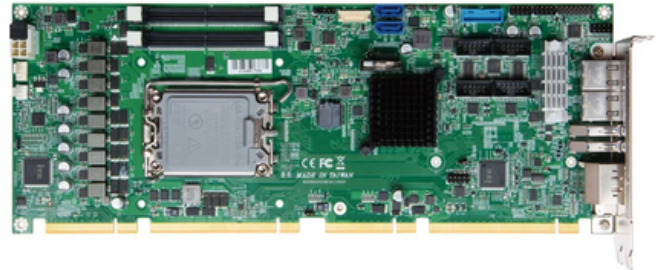


ROBO-8116G2AR

Single board computer with Intel® R680E / Q670E chipset and Intel® Core™ 13th/12th Gen. CPU

Features

- Supports Intel® 13th/12th Gen. processors
- 2x DDR5 4,800 MHz SDRAM, up to 64GB
- Intel® R680E / Q670E chipset
- PCIe x16 Gen 5 and 4x PCIe Gen 4 lanes
- Multiple displays via DVI-D, DP and HDMI

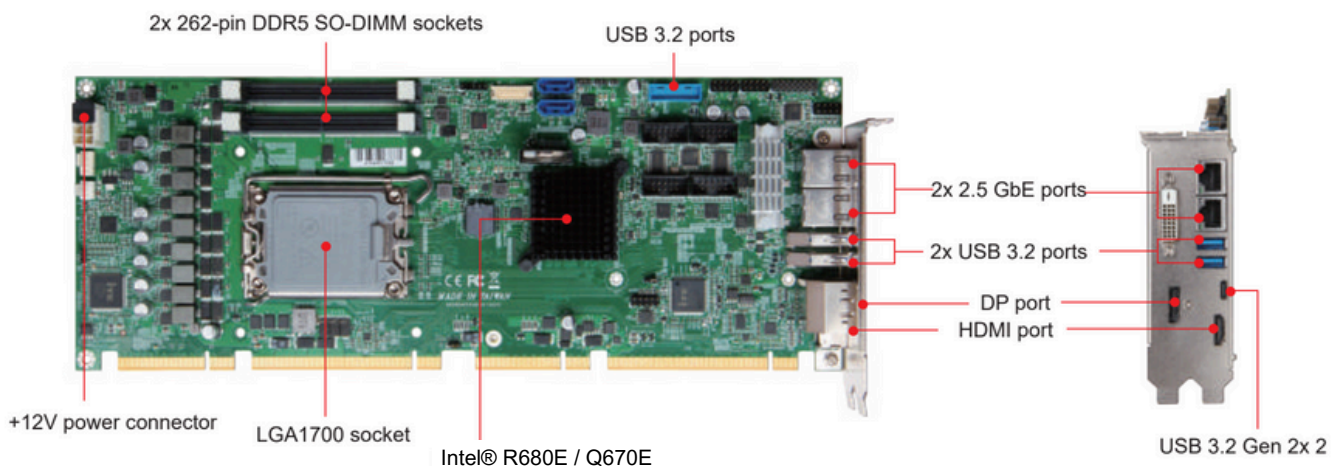


ROBO-8116G2AR – Modern Single Board Computer

The ROBO-8116G2AR single-board computer (SBC) is a powerful solution for demanding applications in the fields of medicine, industrial automation, and digital signage. Equipped with the latest 13th and 12th generation Intel® Core™ processors (formerly Raptor Lake-S/Alder Lake-S), this SBC offers exceptional computing performance and flexibility.

The ROBO-8116G2AR supports up to 64 GB of DDR5-4800 ECC/Non-ECC SDRAM, making it ideal for memory-intensive applications. Fast and reliable data transfer is ensured by dual 2.5GbE LAN ports and various USB ports, including USB 3.2 Gen 2 and USB 3.2 Gen 2x2. The versatile expansion options include a PCIe x16 Gen 5 slot and four PCIe Gen 4 lanes, providing high bandwidth for additional cards. This SBC supports multiple display outputs, including DVI-D, DP, and HDMI, allowing for the connection of up to three independent displays. The integrated Intel® graphics deliver impressive 3D multimedia capabilities with support for Microsoft DirectX 12 and OpenGL 4.5. For added protection and security, a TPM 2.0 module is on board.

With a robust construction that withstands operating temperatures from 0°C to 60°C and storage temperatures from -20°C to 80°C, along with CE and FCC certifications, the ROBO-8116G2AR is suitable for harsh environments. The programmable watchdog timer and hardware monitoring functions ensure reliable and stable performance. Thus, the ROBO-8116G2AR is an ideal solution for modern, high-performance embedded systems.



ROBO-8116G2AR

Single board computer with Intel® R680E / Q670E chipset and Intel® Core™ 13th/12th Gen. CPU

Specifications	ROBO-8116G2AR
SYSTEM	
CPU	12th Generation Intel® Core™/13th Generation Intel® Core™ processors in LGA1700 package DMI x4 Link: 5.0GT/s Support Intel® Turbo Boost, Hyper-Threading, Virtualization, Thermal Monitoring, Trusted Execution and Speed Step Technology (depends on CPU SKU)
Chipset	Intel® R680E or Q670E
Graphics	Intel® processors integrated graphics engine Provides improved 3D multimedia capabilities including Microsoft DirectX 12, OpenGL 4.5
RAM	Supports up to 64GB DDR5 4800 MHz SDRAM on two 262-pin SO-DIMM sockets Supports ECC/Non-ECC
Storage	4x SATAIII drives (Dual ports via Backplane) Supports RAID 0, 1, 5, 10 1x M.2 Type M 2280 (on bottom side)
BIOS	AMI uEFI BIOS
Hardware Monitoring	System monitor (Voltage, Fan Speed and Temperature)
Watchdog	Programmable watchdog timer, time out period from 0.5 sec to 254.5 secs.
Expansion	From CPU: 1x PCIe 5.0 x16 or 2x PCIe 5.0 x8 and 1x PCIe 4.0 x4 by jumper setting (Gen 5 up to 32 GT/s) From PCH: 1x PCIe 3.0 x4 or 4x PCIe 3.0 x1 by different BIOS support (Gen 3 up to 8.0 GT/s), 4x PCI devices at 32bit 33MHz
Super I/O (Embedded Controller)	ITE IT5121E-I
INTERFACE	
Ethernet	Dual Intel® WGI225LM Gigabit Ethernet controller Dual I0BASE-T / 100BASE-TX / 1000BASE-T / 2500BASE-T Ethernet PCI Express x1 interface based on Gigabit Ethernet Dual RJ-45 connectors with two LED indicators
USB	2x USB 3.2 Gen 1 ports on board (5Gb/s) 2x USB 3.2 Gen 2 ports on bracket (10Gb/s) 1x USB 3.2 Gen 2x2 type-C port on bracket (20Gb/s)
COM	2x RS-232 ports 2x RS-232/422/485 ports selectable LPC to COM port IC: Fintek F81216DG
Digital I/O	On board programmable 8-bit Digital I/Os
Video	Triple independent displays by DP on bracket: Resolution up to 4096x2160 @ 60Hz DVI-D on bracket: up to 1920x1200 @ 60Hz HDMI on board: up to 4096x2160 @ 30Hz
Audio	Intel® PCH built-in High Definition Audio up to 192-kHz 32-bit Realtek ALC888S HDA codec. 7.1 channels one on board audio pin header
ENVIRONMENTAL	
Power Supply	Typical: +12V, +5V Supports ATX mode
Operating Temperature	0°C ~ 60°C
Storage Temperature	-20°C ~ 80°C
Humidity	5 ~ 95 %, non-condensing
Dimensions	338.5mm(L) x 126.39mm(W), 13.33"(L) x 4.98"(W) PCB: 12 layers
MTBF	Over 100,000 hours at 40°C
Certifications	CE, FCC Class A

ROBO-8116G2AR

Single board computer with Intel® R680E / Q670E chipset and Intel® Core™ 13th/12th Gen. CPU

Ordering Information	
MODEL NO.	
ABI-3K67	ROBO-8116G2AR. PICMG 1.3 (PCI-E+PCI). LGA1700. R680E PCH. Intel® Core™ Processors. SHB. w/ HDMI/Dual GbE/Audio/four COM ports
ABI-3K68	ROBO-8116G2AR-Q670E. PICMG 1.3 (PCI-E+PCI). LGA1700. Q670E PCH. Intel® Core™ Processors. SHB. w/ HDMI/Dual GbE/Audio/four COM ports
PACKING LIST	
Standard	B6902932 SATA III cable B8981980 PICMG SBC Handling and Installation B6902352 *(GP).Cable.DB9x2 to HSG(5x2)x2 L=300mm W/Bracket for Ruby-9717/Ruby-9718. CY-8A08006R.CHUAN YANG TBD Installation
Optional	B6903090 USB 3.0 cable with bracket B6902230 USB port cable with bracket

