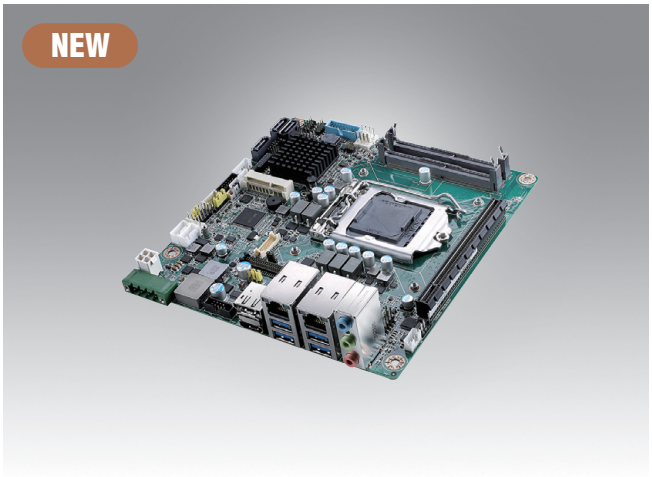
AIMB-275A3

Intel® 7th and 6th Gen Core™ processor, LGA1151 Mini-ITX Motherboard



Features

- Supports Intel® 7th & 6th Gen Core™ i processor (LGA1151) with Intel Q170/ H110 chipset
- Two 260-pin SO-DIMM up to 32GB DDR4 2133 MHz SDRAM
- Supports triple display of 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, PECI 3.0, Software RAID 0,1,5,10, TPM2.0 (optional)
- Supports WISE-PaaS/DeviceOn
- and Embedded Software APIs

Software APIs: SMBus, H/W Monitor, Watchdog, GPIO, Brightness

Utilities: BIOS flash, Monitoring

WISE-PaaS/DeviceOn

Specifications

Processor System	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
	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/3M	4M	3M / 3M	2M / 2M
	TDP		65W	35W	65W	35W	54W / 51W	35W	54W / 35W	51W / 35W
	Chipset		Q170 / H110							
	BIOS		AMI UEFI 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		2133/2400 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							
	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							
	Display Port 1.2		Yes, supports max. resolution 3840 x 2160 @ 60Hz							
	Triple Display		DP++HDMI+LVDS, DP++HDMI+ eDP							
Ethernet	Interface		10/100/1000 Mbps							
	Controller		GbE LAN1: Intel i219LM; LAN2: Intel I211AT and I210AT compatible							
	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	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)							
	Phoenix Connector		1							
Internal Connector	USB		6 (2 USB 3.0, 4 USB 2.0)							
	LVDS/inverter		1							
	Serial		2 (1 RS-232, supports 5V/12V, 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		-							
	GPIO		8-bit							
Watchdog Timer	Output		System reset							
	Interval		Programmable 1 ~ 255 sec/min							
Power Requirements	Input power		12 ~ 24V DC Input							
			Win Idle 19.28W (Intel core i7-6700 3.4GHz / DDR4 2133MHz 8GB x 2)							
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")							

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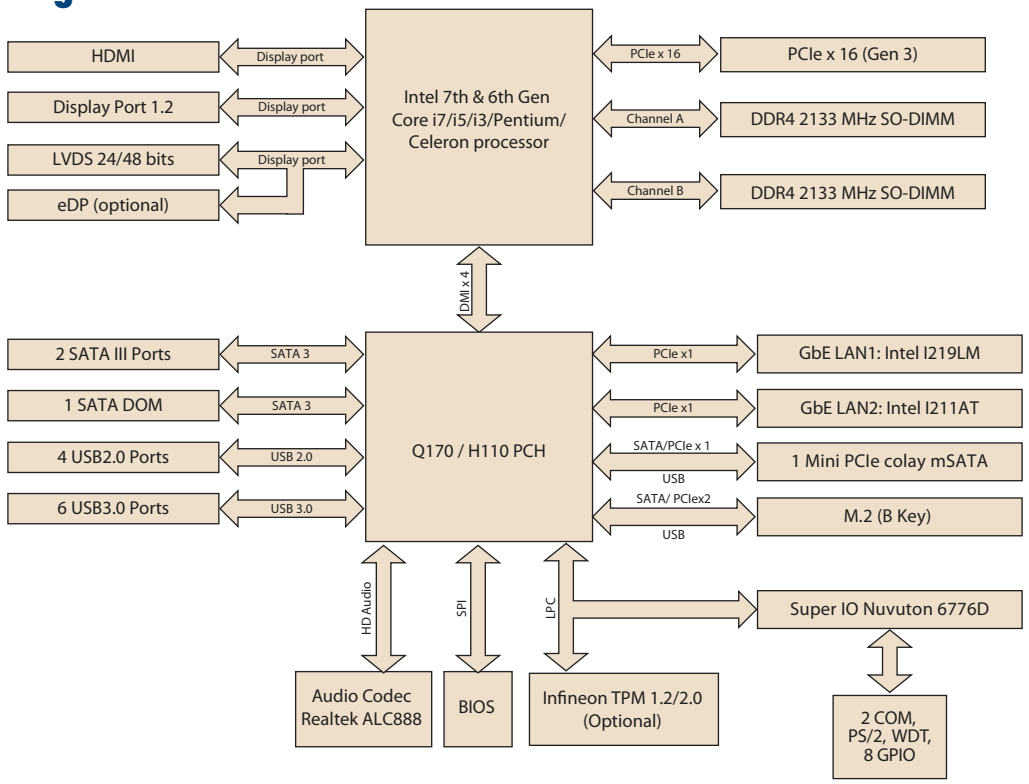
All product specifications are subject to change without notice.

Last updated: 11-Mar-2022

Block Diagram



Ordering Information

P/N	Chipset	DP	LVDS/eDP	HDMI	Gbe LAN	COM	M.2	SATA	USB 3.0/2.0	MiniPCIe	TPM	AMP	PCIex16
AIMB-275G2-00A3E	Q170	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-00A3E	Q170	1	0	1 (HDMI 2.0)	1	2	0	3	4/4	1 (F/S)	(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, 35cm)	1
1700100250	Serial port cable	1
19Z0001186T020	I/O port bracket	1
2006027511	Startup manual	1
1700023082-11	ATX cable 2*10P-4.2/1*3P-2.0 15cm	1
1930006770-01	M.2 Screw	1
1910001675	M.2 POST	1
1930001071	MiniPCIe Screw	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

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-275G2/VG (Q170) sku only