# ROBO-8112VG2AR-Q87

**Intel® Core™ i5/i7 series processor based on PICMG 1.3 SHB with DDR3 SDRAM, VGA, Dual Gigabit Ethernet, Audio and USB**



Dual 240-pin DDR3 DIMM sockets
Three SATA III ports
HDMI port
Four USB 3.0 ports
One RS232 port
Four USB 2.0 ports
Parallel port
FDD port
Dual USB3.0 ports
Dual GbE ports
DVI-I port (DVI-D+VGA)
PS/2 KB and Mouse
One RS232/422/485 Selectable ports
Intel® Q87
LGA1150 socket
+12V power connector

3.43  0  1.60  70.20

UEFI BIOS / USB 3.0 / DDR 3 / DVI-I / Giga LAN / H/W Monitor / SATA 6Gb / GPIO
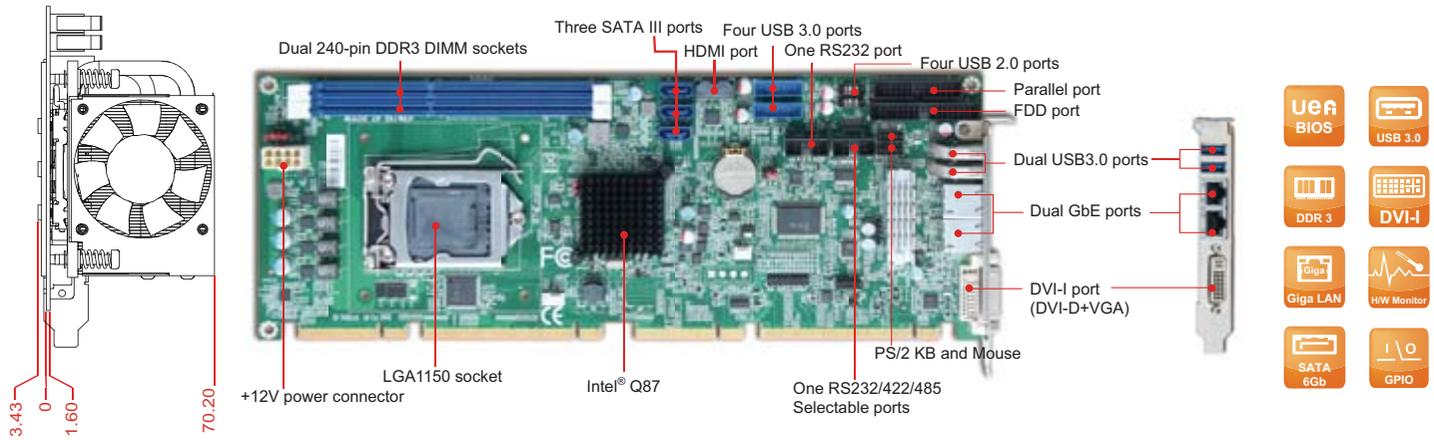
ROBO-8112VG2AR-Q87 is based on Intel Q87 chipset and workstation processor sku like Core i5/i7. Build with flexible PCI express expension, it's suitable for Medical, Industrial automation, and digital signage applications.

## FEATURES

- Supports Intel® Core™ i5/i7 processors in LGA1150 package
- Delivers up to 16GB maximum DDR3 1333/1600 non-ECC SDRAM on two DIMM sockets
- Supports triple display by DVI-I (DVI-D+VGA) and HDMI
- Supports iAMT 9.0 on Intel® Core™ i5/i7 processors
- High speed dual Gigabit Ethernet based on PCI Express x1, high bandwidth I/O interface
- Rich I/O connections such as FDD, two Gigabit Ethernet, serial ports, parallel port, USB 2.0/3.0"
- On-board five SATA III ports support RAID 0,1,5,10 (dual ports on backplane)

## ORDERING GUIDE

| AB1-3955 | ROBO-8112VG2AR-Q87 PICMG 1.3(PCI-E+PCI).LGA1150. Intel Core i5/i7 processors.SHB.w/VGA/Dual GbE/Audio |
|----------|------|

## PACKING LIST

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|---|---|
| **Standard** | B6902930 SATA III cable (Black) |
| | B690021S Cable kit for FDD+PRN with bracket |
| | B8981980 PICMG SBC Handling and Installation Notice |
| | B6902890 DVI-D + VGA cable with bracket |
| | B6903240 dual head COM port cable with bracket |
| | B3751640 Installation CD |
| **Option** | B6902980 PS/2 Keyboard / Mouse Cable with bracket |
| | B6902230 USB port cable with bracket |
| | AB9-2066 PA-M1AU Multiple Media kit |
| | B6903090 USB 3.0 cable with bracket |

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## GENERAL

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|---|---|
| processor | - Intel® Core™ i5/i7 processors up to 3.1 GHz (35~65W) with (4~8MB) Cache in LGA-1150 package<br>- DMI x4 Link: 5.0GT/s<br>- Support Intel® Turbo Boost , Hyper-Threading, Virtualization, Thermal Monitoring, Trusted Execution  and SpeedStep Technology (depends on CPU sku)" |
| Chipset | Intel® Q87 PCH |
| BIOS | Phoenix uEFI BIOS |
| Memory | - Supports up to 16GB DDR3 1333/1600 SDRAM on two 240-pin non-ECC DIMM sockets<br>- Supports non-ECC |
| Storage Devices | - Supports 5x SATA III drive (Dual ports via Backplane)<br>- RAID 0,1,5,10<br>- 1x FDD channel |
| Watchdog Timer | Programmable via S/W from 0.5 sec. to 254.5 sec |
| Hardware Monitoring | System monitor (Voltage, Fan speed and Temperature) |
| Expansion Interface | - From CPU (Core i5/i7): 1x PCI Express x16 (Gen3 up to 8.0 GT/s)<br>- From PCH: 1x PCI Express x4 or 4x PCI Express x1 by different bios support (Gen2 up to 5.0 GT/s)<br>-  4x PCI devices at 32 bit 33 MHz |

## I/O INTERFACE

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|---|---|
| Super I/O | ITE IT8728F |
| Audio | - Intel® BD82Q87 PCH built-in High Definition Audio up to 192-kHz 32-bit<br>- Realtek ALC886-GR HDA codec, 7.1 channels |
| Ethernet | - Intel® WGI217LM + WGI210AT gigabit ethernet controller<br>- Dual 10BASE-T / 100BASE-TX / 1000BASE-T Ethernet<br>- PCI Express x1 interface based on gigabit ethernet<br>- Dual RJ-45 connector with two LED indicators |
| Serial Port | - 1x RS232 and 1x selectable RS232/422/485 on board |
| USB | - 8x USB 2.0 ports (four ports through backplane)<br>- 480Mb/s bus capable of high-speed/full-speed/low-speed data ranges<br>- 6x USB 3.0 ports pn board (four ports on board, dual ports on bracket)<br>- 5Gbps bus capable of high-speed/ full-speed/low-speed data ranges |
| Keyboard & Mouse | - 2x USB 3.0 ports on bracket dedicated to keyboard & mouse (on bracket)<br>- 1x 10 pin box header for external PS/2 keyboard/mouse |
| GPIO | On board programmable 8-bit Digital I/Os |
| Others | 1x Parallel port |

## DISPLAY

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|---|---|
| Graphic Controller | - Intel® Core™ i5/i7 processors integrated graphics engine<br>- Provides improved 3D multimedia capabilities including Microsoft DirectX 11.1, Shader Model 4.0, MPEG-2 and OpenGL 3.2 |
| Display Interface | Support independent triple display by<br>- CRT on bracket: Resolution up to 1920x1200 @ 60Hz<br>- DVI-D on bracket: up to 1920x1200 @ 60Hz<br>- HDMI: up to 4096x2160 @ 24Hz  (CRT + DVI-D on bracket by DVI-I port) |

## Mechanical & Environment

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|---|---|
| Dimension | - 338.5mm(L) x 126.39mm(W), 13.33""(L) x 4.98""(W)<br>- PCB: 8 layers |
| Power Supply | - Typical: +12V@5.29A;+5V@4.94A<br>- Support ATX mode |
| Environment | - Operation Temperature: 0~60 °C<br>- Storage Temperature: -20~80 °C<br>- Relative Humidity: 5~90%, non-condensing |
| MTBF | Over 100,000 hours at  40°C |