



## EMX-TGLC

### 11th Gen Intel® Core™ SoC i5/i3 BGA Processor Thin Mini ITX Motherboard

- > Onboard 11th Gen. Intel® Core™ SoC i5/i3 @ BGA Processor (Support Consumer CPU SKU)
- > 2 x 260-pin DDR4 3200 MHz SO-DIMM supports up to 64GB (non ECC only)
- > 2 x DP++, 1 x LVDS, 1 x eDP (Quadruple independent displays)
- > 1 x Intel® I226LM 2.5 Gigabit Ethernet
- > 1 x Intel® I219LM Gigabit Ethernet PHY
- > Realtek ALC897 co-lay ALC888S (Default: Realtek ALC897)
- > TI TPA3113D2PWP Stereo Class-D 6W x 2 Audio Amplifier
- > 1 x M.2 Type B 3042/3052/2242/2260/2280 (with 1 x PCI-e x1 (default) or SATA, USB 3.0 with 1 x SIM card slot, support WWAN+GNSS or NVMe SSD  
\*SATA 2 share with M.2 key B SATA
- > 1 x M.2 Key E 2230 support WiFi module and CNVi (1 x PCI-e x1 & USB 2.0 Signal)
- > 1 x PCI-e x4 slot support PCI-2 x2(Gen3) device
- > GPIO 16bit
- > Onboard NuvoTon NPCT754AADYX support TPM 2.0
- > Support Line-out & Mic-in & Front audio pin-header
- > DC in +12V~24V

#### Spec

##### -System Information-

<b>Processor</b>	Intel® Core™ i5-1135G7 (up to 4.2GHz, quad-core, 8M Cache, TDP: 15W Intel® Core™ i3-1115G4 (up to 3.0GHz, dual-core, 6M Cache, TDP: 15W Intel® Celeron® 6305E (up to 1.8GHz, dual-core, 4M Cache, TDP: 15W
<b>System Memory</b>	2 x 260-pin DDR4 3200 MHz SO-DIMM supports up to 64GB (non ECC only)
<b>I/O Chipset</b>	EC iTE IT8528E
<b>BIOS Information</b>	AMI uEFI BIOS, 256Mbit SPI Flash ROM
<b>Watchdog Timer</b>	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
<b>H/W Status Monitor</b>	CPU temperature monitoring Voltages monitoring CPU fan speed control
<b>TPM</b>	Onboard NuvoTon NPCT754AADYX support TPM 2.0

##### Expansion

<b>Expansion</b>	1 x M.2 Type B 3042/3052/2242/2260/2280 (with 1 x PCI-e x1 (default) or SATA, USB 3.0 with 1 x SIM card slot, support WWAN+GNSS or NVMe SSD *SATA 2 share with M.2 key B SATA 1 x M.2 Key E 2230 support WiFi module and CNVi (1 x PCI-e x1 & USB 2.0 Signal) 1 x PCI-e x4 slot support PCI-e x2(Gen3) device *Only support 25W Slot, +V12A total current is 8.7A.
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##### I/O

<b>USB Port</b>	3 x USB 3.1 Gen2, 1 x USB 3.1 Gen1 at I/O 4 x USB2.0 by pin header
<b>COM Port</b>	4 x RS232 2 x RS232/422/485
<b>SATA</b>	1 x SATA Power 2 x SATA III
<b>DIO</b>	1 x 16-bit GPIO

##### Display

<b>Graphic Chipset</b>	Intel® 12th Generation CPU integrated
<b>Spec. &amp; Resolution</b>	DP1+DP2 (DP1.4): Max: 7680 x 4329@60 Hz Single DP port (2021/2 Lab test): 5120 x 2160 @60 Hz, DVT check Max: 7680 x 4329@60 Hz Note: This resolution is actual test result. Intel resolution as below: 2 x DP++: 1920 x 1080@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 (Quadruple independent displays)
<b>Multiple Display</b>	2 x DP++/1 x LVDS/1 x eDP (Quadruple independent displays)
<b>LVDS</b>	2CH 18/24bits LVDS 1920 x 1080 Chrontel. CH7511B eDP to LVDS Converter

##### Audio

<b>Audio Codec</b>	Realtek ALC897 co-lay ALC888S
<b>Audio Interface</b>	Support Line-out & Mic-in & Front audio pin-header
<b>Audio Amplifier</b>	2 x Stereo Class-D 6W Audio Amplifier

##### Ethernet

<b>LAN Chipset</b>	1 x Intel® I226LM 2.5 Gigabit Ethernet 1 x Intel® I219LM Gigabit Ethernet PHY
<b>Ethernet Interface</b>	10/100/1000 Base-Tx GbE compatible
<b>LAN Port</b>	2 x RJ45

##### Mechanical & Environmental

<b>Operating Temperature</b>	Intel@ standard CPU SKU support: 0~60C
<b>Storage Temperature</b>	-40 ~ 75°C (-40 ~ 167°F)



<b>Operating Humidity</b>	40°C @ 95% Relative Humidity, Non-condensing
<b>Weight</b>	0.88lbs (0.4Kgs)
<b>Power Requirement</b>	+12V~24V
<b>Power Mode</b>	AT/ATX
<b>Dimension (L x W)</b>	6.69" x 6.69" (170mm x 170mm)
<b>Software Support</b>	
<b>OS Information</b>	Win10 64bit Linux
<b>Ordering Information</b>	
<b>Ordering Information</b>	EMX-TGLC-15-A1R (Core i3, Thin, 2DP/2LAN, Standard Temp.) EMX-TGLC-35-A1R (Core i5, Thin, 2DP/2LAN, Standard Temp.) Intel® 11th Gen. Core™ SoC i5/i3 @BGA Processor Mini ITX Motherboard