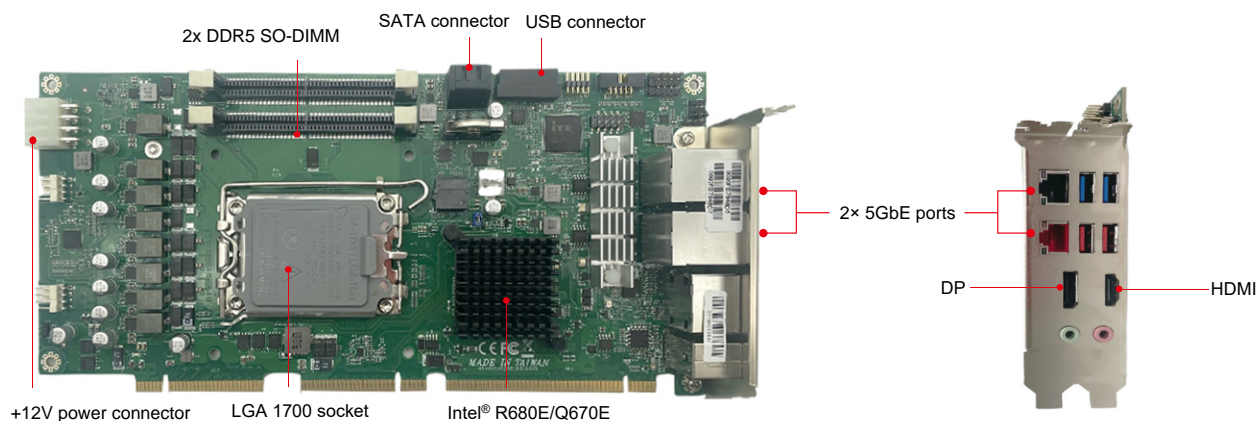


ROBO-9910G2AR-A

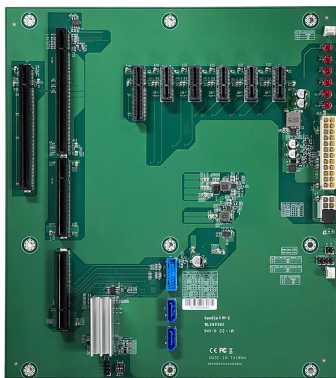
14th/13th/12th Gen Intel® Core™ processors based SHB with DDR5 SDRAM, PCIe Gen 5, Dual 5GbE, Display, Audio and USB



ROBO-9910G2AR-A is based on the 14th/13th/12th Generation Intel® Core™ processors, featuring PCIe Gen 5 and DDR5 SDRAM. Built with flexible PCI express expansions, it is suitable for diverse applications in medical, industrial automation, and digital signage.

FEATURES

- 14th/13th/12th Gen Intel® Core™ processors (Formerly Raptor Lake-S Refresh/Raptor Lake-S /Alder Lake-S)
- Dual-channel DDR5 4800 ECC SO-DIMM up to 64GB
- 16x PCIe Gen 5 and 4x PCIe Gen 4 lanes ready for high-speed expansion cards
- DP and HDMI output on rear I/O
- 2x 5GbE, up to 8x USB 3.2
- On-board TPM2.0
- Paired with backplane PBPE-08A-A



ORDERING GUIDE

AB1-3P06	(R).ROBO-9910G2AR-A. Customized SHB.LGA1700. R680E PCH. 14th/13th/12th Gen Intel Core/Xeon processors. w/ DP/ HDMI/Dual 5G LAN/Audio/USB 3.2/COM/ TPM/M.2 2280 Type M
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GENERAL

Processor	- 14th/13th/12th Gen Intel® Core™ processors in LGA1700 package - x8 DMI 4.0 - Support Intel® Turbo Boost, Hyper-Threading, Virtualization, Thermal Monitoring, Trusted Execution and Speed Step Technology (depends on CPU)
Chipset	Intel® R680E/Q670E
BIOS	AMI uEFI BIOS
Memory	- Supports up to 64GB DDR5 4800 MHz SDRAM on two 262-pin SO-DIMM sockets - Supports both ECC and non-ECC
Storage Devices	- 2x SATAIII drives (Additional Dual ports via Backplane) - Supports RAID 0, 1, 5 - 1x M.2 Type M 2280
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 5.0 x16 or 2x PCIe 5.0 x8 (Configured by jumper setting) - From PCH: 1x PCIe 4.0 x4 and 5x PCIe 4.0 x1

I/O INTERFACE

Super I/O (Embedded Controller)	IT5121E-I
Audio	- Realtek ALC888S HDA codec, one 7.1 channel on board audio pin header
Ethernet	- Marvell AQC114C 5G Gigabit Ethernet controller - Dual 5GBASE-T Ethernet ports
Serial Port	1x RS-232/422/485 port selectable
USB	- 2x USB 3.2 Gen 2 ports on Rear I/O (10Gb/s) - 2x USB 3.2 Gen 1 ports on Rear I/O (5Gb/s) - Up to 8x USB 3.2 total, including on board and backplane USB header
GPIO	On-board programmable 8-bit digital I/Os

DISPLAY

Graphic Controller	- Intel® processors integrated graphics engine - Provides improved 3D multimedia capabilities including Microsoft DirectX 12, OpenGL 4.5
Display Interface	- DP: up to 7680×4320 @ 60Hz - HDMI: up to 4096×2160 @ 60Hz

Mechanical & Environment

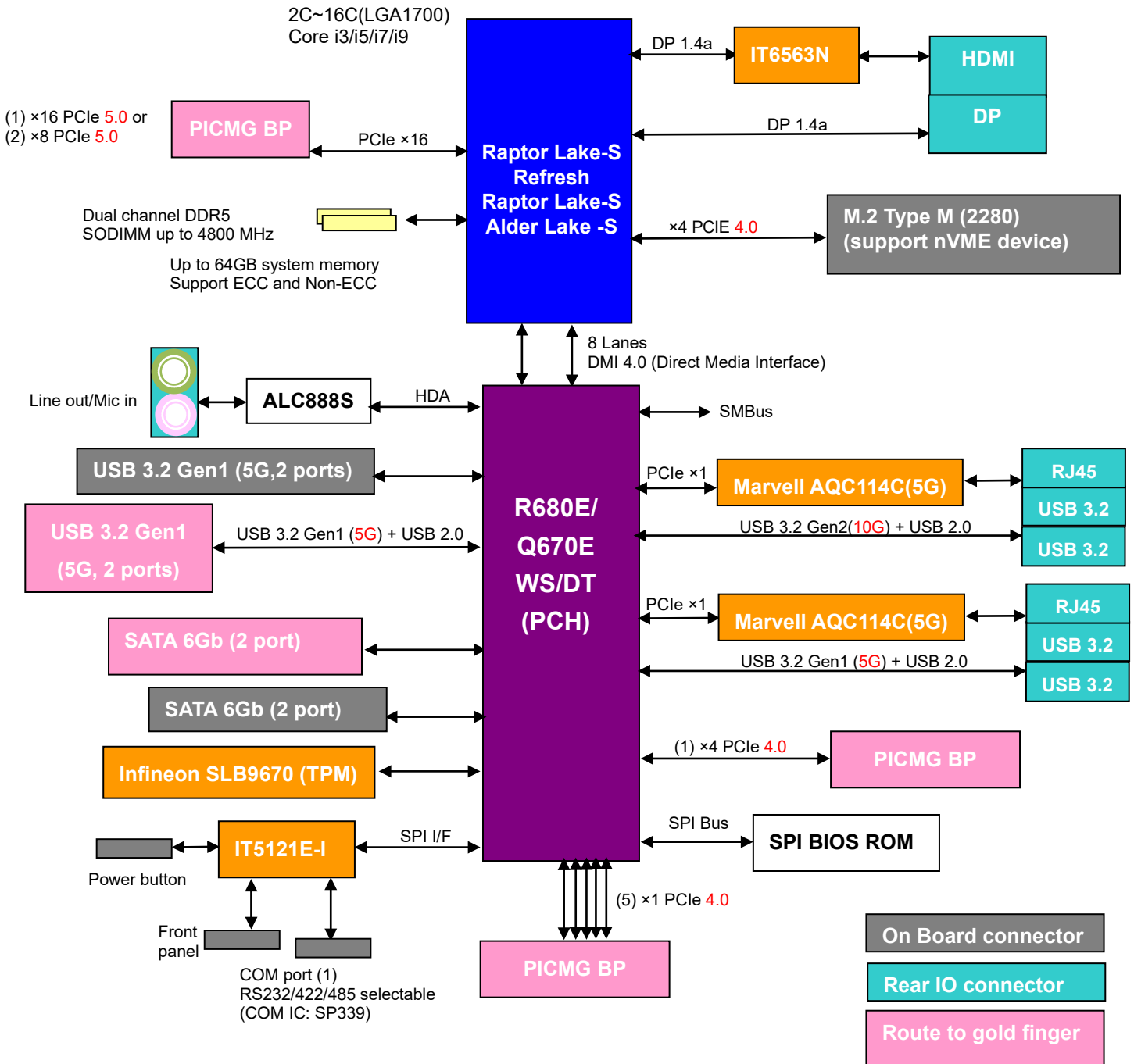
Dimension	- 270mm(L) × 136.4mm(W), 10.6"(L) × 5"(W) - PCB: 14 layers
Power Supply	- Typical: +12V, +5V - Support ATX mode
Environment	- Operation Temperature: 0°C to 50°C - Storage Temperature: -20°C to 80°C - Relative Humidity: 5~95%, RH
Certification	CE, FCC Class B
MTBF	Over 100,000 hours at 40°C



*All information provided is subject to change without notice. Last updated: March 12, 2024

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Block Diagram



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