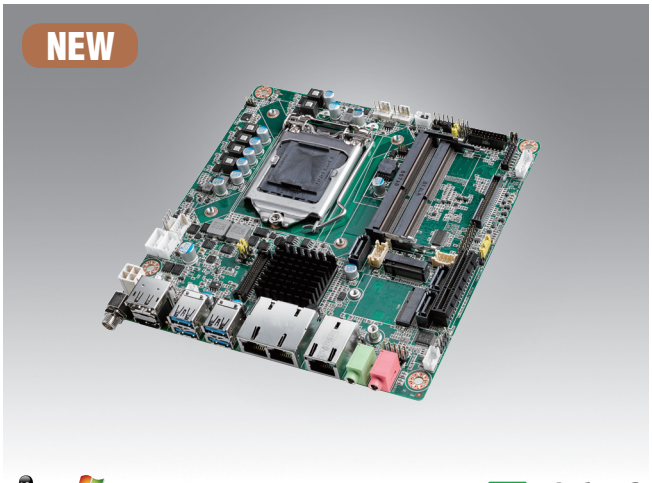
AIMB-286

Intel® Core™ i7/i5/i3 LGA 1151 Mini-ITX with DP++/HDMI/LVDS(eDP), 6 COM, Dual LAN, PCIe x4, M.2, DDR4, DC Input



Windows Embedded

WISE-PaaS/RMM

Features

- Supports Intel® 8th Gen Core™ i processor (LGA1151) with Intel H310 chipset
- Two 260-pin SO-DIMM up to 32GB DDR4 2666 MHz SDRAM
- Supports dual display of DP++/HDMI/LVDs (or eDP)
- Supports PCIe x4 (Gen 3), 1 M.2 B key & 1 M.2 E key, 4 USB 3.0 & 4 USB 2.0 and 3 SATA III
- Supports 12V DC Input and low profile height
- Supports TPM 1.2 / 2.0 (optional)
- Supports WISE-PaaS/RMM and Embedded Software APIs

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

Utilities: BIOS flash, Monitoring

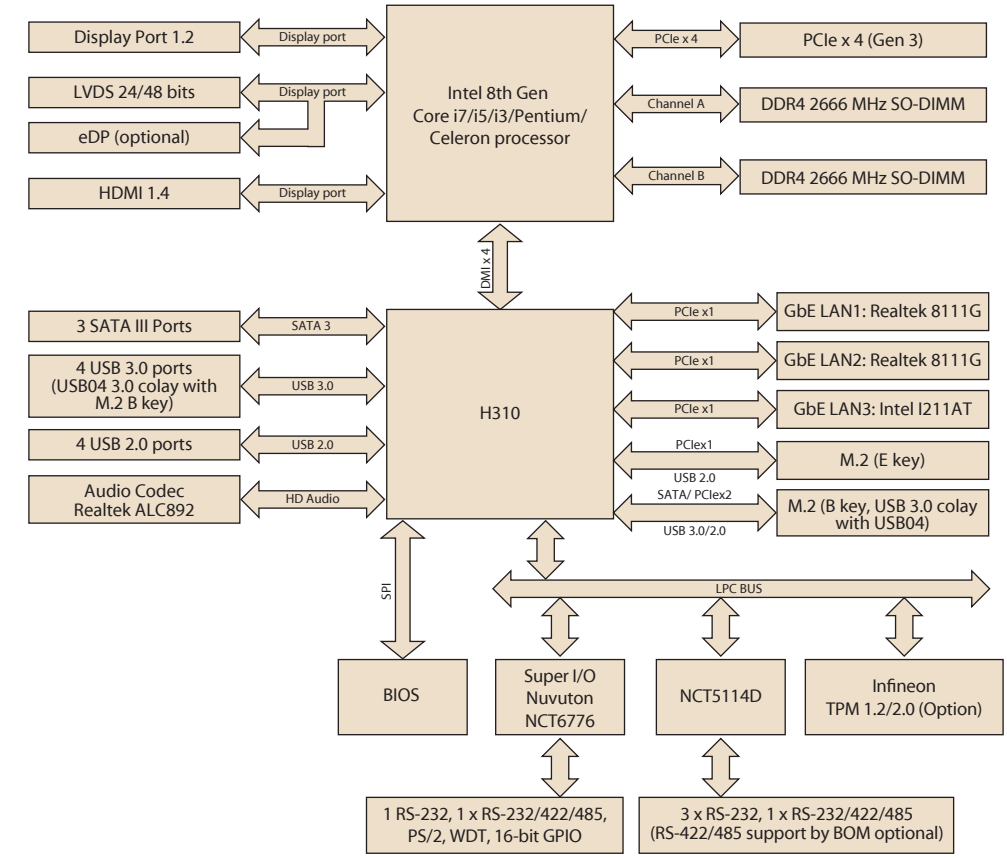
Specifications

Processor System	CPU	i7-8700/i7-8700T	i5-8500/i5-8500T	i3-8100/i3-8100T	Pentium G5400/G5400T	Celeron G4900/G4900T
	Core Number	6/6	6/6	4/4	2/2	2/2
	Max Speed	3.2/2.4 GHz	3.0/2.1 GHz	3.6/3.1 GHz	3.7/3.1 GHz	3.1/2.9 GHz
	SmartCache	12/12 MB	9/9 MB	6/6 MB	4/4 MB	2/2 MB
	TDP	65/35 W	65/35 W	65/35 W	54/35 W	54/35 W
	Chipset	H310				
	BIOS	AMI EFI 128 Mbit SPI				
Expansion Slot	M.2	2, 1 x B key for SSD and 3G/4G (Type: 2242, 3042mm); with SIM card holder 1 x E key for wireless (Type: 2230mm)				
	PCIe x4 (Gen3)	4 GB/s per direction, 1 slot				
Memory	Technology	Dual Channel DDR4 2666 MHz SDRAM				
	Max. Capacity	32GB (up to 16GB per SO-DIMM)				
	Socket	2 x 260 PIN DDR4 SO-DIMM (Non-ECC)				
Graphics	Controller	Intel HD Graphics				
	LVDS	Supports dual channel 24-bit up to 1920 x 1200 (colay with eDP)				
	HDMI 1.4	Yes, supports max. resolution 4096 x 2160 @ 24 Hz				
	eDP	Yes, with internal pin header, supports max. resolution 4096 x 2304 @ 60 Hz (BOM optional)				
	Display Port 1.2	Yes, supports 1 x DP++ with max resolution 4096 x 2304 @ 60 Hz				
	Dual Display	DP+HDMI, DP+LVDS (or eDP), HDMI + LVDS (or eDP)				
Ethernet	Interface	10/100/1000 Mbps				
	Controller	GbE LAN1/2: Realtek 8111G GbE LAN3: Intel i211AT				
	Connector	RJ-45 x 3				
SATA	Max Data Transfer Rate	600 MB/s (SATA 3.0)				
	Channel	3 (SATA III)				
Rear I/O	HDMI	1 (HDMI 1.4)				
	Display Port 1.2	1				
	Ethernet	3				
	USB	4 USB 3.0 (USB04 colay with M.2 B key for USB 3.0)				
	Audio	2 (Mic-in, Line-out)				
	DC Jack	1				
Internal Connector	USB	4 (USB 2.0)				
	LVDS/inverter	1				
	Serial	6 x RS-232 (COM1: RS-232, supports 5V/12V by jumper selection; COM2/3: RS-232/422/485 w/auto flow control, supports RS-232 by default, RS-422/485 supports by BOM option; COM4/5/6: RS-232)				
	SATA	3 (SATA 3.0)				
	M.2	2, 1 x B key for SSD and 3G/4G (M.2 B key USB 3.0 colay with USB04), Type: 2242, 3042mm; 1 x E key for wireless, Type: 2230mm				
	IrDA	-				
	GPIO	16-bit				
Watchdog Timer	Output	System reset				
	Interval	Programmable 1 ~ 255 sec/min				
Power Requirements	Input power	12V DC Input				
		Intel Core i7-8700 3.2GHz, 2pcs 16GB DDR4 2666MHz SDRAM, +12V @ 11.095A				
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: 9-Jan-2019

Block Diagram



Ordering Information

P/N	Chipset	DP	LVDS/eDP	HDMI 1.4	GbE LAN	COM	SATAIII	USB3.0/2.0	M.2 B key	M.2 E key	PCIex4	TPM	AMP
AIMB-286F-00A1E	H310	1	1 / (1)	1	3	6	3	4/4	1	1	1	(1)	(1)
AIMB-286G2-00A1E	H310	1	1 / (1)	1	2	2	3	4/4	1	1	1	(1)	(1)
AIMB-286L-00A1E	H310	1	0	1	1	2	2	4/0	1	1	0	0	0

*() 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
1701200220	1-to-2 serial port cable, 22cm	1
1960090424T001	I/O port bracket	1
1700029538-01	1-to-4 serial port cable, 35cm	1
2046028600	Startup manual	1
1700023082-11	ATX 2*10P to 1*3P-2.0 25cm cable	1

Optional Accessories

Part Number	Description
1700029428-01	M cable USB-A 4P(F)*2/2*4P-2.0 25cm
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-A120W12V1	ADP A/D 100-240V 120W 12V C14 DC Plug 180LX

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)

Embedded OS/API

OS/API	Part No.	968 P/N	Description
Windows 10			

I/O View

