



EMX-EHLP

Intel® Atom® x6000E and Celeron® Processor Thin Mini ITX Motherboard

- > Intel® Atom® x6000E and Celeron® Series processors
- > 1 x 260-pin DDR4 3200MHz SO-DIMM socket, supports up to 32GB Max (Only Atom® x6000E Series Processors support IB ECC)
- > DP++, HDMI/DP, Dual channel 18/24-bits LVDS/co-lay eDP by switch IC
- > 4 x Intel® i226LM(IT) Gigabit Ethernet
- > Realtek ALC888S co-lay ALC897 (Default: ALC888S) HD Audio Codec
- > TI TPA3113D2 Stereo Class-D 6W
- > 1 x M.2 Type B 3042/3052/2242/2260/2280 slots with SATAIII + USB 3.1 GEN2, USB 2.0, SIM Slot for SSD/LTE/IO Cards support WWAN+GNSS or SSD, 1 x M.2 Key E 2230 support WiFi module (1 x PCIe x1 & USB 2.0 Signal)
- > 2 x SATA III, 2 x SATA Power, 4 x USB 2.0 by pin header, 2 x USB 3.1 Gen2 and 2 x USB 3.1 Gen1 at I/O
- > 4 x RS232, 2 x RS232/422/485, 16-bit GPIO
- > Support Line-out & Mic-in & Front audio pin-header
- > DC in +12V~24V (Minimum power input 11.6V)

+ Spec

-System Information-	
Processor	Intel® Atom® x6000E and Celeron® Processor
System Memory	One 260-pin DDR4 3200MHz SO-DIMM socket, supports up to 32GB Max (Only Atom® x6000E Series Processors support IB ECC)
I/O Chipset	EC iTE IT5571
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
Expansion	
Expansion	1 x M.2 Type B slot for 3042/3052/2242/2260/2280 size with SATAIII + USB 3.1 GEN2, USB 2.0, SIM Slot for SSD/LTE/IO Cards support WWAN+GNSS and SSD *3042/2242 bridge bracket to 3052 *SATA 2 share with M.2 key B SATA * Only supports one SIM card * Does not support I2S and PCM functions 1 x M.2 Key E 2230 support WiFi module (1 x PCIe x1 & USB 2.0 Signal) * Does not support PCM/I2S and UART functions
I/O	
USB Port	4 x USB 2.0 by pin header 2 x USB3.1 Gen2 and 2 x USB3.1 Gen1 at I/O
COM Port	4 x RS232, 2 x RS-232/RS422/485
SATA	2 x SATA Power 2 x SATA III
DIO	1 x 16-bit GPIO
Display	
Graphic Chipset	Intel® UHD Graphics for 10th Gen Intel® Processors
Spec. & Resolution	1 x DP++: 4096 x 2160@60 Hz (DP: 4096 x 2160@60Hz) 1 x HDMI 2.0b: 4096 x 2160@60 Hz LVDS: 1920 x 1080 Dual channel 18/24-bits LVDS (Chrontel CH7511B-BFI eDP to LVDS) 1 x eDP 4096 x 2160@60 Hz LVDS and eDP via switch IC, either one display is functional.
LVDS	2CH 18/24bits LVDS 1920 x 1080 Chrontel. CH7511B eDP to LVDS Converter
Audio	
Audio Codec	Realtek ALC888S & ALC897 (Co-lay)
Audio Interface	Support Line-out & Mic-in & Front audio pin-header
Audio Amplifier	TI TPA3113D2 Stereo Class-D 6W
Ethernet	
LAN Chipset	4 x Intel® i225/i226LM/IT(Default: i226LM/IT); (I225/i226IT for wide temp version) 2.5 Gigabit Ethernet (BOM optional for 1 x 2 RJ45 Thin Mini ITX Cost version design SKU)
Ethernet Interface	10/100/1000/2500 Base-Tx GbE compatible Gigabit Ethernet
LAN Port	4 x RJ-45
Mechanical & Environmental	
Operating Temperature	0 ~ 60°C (32 ~ 140 °F) Intel® Pentium®/Celeron®/N/J Series CPU SKU -20~60°C (-8~140°F) Intel® Atom®x6000 Series CPU SKU 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	Win10 64bit, Linux
Ordering Information	
Ordering Information	EMX-EHLP-J6412-A1R EMX-EHLP-J6413-A1R EMX-EHLP-X11E-A1R EMX-EHLP-X13E-A1R Intel® Celeron®/Atom™ SoC BGA Processor Thin Mini ITX SBC Motherboard