 H-Series: 25~45W, P-Series: 20~28W, U-Series: 12~15W

System Memory

2 x 262-pin DDR5 4800 MHz SO-DIMM supports up to 64GB (non ECC only)

I/O Chipset

EC iTE IT5782VG
 MAX3243 for RS232, MAX13487 Transceiver & SP485 IC for RS422/485

BIOS Information

AMI uEFI BIOS, 256Mbit SPI Flash ROM

Watchdog Timer

H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step

H/W Status Monitor

CPU temperature monitoring
 Voltages monitoring
 CPU fan speed control

TPM

Onboard NuvoTon NPCT754AABYX support TPM 2.0

Expansion

Expansion

* 1 x M.2 Type B 3042/3052 (with 1 x PCI-e x1 (default), USB2.0, USB 3.2 Gen2 with 1 x SIM card slot support WWAN)
 * 1 x M.2 Key E 2230 support Wi-Fi module and CNVi (1 x PCI-e x1 & USB 2.0 Signal)
 * 1 x M.2 Key B 2242 (SATA Signal, shared with SATA2) slot support SSD storage
 * 1 x M.2 Key M 2280 (PCI-e x4) slot for storage NVMe SSD
 * H-series: 1 x PCI-e x8 Gen 4 slot (with Redriver mux (DS160PR421 3.2US x1 & DS160PR412 3.2US x1))
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I/O

USB Port

2 x USB3.2 Gen2, 2 x USB 3.0 Gen2 at I/O
 4 x USB2.0 by pin header

COM Port

4 x RS232
 2 x RS422/485

SATA

1 x SATA Power
 2 x SATA III

DIO

1 x 16-bit GPIO

Display

Graphic Chipset

Intel® Iris® Xe Graphics (For Core i5 & i7)
 Intel® UHD Graphics for 12th Gen Intel® Processors (For Core i3 & Celeron)

Spec. & Resolution

DP1+DP3 (DP1.4): Max: 7680 x 4320@60 Hz
 DP2+DP4 (DP1.4): Max: 7680 x 4320@60 Hz
 Intel resolution as below:
 2 x DP++ : 1920 x 1080@60 Hz
 2 x DP: 4096 x 2304@60 Hz
 LVDS: 1920 x 1080 Dual channel 18/24-bits LVDS (Chrontel CH7511B eDP to LVDS)

	eDP 4096 x 2304@60 Hz *2 x DP++, LVDS, eDP Default (Thin Mini ITX), Optional: DP3 and DP4 for full height (Maximum: 6 for quadruple independent displays)
Multiple Display	2 x DP++/2 x DP/1 x LVDS/1 x eDP (Maximum: 6 for quadruple independent displays)
LVDS	2CH 18/24bits LVDS 1920 x 1080 Chrontel. CH7511B eDP to LVDS Converter

.Audio

Audio Codec	Realtek ALC888S
Audio Interface	Support Line-out & Mic-in & Front audio pin-header
Audio Amplifier	2 x Stereo Class-D 6W Audio Amplifier

.Ethernet

LAN Chipset	3 x Intel® i226LM 2.5 Gigabit Ethernet (LAN2~4) 1 x Intel® i219LM Gigabit Ethernet PHY *LAN3~4 for Full height
Ethernet Interface	10/100/1000 Base-Tx GbE compatible

W



LAN Port	4 x RJ45
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.Mechanical & Environmental

Operating Temperature	0~60C (32~140°F) w/HDD/SSD, ambient with 0.5 m/s Air flow
Storage Temperature	-40 ~ 75°C (-40 ~ 167°F)
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Weight	0.88lbs (0.4Kgs)
Power Requirement	+12V~24V
Power Mode	AT/ATX
Dimension (L x W)	6.69" x 6.69" (170mm x 170mm)

.Software Support

OS Information	Win11 64bit, Win10 64bit Linux
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.Ordering Information

Ordering Information	EMX-RPLP-A1R Intel® 13th Gen. Core™ SoC i7/i5/i3 & Celeron®BGA Processor Mini ITX Motherboard
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