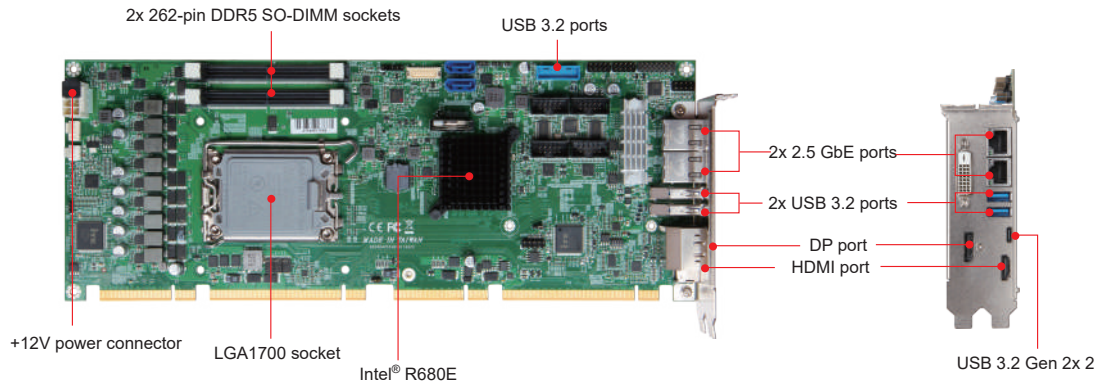# ROBO-8116G2AR-R

Intel® 12th/13th/14th Generation chipset 600 series with processor based on PICMG 1.3 SHB with DDR5 SDRAM, HDMI, DVI-D, DP, Dual 2.5Gigabit Ethernet, Audio and USB

2x 262-pin DDR5 SO-DIMM sockets
USB 3.2 ports
2x 2.5 GbE ports
2x USB 3.2 ports
DP port
HDMI port
+12V power connector
LGA1700 socket
Intel® R680E
USB 3.2 Gen 2x 2

EC · USB 3.0 · SATA 3.0 · Watch DOG · USB 2.0 · TPM · HDMI · 2 GbE · DVI-D

ROBO-8116G2AR-R is based on Intel® 600 series chipset and workstation processors. Built with flexible PCI express expansions, ROBO-8116G2AR is suitable for Medical, Industrial automation, and Digital Signage application.

FEATURES

- Supports Intel® 12th/13th/14th Generation Core processors Family in LGA 1700 package
- Two SO-DIMM support DDR5 DRAM up to 96GB
- Supports mutiple display by DVI-D ,DP and HDMI
- High speed dual 2.5Gigabit Ethernet based on PCI express   x 1, high bandwidth I/O interface
- Support two USB 3.2 Gen2 and USB 3.2 Gen2x2 on REAR I/O
- Support on board TPM2.0

ORDERING GUIDE

AB1-3S31	**(R).ROBO-8116G2AR-R.** PICMG 1.3(PCI-E+PCI).LGA1700.R680E PCH. Intel Xeon/Core i3 processors. SHB. w/DP/HDMI/DVI/Dual GbE/Audio/four COM ports(Raptor lake-s refresh)

PACKING LIST

Standard	B6902932 SATA III cable
	B8981980 PICMG SBC Handling and Installa
	B6902352 *(GP).Cable.DB9x2 to HSG(5x2)x2 L=300mm W/Bracket for Ruby-9717/Ruby-9718.
	CY-8A08006R.CHUAN YANG
Optional	B6903090 USB 3.0 cable with bracket
	B6902230 USB port cable with bracket

GENERAL

Processor	- Intel® 12th/13th/14th Generation Core processors family in LGA1700 package - DMI x4 Link : 16GT/s - Support Intel® Turbo Boost, Hyper-Threading, Virtualization, Thermal Monitoring, Trusted Execution and Speed Step Technology (depends on CPU sku)
Chipset	Intel® R680E
BIOS	AMI uEFI BIOS
Memory	-Supports two DDR5 dual channel up to 96GB SO-DIMM sockets -Supports DDR5-5600 MT/s 1DPC 1R and DDR5-5200 MT/s 1DPC 2R SO-DIMM memory on all i9,i7 and select i5 SKUs
Storage Devices	- 4x SATAIII drives (Dual ports via Backplane) - Supports RAID 0, 1, 5, 10 - 1x M.2 Type M 2280 (on bottom side)
Watchdog Timer	Programmable watchdog timer, time out period from 0.5 sec to 254.5 secs
Hardware Monitoring	System monitor(Voltage,Fan Speed and Temperature)
Expansion Interface	- From CPU: 1x PCIe x16(Gen5) or 2x PCIe x8(Gen5) and 1x PCe x4(Gen4) setting (Gen5 up to 32 GT/s) - From PCH: 1x PCIe x4 or 4x PCIe x1 by different bios support (Gen 3 up to 8.0 GT/s), 4x PCI devices at 32bit 33MHz

I/O INTERFACE

Super I/O	ITE IT5121E-I
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
Ethernet	- Dual Intel® WGI225LM Gigabit Ethernet controller - Dual 10BASE-T / 100BASE-TX / 1000BASE-T / 2500BASE-T Ethernet - PCI Express x1 interface based on Gigabit Ethernet - Dual RJ-45 connectors with two LED indicators
Serial Port	- 2x RS-232 ports - 2x RS-232/422/485 ports selectable - LPC to COM port IC: Fintek F81216DG
USB	- 4x USB 2.0 ports (through backplane) - 2x USB 3.2(Gen1) ports on board - 2x USB 3.2(Gen2) ports on bracket - 1x USB 3.2(Gen2 x2) type-C port on bracket
Keyboard & Mouse	TDB
GPIO	On board programmable 8-bit Digital I/Os

DISPLAY

Graphic Controller	Intel® Core™ i3/i5/i7/i9 processors integrated graphics engine Provides improved 3D multimedia capabilities including Microsoft DirectX 12, OpenGL 4.5
Display Interface	- Support independent triple display by DP on bracket: Resolution up to 4096x2160 @ 60Hz - DVI-D on bracket: up to 1920x1200 @ 60Hz - HDMI on board: up to 4096x2160 @ 30Hz

Mechanical & Environment

Dimension	- 338.5mm(L) x 126.39mm(W),13.33"(L) x 4.98"(W) PCB: 12 layers
Power Supply	- Typical: +12V, +5V - Support ATX mode
Environment	- Operation Temperature: 0°C to 60°C - Storage Temperature: -20°C to 80°C - Relative Humidity: 5~95%, non-condensing
Certification	CE,FCC Class A
MTBF	Over 100,000 hours at 40°C