

# AIMB-276

## Mini-ITX Motherboard 8th & 9th Gen Intel® Core™ Processor LGA1151



WISE-PaaS/DeviceOn CE FC RoHS

### Features

- Supports Intel® 8th/9th Gen Core™ i processor (LGA1151) with Intel Q370 chipset
- Two 260-pin SO-DIMM up to 64GB DDR4 2666 MHz SDRAM
- Supports triple display of DP+/DP+/HDMI/LVDS(eDP)
- Supports PCIe x16 (Gen 3), 1 M.2 B key & 1 M.2 E key, 6 USB 3.1 & 4 USB 3.0 and 3 SATA III
- Support wide range 12V~24V DC Input
- Supports Intel vPro, AMT 12.0, Software RAID 0,1,5,10, TPM2.0 (optional)
- Supports DeviceOn and Embedded Software APIs

#### Software APIs:



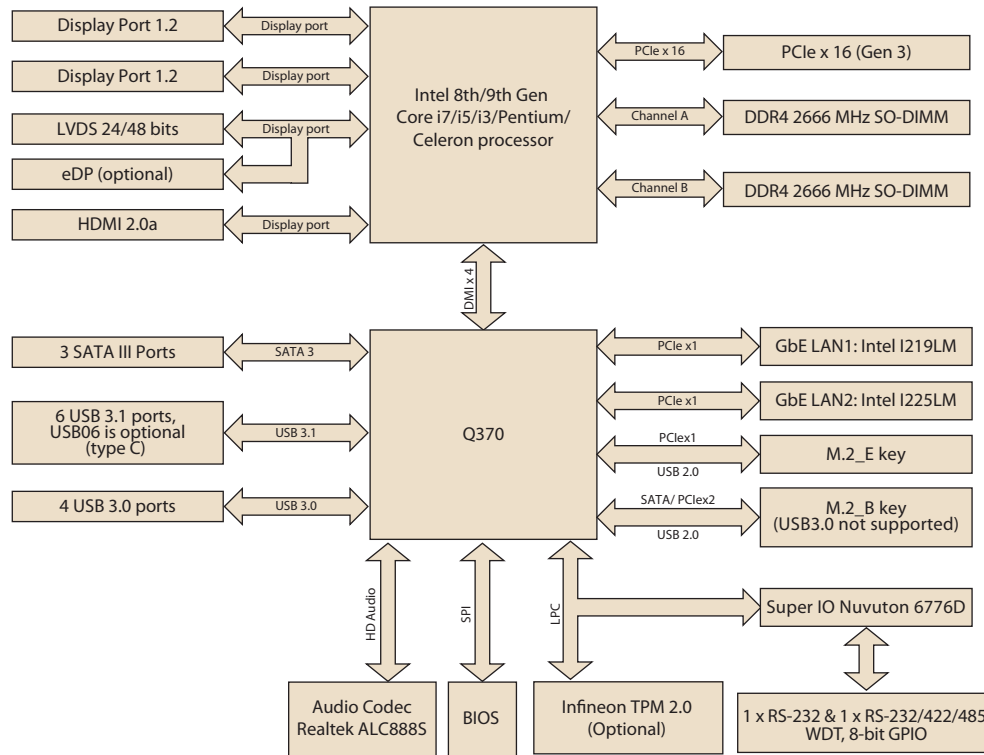
#### Utilities:



### Specifications

Processor System	CPU	i7-9700E/ i7-9700TE	i7-8700/ i7-8700T	i5-9500E/ i5-9500TE	i5-8500/ i5-8500T	i3-9100E/ i3-9100TE	i3-8100/ i3-8100T	G5400/ G5400T	G4900/ G4900T	
	Core Number	8/8	6/6	6/6	6/6	4/4	4/4	2/2	2/2	
	Max Speed	2.6GHz/1.8GHz	3.2GHz/2.4GHz	3.0GHz/2.2GHz	3.0GHz/2.1GHz	3.1GHz/2.2GHz	3.6GHz/3.1GHz	3.7GHz/3.1GHz	3.1GHz/2.9GHz	
	SmartCache	12/MB/12MB	12/MB/12MB	9MB/9MB	9MB/9MB	6MB/6MB	6MB/6MB	2MB/2MB	2MB/2MB	
	TDP	65W/35W	65W/35W	65W/35W	65W/35W	65W/35W	65W/35W	58W/35W	54W/35W	
	Chipset	Q370								
	BIOS	AMI EFI 256 Mbit SPI								
Expansion Slot	M.2	2, 1 x B key for SSD and 3G/4G (Type: 2242, 3042mm) & 1 x E key for wireless (Type: 2230mm); B key supports SATA/PCIe lanes by default, USB2.0 support by BOM change								
	PCIe x16 (Gen3)	16 GB/s per direction, 1 slot								
Memory	Technology	Dual Channel DDR4 2666 MHz SDRAM								
	Max. Capacity	64GB (up to 32GB per SO-DIMM)								
	Socket	2 x 260 PIN DDR4 SO-DIMM (Non-ECC)								
Graphics	Controller	Intel® UHD Graphics 630 / Intel® HD Graphics 615								
	LVDS	Supports dual channel 24-bit up to 1920 x 1200								
	HDMI	Yes, supports max. resolution 4096 x 2160 @60 Hz (HDMI 2.0a)								
	eDP	Yes, with internal pin header, supports max. resolution 4096 x 2304 @ 60 Hz (BOM optional)								
	Display Port 1.2	Yes, supports 2 x DP++ with max resolution 4096 x 2304 @ 60 Hz								
Ethernet	Triple Display	DP+DP+HDMI, DP+HDMI+LVDS (or eDP), LVDS(or eDP)+DP+DP								
	Interface	10/100/1000 Mbps								
	Controller	GbE LAN1: Intel i219LM; LAN2: Intel i225LM								
SATA	Connector	RJ-45 x 2								
	Max Data Transfer Rate	600 MB/s (SATA 3.0)								
Rear I/O	Channel	3 (SATA III)								
	HDMI	1 (HDMI 2.0a)								
	Display Port 1.2	2								
	Ethernet	2								
	USB	6 USB 3.1 + 2 USB 3.0 (USB06 is USB 3.1 type C, supports 5V/3A, BOM optional)								
	Audio	3 (Mic-in, Line-out, Line-in)								
	Power Connector	1 Phoenix header (AIMB-276G2-00A2) 1 DC-Jack (AIMB-276G2-01A1E)								
Internal Connector	USB	2 (USB 3.0)								
	LVDS/inverter	1								
	Serial	2 (1 x RS-232/422/485, 1 x RS-232, supports 5V/12V)								
	SATA	3 (SATA 3.0)								
	M.2	2, 1 x B key for SSD and 3G/4G (Type: 2242, 3042mm); 1 x E key for wireless (Type: 2230mm)								
	IrDA	-								
Watchdog Timer	GPIO	8-bit								
	Output	System reset								
Power Requirements	Interval	Programmable 1 ~ 255 sec/min								
	Input power	12 ~ 24V DC Input (AIMB-276G2-00A2) 12V DC Input (AIMB-276G2-01A1E)								
		TPM2.0								
Environment		Operating				Non-Operating				
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution				-40 ~ 85° C (-40 ~ 185° F)				
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")								

## Block Diagram



## Ordering Information

P/N	Chipset	DP	LVDS/eDP	HDMI	GbE LAN	COM	M.2 B key	M.2 E key	SATA III	USB 3.1/3.0	TPM	AMP	PClex16	Power
AIMB-276G2-00A2	Q370	2	1/(1)	1	2	2	1, Type: 2242 & 3042	1, Type: 2230	3	5+(1)/4	(1)	(1)	1	12-24V (via phoenix connector)
AIMB-276G2-01A1E	Q370	2	1/(1)	1	2	2	1, Type: 2242 & 3042	1, Type: 2230	3	5+(1)/4	(1)	(1)	1	12V (via DC-Jack+4-pin ATX)

\*() BOM options available on MP version.

## Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	1
1700018785	SATA power cable (1 port, 35cm)	1
1700022363-01	1-to-1 serial port cable 17CM	2
1960090001T000	I/O port bracket (AIMB-276G2-00A2)	1
1960092163T001	I/O port bracket (AIMB-276G2-01A1E)	1
2046027600	Startup manual	1
1700023082-11	ATX 2*10P to 1*3P-2.0 25cm cable (AIMB-276G2-01A1E)	1

## Optional Accessories

Part Number	Description
1700020277-01	Dual port USB 3.0 cable 30cm with IO bracket
1700023768-01	1x4P Phoenix to DC Jack 15cm cable
1960053207N001	LGA1150 CPU cooler for CPU TDP ≤ 65W, 92.9 (W) x 92.9 (L) x 46 (H) mm
1960060732N001	LGA1150 CPU cooler for CPU TDP ≤ 45W, 80 (W) x 80 (L) x 32.2 (H) mm
96PSA-A150W12W7-4	ADP A/D 100-240V 150W 12V LOCKABLE DC JACK (AIMB-276G2-01A1E)
96PSA-A150W19P4-4	ADP A/D 100-240V 150W 19V C14 TERMINAL BLOCK 4P (AIMB-276G2-00A2)
96PSA-A230W24P4-3	ADP A/D 100-240V 230W 24V C14 TERMINAL BLOCK 4P (AIMB-276G2-00A2)

## Optional Chassis

Part Number	Description
AIMB-B2000-15ZE	Mini-ITX chassis with 150W ATX power supply

## I/O View



## Embedded OS/API

OS/API	Part No.	968 P/N	Description
Windows 10	20706WX9HS0049	968QW19HLE	Win10 19HL AIMB-276 64b 1809 ENU
Windows 10	20706WX9VS0053	968QW19VLE	Win10 19VL AIMB-276 64b 1809 ENU
Windows 10	20706WX9ES0063	968QW19ELE	Win10 19EL AIMB-276 64b 1809 ENU
Windows 10	20706U20DS0062	968MOU204D	Ubuntu AIMB-276 64b 20.04 ENU

## Riser Card

Part Number	Description
AIMB-RF10F-01A1E	1U riser card with 1 PCIe16 expansion
AIMB-RF20F-02A1E	2U riser card for 1xPCIex16 to 2 PCIe16 (both Lane are PCIeX8 only)

\*\* compliant with AIMB-276G2 (Q370) sku only