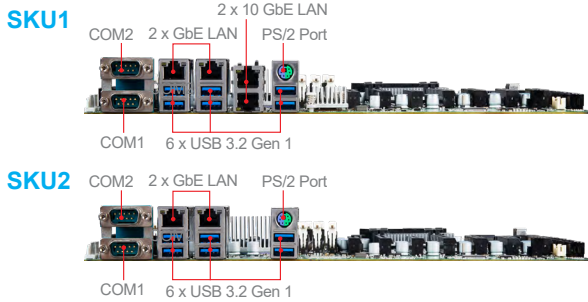
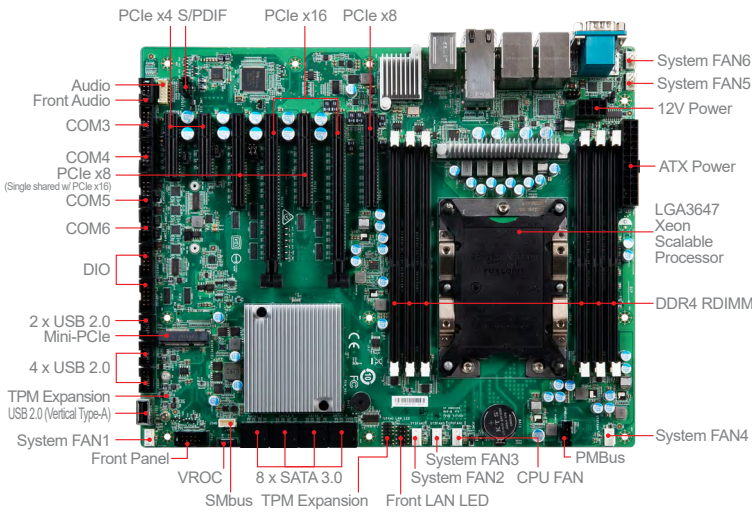


MS-98M9

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



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 with RJ-45
- 2 PCIe x16 (Gen 3) or 4 PCIe x8 (Gen3), 1 PCIe x8 (Gen 3), 2 PCIe x4 (Gen 3), 1 Mini-PCle (Full/Half-size, with mSATA) slots
- 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-98M91609-98M9-0101809-98M9-003 Ver 1.0 Intel Xeon-SP C622, 4*DDR4 RDIMM, 2*PCIe x16, 3*PCIe x8, 2*PCIe x4, 1*Mini-PCle, TPM2.0,4*LANs, 6*USB3.0, 7*USB2.0, 8*SATA-3.0, 6*COM, ATX POWER, RoHS, SINGLE
919-98M9-002	MS-98M91609-98M9-0201809-98M9-004 Ver 1.0 Intel Xeon-SP C621,4*DDR4 RDIMM, 2*PCIe x16, 3*PCIe x8, 2*PCIe x4, 1*Mini-PCle, 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

Optional Item

Part Number	Description
K1A-1018004-V03	COM Port Cable, 510mm

Specifications

		SKU1	SKU2	
System Processor	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	
Memory	BIOS	AMI UEFI		
	Technology	Six-channel DDR4 (ECC) 2666 MHz		
	Max. Capacity	Up to 192GB		
	Socket	6 x 288-pin RDIMMs		
Display	Controller	N/A		
	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		
Ethernet	Controller	1 x Intel® PHY X557-AT2 GbE LAN 2 x Intel® I210-AT GbE LAN	2 x Intel® I210-AT GbE LAN	
		Audio	Controller	Realtek® ALC887-VD2-CG HD Audio Codec
Super I/O	Controller	Fintek F81866AD-I		
H/W Monitor	Watchdog Timer	256-level Watchdog Timer		
	Smart Fan	Yes		
TPM	Controller	Infineon SLB9665TT2.0		
I/O Interfaces	USB	7 x USB 2.0 (7 x internal with one Vertical Type-A) 6 x USB 3.2 Gen 1 (rear)		
	Serial	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		
		Parallel	N/A	
		PS/2	1 x PS/2 port by Y-cable for keyboard and mouse	
	Expansion Slot	GPIO	16-bits (8 x GPI; 8 x GPO), 5V	
		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		
PCIe x1		N/A		
PCI		N/A		
Storage	M.2	N/A		
	Mini-PCle	1 x Full-size/Half-size (mSATA)		
Storage	SATA	8 x SATA 3.0 (RAID 0/1/5/10)		
	mSATA	1 (shared w/ Mini-PCle)		
Power Supply	ATX	ATX-Power 24P, 12V-8P		
	Operating Temperature	0 ~ 60°C Note: Thermal w/ Airflow:0.7m/s		
Environment	Operating Humidity	10 ~ 90%, non-condensing		
	Storage Temperature	-20 ~ 80°C		
	Storage Humidity	10 ~ 90%, non-condensing		
Form Factor	Dimensions (W x D x H)	305 x 244 mm (ATX)		
	Weight	0.90 kg		
Certification	EMC	CE, FCC Class B, BSMI, RCM, VCCI		
Software Platform	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, RSS) (by request) Linux 4.x (by request)		