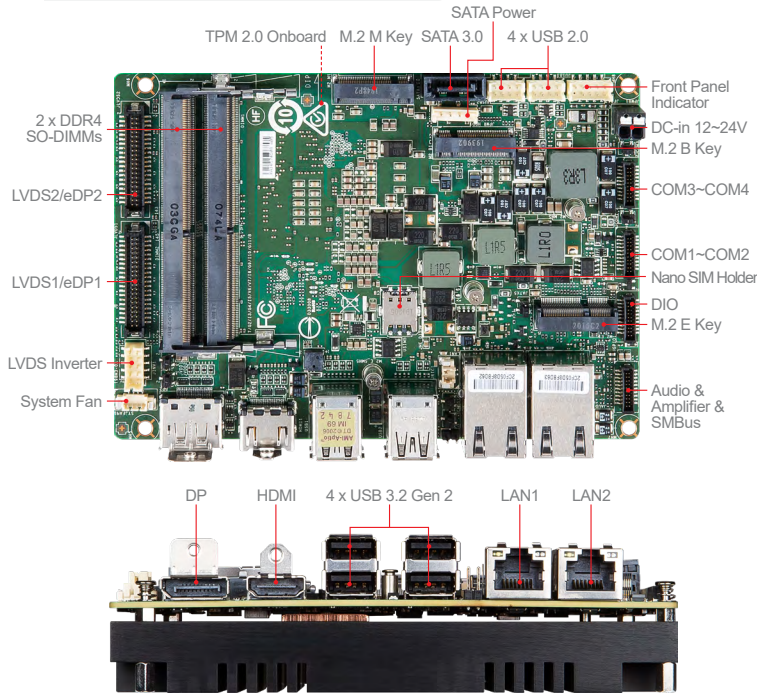


MS-98M3

3.5" SBC with Intel® Tiger Lake-UP3 for Fanless, Ultra Low-Power, High-Performance & Wide Temperature Solution



NEW

Specifications

		Embedded SKUs	Industrial SKUs
Processor	Processor	11th Gen Intel® IoTG Mobile Tiger Lake-UP3 Core™ i7-1185G7E/i5-1145G7E, QC, 28W 11th Gen Intel® IoTG Mobile Tiger Lake-UP3 Core™ i3-1115G4E, DC, 28W 11th Gen Intel® IoTG Mobile Tiger Lake-UP3 Celeron® 6305E, DC, 15W	11th Gen Intel® IoTG Mobile Tiger Lake-UP3 Core™ i7-1185GRE/i5-1145GRE, QC, 28W 11th Gen Intel® IoTG Mobile Tiger Lake-UP3 Core™ i3-1115GRE, DC, 28W
	Frequency	1.5GHz~4.4GHz (Depends on CPU)	
	L2 Cache	4MB~12MB (Depends on CPU)	
	CPU Type	BGA	
Memory	Chipset	N/A	
	BIOS	AMI	
	Technology	Dual-channel DDR4 3200MHz	
	Max. Capacity	Up to 64GB	
Display	Socket	2 x 260-pin SO-DIMMs	
	Controller	Intel® Iris® Xe Graphics (For i7/i5 SKUs) Intel® UHD Graphics (For i3/Celeron SKUs)	Intel® Iris® Xe Graphics (For i7/i5 SKUs) Intel® UHD Graphics (For i3 SKU)
	Graphic Memory	Depends on CPU	
	LVDS	2 x Dual Channel 18/24-bit (Connector shared with eDP)	
Ethernet	eDP	2 x eDP (Connector shared with LVDS)	
	VGA	N/A	
	DVI	N/A	
	HDMI	1	
	DisplayPort	1	
	Multiple Display	4 independent displays	
	Display Interface	LVDS up to 1920 x 1200 @60 Hz eDP up to 4096 x 2160 @60 Hz HDMI up to 4096 x 2160 @30Hz DP up to 7680 x 4320 @60Hz	
Audio	Controller	2 x Intel® I225-LM 2.5 GbE LAN 2 x Intel® I225-IT 2.5 GbE LAN (LAN Speed running at 1000/100/10Mbps when OP TEMP. over 70°C)	
	Controller	Realtek® ALC888-VD2-GR HD Audio Codec	
Super I/O	Controller	Fintek F81966AB-I	
	Watchdog Timer	256-level Watchdog Timer	
H/W Monitor	Smart Fan	Yes	
	TPM	Controller: Infineon SLB9670VQ2.0	
I/O Interface	USB	4 x USB 2.0 (internal) 4 x USB 3.2 Gen 2 (rear)	
	Serial	4 x COM ports (internal) COM1~4: RS-232/422/485, 0V/5V/12V, support auto flow control	
	Parallel	N/A	
	PS/2	N/A	
	GPIO	16-bits (8 x GPI; 8 x GPO), 5V	
	PCIe x 16	N/A	
	PCIe x 4	N/A	
Expansion Slot	PCIe x 1	N/A	
	PCI	N/A	
	M.2	1 x M.2 M key (PCIe Gen4 x4 NVMe), 2280 1 x M.2 B key (SATA 3.0, PCIe x1, USB 2.0, w/ NANO SIM-Holder), 2242/3042 1 x M.2 E key (PCIe x1, USB 2.0), 2230	
Storage	Mini-PCIe	N/A	
	SATA	1 x SATA 3.0	
	IDE	N/A	
	eSATA	N/A	
	CFast	N/A	
Power Supply	mSATA	N/A	
	CompactFlash	N/A	
	DC	DC-in 12~24V (OCP & OVP)	
Environment	ATX	N/A	
	Operating Temperature	-10 ~ 60°C Note: 1. Thermal w/ Airflow:0.7m/s 2. The standard thermal solution only supports TDP up to 15W.	-40 ~ 70°C (w/Turbo disabled) Note: 1. Thermal w/ Airflow:0.7m/s 2. The standard thermal solution only supports TDP up to 15W. 3. -40 ~ 85°C by request
	Operating Humidity	10 ~ 90%, non-condensing	
	Storage Temperature	-20 ~ 80°C	-40 ~ 85°C
Form Factor	Storage Humidity	10 ~ 90%, non-condensing	
	Dimensions	146 x 102 mm (3.5")	
Certification	Weight	0.65 kg	
	EMC	FCC, CE, RCM, VCCI, BSMI, UKCA, IC	
Software Platform	OS Support	Windows 10 IoT Enterprise 2019 LTSC (64-bit, RS5) Windows 10 IoT Enterprise 2021 LTSC (64-bit, 21H2) Windows 11 IoT Enterprise (64-bit, 21H2, Pre-scan) Linux (Support by request)	

Features

- Intel® 11th Gen Tiger Lake-UP3 Embedded/Industrial SKU Series
- DDR4 3200 MHz SODIMM Slot up to 64GB
- Quadruple independent displays: DP++ , HDMI, 2 LVDS/eDP
- 2 2.5GbE LAN with RJ-45
- 1 M.2 B key (with NANO SIM-holder), 1 M.2 E key
- 1 M.2 M key, 1 SATA 3.0 for storage
- SATA RAID 0/1 (Supported by i7/i5 SKUs)
- 4 USB 3.2 Gen 2, 4 USB 2.0, 4 COM (4 RS-485), DIO, Audio
- Onboard TPM 2.0
- Wide Voltage DC-IN 12~24V (OCP & OVP)
- Wide operating temperature supported

Ordering Information

Part Number	Description
919-98M3-001	MS-98M3/609-98M3-010/809-98M3-014 VER 1.0 STD Intel Tiger Lake-UP3, i7-1185GRE, 2*DDR4, 1*DP, 1*HDMI, 2*LVDS/eDP, 3*M.2, 2*2.5GbE LAN, 1*SATA3.0, 4*USB3.2 Gen2, 4*USB 2.0, 4*COM, DC 12~24V, WT
919-98M3-002	MS-98M3/609-98M3-020/809-98M3-015 VER 1.0 OPT.A Intel Tiger Lake-UP3, i5-1145GRE, 2*DDR4, 1*DP, 1*HDMI, 2*LVDS/eDP, 3*M.2, 2*2.5GbE LAN, 1*SATA3.0, 4*USB3.2 Gen2, 4*USB 2.0, 4*COM, DC 12~24V, WT
919-98M3-003	MS-98M3/609-98M3-030/809-98M3-016 VER 1.0 OPT.B Intel Tiger Lake-UP3, i3-1115G4E, 2*DDR4, 1*DP, 1*HDMI, 2*LVDS/eDP, 3*M.2, 2*2.5GbE LAN, 1*SATA3.0, 4*USB3.2 Gen2, 4*USB 2.0, 4*COM, DC 12~24V, WT
919-98M3-004	MS-98M3/609-98M3-040/809-98M3-017 VER 1.0 OPT.C Intel Tiger Lake-UP3, i7-1185G7E, 2*DDR4, 1*DP, 1*HDMI, 2*LVDS/eDP, 3*M.2, 2*2.5GbE LAN, 1*SATA3.0, 4*USB3.2 Gen2, 4*USB 2.0, 4*COM, DC 12~24V, Non-WT
919-98M3-005	MS-98M3/609-98M3-050/809-98M3-018 VER 1.0 OPT.D Intel Tiger Lake-UP3, i5-1145G7E, 2*DDR4, 1*DP, 1*HDMI, 2*LVDS/eDP, 3*M.2, 2*2.5GbE LAN, 1*SATA3.0, 4*USB3.2 Gen2, 4*USB 2.0, 4*COM, DC 12~24V, Non-WT
919-98M3-006	MS-98M3/609-98M3-060/809-98M3-019 VER 1.0 OPT.E Intel Tiger Lake-UP3, i3-1115G4E, 2*DDR4, 1*DP, 1*HDMI, 2*LVDS/eDP, 3*M.2, 2*2.5GbE LAN, 1*SATA3.0, 4*USB3.2 Gen2, 4*USB 2.0, 4*COM, DC 12~24V, Non-WT
919-98M3-007	MS-98M3/609-98M3-070/809-98M3-020 VER 1.0 OPT.F Intel Tiger Lake-UP3, Celeron 6305E, 2*DDR4, 1*DP, 1*HDMI, 2*LVDS/eDP, 3*M.2, 2*2.5GbE LAN, 1*SATA3.0, 4*USB3.2 Gen2, 4*USB 2.0, 4*COM, DC 12~24V, Non-WT

Packing List

Part Number	Description	Quantity
K1G-3002057-V03	DC Power Cable, 200mm	1
K14-3018001-V03	COM Port Cable, 150mm	1
K1B-3008067-V03	USB Cable, 150mm	1
K1D-3012023-V03	SATA Cable with Power, 230mm	1

Optional Item

Part Number	Description
E31-0806800-K08	Heatspreader

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