



## EMX-Q87R

Intel® 4th Generation Core™ Refresh i7/i5/i3 Mini ITX Motherboard with Intel® Q87 Chipset

- > Intel® LGA1150 Socket Supports 4<sup>th</sup> Generation Core™ Refresh i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
- > Intel® Q87 Chipset
- > 2 x 204-pin DDR3 1333/1600 MHz SO-DIMM supports up to 16 GB
- > VGA, HDMI, DP, Dual-channel 18/24-bit LVDS
- > 1 x Intel® I217LM PCIe Gigabit Ethernet PHY
- > 1 x Intel® I211AT PCIe Gigabit Ethernet
- > Realtek ALC892 Supports 5.1-CH HD Audio Codec
- > TI TPA2012D2RTJT Stereo Class-D 2W x 2 Audio Amplifier
- > 1 x Mini PCIe Supported mSATA, 1 x PCIe x 16, 1 x CFAST
- > 4 x SATA III, 6 x USB 3.0, 6 x USB 2.0
- > 3 x RS-232, 1 x RS-232/422/485, 1 x 8-bit GPIO
- > Supports RAID 0, 1, 5, 10, iAMT 9.0

### + Spec

System	
<b>Processor</b>	Intel® LGA1150 Socket Supports 4th Generation Core™ Refresh i7/i5/i3, Pentium® and Celeron® Processors (Max. TDP at 95W)
<b>System Chipset</b>	Intel® Q87 Chipset
<b>System Memory</b>	2 x 204-pin DDR3 1333/1600 MHz SO-DIMM supports up to 16 GB
<b>I/O Chip</b>	Nuvoton NTC6106D
<b>BIOS</b>	AMI uEFI BIOS, 64Mbit SPI Flash ROM; iAMT 9.0 Supported
<b>Watchdog Timer</b>	H/W Reset: 1sec. ~ 65535sec./min. and 1sec. or 1min./step
<b>H/W Status Monitor</b>	Monitoring System Temperature and Voltage with Auto Throttling Control
Expansion	
<b>Expansion</b>	1 x PCIe x 16 1 x Mini PCIe Supports mSATA (Switch Through Jumper) 1 x CFAST
I/O	
<b>USB</b>	6 x USB 3.0 6 x USB 2.0
<b>SATA</b>	4 x SATA III
<b>COM Port</b>	3 x RS-232 1 x RS-232/422/485
<b>DIO</b>	1 x 8-bit GPIO
<b>MIO</b>	1 x PS/2 Keyboard 1 x PS/2 Mouse
<b>Other</b>	TPM 1.2 SLB9635 (optional)
Display	
<b>Chipset</b>	Intel® 4th Generation CPU integrated
<b>Resolution</b>	VGA: 1920 x 1200 @ 60Hz HDMI: 4096 x 2160 @ 24Hz LVDS: 1920 x 1080 @ 60Hz DP: 3840 x 2160 @ 60Hz
<b>Multiple Display</b>	Triple Display
Audio	
<b>Chipset</b>	Realtek ALC892 supports 5.1-CH
<b>Audio Interface</b>	Mic-in, Line-out, Line-in
<b>Audio Amplifier</b>	TI TPA2012D2RTJT Stereo Class-D 2W x 2 Audio Amplifier
Ethernet	
<b>Chipset</b>	1 x Intel® I217LM 1 x Intel® I211AT
<b>Ethernet Interface</b>	10/100/1000 Base-Tx GbE compatible
<b>LAN Port</b>	2 x RJ-45
Mechanical & Environmental	
<b>Power Requirement</b>	+12V/+5V/5Vsb/+3.3V/-12V
<b>Power Type</b>	AT/ATX
<b>Operating Temp</b>	0°C ~ 60°C (32°F ~ 140°F)
<b>Storage Temp</b>	0°C ~ 60°C (32°F ~ 140°F)
<b>Operating Humidity</b>	0% ~ 90% Relative Humidity, Non-condensing
<b>Dimension (L x W)</b>	6.69" x 6.69" (170mm x 170mm)
<b>Weight</b>	1.03lbs (0.47kg)

### + Ordering

EMX-Q87R-A1R  
Intel® 4<sup>th</sup> Generation Core™ Refresh i7/i5/i3 Mini ITX Motherboard with Intel® Q87 Express Chipset