



## Features

- Intel® Haswell Desktop LGA1150 (Socket H3) CPU
- Intel® Q87 Chipset
- 2 x 204-pin DDR3 SODIMM Sockets Support Up to 16GB 1333/ 1600MHz SDRAM
- Dual-channel 18/24-bit LVDS, HDMI, VGA, DP
- Triple Display
- 2 x Gigabit Ethernet
- 1 Mini PCIe, 1 PCIe16 Gen. 3, 1 CFast (Optional)
- 4 SATA III, 6 USB 3.0, 6 USB 2.0, 4 COM, 8-bit GPIO
- iAMT 9.0
- RAID 0, 1, 5, 10

## Specifications

### System

• CPU	Intel® Haswell Desktop LGA1150 (Socket H3), Up to 95W
• BIOS	AMI uEFI BIOS, 64Mbit SPI Flash ROM iAMT 9.0 Supported
• System Chipset	Intel® Lynx Point ( Intel® Q87 Chipset)
• I/O Chip	Nuvoton NCT6106D
• System Memory	2 x 204-pin DDR3 SODIMM Sockets Support Up to 16GB 1333/ 1600MHz SDRAM
• Watchdog Timer	H/W Reset, 1sec. ~ 65535sec./min. and 1sec. or 1min./step
• H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
• Expansion	1 x Mini PCIe (mSATA Selected by Jumper) 1 x PCIe16 Gen.3 1 x CFast (Optional)
• Buzzer	Buzzer Onboard
• TPM	Infineon TPM 1.2 SLB9635 (Optional)
• RAID	RAID 0, 1, 5, 10

### I/O

• MIO	1 COM (Rear COM1, RS-232/422/485 Supported), 3 COM (Internal COM2 ~ 4, RS-232, w/ +5V & 12V Supported), 1 VGA, 1 DP, 1 LVDS, 1 HDMI, 1 Audio Jack, 1 PS/2 KB/ MS, 4 SATA III
• USB	6 USB 3.0, 6 USB 2.0
• DIO	8-bit General Purpose I/O for 4-bit DI and 4-bit DO

### Audio

• Audio Codec	Realtek ALC892 HD Audio Codec, 2W Amplifier Onboard
• Audio Interface	Mic-in, Line-in, Line-out, Speaker-out

### Display

• Chipset	Intel® Q87 Integrated
• Resolution	3 Independent Display Supported - DP: 3200 x 2000 - LVDS: 1920 x 1200 - VGA: 1920 x 1200 - HDMI: 4096 x 2304

### Ethernet

• Chipset	1 x Intel® Springville I211AT Gigabit Ethernet Controller 1 x Intel® Clarkville I217LM Gigabit Ethernet PHY
• Ethernet Interface	10/ 100/ 1000 Base-Tx Gigabit Ethernet Compatible

### Mechanical & Environmental

• Power Requirement	ATX
• Power Type	AT/ ATX Mode (Selectable by Jumper)
• ACPI	Single Power ATX Support S0, S1, S3, S4, S5 ACPI 3.0 Compliant
• Operating Temperature	0 ~ 60°C (32 ~ 140°F)
• Storage Temperature	-20 ~ 75°C (-4 ~ 167°F)
• Operating Humidity	0 ~ 90% Relative Humidity, Non-condensing
• Size (L x W)	6.69" x 6.69" (170mm x 170mm)
• Weight	TBD

## Ordering Information

- **EMX-Q87-A1R**  
Intel® Haswell Mini ITX Motherboard with Intel® Q87 Chipset