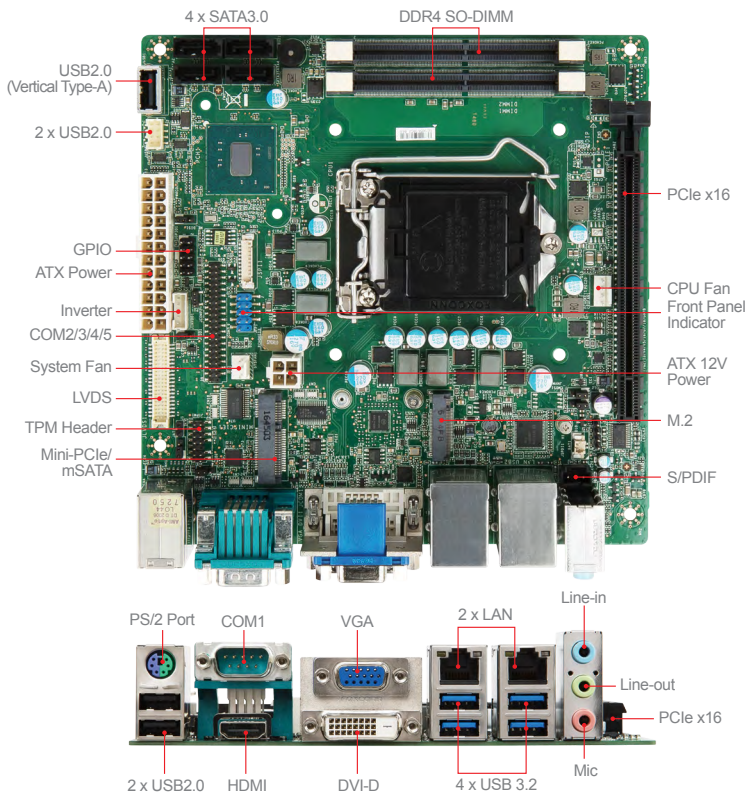


MS-98E1

Mini-ITX with 7th/6th Gen Intel® Kaby Lake/Skylake Processor with Superior I/O & Expansion Capability for High-Performance Solution



Features

- Intel® 7th/6th Gen Skylake-S/Kaby Lake-S Series with C236/H110
- 2 DDR4 2400 MHz SODIMM slots up to 32GB
- Triple independent displays: VGA, DVI-D, HDMI, LVDS
- 2 GbE LAN with RJ-45
- 1 PCIe x16 (Gen3), 1 Mini-PCle (Full size, with SIM Holder), 1 Mini-PCle (Half size) slots
- mSATA, M.2 M Key, 4 SATA 3.0 for storage
- SATA RAID 0/1/5/10
- 4 USB 3.2 Gen 1, 5 USB 2.0, 5 COM (1 RS-485), GPIO, PS/2, Audio, System FAN
- iAMT 11.x
- ATX Power

Ordering Information

Part Number	Description
919-98E1-001	V1.1 Intel KabyLake-S/Skylake-S +C236+2*DDR4 LVDS+HDMI+DVI-D+VGA+4*SATAIII+2*GbE LAN+5*COM+1*mini-PCle +1*M.2+ATX,SINGLE
919-98E1-002	V1.1 OPT:A Intel KabyLake-S/Skylake-S +H110+2*DDR4 LVDS+HDMI+DVI-D+VGA+3*SATAIII+2*GbE LAN+5*COM+1*mini-PCle +ATX,SINGLE

Packing List

Part Number	Description
K1D-1008261-V03	SATA Cable, 500mm
E21-98E1010-C22	I/O SHIELD

Optional Item

Part Number	Description
K14-1036005-V03	COM Port Cable, 500mm

Specifications

		C236 SKU	H110 SKU	
Processor	CPU	7th/6th Gen Intel® Desktop Kaby Lake/Skylake Xeon/i7/i5/i3/Pentium®/Celeron® Series Processor, Max. 95W	7th/6th Gen Intel® Desktop Kaby Lake/Skylake Core™/i7/i5/i3/Pentium®/Celeron® Series Processor, Max. 95W	
	Frequency	2.3GHz~4.0GHz (Depends on CPU)		
	L2 Cache	2M ~ 8M (Depends on CPU)		
	CPU Type	Socket (LGA 1151)		
	Chipset	Intel® C236 Express	Intel® H110 Express	
	BIOS	AMI		
Memory	Technology	Dual-channel DDR4 (ECC) 2133/2400MHz	Dual-channel DDR4 (non-ECC) 2133/2400MHz	
	Max. Capacity	Up to 32GB		
	Socket	2 x 260-pin SO-DIMMs		
	Controller	Intel® HD Graphics		
Display	Graphic Memory	Depends on CPU		
	LVDS	1 x Dual channel 18/24-bit		
	eDP	N/A		
	VGA	1		
	DVI	1 (DVI-D)		
	HDMI	1		
	DisplayPort	N/A		
	Multiple Display	3 independent displays	2 independent displays	
	Display Interface	LVDS up to 1920 x 1200 @60Hz		
		HDMI up to 4096 x 2160 @24Hz		
DVI-D up to 1920 x 1200 @60Hz				
VGA up to 1920 x 1200 @60Hz				
Ethernet	Controller	1 x Intel® I219-LM GbE-PHY 1 x Intel® I211-AT PCIe GbE LAN(Co-lay I210-AT)		
Audio	Controller	Realtek® ALC887 HD Audio Codec		
Super I/O	Controller	Fintek F81866AD-I		
H/W Monitor	Watchdog Timer	256-level Watchdog Timer		
	Smart Fan	Yes		
TPM	Controller	Pin header		
I/O Interface	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	5 x COM ports (COM1: rear, COM2~4: internal) COM1: RS-232/422/485, 0V/5V/12V COM2~5: RS-232, 0V/5V/12V		
	Parallel	N/A		
	PS/2	1		
	GPIO	8-bits (4 x GPI, 4 x GPO), 5V		
	PCIe x 16	1		
Expansion Slot	M.2	1 x M key (PCIe x4, SATA 3.0), 224	N/A	
	Mini-PCle	1 x Full-size, mSATA		
Storage	SATA	4 x SATA 3.0	3 x SATA 3.0	
	mSATA	1 (shared w/ Mini-PCle)		
Power Supply	DC	N/A		
	ATX	ATX-Power 24P, 12V-4P		
Environment	Operating Temperature	0 ~ 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		
Form Factor	Dimensions	170 x 170 mm (Mini-ITX)		
	Weight	0.37 kg		
Certification	EMC	FCC, CE, RCM, VCCI, BSMI		
Software Platform	OS Support	Windows 7 (32/64-bit)		
		Windows 8.1 (64-bit) Windows 10 IoT Enterprise LTSC/SAC 1809 (64-bit, RS5) Linux (Support by request)		