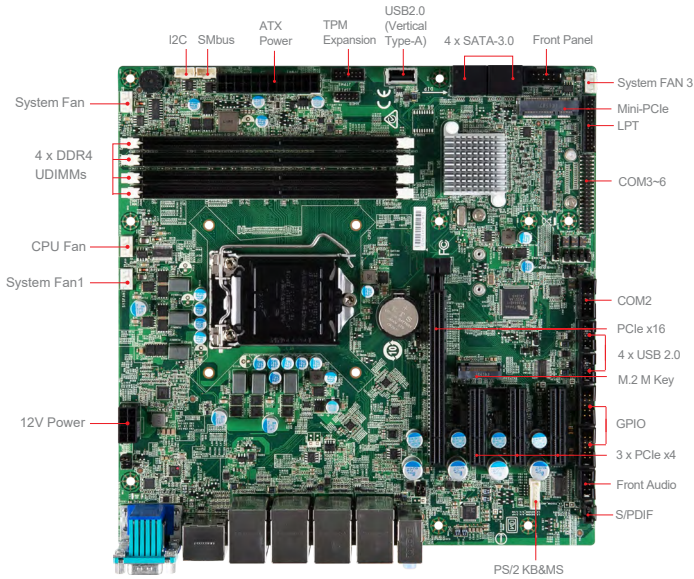
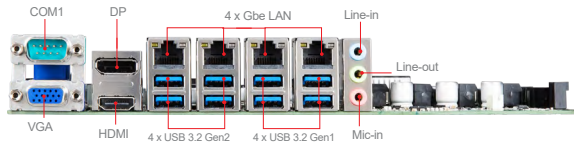


# MS-98L2

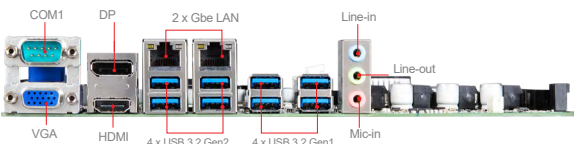
Micro-ATX with 8th Gen Intel® Coffee Lake-S Xeon, Core™ i7/i5/i3, Pentium®, Celeron® Processor for Superior I/O & Expansion Capability for High-Performance Solution



## SKU1/SKU2



## SKU3



## Features

- Intel® 8th Gen Coffee Lake-S Series with C246/Q370
- 4 DDR4 2666 MHz ECC/non-ECC UDIMM slots up to 128GB
- Triple independent displays: VGA, DP, HDMI
- 4 GbE LAN with RJ-45
- 1 PCIe x16 (Gen 3), 3 PCIe x4 (Gen 3), 1 Mini-PCIe (Full/Half size) slots
- M.2 M Key, 4 SATA 3.0 for storage
- SATA RAID 0/1/5/10
- 4 USB 3.2 Gen 2, 4 USB 3.2 Gen 1, 5 USB 2.0, 6 COM (2 RS-485), GPIO, LPT, PS/2, Audio, S/PDIF, 3 System FAN
- Onboard TPM 2.0 (by option)
- SMBus, I2C, iAMT 12.x
- ATX Power

## Ordering Information

Part Number	Description
919-98L2-001	MS-98L2\609-98L2-020\809-98L2-010 VER 10 OPT:A Intel Coffee Lake-S LGA1151,Q370,4*DDR4 UDIMM,1*PCIe x16,3*PCIe x4, HDMI, DP,VGA,4*LAN,4*USB 3.2 Gen 2, 4*USB 3.2 Gen 1,5*USB 2.0, 4*SATA 3.0,M.2,Mini-PCIe, 6*COM,Micro-ATX,RoHS,SINGLE, For Channel
919-98L2-002	MS-98L2\609-98L2-030\809-98L2-011 VER 10 OPT:B Intel Coffee Lake-S LGA1151, Q370,4*DDR4 UDIMM,1*PCIe x16,3*PCIe x4, HDMI,DP,VGA,2*LAN,4*USB 3.2 Gen 2, 4*USB 3.2 Gen 1,5*USB 2.0,4*SATA 3.0,M.2,Mini-PCIe, 6*COM,Mini-ATX,RoHS,SINGLE, For Channel
919-98L2-005	MS-98L2\609-98L2-010\809-98L2-013 VER 10 Intel Coffee Lake-S LGA1151, C246,4*DDR4 UDIMM,1*PCIe x16,3*PCIe x4,HDMI,D-P,VGA,4*LAN,4*USB 3.2 Gen 2, 4*USB 3.2 Gen 1,5*USB2.0,4*SA-TA3.0,M.2,Mini-PCIe,6*COM,Micro-ATX,RoHS,SINGLE,For Channel

## Packing List

Part Number	Description	Quantity
K1D-1008261-V03	SATA Cable, 500mm	2
E21-98L2020-C22	I/O SHIELDING	1

## Optional Item

Part Number	Description
K14-1018004-V03	COM Port Cable, 510mm
K1B-3008012-E06	USB 2.0 Cable, 330mm

## Specifications

	SKU1	SKU2	SKU3	
<b>System Processor</b>	CPU	8th Gen Intel® Desktop Coffee Lake-S Xeon®/ Core™ i7/i5/i3/Pentium®/ Celeron® Series Processor, Max 95W	8th Gen Intel® Desktop Coffee Lake-S Core™ i7/i5/i3/Pentium®/ Celeron® Series Processor, Max 95W	
	Frequency	2.1GHz~4.7GHz(Depends on CPU)		
	L2 Cache	2MB~12MB (Depends on CPU)		
	CPU Type	Socket (LGA 1151)		
	Chipset	Intel® C246 Express	Intel® Q370 Express	
	BIOS	AMI UEFI		
<b>Memory</b>	Technology	Dual-channel DDR4 (ECC/ non-ECC) 2666 MHz	Dual-channel DDR4 (non-ECC) 2666 MHz	
	Max. Capacity	Up to 128 GB		
	Socket	4 x 288-pin UDIMMs		
	Controller	Intel® HD Graphics		
<b>Display</b>	Graphic Memory	Depends on CPU		
	VGA	1		
	HDMI	1		
	DisplayPort	1		
	Multiple Display	3 independent displays		
Display Interface	VGA up to 1920 x 1200 @60Hz HDMI up to 4096 x 2160 @24Hz DP up to 4096 x 2304 @60Hz			
<b>Ethernet</b>	Controller	1 x Intel® I219-LM GbE LAN PHY 3 x Intel® I210-AT GbE LAN	1 x Intel® I219-LM GbE LAN PHY 1 x Intel® I211-AT GbE LAN	
	Audio Super I/O	Realtek® ALC887 HD Audio Codec		
<b>H/W Monitor</b>	Controller	Fintek F81866AD-I		
<b>TPM</b>	Watchdog Timer	256-level Watchdog Timer		
	Smart Fan	Yes		
<b>I/O Interfaces</b>	USB	5 x USB 2.0 (5 x internal with one Vertical Type-A) 4 x USB 3.2 Gen 1 Type-A (rear) 4 x USB 3.2 Gen 2 Type-A (rear)		
	Serial	6 x COM ports (COM1: rear, COM2~6: 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	6 x COM ports (COM1: rear, COM2~6: internal) COM1: RS-232/422/485, Ring/ 0V/5V/12V, Auto-flow Control COM2~6: RS-232, 0V/5V/12V	
	Parallel	1		
	PS/2	1 x PS/2 port by Y-cable for keyboard and mouse		
	GPIO	16-bits (8 x GPI; 8 x GPO), 5V		
	PCIe x16	1		
	PCIe x4	3 (Slot2 signal shared with M.2; 2*PCIe x4 NVMe)		
	M.2	1 x M key (PCIe x4 NVMe, SATA 3.0), 2242/2260/2280		
	Mini-PCIe	1 x Full-size/Half-size		
	SATA	4 x SATA 3.0		
<b>Power Supply</b>	DC Input	N/A		
	AC Input	ATX-Power 24P, 1 2V-8P		
<b>Environment</b>	Operating Temperature	-10 ~ 60°C Note: Thermal w/ Airflow:0.7m/s		
	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)	244 x 244 mm (uATX)		
	Weight	0.625 kg	0.39 kg	
<b>Certification</b>	EMC	CE, FCC Class B, BSMI, RCM, VCCI		
<b>Software Platform</b>	OS Support	Windows 10 IoT Enterprise 2019 SAC (64-bit, RS5) Linux (Support by request)		

Industrial Computer  
COM Express Board  
Pico-ITX Board  
3.5" Board  
EPIC Board  
Mini-ITX Board  
Micro-ATX Board  
ATX Board  
Peripheral