Product model	SD890-681MS
processor	Supports LGA1700 12th/13th Intel® Celeron/Pentium/Core™ i3/i5/i7/i9 Alder Lake-S and Raptor Lake-S processors, Note: Supports 125W cpus
chipset	Using Intel® W680 chipset,
Internal memory	2 * DDR5 SODIMM slots, supporting a dual-channel memory of up to 3200MHz, 128GB, and ECC memory
display	Integrated Intel®HD Graphics core graphics card supports DirectX12.1,OpenGL4.5, and supports 4K display
	1 * VGA port, the maximum resolution is 1920X1200@60Hz
	2* HDM1.4 interface, support the highest resolution of 4096x2160@24Hz
network	1* I210AT Gigabit network adapter chip, supports network wake up /PXE function
deposit	4* SATA3.0 hard disk port, transmission speed up to 6Gbps, support RAID 0,1,5,10
	1* MSATA slot, supporting Intel SSDS

	1 * M.2 slot, supporting the M.2 Key M 2280 NVME PCIE X4 standard SSD
Tone frequency	**Onboard ALC897 7.1+2 channel hi-fi audio controller with MIC/Line-out support**
Expansion slot	**1* PCIE5.0X16 slot**
	1 x PCIE 3.0 X1 slot
	2 x PCIE 3.0 X4 slots
I/O ports on the backplane	**1* HD OUTPUT1.4 port**
	1* RJ45 Gigabit network port
	10* USB3.2 Gen 2x1 interface (10Gbps)
	1* Line-out(green),1*MICK(red)
Built-in I/O interface	**1* JVGA interface 1*12pin,**
	1* JHD OUTPUT port 2*8pin
	2* USB2.0 interface 2*5pin,
	2* vertical USB2.0 interface
	2* RS232 serial port, supporting RS485/422
	1* Front panel audio port 2*5pin
	2* Front panel function buttons and indicator ports 2*5pin
	1* 24pin ATX power socket 2* 8pin ATX power socket
	1* PS/2 keyboard and mouse interface 1*6pin
	1* TPM port 2*6pin
	1* JHD OUTPUT port 2*8pin
	1* 120pin high-speed seat, including 6 PCIE,1 VGA,VCC and other signals, for the expansion of 1 VGA port,6 POE ports (W680MS-POE board)
	2* row pin, 2*10pin, for expansion 16 in 16 out GPIO(MS-GPIO small board)
Fan interface	**1*4pin CPU fan interface; 3*4pin system fan port**
BIOS	**128Mb Flash ROM**
Guard dog	**Support hardware reset function (256 level, 0~255 seconds)**
Operating system	**Windows 10/Windows 11/Linux**

Power supply type	Powered by ATX 24Pin and 8pin power supplies
Operating temperature	0℃ to 60℃
Storage temperature	-20℃ to 70℃
Working humidity	5%-95% relative humidity, no condensation
Size	245mm * 245mm