

# MS-9B05

Flexible Expansion Box PC with Intel® Whiskey Lake ULT, 3 Display Outputs & Easy Maintenance for Digital Signage & Automation



NEW

## Left IO

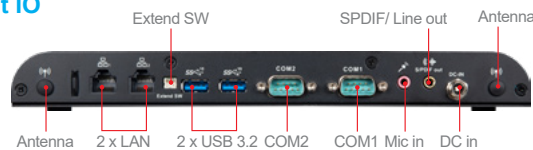
### SKU 1



### SKU 2



## Right IO



## Features

- Intel® 8th Gen Whiskey Lake-U Series
- 2 DDR4 2400 MHz (by option) SODIMM slots up to 32GB
- Triple independent displays: HDMI(DVI-D by option), 2 HDMI (DP by option)
- HDMI 2.0
- 2 GbE LAN with RJ-45
- Expansion slots: 1 M.2 E Key, 1 M.2 M Key, 1 Mini-PCIe (Full/Half size, with SIM Holder), 1 Mini-PCIe (Full/Half size, with mSATA) slots
- mSATA, M.2 M key, SATA 3.0 (2.5" SSD/HDD, 7mm) for storage
- 2 USB 3.2 Gen 2 (by option), 4 USB 2.0, 2 COM(2 RS485), Audio
- Onboard TPM 2.0 (by option)
- ESD: Contact 8KV/ Air 15KV
- Easy access:
  - Only 2 screws to fix/remove bottom cover within 6 secs
- Quick Assembly all on bottom side: 2 x Memory, 2 x Mini-PCIe, 2 x M.2, 1 x 2.5" HDD/SSD, SIM Card Slot
- 4 openings reserved for WiFi/BT/LTE antennas
- Compliance IEC 61373
- Wide Voltage DC-IN 9~36V
- Ultra-Slim & fanless design with thinness 27mm

## Specifications

		MS-9B05-L1	
<b>System Processor</b>	CPU	8th Gen Intel® Mobile Whiskey Lake-U Celeron® Processor, DC, 15W	8th Gen Intel® Mobile Whiskey Lake-U Core™ i5 Processor, QC, 15W
	Frequency	Depends on CPU	
	L2 Cache	Depends on CPU	
	CPU Type	BGA	
	Chipset	Integrated	
	BIOS	AMI	
<b>Memory</b>	Technology	Dual-channel DDR4 2133 MHz	Dual-channel DDR4 2400 MHz
	Max. Capacity	Up to 32GB	
	Socket	2 x 260-pin SO-DIMMs	
<b>Display</b>	Controller	Intel® UHD Graphics 620	
	Graphic Memory	Depends on CPU	
	Multiple Display	3 independent displays	
	Display Interface	HDMI 1.4 up to 4096 x 2160 @24Hz DP 1.2 up to 4096 x 2304 @60Hz DVI-D up to 1920 x 1200 @60Hz	HDMI 2.0 up to 4096 x 2160 @60Hz HDMI 1.4 up to 4096 x 2160 @24Hz
<b>Ethernet</b>	Controller	1 x Intel® I219LM GbE LAN PHY 1 x Intel® I210-AT GbE LAN	
<b>Audio</b>	Controller	1 x SPDIF-out/Line-out 1 x Mic-in/Line-in	
<b>H/W Monitor</b>	Watchdog Timer	256-level Watchdog Timer	
<b>TPM</b>	Smart Fan	N/A	
	Controller	Infineon SLB9665TT2.0 (by BOM option)	
<b>Expansion Slot</b>	PCI	N/A	
	M.2	1 x E Key (2x PCIe x1, USB 2.0), 2230 1 x M Key (PCIe x4), 2242	
<b>Storage</b>	Mini-PCIe	1 x Half/Full-size (w/ mSATA) 1 x Half/Full-size (w/ Nano-SIM holder)	
	SATA	1 x 2.5" HDD/SSD	
	mSATA	1 x Full-size (shared with mini-PCIe)	
	CFast	N/A	
<b>I/O Interface</b>	CompactFlash	N/A	
	RJ-45	2	
	PoE	N/A	
	Audio	1 x SPDIF-out/Line-out 1 x Mic-in/Line-in	
	USB	4 x USB 2.0 2 x USB 3.2 Gen 1	4 x USB 2.0 2 x USB 3.2 Gen 2
	Serial	2 x COM ports COM1/2: RS-232/422/485, 0V/5V/12V	
	Parallel	N/A	
	PS/2	N/A	
	GPIO	N/A	
	CANbus	N/A	
<b>Environment</b>	HDMI	1	3
	LVDS	N/A	
	DVI	1	N/A
	DisplayPort	1	N/A
	Antenna	4 openings reserved for antennas	
	DC Input	DC-in 9~36V with Lockable DC Jack	
	AC Input	N/A	
	IP Rating	Full IP40	
	Operating Temperature	-10 ~ 50°C (SSD) -10 ~ 40°C (HDD)	
	Operating Humidity	10 ~ 90%, non-condensing	
Storage Temperature	-20 ~ 80°C		
Storage Humidity	10 ~ 90%, non-condensing		
Vibration	IEC61373 Category 1, Class A Operating: IEC 60068-2-64: 2 Grms, 5 ~ 500 Hz, 1hr/axis (w/ SSD)		
Shock	IEC61373 Category 1, Class A Operating: IEC 60068-2-27: 50G, half sine, 11ms (w/ SSD)		
<b>Form Factor</b>	Dimensions (W x D x H)	260 x 185 x 27mm	
	Weight	1.77 kg	
	Weight	VESA/DIN Rail(STD), Wall mount (by BOM option)	
<b>Certification</b>	EMC	FCC, CE, RCM, VCCI, BSMI Class A	
	Safety	BSMI	
<b>Software Platform</b>	OS Support	Windows 10 IoT Enterprise LTSC/SAC 1809 (64-bit, RS5) Linux Ubuntu /Linux Fedora (by request)	

## Ordering Information

Part Number	Description
Please check MSI IPC website at <a href="http://ipc.msi.com">http://ipc.msi.com</a> for details.	

## Packing List

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