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# Datasheet

## Advantech

**AIMB-275**

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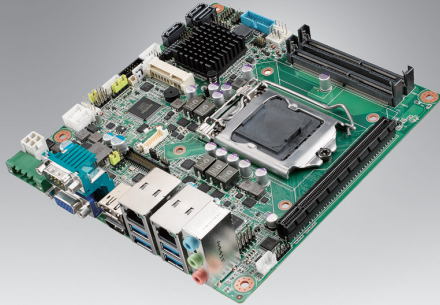
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# AIMB-275

Intel® Core™ i7/i5/i3 LGA 1151 Mini-ITX with VGA/DP++/HDMI/LVDS(eDP), 2 COM, Dual LAN, PCIe x16, M.2, DDR4, DC Input

NEW



WISE-PaaS/RMM

## Specifications

	CPU	KBL-S SKL-S	i7-7700 i7-6700	i7-7700T i7-6700TE	i5-7500 i5-6500	i5-7500T i5-6500TE	i3-7101E i3-6100	i3-7101TE i3-6100TE	- Pentium G4400/4400TE	- Pentium G3900/3900TE	
Processor System	Core Number		4	4	4	4	2	2	2 / 2	2 / 2	
	Max Speed	KBL-S SKL-S	3.6GHz 3.4GHz	2.9GHz 2.4GHz	3.4GHz 3.2GHz	2.7GHz 2.3GHz	3.9GHz 3.7GHz	3.4GHz 2.7GHz	3.3GHz / 2.9GHz	2.8GHz / 2.6GHz	
	L3 Cache		8M	8M	6M	6M	4M	4M	3M / 3M	2M / 2M	
	TDP		65W	35W	65W	35W	54W / 51W	35W	54W / 35W	51W / 35W	
	Chipset		Q170 / H110								
	BIOS		AMI EFI 128 Mbit SPI								
Expansion Slot	M.2	1, B key for SSD and 3G supported (Type: 2242, 2280mm)									
	Mini-PCIe	1, F/S miniPCIe slot (with mSATA supported)									
	PCIe x16 (Gen3)	16 GB/s per direction, 1 slot									
Memory	Technology	Dual Channel DDR4 2133 MHz SDRAM									
	Max. Capacity	32GB (up to 16GB per SO-DIMM)									
	Socket	2 x 260 PIN DDR4 SO-DIMM (Non-ECC)									
Graphics	Controller	Supports OpenGL 5.x, DirectX12, OpenCL 2.X									
	VRAM	Shared system memory, 2 GB and above, total system memory shared 1 GB maximum video memory									
	CRT	Yes, supports max. resolution 1920 x 1200 @ 60 Hz									
	LVDS	Supports dual channel 48-bit up to 1920 x 1200									
	HDMI	Yes, supports max. resolution 4096 x 2160 @60 Hz (HDMI 2.0)									
	eDP	Yes, with internal pin header, supports max. resolution 4096 x 2160 @ 60 Hz									
Triple Display	Display Port 1.2	Yes, supports max. resolution 4096 x 2160 @ 60Hz									
	VGA+HDMI+DP++	VGA+DP+++LVDS(eDP), VAG+HDMI+LVDS (eDP), DP+++HDMI+LVDS (eDP)									
Ethernet	Interface	10/100/1000 Mbps									
	Controller	GbE LAN1: Intel i219LM; LAN2: Intel I211AT									
	Connector	RJ-45 x 2									
SATA	Max Data Transfer Rate	600 MB/s (SATA 3.0)									
	Channel	3 (2 SATAIII, 1 SATA DOM)									
Rear I/O	CRT	1									
	HDMI	1 (HDMI 2.0 or HDMI 1.2)									
	Display Port 1.2	1									
	Ethernet	2									
	USB	4 (USB 3.0)									
	Audio	3 (Mic-in, Line-out, Line-in)									
	Serial	1 (RS-232, supports 5V/12V)									
	Phoenix Connector	1									
Internal Connector	USB	6 (2 USB 3.0, 4 USB 2.0)									
	LVDS/inverter	1									
	Serial	1 (RS-232/422/485)									
	SATA	3 (SATA 3.0)									
	Mini-PCIe	1 (F/S x1, mSATA supported)									
	M.2	1 (B Key for SSD and 3G supported)									
	IrDA	-									
Watchdog Timer	GPIO	8-bit									
	Output	System reset									
Power Requirements	Interval	Programmable 1 – 255 sec/min									
	Input power	12 – 24V DC Input									
Environment	Win Idle	19.28W (Intel core i7-6700 3.4GHz / DDR4 2133MHz 8GB x 2)							Non-Operating		
	Temperature	Operating 0 – 60° C (32 – 140° F), depends on CPU speed and cooler solution					Non-Operating -40 – 85° C (-40 – 185° F)				
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")									

## Features

- Supports Intel® 7th & 6th Gen Core™ i processor (LGA1151) with Intel Q170 chipset
- Two 260-pin SO-DIMM up to 32GB DDR4 2133 MHz SDRAM
- Supports triple display of VGA/DP/HDMI/LVDS(eDP)
- Supports PCIe x16 (Gen 3), 1 F/S miniPCIe 1 M.2 (NGFF), 6 USB 3.0 and 3 SATA III
- Support wide range 12V~24V DC Input
- Supports Intel vPro, AMT 11.0, PECL 3.0, Software RAID 0,1,5,10, TPM 1.2 / 2.0 (optional)
- Supports WISE-PaaS/RMM and Embedded Software APIs

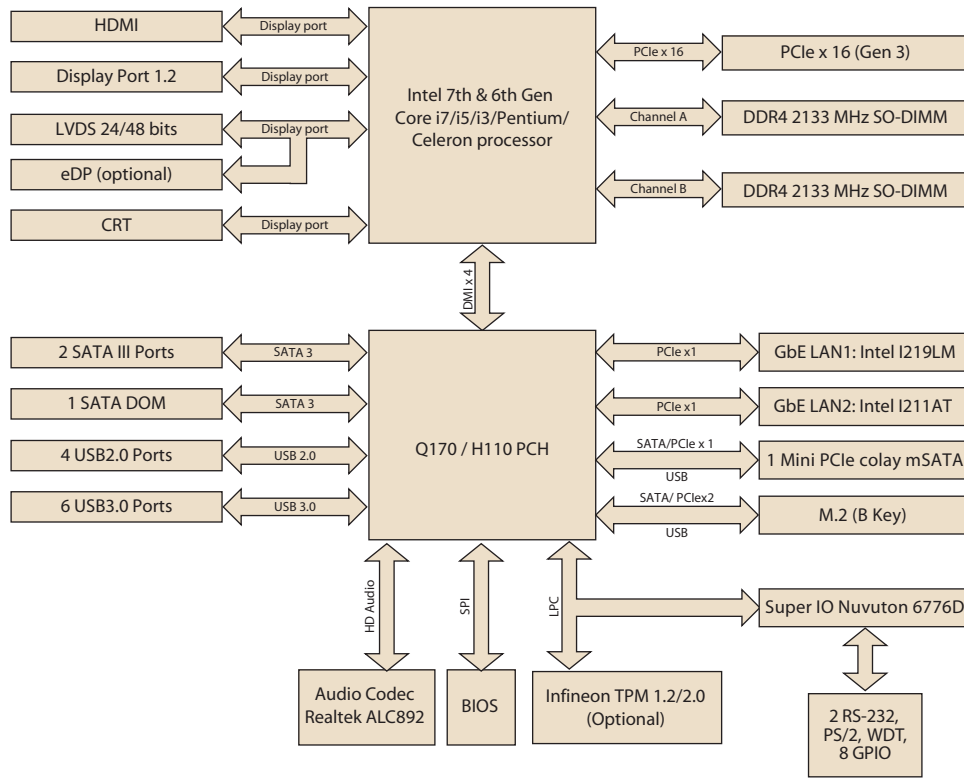
### Software APIs:



### Utilities:



## Block Diagram



## Ordering Information

P/N	Chipset	DP	VGA	LVDS/eDP	HDMI	GbE LAN	COM	M.2	SATA	USB 3.0/2.0	MiniPCIe	TPM	AMP	PClex16
AIMB-275G2-00A1E	Q170	1	1	1/(1)	1 (HDMI 2.0)	2	2	1	3 (1 SATA DOM support)	6/4	1 (F/S)	(1)	(1)	1
AIMB-275VG-00A1E	Q170	1	1	0	1 (HDMI 1.2)	1	2	0	3	4/4	1 (F/S)	(1)	(1)	1
AIMB-275L-00A1E	H110	1	1	0	1 (HDMI 1.2)	1	2	0	3	4/4	1(F/S) mSATA only	(1)	(1)	1

\*( ) BOM options available on MP version.

## Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	1
1700018785	SATA power cable (1 port, 25cm)	1
1700100250	Serial port cable	1
1920001186T000	I/O port bracket	1
2006027510	Startup manual	1
1700023082-11	ATX 2*10P to 1*3P-2.0 25cm cable	1

## Optional Chassis

Part Number	Description
AIMB-B2000-15ZE	Mini-ITX chassis with 150W ATX power supply
AIMB-B2000-00YE	Mini-ITX chassis (Optional external AC-DC 60W/84W Adaptor)

## I/O View



## Optional Accessories

Part Number	Description
1700026162-01	USB 2.0 cable with two ports, 30 cm with bracket
1700020277-01	Dual port USB 3.0 cable 30cm with IO bracket
1703060191	KB/MS cable 1*6P-2.0/M-DIN 6P(F)*2, 19cm
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-A120W12P4	ADP A/D 100-240V 120W 12V C14 TERMINAL BLOCK 4P

## Embedded OS/API

OS/API	Part No.	968 P/N	Description
windows 10	2070014479	968QW10LTE	Win10 IoT Enterprise x64 multi-language (SKL-S)
WEB.1	2070014480		WEB.1 Industry Pro x64 multi-language (SKL-S)

\*\*KBL-S only support windows 10

## 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-275G2/VG (Q170) sku only

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