



## Features

- Intel® 4<sup>th</sup> Generation Core™ Haswell-Refresh i5/i3 Processors
- 1 x 204-pin DDR3L SODIMM Up to 8GB 1333/1600 SDRAM
- Dual-channel 18/24-bit LVDS, HDMI, VGA
- Realtek ALC892 Supports 5.1-CH Audio
- Dual Gigabit Ethernet
- Triple Display
- 2 SATA III, 1 Mini PCIe Card (Support mSATA)
- 6 USB 3.0, 2 USB 2.0, 2 COM, 8-bit DIO
- iAMT 9.0



## Specifications

### System

<b>CPU</b>	Intel® Core™ i5-4422E, 2-Core, 1.8GHz, 3M Cache Intel® Core™ i3-4110E, 2-Core, 2.6GHz, 3M Cache
<b>BIOS</b>	AMI uEFI BIOS, 128 Mbit SPI Flash ROM
<b>System Chipset</b>	Intel® QM87
<b>I/O Chip</b>	EC (IT8518E)
<b>System Memory</b>	One 204-pin DDR3L SODIMM Socket Supports Up to 8GB DDR3 1333/1600 SDRAM
<b>Watchdog Timer</b>	Reset: 1sec. ~ 65536sec./min. and 1sec. or 1min./step
<b>H/W Status Monitor</b>	Monitoring System Temperature, Voltage with Auto Throttling Control
<b>Expansion</b>	1 x Mini PCIe (mSATA Supported)

### I/O

<b>MIO</b>	1 x RS-232, 1 x RS-232/422/485, LPC, 2 x SATA III
<b>USB</b>	6 x USB 3.0, 2 x USB 2.0
<b>DIO</b>	4-bit GPI, 4-bit GPO

### Display

<b>Chipset</b>	Intel® QM87
<b>Resolution</b>	VGA Mode: 1920 x 1200 @ 60Hz HDMI Mode: 4000 x 2000 @ 25Hz LVDS Mode: 1920 x 1080 @ 60Hz
<b>Multiple Display</b>	VGA + LVDS + HDMI
<b>LCD Interface</b>	Dual-channel 18/24-bit LVDS

### Audio

<b>HD Codec</b>	Realtek ALC892 Supports 5.1-CH Audio
<b>Audio Interface</b>	Mic-in, Line-in, Line-out

### Ethernet

<b>LAN Chip</b>	1 x Intel® I210AT Gigabit Ethernet Controller 1 x Intel® I217LM Gigabit Ethernet PHY
<b>Ethernet Interface</b>	10/100/1000 Base-Tx Gigabit Ethernet Compatible

### Mechanical & Environmental

<b>Power Requirement</b>	+12V
<b>ACPI</b>	Single Power ATX Support S0, S3, S4, S5 ACPI 3.0 Compliant
<b>Power Type</b>	AT/ATX
<b>Operating Temperature</b>	0 ~ 60°C (32 ~ 140°F)
<b>Storage Temperature</b>	-40 ~ 75°C (-40 ~ 167°F)
<b>Operating Humidity</b>	0%~90% Relative Humidity, Non-condensing
<b>Size (L x W)</b>	5.7" x 4" (146mm x 101mm)
<b>Weight</b>	0.44lbs (0.2kg)

## Ordering Information

### ECM-QM87R

Intel® 4<sup>th</sup> Generation Core™ Haswell-Refresh i5/i3 Processor 3.5" Micro Module with Intel® QM87 Chipset

### AUX-056

USB 3.0 Daughter Board