

# 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



WISE-DeviceOn CE FC RoHS

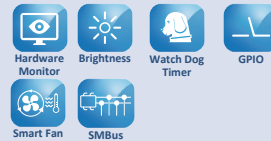
## Specifications

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	12MB/12MB	12MB/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	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								
	Technology	Dual Channel DDR4 2666 MHz SDRAM								
Memory	Max. Capacity	64GB (up to 32GB per SO-DIMM)								
	Socket	2 x 260 PIN DDR4 SO-DIMM (Non-ECC)								
	Controller	Intel HD Graphics								
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 8111H 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	-								
Watchdog Timer	GPIO	16-bit								
	Output	System reset								
Power Requirements	Interval	Programmable 1 ~ 255 sec/min								
	Input power	12V DC Input								
Environment	Operating	Intel Core i7-8700 3.2GHz, 2pcs 16GB DDR4 2666MHz SDRAM, +12V @ 11.095A						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")								

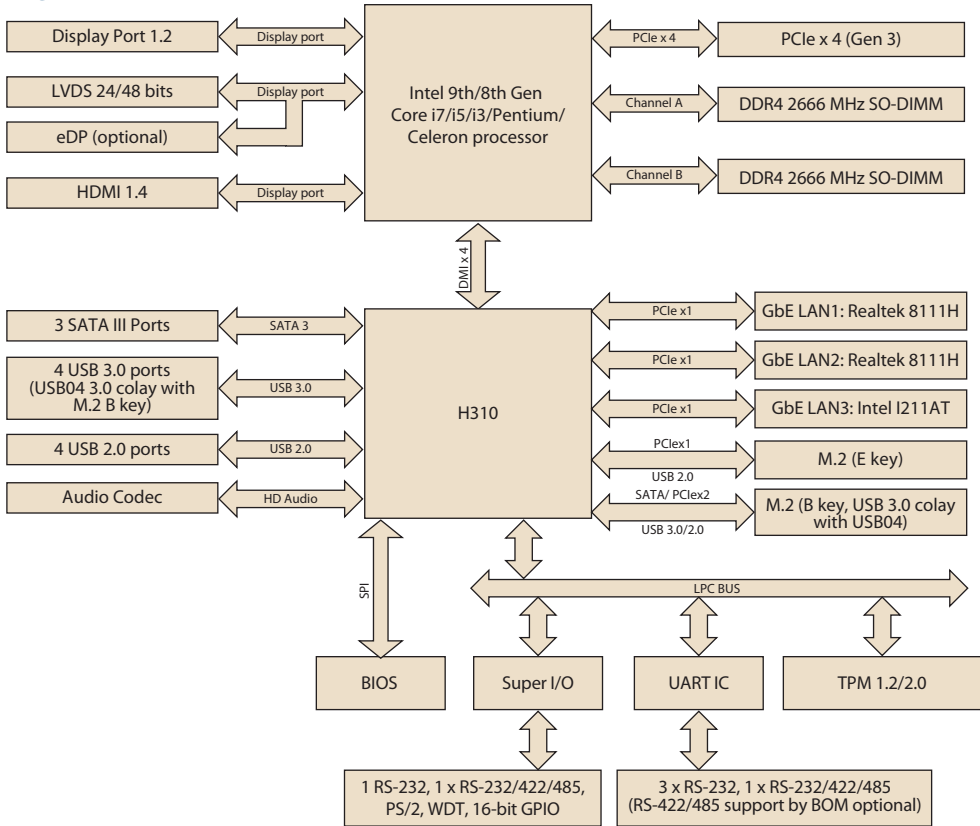
## Features

- Supports Intel® 9th/8th Gen Core™ i processor (LGA1151) with Intel H310 chipset
- Two 260-pin SO-DIMM up to 64GB 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
- Supports WISE-PaaS/DeviceOn and Embedded Software APIs

### Software APIs:



### 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	PClex4	TPM2.0	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
AIMB-286FL-00A1E	H310	1	1 / (1)	1	3	6	3	4/4	1	1	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
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 15cm 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
1970004564T010	C.L R3 Sunflower LGA115X Kabylake 35W 90 (W) x 90 (L) x 25 (H) mm
96PSA-A120W12V1-3	ADP A/D 100-240V 120W 12V C14 DC Plug
96PSA-A150W12W7-3	ADP A/D 100-240V 150W 12V LOCKABLE DC JACK

### 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



### Embedded OS/API

OS/API	Part No.	968 P/N	Description
Windows 10	20706WX9ES0051	968QW19ELE	img W10 19EL AIMB-286 64b 1809 ENU
Windows 10	20706WX9HS0038	968QW19HLE	img W10 19HL AIMB-286 64b 1809 ENU
Windows 10	20706WX9VS0041	968QW19VLE	img W10 19VL AIMB-286 64b 1809 ENU