

AIMB-505A3

Micro-ATX Motherboard 6th/7th Gen Intel® Core™ Processor LGA1151



WISE-PaaS/RMM RoHS COMPLIANT PRODUCT CE FCC

Specifications

	CPU	i7-7700/ i7-7700T	i7-6700	i7-6700TE	i5-7500/ i5-7500T	i5-6500	i5-6500TE	i3-7101/ i3-7101TE	i3-6100	i3-6100TE	Pentium G4400/ G4400TE	Celeron G3900/ G3900TE	
Processor System	Core Number	4/4	4	4	4/4	4	4	2/2	2	2	2	2	
	Max. Speed	3.6GHz/ 2.9GHz	3.4 GHz	2.4 GHz	3.4GHz/ 2.7GHz	3.2 GHz	2.3 GHz	3.9GHz/ 3.4GHz	3.7GHz	2.7 GHz	3.3GHz / 2.4GHz	2.8GHz / 2.3GHz	
	L3 Cache	8M/8M	8M	8M	6M/6M	6M	6M	3M/3M	4M	4M	3M/3M	2M/2M	
	TDP (W)	65W/35W	65W	35W	65W/35W	65W	35W	54W/35W	51W	35W	54W/35W	51W/35W	
	Chipset	H110											
	BIOS	AMI EFI 128 Mbit SPI											
Expansion Slot	PCI	32-bit/33 MHz, 1 slot (G2/L1)											
	PCIe x 1 (Gen2)	0.5 GB/s per direction, 2 slot											
	PCIe x16 (Gen3)	16 GB/s per direction, 1 slot											
	Full-size Mini-PCIe	1, F/S support mSATA (co-lay with onboard USB 3.0) (G2)											
Memory	Technology	Dual Channel DDR4 2666 MHz SDRAM											
	Max. Capacity	32 GB/16 GB per DIMM											
	Socket	2 x 288-pin DIMM (Non-ECC)											
Graphics	Controller	Intel HD Graphics											
	LVDS	Supports dual channel 48 bit and up to 1920 x 1200 @60Hz (optional)											
	eDP	Internal pin header, supports max. resolution 3840 x 2160 @ 60 Hz (on board)											
	VGA	Yes, Max resolution 1920 x 1200 @ 60 Hz											
	DP	Supports max resolution 4096 x 2304 @ 60 Hz											
	DVI-D	Up to 1920 x 1200 @ 60Hz refresh rate											
Ethernet	Dual Display	DP+DVI-D,DP+VGA,DVI-D+VGA,DP+EDP,EDP+DVI-D,EDP+VGA											
	Interface	10/100/1000 Mbps											
	Controller	GbE LAN1:Realtek 8111K GbE LAN2:Realtek 8111K											
SATA	Connector	RJ-45 x 2											
	Max Data Transfer Rate	600 MB/s (SATA 3.0)											
Rear I/O	Channel	3											
	VGA	1											
	DVI-D	1											
	Ethernet	2 (G2 x2, L1x2, Lx1)											
	USB	8 (G2 x8, L1x8, Lx6)											
	Display port	1											
	Audio	2 (Mic-In, Line-out)											
Internal Connector	Serial	1 (RS-232, COM1 support 5V/12V)											
	USB	6 (G2/L1: USB 3.0 x 4, USB 2.0 x 2; L: USB 2.0 x 2)											
	Serial	9 (7 x RS-232, 2 x RS-232/422/485; COM 3 and COM 7 support RS-232/422/485 auto flow control; COM 2 support 5V/12V by jumper selection)											
	IDE	-											
	SATA	3 x 600 MB/s (SATA 3.0)											
	eDP/LVDS & Inverter	1/1 (LVDS optional)											
	GPIO	8-bit GPIO											
Watchdog Timer	LPT	1											
	Output Interval	System reset Programmable 1 ~ 255 sec/min											
Power Requirements		Intel® Core™ i7-6700 CPU @ 3.4GHz											
	Power On	5V		+3.3V		12V	-12V		5VSB				
Environment		1.73A		1.92A		3.45A	0.18A		0.09A				
	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	244 mm x 244 mm (9.6" x 9.6")											

Features

- Supports Intel® 6th/7th Gen Core i7/i5/i3 processor with H110 chipset
- Two DIMM sockets support up to 32 GB DDR4 2666 MHz SDRAM
- Supports Dual display of VGA, DP, DVI, eDP, LVDS (optional) and two GbE LAN
- Supports 10 x COM, 8 x USB 3.0, 6 x USB 2.0
- Supports WISE PaaS/RMM, McAfee, Acronis and Embedded Software APIs

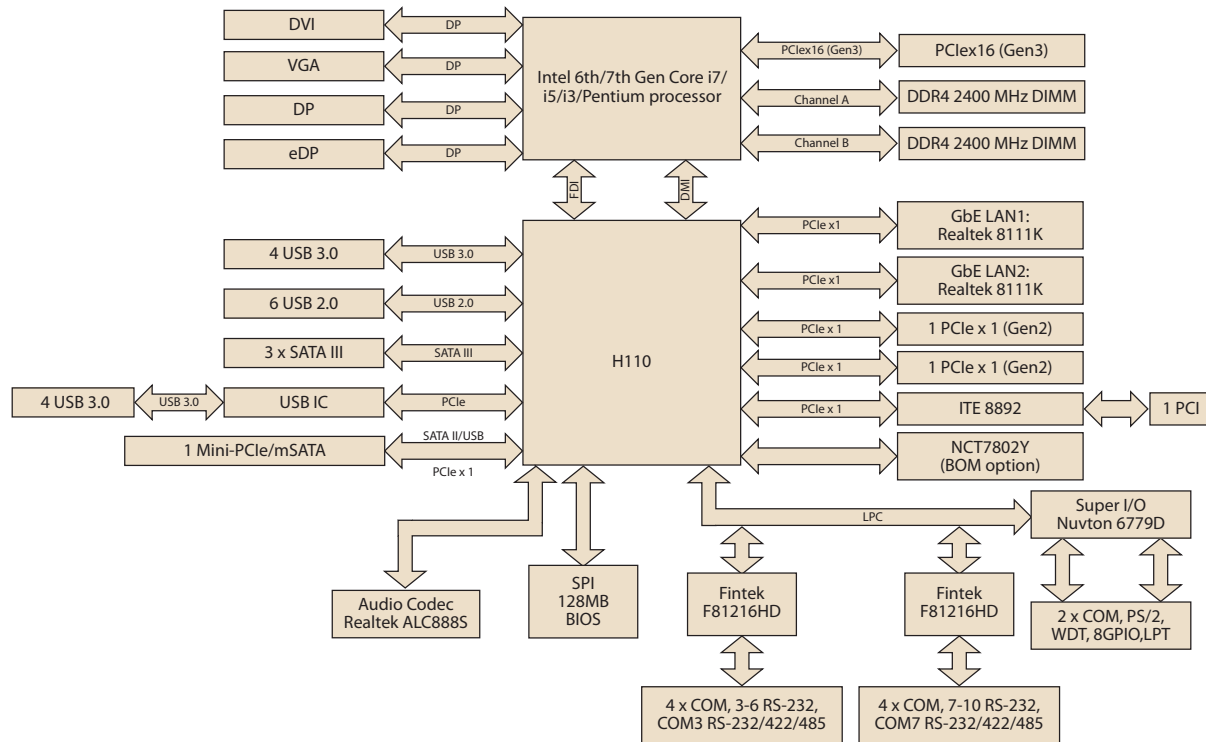
Software APIs:



Utilities:



Block Diagram



Ordering Information

Part Number	PCH	Memory	VGA	DVI	DP	eDP/LVDS	USB 3.0/2.0	COM	SATA	LAN	PCIe x 16	PCIe x 1	mini-PCIe	PCI slot	AMP	TPM
AIMB-505G2-00A3E	H110	Non ECC	1	1	1	1/(1)	8/6	10	3	2	1	2	(1)** (default mSATA only)	1	1	(1)
AIMB-505L-00A3E	H110	Non ECC	1	1	1	1/(1)	2/6	2	3	1	1	2	0	0	(1)	(1)

*() BOM options available on MP version.

** MiniPCIe is co-layout with the additional USB Port (port 11-14). So, miniPCIe is available only when 10 USB Ports populated.

Riser Card

Part Number	Description
AIMB-RP10P-01A1E	1U riser card with 1 PCI expansion
AIMB-RP30P-03A1E	2U riser card with 3 PCI expansion
AIMB-RF10F-01A1E	1U riser card with 1 PCIe x16 expansion

Packing List

Part Number	Description	Quantity
1700021336-02	Serial ATA HDD data cable	2
17AD14GS1400013V04	4 in 1 COM cable 500mm (IDE 40-pin 2.0mm)	2
1700026163-01	1 to 1 COM cable 60cm (IDE 10P-2.0)	1
1960076813T000	I/O port bracket	1
2006050510	Startup manual	1
1930001071	M.2 device screw	1

I/O View



Optional Accessories

Part Number	Description
1700026162-01	A CABLE USB 2.0 A/F*2 BREAKET/2*9P 2.0 30CM
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
1700000447	1-to-4 serial ports cable kit, 45cm
1701400181	1-to-4 serial ports cable kit, 18cm
1700020277-01	Dual port USB 3.0 cable 30cm with IO bracket
1703060191	KBMS cable 1*6P-2.0/DIN-6P(F)*2, 22 cm
1700025715-01	KBMS cable 1*6P WAFER/PS2*2 w/ BRACKET 35CM
1700008809	Printer port cable kit, 25cm W/BNK
1960080610N001	1U IO bracket for chassis ACP-1010MB & HPC-7120S (should order screws separately)
1700027017-01	USB 2.0 transfer cable pin size from 2.0mm to 2.54mm

Note: Purchasing AIMB-505's proprietary CPU cooler from Advantech is a must; other brands of CPU coolers are NOT compatible with AIMB-505.

Note: screws P/N

1933030500 for ACP-1010MB, 1930004607 for HPC-7120S

Embedded OS/API

OS/API	Part No	Description
WES7E	2070014651	Image WES7E
WE8.1	2070014658	Image WE8.1
Win 10	20706WX9HS0167, 20706WX9VS017, 1, 20706WX9ES0182	Windows 10 IoT Enterprise 2019 LTSC 64bit
Ubuntu 20.04	20706U20DS0068	Ubuntu Desktop 20.04 LTS 64bit