AIMB-276

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



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: SMBus, H/W Monitor, Watchdog, GPIO

Utilities: BIOS flash, Monitoring

Windows Embedded

WISE-PaaS/ DeviceOn

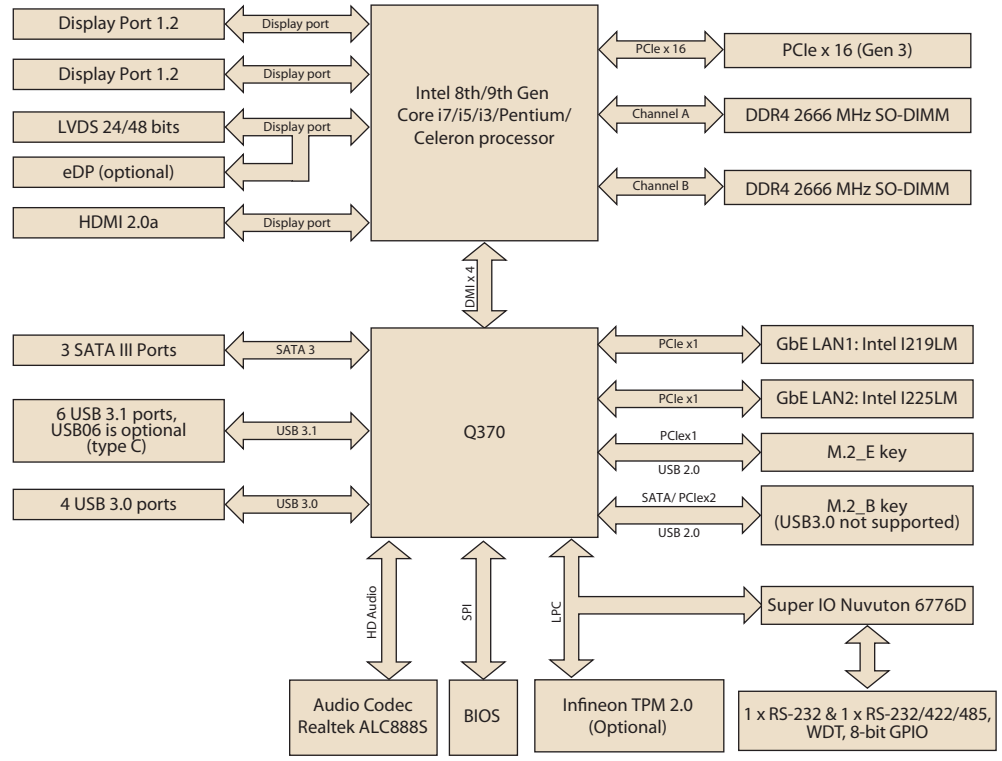
Specifications

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							
	Triple Display	DP+DP+HDMI, DP+HDMI+LVDS (or eDP), LVDS(or eDP)+DP+DP							
Ethernet	Interface	10/100/1000 Mbps							
	Controller	GbE LAN1: Intel i219LM; LAN2: Intel i225LM							
	Connector	RJ-45 x 2							
SATA	Max Data Transfer Rate	600 MB/s (SATA 3.0)							
	Channel	3 (SATA III)							
Rear I/O	HDMI	1 (HDMI 2.0a)							
	Display Port 1.2	2							
	Ethernet	2							
	USB	6 USB 3.1 + 2 USB 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	-							
	GPIO	8-bit							
Watchdog Timer	Output	System reset							
	Interval	Programmable 1 ~ 255 sec/min							
Power Requirements	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")							

All product specifications are subject to change without notice.

Last updated: 19-Jun-2023

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	PCIex16	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 Chassis

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

I/O View



AIMB-276G2-00A2



AIMB-276G2-01A1E

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)

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 PCIex16 expansion
AIMB-RF20F-02A1E	2U riser card for 1xPCIex16 to 2 PCIex16 (both Lane are PCIEX8 only)

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