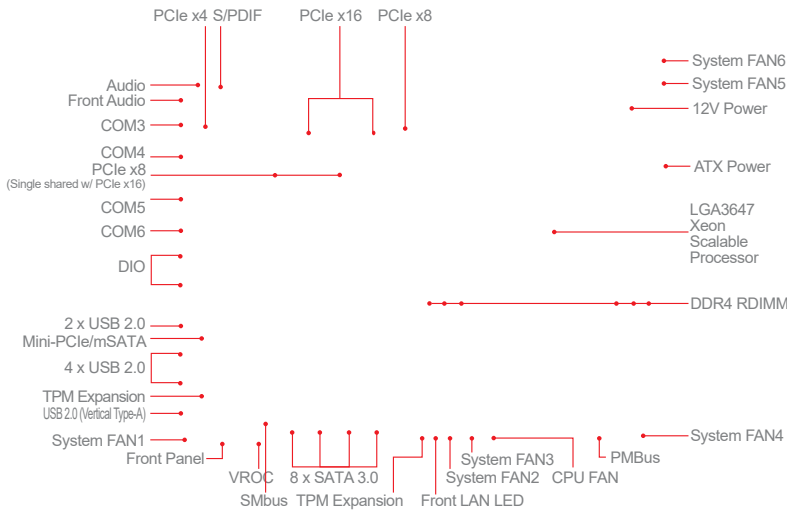


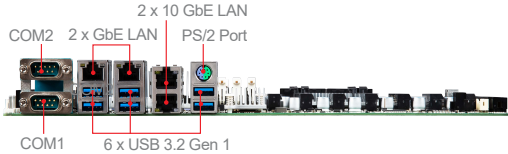
# MS-98M9

ATX with 2nd/1st Gen Intel® Cascade Lake/Skylake Xeon® Scalable Processors & Intel® C622/C621 Chipset for Ultra-High Performance Solution

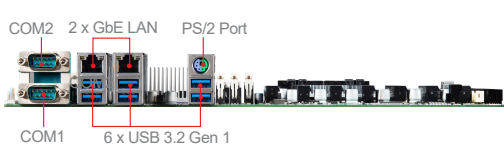
NEW



## SKU1



## SKU2



## Features

- Intel® 2nd/1st Gen Cascade Lake-SP/Skylake-SP Series with C622/C621
- 6 DDR4 2666 MHz ECC RDIMMs up to 192GB
- 2 GbE LAN, 2 10GbE LAN (by option) with RJ-45
- 2 PCIe x16 (Gen 3), 3 PCIe x8 (Gen 3), 2 PCIe x4 (Gen 3), 1 Mini-PCIe (Full/Half-size, with mSATA) slot
- mSATA, 8 SATA 3.0 for storage
- SATA RAID 0/1/5/10
- 6 USB 3.2 Gen 1, 7 USB 2.0, 6 COM (2 RS-485), GPIO, PS/2, Audio, 6 System FAN
- Onboard TPM 2.0
- Intel® VROC for RAID function with NVMe storage
- SMBus, Chassis Intrusion, PMBus
- ATX Power

## Ordering Information

Part Number	Description
919-98M9-001	MS-98M9(609-98M9-010)809-98M9-003 Ver 1.0 Intel Xeon-SP C622, 4*DDR4 RDIMM, 2*PCIe x16, 3*PCIe x8, 2*PCIe x4, 1*Mini-PCIe, TPM2.0, 4*LANs, 6*USB3.0, 7*USB2.0, 8*SATA-3.0, 6*COM, ATX POWER, RoHS, SINGLE
919-98M9-002	MS-98M9(609-98M9-020)809-98M9-004 Ver 1.0 Intel Xeon-SP C621, 4*DDR4 RDIMM, 2*PCIe x16, 3*PCIe x8, 2*PCIe x4, 1*Mini-PCIe, TPM2.0, 2*LANs, 6*USB3.0, 7*USB2.0, 8*SATA-3.0, 6*COM, ATX POWER, RoHS, SINGLE

## Packing List

Part Number	Description	Quantity
K1D-1008261-V03	SATA Cable, 500mm	2
K1B-3008012-E06	USB 2.0 Cable, 330mm	1
E21-98M9020-C22	I/O SHIELDING (SKU1)	1
E21-98M9010-C22	I/O SHIELDING (SKU2)	1
G71-SEDC214-N56/X03	Driver CD	1

## Specifications

		SKU1	SKU2
<b>System Processor</b>	CPU	2nd/1st Gen Intel® Cascade Lake/Skylake Xeon® Scalable Processors, Max 205W	
	Frequency	1.9GHz~2.5GHz (Depends on CPU)	
	L2 Cache	11MB~27.5MB (Depends on CPU)	
	CPU Type	Socket (LGA 3647)	
	Chipset	Intel® C622 Express	Intel® C621 Express
	BIOS	AMI UEFI	
<b>Memory</b>	Technology	Six-channel DDR4 (ECC) 2666 MHz	
	Max. Capacity	Up to 192GB	
	Socket	6 x 288-pin RDIMMs	
<b>Display</b>	Graphic Memory	N/A	
	LVDS	N/A	
	eDP	N/A	
	VGA	N/A	
	DVI	N/A	
	HDMI	N/A	
	DisplayPort	N/A	
	Multiple Display	N/A	
Display Interface	N/A		
<b>Ethernet</b>	Controller	1 x Intel® PHY X557-AT2 GbE LAN 2 x Intel® I210-AT GbE LAN	2 x Intel® I210-AT GbE LAN
<b>Audio</b>	Controller	Realtek® ALC887-VD2-CG HD Audio Codec	
<b>Super I/O</b>	Controller	Fintek F81866AD-I	
<b>H/W Monitor</b>	Watchdog Timer	256-level Watchdog Timer	
	Smart Fan	Yes	
<b>TPM</b>	Controller	Infineon SLB9665TT2.0	
<b>I/O Interfaces</b>	USB	7 x USB 2.0 (7 x internal with one Vertical Type-A) 6 x USB 3.2 Gen 1 (rear)	
		6 x COM ports (2 x rear, 4 x internal) COM1: RS-232/422/485, Ring/0V/5V/12V, Auto-flow Control COM2: RS-232/422/485, 0V/5V/12V, Auto-flow Control COM3-6: RS-232, 0V/5V/12V	
	PS/2	1 x PS/2 port by Y-cable for keyboard and mouse	
	GPIO	16-bits (8 x GPI; 8 x GPO), 5V	
	<b>Expansion Slot</b>	PCIe x16	2 (Signal configured as 2 PCIe x16 or 4 PCIe x8 or 1 PCIe x16 + 2 PCIe x8)
PCIe x8		3 (Slot3&5 single shared with PCIe x16)	
PCIe x4		2	
M.2		N/A	
<b>Storage</b>	Mini-PCIe	1 x Full/Half-size (mSATA)	
	SATA	8 x SATA 3.0 (RAID 0/1/5/10)	
<b>Power Supply</b>	mSATA	1 (shared w/ Mini-PCIe)	
	ATX	ATX-Power 24P, 12V-8P	
<b>Environment</b>	Operating Temperature	0 ~ 60°C	
	Operating Humidity	10 ~ 90%, non-condensing	
	Storage Temperature	-20 ~ 80°C	
	Storage Humidity	10 ~ 90%, non-condensing	
<b>Form Factor</b>	Dimensions (W x D x H)	305 x 244mm (ATX)	
	Weight	0.90 kg	
<b>Certification</b>	EMC	CE, FCC Class B, BSMI, RCM, VCCI	
<b>Software Platform</b>	OS Support	Windows Server 2012 (64-bit) (Skylake-SP Series CPU Only) Windows Server 2016 (64-bit) (Skylake-SP & Cascade Lake Series CPU) Windows Server 2019 (64-bit) (Cascade Lake Series CPU) Windows 10 IoT Enterprise LTSC/SAC 1809 (64-bit, R55) (by request) Linux 4.x (by request)	

## Optional Item

Part Number	Description
K14-1018004-V03	COM Port Cable, 510mm