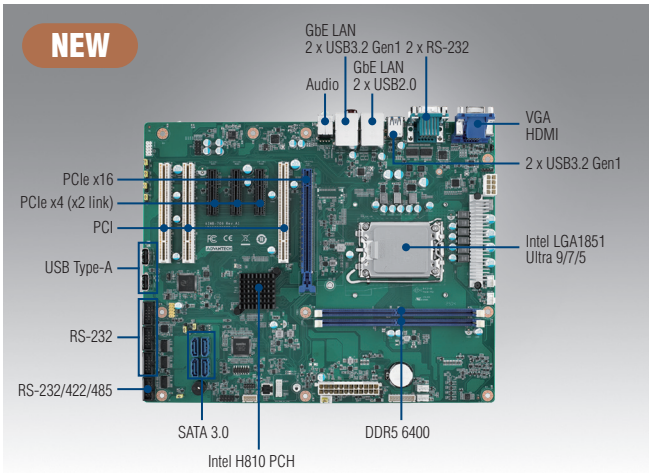
AIMB-709

LGA1851 Arrow Lake S Generation Intel® Core™ Ultra 9/7/5 ATX with HDMI/VGA, DDR5, USB 3.2, 6 COMs



Features

- Intel® Arrow Lake S Core™ Ultra 9/7/5 processor with H810 chipset
- Two DIMM sockets up to 96GB DDR5 6400
- Dual display HDMI/VGA and dual GbE LAN
- SATA RAID 0, 1, 5, 10, USB 3.2 Gen1
- 5 RS-232 and 1 RS-232/422/485 serial ports
- 1 PCIe x16 (Gen 5) and 3 PCIe x4 (x2 Gen 4 link), and 3 PCI expansion slots

Note 1: Legacy platform is not supported.
Note 2: dTPM 2.0 module is required to enable Intel vPro and TPM technologies.
Note 3: Intel® Platform Trust Technology (Intel® PTT) ready for Windows 11.

Quiet

CE FCC

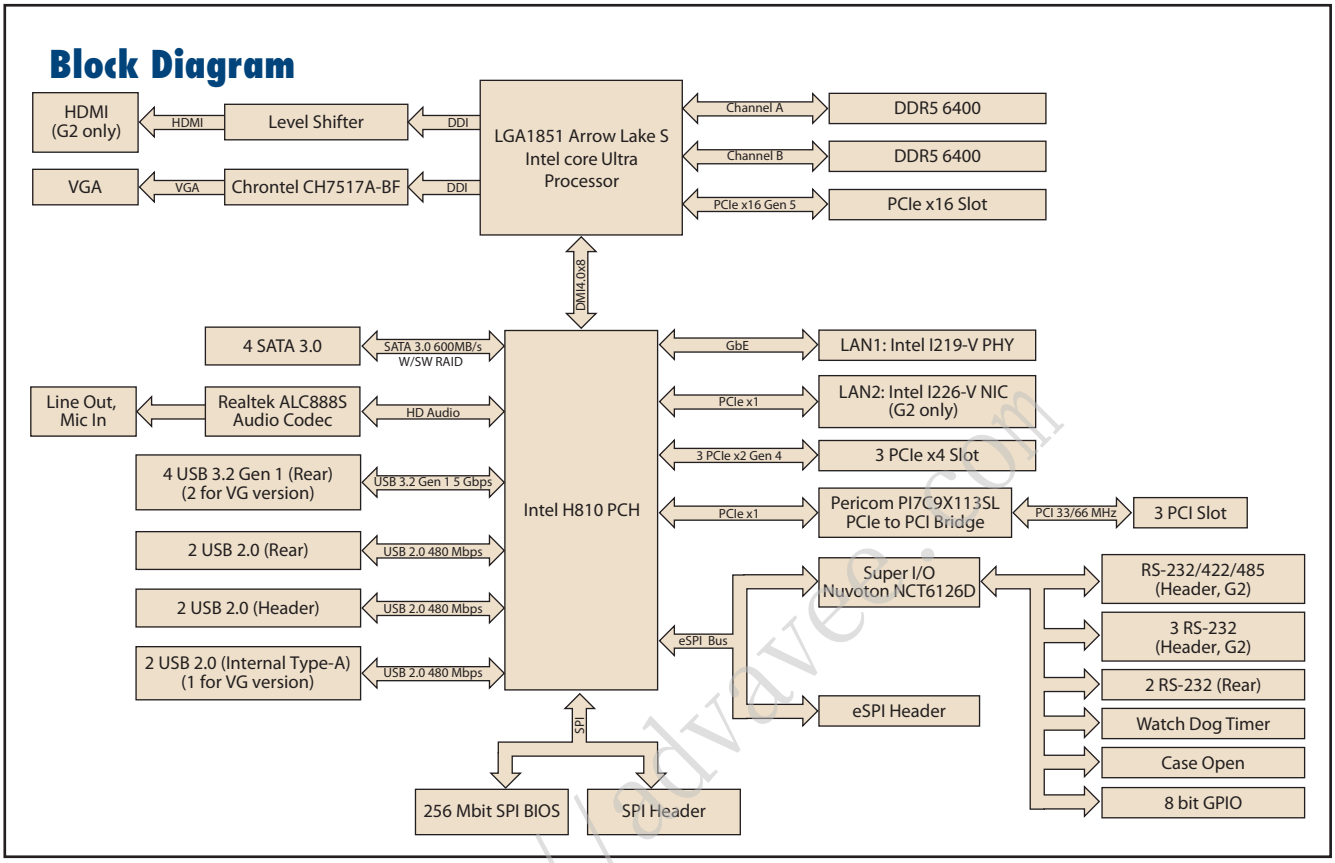
Specifications

Arrow Lake S Processors	CPU	Ultra 9 285	Ultra 9 285T	Ultra 7 265	Ultra 7 265T	Ultra 5 245	Ultra 5 245T	Ultra 5 225	Ultra 5 225T
	P core Base Frequency	2.5GHz	1.4GHz	2.4GHz	1.5GHz	3.5GHz	2.2GHz	3.3GHz	2.5GHz
	L3 Cache	36MB	36MB	30MB	30MB	24MB	24MB	20MB	20MB
	Cores	24	24	20	20	14	14	10	10
	Processor Base Power	65W	35W	65W	35W	65W	35W	65W	35W
Processor System	Socket	LGA 1851							
	Chipset	H810							
	BIOS	AMI 256Mbit SPI Flash							
Expansion Slot	PCI	3 (32-bit/33 MHz)							
	PCIe x4 (Gen 4)	3 (x2 link)							
	PCIe x16 (Gen 5)	1							
Memory	Technology	Dual Channel(non-ECC) DDR5 6400							
	Max Capacity	96 GB							
	Sockets	2 x 288-pin DIMM							
Graphics	Controller	Chipset integrated Intel Xᵉ LPG Graphics							
	VRAM	Shared system memory is subject to OS							
Ethernet	Interface	LAN1: 10/100/1000 Mbps; LAN2: 10/100/1000/2500 Mbps (G2 only)							
	Controller	GbE LAN1: Intel I219-V GbE LAN2: Intel I226-V (G2 only)							
	Connector	RJ-45							
SATA	Max Data Transfer Rate	600 MB/s							
	Channel	4							
	RAID	0, 1, 5, 10							
Rear I/O	VGA	1 (Resolution up to 1920 x 1200 @ 60 Hz)							
	HDMI	1 for G2 version (Resolution up to 3840 x 2160 @ 30Hz)							
	Ethernet	2 for G2 version; 1 for VG version							
	USB	G2: 6 (4 x USB 3.2 Gen 1 + 2 USB 2.0) VG: 4 (2 x USB 3.2 Gen 1 + 2 USB 2.0)							
	Audio	2 (Line-out, Mic-in)							
	Serial	2 (RS-232)							
Internal Connectors	USB	G2: 4 (2 x USB 2.0 via pin header, 2 x USB 2.0 Type-A connector) VG: 3 (2 x USB 2.0 via pin header, 1 x USB 2.0 Type-A connector)							
	Serial	G2: 4 (3 x RS-232, 1 x RS-232/422/485)							
	SATA	4							
	SPI	1 (Optional dTPM 2.0 module available)							
	GPIO	8-bit							
Environment		Operating				Non-Operating			
	Temperature	0 ~ 60 °C (32 ~ 140 °F), depends on CPU speed and system thermal solution				-40 ~ 85 °C (-40 ~ 185 °F)			
	Humidity	40 °C @ 95% RH Non-condensing				60 °C @ 95% RH Non-condensing			
Watchdog Timer	Output	System reset							
	Interval	Programmable 1-255 sec							
Power Requirement*	Test Environment	Intel Core Ultra 65W; DDR5 16 GB x 2							
	Voltage	+3.3V	+5V	+12V	+5Vsb	-12V	-5V		
	Current	0.96 A	1.71 A	0.13 A	0.07 A	0.01 A	0.01 A		
Physical Characteristics	Dimensions (L x H)	304.8 x 244 mm (12" x 9.6")							

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All product specifications are subject to change without notice.

Block Diagram



Ordering Information

Part Number	Chipset	Memory	Display	USB 3.2 Gen 1	USB 2.0	COM	GbE LAN	AMT	SATA	SW RAID	Intelligent System Module Support
AIMB-709G2-00A1	H810	Non ECC	HDMI + VGA	4	6	6	2	No	4	Yes	No
AIMB-709VG-00A1	H810	Non ECC	VGA	2	5	2	1	No	4	Yes	No

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	x2
1960106346T001	I/O port bracket (for 2U chassis or higher)	x1
TBD	Startup manual	x1

Note: Driver CD is not provided. Please visit Advantech support website for driver download.

Embedded OS

Part Number	Description
20706WX1HS0144	img W10 21HL AIMB-709 64b 21H2 ENU
20706WX1VS0144	img W10 21VL AIMB-709 64b 21H2 ENU
20706WX1ES0144	img W10 21EL AIMB-709 64b 21H2 ENU
20706WLH1S0098	img W11 24HL AIMB-709 64b 24H2 ENU
20706WLV1S0098	img W11 24VL AIMB-709 64b 24H2 ENU
20706WLE1S0098	img W11 24EL AIMB-709 64b 24H2 ENU

I/O View



AIMB-709G2-00A1



AIMB-709VG-00A1

Optional Accessories

Part Number	Description
1701090401	Single COM port cable (40 cm)
1701092300	Dual COM port cable (28.5 cm)
1970005349T000	CPU cooler for 2U, 4U, and wallmount chassis (for CPU TDP=35~65W)
1970005531T001	CPU heatsink for 1U chassis (for CPU TDP≤65W only)
1970005436T001	CPU cooler for 2U, 4U, and wallmount chassis (for CPU Base Power=125W)
1960112429N000	I/O port bracket for 1U chassis
1700022749-11/ 1700022749-12/ 1700022749-13	SATA power cable
1700002204	2-port USB 2.0 cable w/ BKT(27 cm)
PCA-TPMSPI-00A1	dTPM 2.0 SPI module to enable TPM and vPro technologies

Riser Card

Part Number	Description
AIMB-RP10P-01A1E	1U riser card providing 1 PCI slot
AIMB-RF10F-01A1E	1U riser card providing 1 PCIe x 16 slot
AIMB-RP30P-03A1E	2U riser card providing 3 PCI slots
AIMB-RP3PF-21A1E	2U riser card providing 1 PCIe x 16 and 2 PCI slots
AIMB-R430P-03A3E	2U riser card providing 3 PCI slot
AIMB-RP3P8-12A1E	2U riser card providing 2 PCIe x 8 and 1 PCI
AIMB-RF20F-02A1E	2U riser card providing 2 PCIe x 8 (PCIe x 16 slot)

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