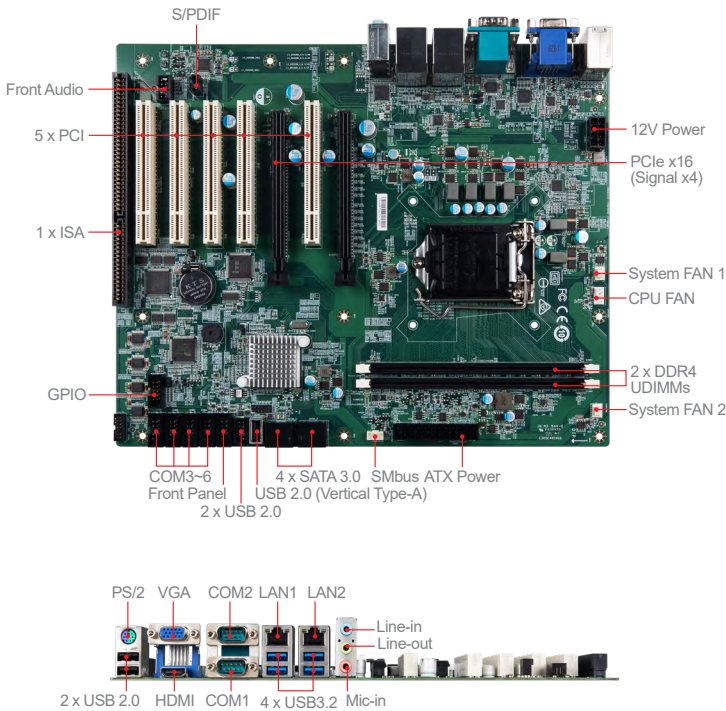


# MS-98L9 V2.0

ATX with 7th/6th Gen Intel® Kaby Lake/Skylake Core™ i7/i5/ i3, Pentium®, Celeron® Processor & Intel® H110 for Mainstream with ISA Solution



## Features

- Intel® 7th/6th Gen Kaby Lake-S/Skylake-S Series with H110
- 2 DDR4 2133/2400 MHz UDIMM slots up to 32GB
- Dual independent displays: VGA, HDMI
- 2 GbE LAN with RJ-45
- 1 PCIe x16 (Gen 3), 1 PCIe x4 (Gen 3), 5 PCI, 1 ISA slots
- 4 SATA 3.0 for storage
- 4 USB 3.2 Gen 1, 5 USB 2.0, 6 COM ports (1 RS-485), GPIO, PS/2, Audio, S/PDIF, 2 System FAN
- SMBus, Chassis Intrusion
- ATX Power

## Ordering Information

Part Number	Description
919-98L9-002	MS-98L9\609-98L9-020\809-98L9-006 VER:20 ATX, Intel Kaby Lake-S/Skylake-S H110, 2*DDR4, 1*PCIe x16, 1*PCIe x4, 5*PCI, 1*ISA, HDMI, VGA, 2*LAN, 4*USB3.0, 5*USB2.0, Single, for channel.
919-98L9-101	MS-98L9\609-98L9-020\809-98L9-101 VER:20 ATX, Intel Kaby Lake-S/Skylake-S H110, 2*DDR4, 1*PCIe x16, 1*PCIe x4, 5*PCI, 1*ISA, HDMI, VGA, 2*LAN, 4*USB3.0, 5*USB2.0, Bulk, for channel.

## Packing List

Part Number	Description	Quantity
K1D-1008261-V03	SATA Cable , 500mm	2
E21-98L9010-C22	I/O Shielding	1

## Optional Item

Part Number	Description
K1B-3008012-E06	USB3.0 Cable, 330mm
K14-1018004-V03	COM Port Cable, 510mm
K39-3002004-E06	PS/2 Y-Cable, 190mm

## Specifications

<b>System Processor</b>	CPU	7th/6th Gen Intel® Desktop Kaby Lake/Skylake i7/ i5/i3/Pentium®/Celeron® Series Processor, Max 95W
	Frequency	2.3GHz~4.2GHz (Depends on CPU)
	L2 Cache	2MB~8MB (Depends on CPU)
	CPU Type	Socket (LGA 1151)
	Chipset	Intel® H110 Express
	BIOS	AMI UEFI
<b>Memory</b>	Technology	Dual-channel DDR4 2133/2400 MHz
	Max. Capacity	Up to 32GB
	Socket	2 x 288-pin UDIMMs
	Controller	Intel® HD Graphics
<b>Display</b>	Graphic Memory	Depends on CPU
	LVDS	N/A
	eDP	N/A
	VGA	1
	DVI	N/A
	HDMI	1
	DisplayPort	N/A
	Multiple Display	2 independent displays
<b>Display Interface</b>	VGA up to 1920 x 1200 @60Hz	
	HDMI up to 4096 x 2160 @24Hz	
<b>Ethernet</b>	Controller	1 x Intel® I219-LM GbE LAN PHY 1 x Intel® I211-AT GbE LAN
<b>Audio</b>	Controller	Realtek® ALC887-VD2-CG 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	Box header
<b>I/O Interfaces</b>	USB	5 x USB 2.0 (2 x rear, 3 x internal with one Vertical Type-A) 4 x USB 3.2 Gen 1 (rear)
	Serial	6 x COM ports (2 x rear, 4 x internal) COM1: RS-232/422/485, 0V/5V/12V, Auto-flow Control COM2~6: RS-232, COM2: 0V/5V/12V
	Parallel	N/A
	PS/2	1 x PS/2 port by Y-cable for keyboard and mouse
	GPIO	8-bits (4 x GPI; 4 x GPO by default), 5V 8-bits (8 x GPI or 8 x GPO by request), 5V
	PCIe x16	1
<b>Expansion Slot</b>	PCIe x4	1 (PCIe x16 Slot Type)
	PCIe x1	N/A
	PCI	5
	M.2	N/A
	Mini-PCIe	N/A
<b>Storage</b>	SATA	4 x SATA 3.0
<b>Power Supply</b>	ATX	ATX-Power 24P, 12V-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
<b>Form Factor</b>	Storage Humidity	10 ~ 90%, non-condensing
	Dimensions (W x D x H)	305 x 244 mm (ATX)
<b>Certification</b>	Weight	0.70 kg
	EMC	CE, FCC Class B, BSMI, RCM, VCCI
<b>Software Platform</b>	OS Support	Windows 7 (32/64-bit) (Skylake-S Series CPU Only) Windows 8.1 (64-bit) (Skylake-S Series CPU Only) Windows 10 IoT Enterprise LTSC/SAC 1809 (64-bit, RS5) Linux (Support by request)