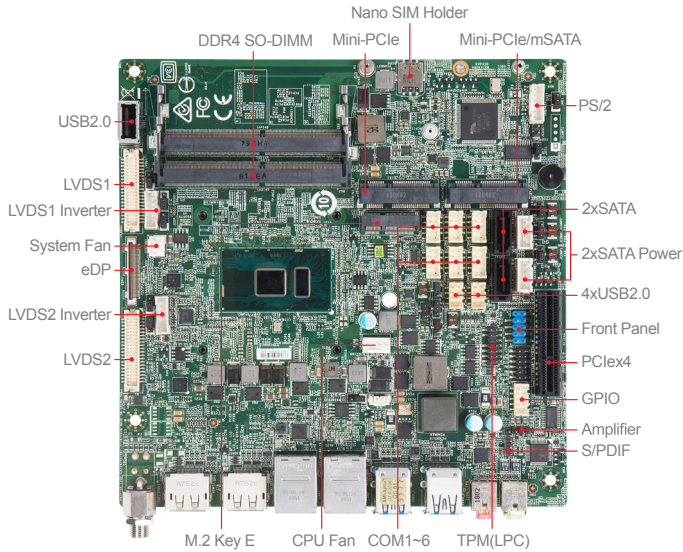


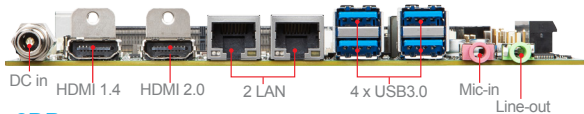
# MS-98J4

Mini-ITX with Intel® Kaby Lake/Skylake ULT Platform for Low Power, Low Profile, Multi-Displays and High Performance Solutions

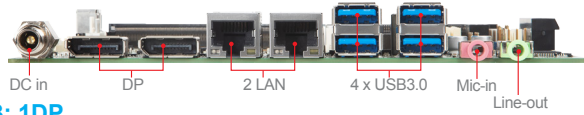
**NEW**



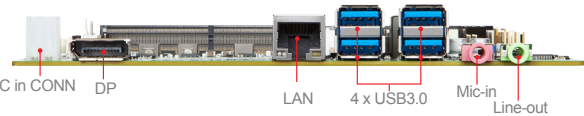
## SKU1: 2HDMI



## SKU2: 2DP



## SKU3: 1DP



## Features

- Intel® Kaby Lake-U & Skylake-U (TDP-15W), Dual Core/Quad Core
- Support 2\*DDR4 SO-DIMM up to 32GB 2133MHz Memory
- 3 independent displays with 2 x LVDS available (DP/HDMI, LVDS/DP/ HDMI2.0, eDP/LVDS)
- Support 2 x Intel GbE LAN, 4 x USB 3.0, 5 x USB 2.0, 6 x COM (w/ Power)
- Support 2\*SATA3.0, 1\*M.2 (M key), 1\*M.2 (E key), 2\*Mini-PCIe Full-size Slots (one shared mSATA; one w/SIM holder)
- Support DC-In 12V~24V (OVP & OCP)
- Support TPM2.0
- Low profile design, optional support low profile thermal solution

## Ordering Information

Part Number	Description
T Ü-98J4-î G €W	MS-98J4#609-98J4-030#809-98J4-105 VER:10 OPT:C, Mini-ITX, KabyLake Core i5-8250U, 2*DDR4, 1*PCIE4, 2*HDMI, 2*LVDS, 1*eDP, 5*USB2, 4*USB3, 4*COM, 2*Mini-PCIe, 1*M.2 E Key, 1*M.2 M Key, 2*LAN, 2*SATA, DC Jack, 1*SATA CABLE, I/O SHIELD, DRIVER CD, BULK, For Channel Art. No. 156010
T Ü-98J4-î H €EW	MS-98J4#609-98J4-010#809-98J4-106 VER:10 OPT:A, Mini-ITX, KabyLake Core i5-7300U, 2*DDR4, 1*PCIE4, 2*DP, 2*LVDS, 1*eDP, 5*USB2, 4*USB3, 4*COM, 2*Mini-PCIe, 1* M.2 E Key, 1*M.2 M Key, 2*LAN, 2*SATA, DC Jack, 1*SATA CABLE, I/O SHIELD, DRIVER CD, BULK, For Channel Art. No. 154579
T Ü-98J4-î F €EW	MS-98J4#609-98J4-020#809-98J4-107 VER:1.0 OPT:B, Mini-ITX, Skylake Core i3-6100U, 2*DDR4, 1*DP, 2*LVDS, 4*USB2, 4*USB3, 2*COM, 2*Mini-PCIe, 1*M.2 E Key, 1*LAN, 2*SATA, DC CONN, 1*SATA CABLE, 1*POWER CABLE, I/O SHIELD, DRIVER CD, BULK, For Channel Art. No. 156022

## Packing List

Part Number	Description
K1D-1012064-V03	SATA Cable ,200mm
K10-3004215-V03	DC Power Cable, 160mm
E21-98J4010-C22	I/O Shield(SKU1, 2xHDMI)
E21-98J4020-C22	I/O Shield(SKU2, 2xDP)
E21-98J4030-C22	I/O Shield(SKU3, 1xDP)
G71-SEDC188-N56/X03	Driver CD

## Specifications

<b>Processor</b>	CPU	7th/6th Gen Intel® Mobile Kaby Lake/Skylake-ULT Core™ i7/i5/i3/Celeron® Processor,DC/QC, Max. 15W	
	Frequency	Depends on CPU	
	L2 Cache	Depends on CPU	
	CPU Type	BGA	
	Chipset	Integrated	
<b>Memory</b>	BIOS	AMI	
	Technology	Dual-channel DDR4 2133 MHz SDRAM	
	Max. Capacity	Up to 32GB	
	Socket	2 x 260-pin SO-DIMMs	
	Controller	Intel® HD Graphics	
<b>Display</b>	Graphic Memory	Shared system memory up to 1.7 GB SDRAM	
	LVDS	2 x Dual channel 24-bit (LVDS1 co-design with eDP, LVDS2 co-design with DP2/HDMI2.0)	
	eDP	1 (Co-design with LVDS1)	
	VGA	N/A	
	DVI	N/A	
	HDMI	2 (1 x HDMI1.4 colay with DP1, 1 x HDMI2.0 colay with DP2)	
	DisplayPort	2 (DP1 colay with HDMI1.4, DP2 colay with HDMI2.0)	
	Multiple Display	3 independent displays	
	Display Interface	LVDS up to 1920 x 1200 @60Hz	
		eDP up to 4096 x 2304 @60Hz DP up to 4096 x 2304 @60Hz HDMI up to 4096 x 2160 @60Hz	
<b>Ethernet</b>	Controller	1 x Intel® I219LM GbE LAN PHY 1 x Intel® I211-AT/ I210-AT GbE LAN	1 x Intel® I211-AT GbE LAN
	<b>Audio</b>	Controller Realtek® ALC887/888S 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(default) Pin header (By BOM option)		
<b>I/O Interface</b>	USB	4 x USB 3.0 (rear) 5 x USB 2.0 (4 x internal, 1 x vertical connector)	4 x USB 3.0 (rear) 4 x USB 2.0 (4 x internal)
		6 x COM Ports (Internal) COM1~2: RS-232/422/485, 0V/5V/12V, RI support (RS-232/422/485 by Optional , RS485 support 1000M+) COM3~6: RS-232, 0V/5V/12V (depends on SKU)	2 x COM Ports (Internal) COM3~4: RS-232, 0V/5V/12V
	Parallel	N/A	
	PS/2	1 (pin header)	
	GPIO	8-bits (4 x GPI; 4 x GPO), 5V	
	PCIe x16	N/A	
	PCIe x4	1 N/A	
	PCIe x1	N/A	
	PCI	N/A	
	<b>Expansion Slot</b>	M.2	1 x E Key 2230 for Wi-Fi/BT module 1 x M Key 2280 for SSD
Mini-PCIe		1 x Full-size(w/mSATA) 1 x Full/Half-size(w/ SIM Holder)	
<b>Storage</b>	SATA	2 x SATA 3.0	
	mSATA	1 (shared w/ Mini-PCIe)	
<b>Power Supply</b>	DC	DC-in 12V~24V	
	ATX	N/A	
<b>Environment</b>	Operating Temperature	-10 ~ 60°C	
	Operating Humidity	10 ~ 90%, non-condensing	
	Storage Temperature	-20 ~ 80°C	
	Storage Humidity	10 ~ 90%, non-condensing	
<b>Form Factor</b>	Dimensions	170 x 170mm (Mini-ITX)	
	Weight	0.34 kg	
<b>Certification</b>	EMC	FCC, CE, RCM, VCCI, BSMI	
	<b>Software Platform</b>	OS Support	Windows 7 (32/64-bit) (For Skylake-U Only) Windows 8.1 (64-bit) (For Skylake-U Only) Windows 10/ Windows 10 IoT Enterprise (64-bit) Linux Kernel 4.x (Fedora 25 & Ubuntu 16.04 )

2019H1