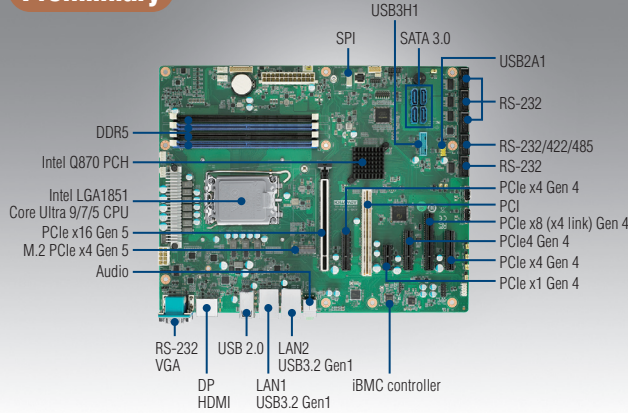


AIMB-789

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

Preliminary



Features

- Intel® Core™ Ultra 9/7/5 processor with Q870 chipset
- Four DIMM sockets up to 192GB DDR5 5600
- Triple display DP/HDMI/VGA and dual GbE LAN
- M.2, SATA RAID 0, 1, 5, 10, USB 3.2 Gen 2
- Advantech iBMC remote out-of-band power management solution on DeviceOn

Note 1: Legacy platform is not supported.

Note 2: dTPM 2.0 module is required to enable Intel vPro and TPM technologies.

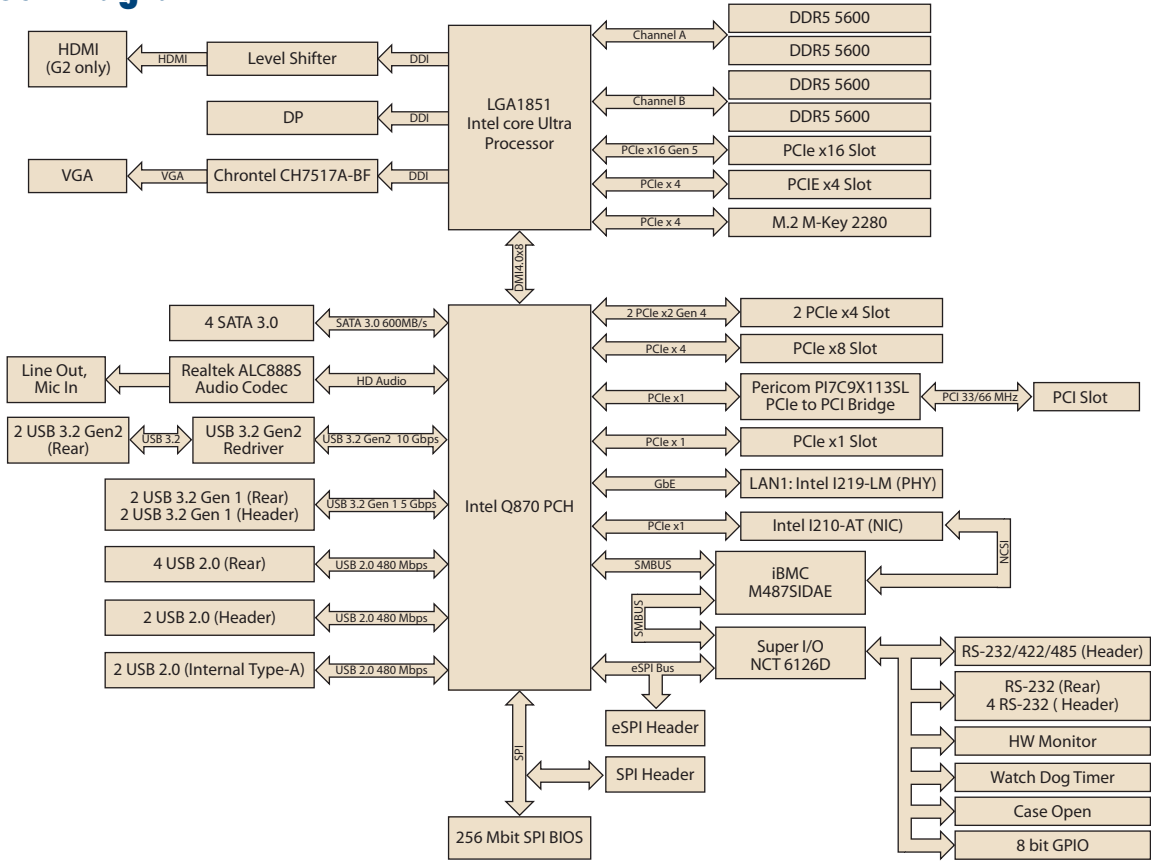
Note 3: Intel® Platform Trust Technology (Intel® PTT) ready for Windows 11.

Quiet Specifications



Intel® Core™ Ultra 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 System	Processor Base Power	65W	35W	65W	35W	65W	35W	65W	35W	
	Socket	LGA 1851								
	Chipset	Q870								
	BIOS	AMI 256 bytes SPI Flash								
Expansion Slot	PCI	1 (32-bit/33 MHz)								
	PCIe x1 (Gen 4)	1								
	PCIe x4 (Gen 4)	3								
	PCIe x8 (Gen 4)	1 (x4 link)								
Memory	PCIe x16 (Gen 5)	1								
	Technology	Dual Channel(non-ECC) DDR5 5600								
	Max Capacity	192 GB								
	Sockets	4 x 288-pin UDIMM								
Graphics	Controller	Chipset integrated Intel X® LPG Graphics								
	VRAM	Shared system memory is subject to OS								
Ethernet	Interface	LAN1: 10/100/1000 Mbps; LAN2: 10/100/1000								
	Controller	GbE LAN1: Intel I219-LM (PHY); GbE LAN2: Intel I210-AT								
	Connector	RJ-45								
SATA	Max Data Transfer Rate	600 MB/s								
	Channel	4								
Rear I/O	VGA	1 (Resolution up to 1920 x 1200 @ 60 Hz)								
	HDMI	1 (Resolution up to 3840 x 2160 @ 30Hz)								
	Ethernet	2								
	USB	8 (2 x USB 3.2 Gen 2, 2 x USB 3.2 Gen 1, 4 x USB 2.0)								
	Audio	2 (Line-out, Mic-in)								
	Serial	1 (RS-232)								
Internal Connectors	USB	6 (2 x USB 3.2 Gen 1 via pin header, 2 x USB 2.0 via pin header, 2 x USB 2.0 type A connector)								
	Serial	5 (4 x RS-232, 1 x RS-232/422/485)								
	SATA	4								
	SPI	1 (Optional dTPM 2.0 module available)								
	GPIO	8-bit								
Environment	Temperature	Operating	0 ~ 60 °C (32 ~ 140 °F), depends on CPU speed and system thermal solution					Non-Operating		
								-40 ~ 85 °C (-40 ~ 185 °F)		
Physical Characteristics	Humidity	40 °C @ 95% RH Non-condensing					60 °C @ 95% RH Non-condensing			
	Dimensions (L x H)	304.8 x 244 mm (12" x 9.6")								

Block Diagram



Ordering Information

Part Number	Chipset	Memory	Display	USB 3.2 Gen 2	USB 3.2 Gen 1	USB 2.0	COM	GbE LAN	AMT	M.2	SATA	SW RAID	Intelligent System Module Support	iBMC
AIMB-789G2-00A1	Q870	Non ECC	VGA + HDMI + DP	2	4	8	6	2	Yes	1	4	Yes	Yes	Yes

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	x2
1960104181T001	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.

I/O View



AIMB-789G2-00A1

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)
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-R431F-21A1E	2U riser card with 1 PCIe x16 & 1 PCIe x1 expansion
AIMB-R4301-03A2E	2U riser card with 1 PCIe x1 expansion