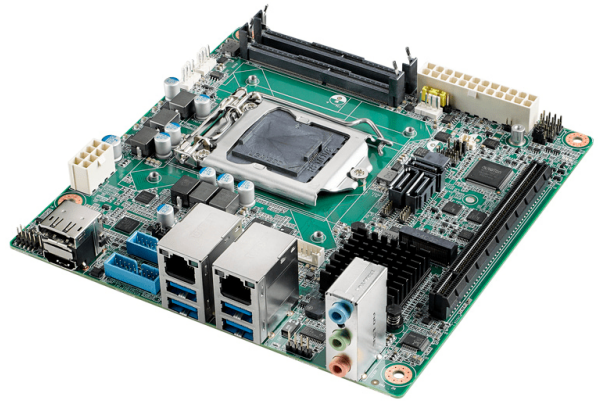




Advantech AIMB-277 Specifications

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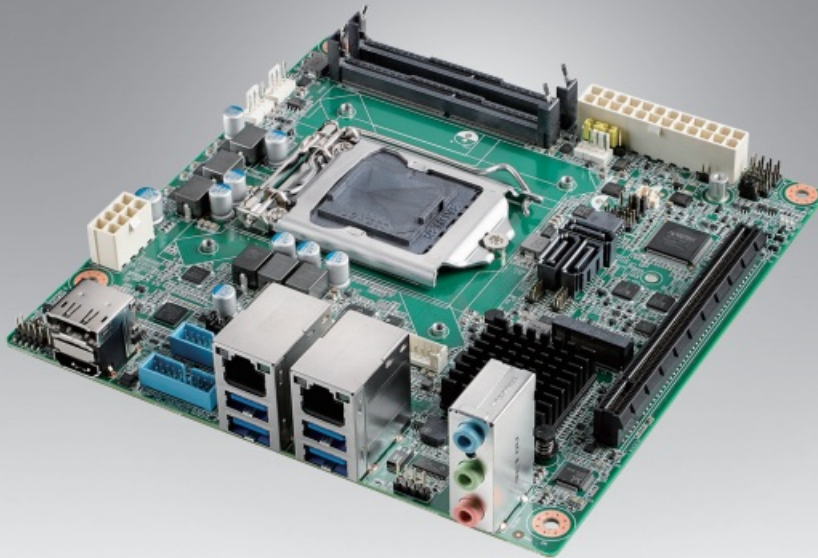
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Advantech AIMB-277 User Manual

Intel® Core™ i9/i7/i5/i3 LGA 1200 Mini-ITX with HDMI/DP/VGA, 2 COM, Dual LAN, M.2, DDR4, PCIe x16, ATX

NEW



WISE-DeviceOn    

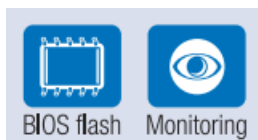
Features

- Supports Intel® 10th Gen Core™ i processor (LGA1200) with Intel Q470E/ H420E chipset
- Two 260-pin SO-DIMM up to 64GB DDR4 2933 MHz SDRAM
- Supports displays of HDMI2.0a/DP1.2/VGA/LVDs (or eDP)
- Supports 1 M.2 M key & 1 M.2 E key
- Supports 4 USB3.2 Gen2 & 4 USB3.2 Gen1, and 3 SATAIII
- Supports TPM2.0 and dual channel 3.2W amplifier
- Supports Intel vPro, AMT, Software RAID 0,1,5 (G2 sku)
- Supports SUSI, WISE-DeviceOn and Edge AI Suite

Software APIs:



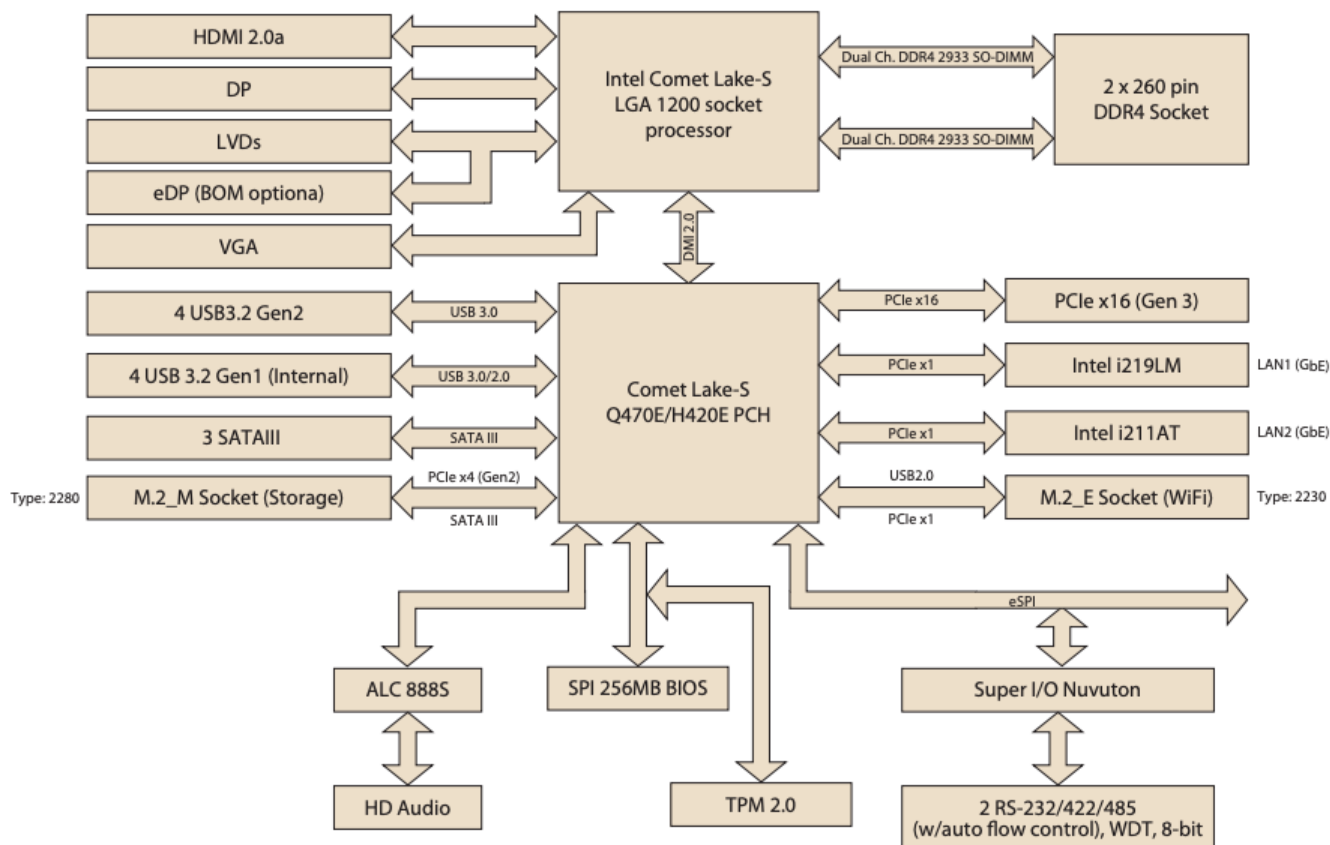
Utilities:



Specifications

Processor System	CPU	i9-10900E/i9-10900TE	i7-10700E/i7-10700TE	i5-10500E/i5-10500TE	i3-10100E/i3-10100TE	G6400E/G6400TE	G5900E/G5900TE
	Core Number	10/10	8/8	6/6	4/4	2/2	2/2
	Max Speed	2.8GHz/ 1.8GHz	2.9GHz/ 2.0GHz	3.1GHz/ 2.3GHz	3.2GHz/ 2.3GHz	3.8GHz/ 3.2GHz	3.2GHz/ 3.0GHz
	SmartCache	20MB/20MB	16MB/16MB	12MB/12MB	6MB/6MB	2MB/2MB	2MB/2MB
	TDP	65W/35W	65W/35W	65W/35W	65W/35W	58W/35W	58W/35W
	Chipset	Q470E/H420E					
	BIOS	AMI EFI 256 Mbit SPI					
Expansion Slot	M.2	1 x M key for SSD and 3G/4G (Type: 2280), on top side 1 x E key for wireless (Type: 2230mm), on bottom side					
	PCIe x16 (Gen3)	16 GB/s per direction, 1 slot					
Memory	Technology	Dual Channel DDR4 2933 MHz SDRAM					
	Max. Capacity	64GB (up to 32GB per SO-DIMM)					
	Socket	2 x 260 PIN DDR4 SO-DIMM (Non-ECC)					
Graphics	Controller	Intel HD Graphics					
	HDMI 2.0a	Yes, supports max. resolution 4096 x 2160 @ 60 Hz (Only for G2 sku)					
	DP1.2	Yes, supports max. resolution 4096 x 2304 @ 60 Hz					
	LVDs	Yes, with internal pin header, supports singel/dual channel 18/24-bit with maximum resolution up to 1920 x 1200 @ 60 Hz (LVDs colay with eDP)					
	eDP	Yes, with internal pin header, supports max. resolution 4096 x 2304 @ 60 Hz (eDP colay with LVDs)					
	VGA	Yes, with internal pin header, supports max. resolution 1920 x 1200 @ 60 Hz					
	Triple Display (G2 sku)	HDMI+DP+VGA, HDMI+DP+LVDS (or eDP), HDMI+VGA+LVDS (or eDP), DP+VGA+LVDS (or eDP)					
Ethernet	Dual Display (L sku)	VGA+LVDS (or eDP), DP+VGA, DP+LVDS (or eDP)					
	Interface	10/100/1000 Mbps					
	Controller	GbE LAN1: Intel i219LM GbE LAN2: Intel i211AT					
SATA	Connector	RJ-45 x 2					
	Max Data Transfer Rate	600 MB/s (SATA 3.0)					
Rear I/O	Channel	3 SATAIII (for G2 sku), 2 SATAIII (for L sku)					
	DP 1.2 (DP++)	1					
	HMDI 2.0	1					
	Ethernet	2					
	USB	G2 sku: 4 USB3.2 Gen2 L sku: 4 USB3.2 Gen1					
	Audio	1 (Line in/Line out/Mic in)					
Internal Connector	USB	G2 sku: 4 USB3.2 Gen1 L sku: 2 USB3.2 Gen1, 2 USB2.0					
	VGA	1 (pin header)					
	LVDs/eDP	1 (LVDs colay with eDP)					
	Serial	2 (1 RS-232, 1 RS-232/422/485)					
	SATA	G2 sku: 3 SATAIII; L sku: 2 SATAIII					
	M.2	1 x M key for SSD, Type: 2280mm (on top side) 1 x E key for wireless, Type: 2230mm (on bottom side)					
	GPIO	8-bit					
	Watchdog Timer	Output	System reset				
Interval		Programmable 1 ~ 255 sec/min					
Power Requirements	Input power	ATX Input					
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	HDMI 2.0	LVDS/eDP	DP 1.2	VGA	GbE LAN	COM	SATAIII	USB3.2 Gen 2	USB 3.2 Gen1	USB 2.0	M.2 M key	M.2 E key	PCIe x16	TPM2.0	AMP
AIMB-277G2-FLA1E	Q470E	1	1/(1)	1	1	2	2	3	4	4	0	1	1	1	1	1
AIMB-277G2-00A1E	Q470E	1	0/(1)	1	0	2	2	3	4	4	0	1	1	1	0	0
AIMB-277L-00A1E	H420E	0	1/(1)	1	1	2	2	2	0	6	2	1	1	1	(1)	(1)

*() BOM options available on MP version.

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	1
1700031130-02	1-to-2 serial port cable, 20cm	1
TBD	I/O port bracket	1
2046027700	Startup manual	1

Optional Chassis

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

I/O View



Optional Accessories

Part Number	Description
1700020277-01	Dual port USB 3.0 cable 30cm with IO bracket
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
1970004564T010	C.L.R3 Kaby Lake 35W 75x75x25 sunflower

Embedded OS/API

OS/API	Part No.	968 P/N	Description
Windows 10	TBD	968QW19ELE	TBD
Windows 10	TBD	968QW19HLE	TBD
Windows 10	TBD	968QW19VLE	TBD

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Documents / Resources

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References

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