



# IMB-1223/ IMB-1223-WV

Mini-ITX Motherboard



## KEY FEATURES

- Intel® 10<sup>th</sup> Gen (Comet lake-S) Core™ Processors with H420E chipset
- 2 x 260-pin SO-DIMM Support Dual Channel DDR4 2933 (i9/i7 CPU) / 2666 (i5/i3 CPU) / 2400 (Pentium/ Celeron CPU), up to 64GB
- 1 x PCIe x16 Gen3, 4 x USB 3.2 Gen1, 4 x USB 2.0, 1 x M.2 Key E, 1 x M.2 Key M, 1 x M.2 Key B, 4 x COM, 2 x SATA3
- 1 x Intel 2.5 Gigabit LAN, 1 x Intel 1 Gigabit LAN
- Support Dual display, 1 x DP1.2, 1 x LVDS or eDP, 1 x HDMI 2.0a , 1 x VGA(Header)
- 12V (IMB-1223)
- 12V~28V DC in (IMB-1223-WV)

## SPECIFICATIONS

Form Factor	IMB-1223	IMB-1223-WV
Dimensions	Mini-ITX (6.7-in x 6.7-in)	

### Processor System

CPU	Intel® 10 <sup>th</sup> Gen (Cometlake-S) Core™ Processors, up to 80W <small>*The performance of CPUs over 80W will be limited due to power design.</small>	
Chipset	Intel® H420E	
Socket	LGA1200	
BIOS	AMI SPI 256 Mbit	

### Memory

Technology	Dual Channel DDR4 2933/2666/2400 MHz - Intel Core i9/i7 CPUs support DDR4 up to 2933 MHz - Intel Core i5/i3 CPUs support DDR4 up to 2666 MHz - Intel Pentium/Celeron CPU support DDR4 up to 2400 MHz	
Capacity	64GB (32 GB per DIMM)	
Socket	2 x 260-pin SO-DIMM	

### Graphics

Controller	Intel® UHD Graphics	
HDMI	HDMI 2.0a Max resolution up to 4096x2160 @60Hz	
DisplayPort	DisplayPort 1.2, DP++ Max resolution up to 4096x2160@60Hz	
VGA	Max resolution up to 1920x1200@60Hz	
LVDS	Dual channel 24 bit up to 1920 x 1200@60Hz	
eDP	eDP 1.4 Max resolution up to 4096x2304@60Hz	
DVI	N/A	
MultiDisplay	Dual Display	

### Expansion Slot

PCIe	1 x PCIe x16 (Gen3)	
PCI	N/A	
mini-PCIe	N/A	
M.2	1 x M.2 (Key E, 2230) with PCIe x1, USB 2.0 for Wireless 1 x M.2 (Key B, 3042/3052) with PCIe x1/USB 3.2 Gen1/USB2.0 and SIM for 4G/5G	
SIM Socket	N/A (BOM Option support)	1x SIM socket connected to M.2 key B

### Audio

Interface	Realtek ALC887/ALC897 HD, High Definition Audio. Line-out, Mic-in	
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### Ethernet

Controller/ Speed	LAN1: Intel® I225LM with 10/100/1000/2500 Mbps LAN2: Intel® I219V with 10/100/1000 Mbps	
Connector	2 x RJ-45	

Rear I/O	IMB-1223	IMB-1223-WV
HDMI	1 x HDMI 2.0a	
DisplayPort	1 x DP1.2	
VGA	N/A	
DVI	N/A	
Ethernet	1 x 1 Gigabit LAN, 1 x 2.5 Gigabit LAN	
USB	2 x USB 3.2 (Gen1), 2 x USB2.0	
Audio	2 (Mic-in, Line-out)	
COM	N/A	
PS2	N/A	

### Internal Connector

USB	2 x USB 3.2 Gen1 (1 x USB 3.2 Gen1 header) 2 x USB 2.0 (1 x 2.54 pitch header)	
COM	4, COM1,2 (support RS-232/422/485), COM3,4 (support RS-232 only)	
Parallel	N/A	
GPIO	4 x GPI, 4 x GPO	
TPM	TPM Header	
LVDS	1, switch by BIOS default LVDS	
eDP	1, switch by BIOS default LVDS	
VGA	1	
SATA PWR Output	1	
Thunderbolt header	1	
Speaker Header	1	

### Storage

M.2	1 x M.2 (Key M, 2242/2260/2280) with PCIe2 and SATA3 for SSD	
mSATA	N/A	
SATA	2 x SATA3 (6Gb/s)	
eMMC	N/A	

### Watchdog Timer

Output	From Super I/O to drag RESETCON#	
Interval	256 Segments, 0, 1, 2, ...255sec	

### Power Requirements

Input PWR	12V	12V~28V
	DC in with 4 pin plug PWR cable or DC Jack	
Power On	AT/ATX Supported - AT : Directly PWR on as power input ready - ATX : Press button to PWR on after power input ready	

### Environment

Operating Temp	0°C ~ 60°C	
Storage Temp	-40° C ~ 85° C	
Operating Humidity	5% ~ 90%	
Storage Humidity	5% ~ 90%	