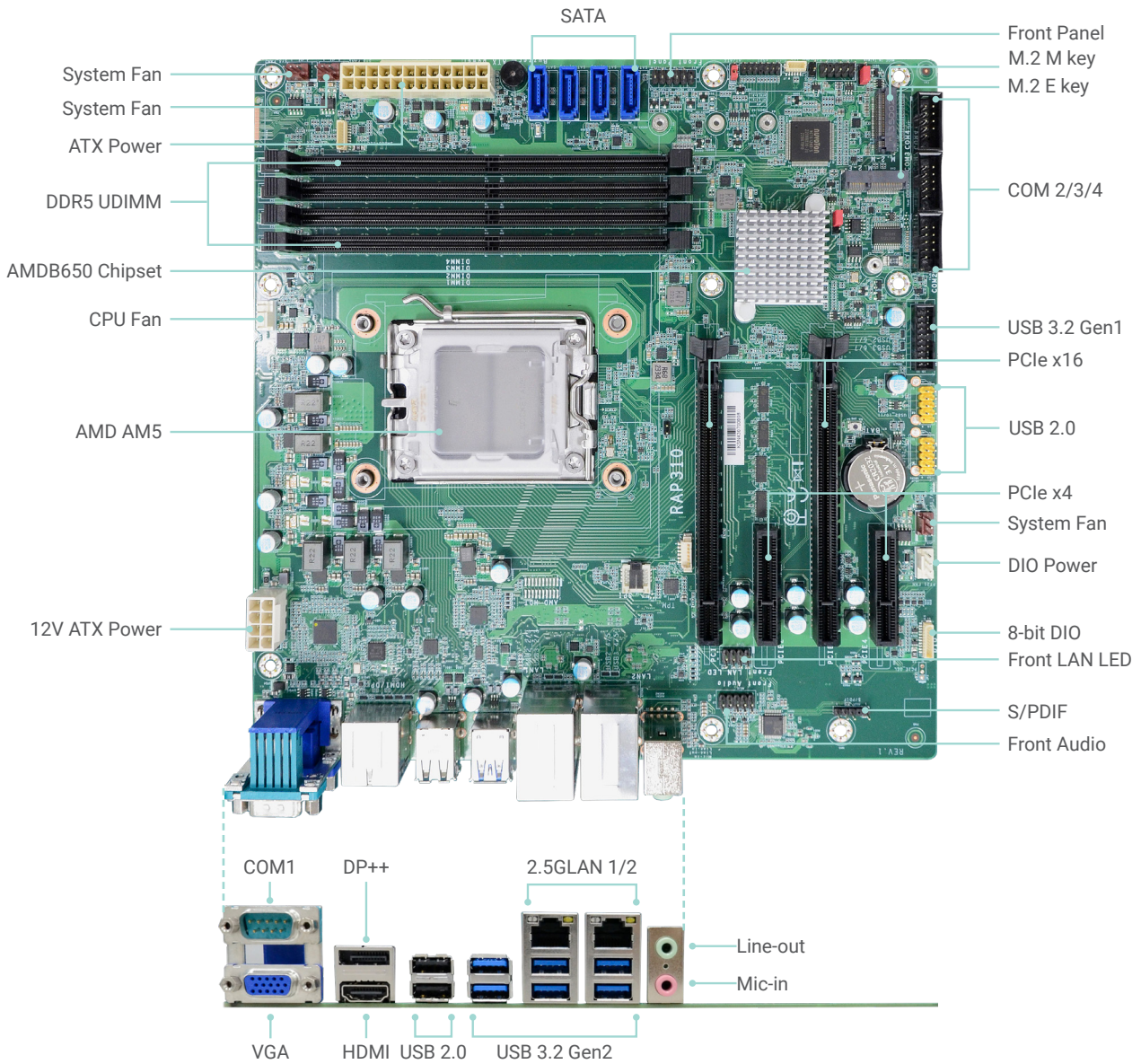


RAP310-B650

AMD® Ryzen™ 7000 Series
microATX



Top View

KEY FEATURES



DDR5

4 DDR5 UDIMM up to 128GB



4K High Resolution

Supports 4K resolution



Triple Displays

1 VGA, 1 DP++, 1 HDMI



Multiple Expansion

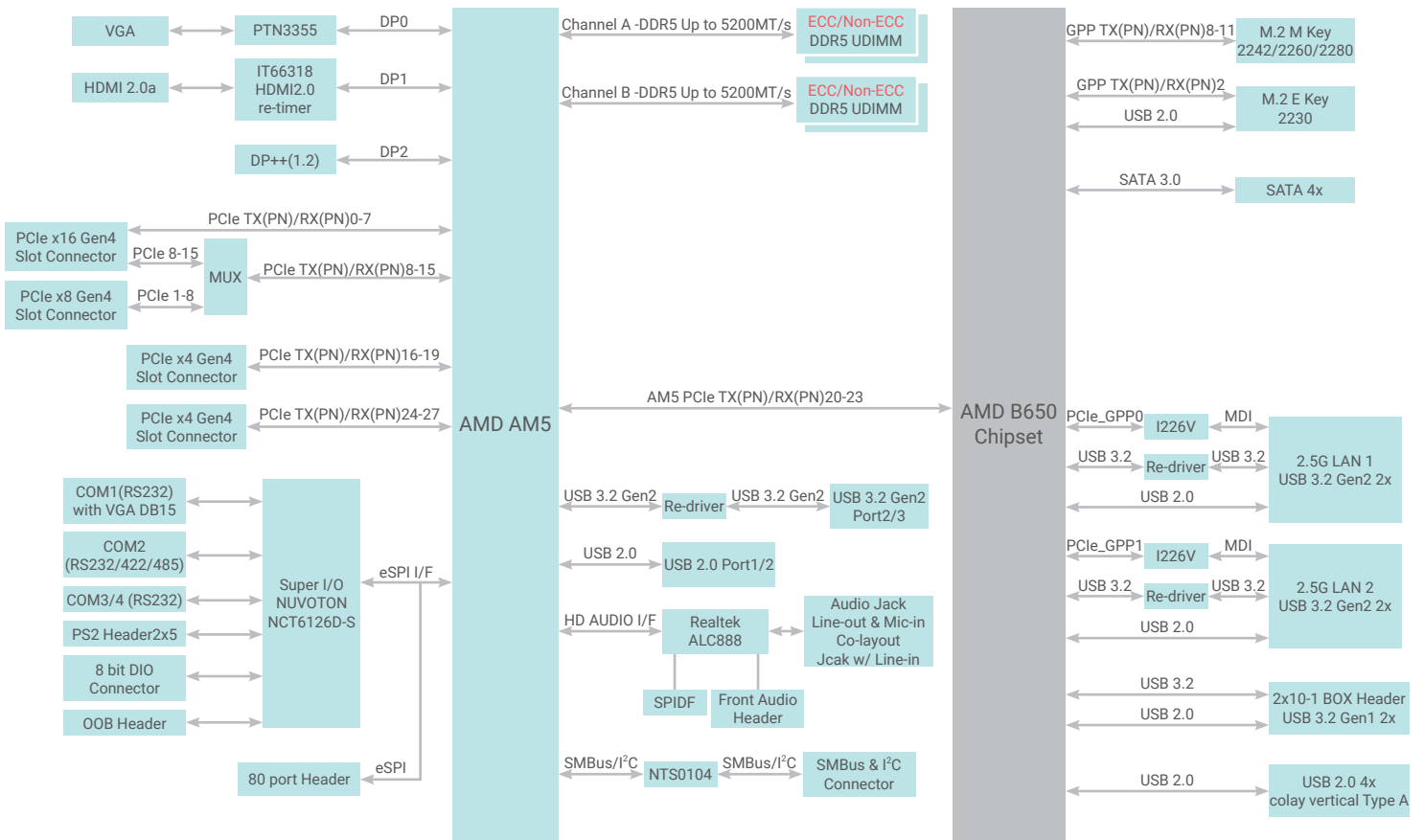
2 PCIe x16, 2 PCIe x4, 1 M.2 E key, 1 M.2 M key, 4 SATA 3.0



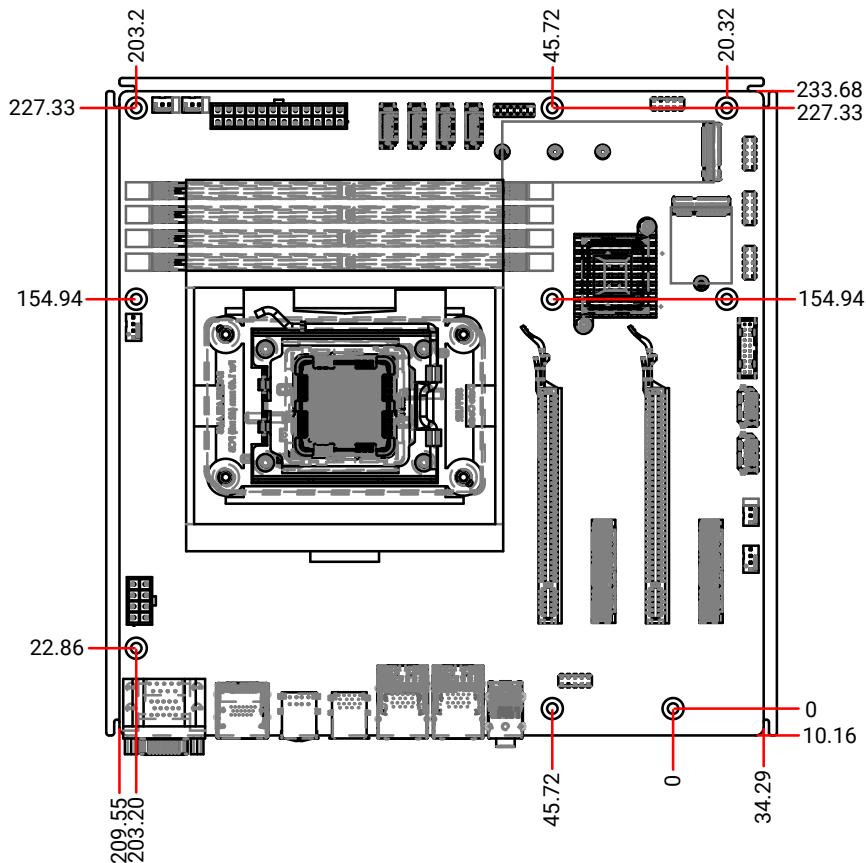
Rich I/O

2 Intel 2.5GbE, 4 COM, 6 USB 3.2 Gen 2, 2 USB 3.2 Gen 1, 6 USB 2.0

BLOCK DIAGRAM



MECHANICAL DRAWING



SPECIFICATION

SYSTEM	Processor	AMD Ryzen 9 PRO 7945 AMD Ryzen 7 PRO 7745 AMD Ryzen 5 PRO 7645	
	Chipset	AMD B650	
	Memory	Four 288-pin UDIMM up to 128GB (ECC/Non-ECC) Dual Channel DDR5 5200 MHz	
	BIOS	AMI SPI 256Mbit	
GRAPHICS	Controller	Navi2 Graphics	
	Feature	1WGP @2.2GHz max	
	Display	1 x VGA 1 x DP++ 1 x HDMI 2.0	VGA: resolution up to 1920x1200 @ 60Hz DP++: resolution up to 3840x2160 @ 60Hz HDMI: resolution up to 4096x2160 @ 60Hz
	Triple Displays	1 VGA + 1 DP++ + 1 HDMI 2.0	
EXPANSION	Interface	2 x PCIe x16 (Gen 4, x16 or x8+x8) 2 x PCIe x4 (Gen 4)	
		1 x M.2 2230 E key 1 x M.2 2242/2260/2280 M key	
AUDIO	Audio Codec	Realtek ALC888	
ETHERNET	Controller	2 x Intel® I226V	
REAR I/O	Ethernet	2 x 2.5GbE (RJ-45)	
	Serial	1 x RS232	
	USB	6 x USB 3.2 Gen 2 2 x USB 2.0	
	Display	1 x VGA 1 x DP++ 1 x HDMI	
	Audio	1 x Line-out 1 x Mic-in 1 x Line-in (opt. by request, MOQ required)	
INTERNAL I/O	Serial	1 x RS-232/422/485 2 x RS232	
	USB	2 x USB 3.2 Gen1 4 x USB 2.0 (colay vertical Type A)	
	Audio	1 x Front Audio Header 1 x S/PDIF	
	SATA	4 x SATA 3.0	RAID 0/1/5/10
	DIO	1 x 8-bit DIO	
	PS/2	1 x PS/2	
	SMBus/ I ² C	1 x SMBus/ I ² C	
	WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds
SECURITY	TPM	Nuvoton TPM 2.0	
POWER	Type	ATX	
	Connector	8-pin ATX 12V power	
		24-pin ATX power	
	Consumption	TBD	
RTC Battery	CR2032 Coin Cell		
OS SUPPORT	Microsoft	Window 11 Enterprise	
	Linux	Ubuntu 22.04	
ENVIRONMENT	Temperature	Operating: -5 to 65°C	
		Storage: -40 to 85°C	
	Humidity	Operating: 5 to 95% RH Storage: 5 to 95% RH	
MTBF	TBD		
MECHANISM	Dimensions	microATX Form Factor	244mm (9.6") x 244mm (9.6")
	Height	PCB: 1.6mm Top Side: TBD Bottom Side: TBD	
STANDARDS AND CERTIFICATIONS	Certifications	CE, FCC Class B, RoHS	

ORDERING INFORMATION

Model Name	P/N	Memory	2.5 GbE	COM	USB 3.2 Gen2	USB 3.2 Gen1	USB 2.0	TPM 2.0	Power	Thermal	Temp.
RAP310-B650	770-RAP3101-000G	4 DDR5 UDIMM	2	4	6	2	4	dTPM	24-pin ATX/ 8-pin ATX 12V	Active	-5 to 65°C

PACKING LIST

1 RAP310-B650 motherboard	
1 COM port cable (Length: 300mm, 2 x COM ports)	A81-015026-023G
1 Serial ATA data cable (Length: 500mm)	332-553001-005G
1 I/O shield	TBD

OPTIONAL ITEMS

USB 2.0 port cable (Length: 350/398mm)	A81-001066-016G
USB 3.2 Gen2 port cable (Length: 350mm)	A81-001075-017G
COM port cable (Length: 300mm, 2 x COM ports)	A81-015026-023G
Serial ATA data cable (Length: 500mm, W/LOCK)	332-553001-005G
Serial ATA data cable (Length: 500mm, W/LOCK, 90D)	A81-002128-017G
Thermal solution (Cooler)	A71-101159-001G
DP to HDMI Dongle	612-D2H13M-000G
M.2-COM4 (M.2 serial port module)	770-M2COM1-000G
M.2-2LAN (M.2 LAN port module)	770-M22LN1-000G
M.2-2PSE (M.2 PSE module)	770-M22PS1-000G