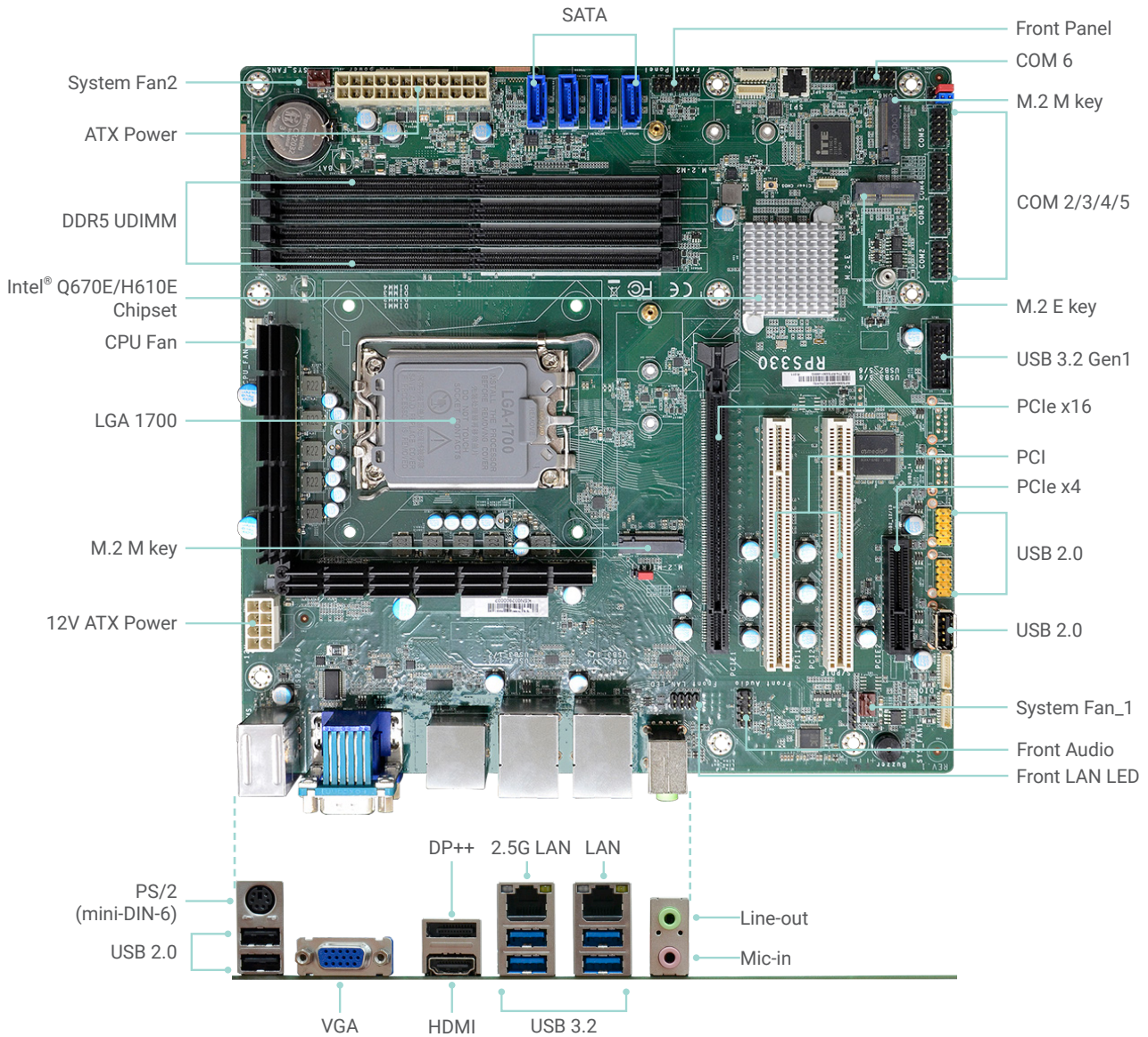


# RPS330-Q670E/H610E

14th/13th/12th Gen Intel® Core™  
microATX



Desktop



Top View

## KEY FEATURES



### DDR5

4 DDR5 UDIMM up to 192GB



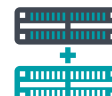
### 4K High Resolution

Supports 4K resolution



### Triple Displays

VGA, DP++, HDMI



### Multiple Expansion

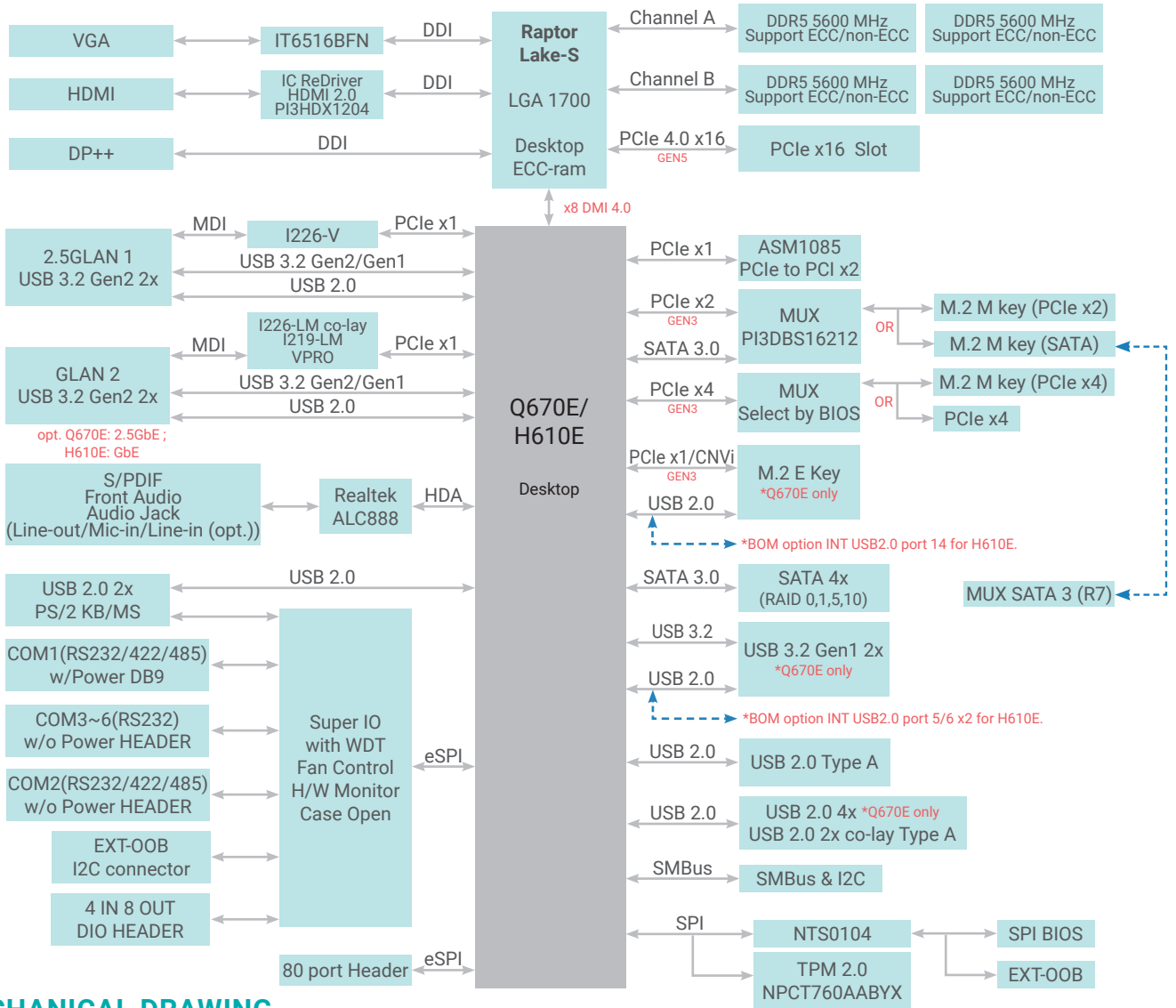
1 PCIe x16, 1 PCIe x4,  
2 PCI, 1 M.2 E key,  
2 M.2 M key, 4 SATA 3.0



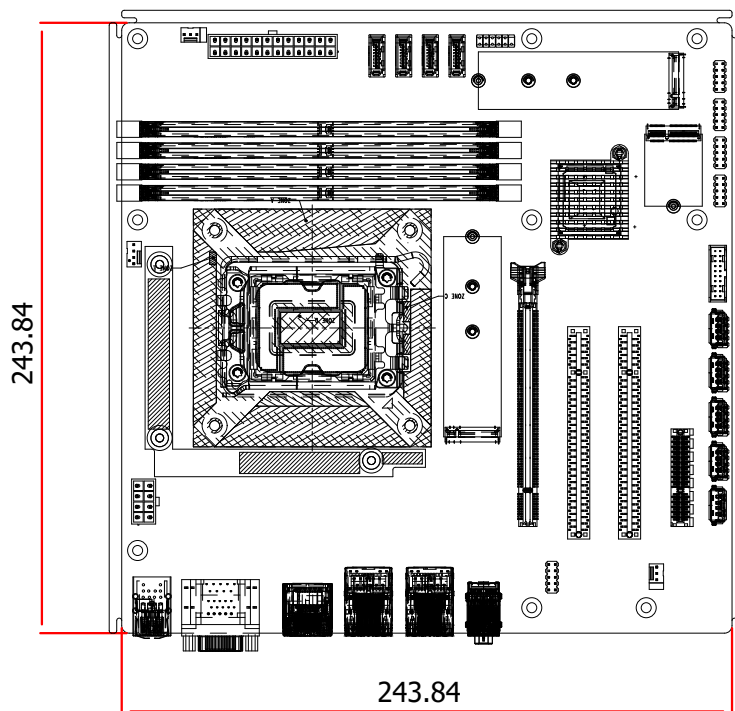
### Rich I/O

1 Intel 2.5GbE, 1 Intel 1GbE, 6 COM,  
USB 3.2 Gen 2 (Q670E 4x),  
USB 3.2 Gen 1 (Q670E 2x, H610E 4x),  
USB 2.0 (Q670E 7x, H610E 6x)

# BLOCK DIAGRAM



# MECHANICAL DRAWING



## SPECIFICATION

SYSTEM	Processor	<p>14th Generation Intel® LGA 1700 Socket Processors, TDP support up to 125W            Intel® Core™ i9-14900 (24 Cores, 36M Cache, up to 2.0 GHz); 65W            Intel® Core™ i9-14900T (24 Cores, 36M Cache, up to 1.1 GHz); 35W            Intel® Core™ i7-14700 (20 Cores, 33M Cache, up to 2.1 GHz); 65W            Intel® Core™ i7-14700T (20 Cores, 33M Cache, up to 1.3 GHz); 35W            Intel® Core™ i5-14500 (14 Cores, 24M Cache, up to 2.6 GHz); 65W            Intel® Core™ i5-14500T (14 Cores, 24M Cache, up to 1.7 GHz); 35W            Intel® Core™ i5-14400 (10 Cores, 20M Cache, up to 2.5 GHz); 65W            Intel® Core™ i5-14400T (10 Cores, 20M Cache, up to 1.5 GHz); 35W            Intel® Core™ i3-14100 (4 Cores, 12M Cache, up to 3.5 GHz); 60W            Intel® Core™ i3-14100T (4 Cores, 12M Cache, up to 2.7 GHz); 35W            Intel® 300 (2 Cores, 6M Cache, up to 3.9 GHz); 46W            Intel® 300T (2 Cores, 6M Cache, up to 3.4 GHz); 35W</p> <p>13th Generation Intel® LGA 1700 Socket Processors, TDP support up to 125W            Intel® Core™ i9-13900E (24 Cores, 36M Cache, up to 5.2 GHz); 65W            Intel® Core™ i9-13900TE (24 Cores, 36M Cache, up to 5.0 GHz); 35W            Intel® Core™ i7-13700E (16 Cores, 30M Cache, up to 5.1 GHz); 65W            Intel® Core™ i7-13700TE (16 Cores, 30M Cache, up to 4.8 GHz); 35W            Intel® Core™ i7-13700T (16 Cores, 30M Cache, up to 4.9 GHz); 35W            Intel® Core™ i5-13500E (14 Cores, 24M Cache, up to 4.6 GHz); 65W            Intel® Core™ i5-13500TE (14 Cores, 24M Cache, up to 4.5 GHz); 35W            Intel® Core™ i5-13500T (14 Cores, 24M Cache, up to 4.6 GHz); 35W            Intel® Core™ i5-13400E (10 Cores, 20M Cache, up to 4.6 GHz); 65W            Intel® Core™ i3-13100E (4 Cores, 12M Cache, up to 4.4 GHz); 65W            Intel® Core™ i3-13100TE (4 Cores, 12M Cache, up to 4.1 GHz); 35W            Intel® Core™ i3-13100T (4 Cores, 12M Cache, up to 4.2 GHz); 35W</p> <p>12th Generation Intel® LGA 1700 Socket Processors, TDP support up to 125W            Intel® Core™ i9-12900E (16 Cores, 30M Cache, up to 5.0 GHz); 65W            Intel® Core™ i9-12900TE (16 Cores, 30M Cache, up to 4.8 GHz); 35W            Intel® Core™ i7-12700E (12 Cores, 25M Cache, up to 4.8 GHz); 65W            Intel® Core™ i7-12700TE (12 Cores, 25M Cache, up to 4.6 GHz); 35W            Intel® Core™ i5-12500E (6 Cores, 18M Cache, up to 4.5 GHz); 65W            Intel® Core™ i5-12500TE (6 Cores, 18M Cache, up to 4.3 GHz); 35W            Intel® Core™ i3-12100E (4 Cores, 12M Cache, up to 4.2 GHz); 60W            Intel® Core™ i3-12100TE (4 Cores, 12M Cache, up to 4.0 GHz); 35W            Intel® Pentium® G7400E (2 Cores, 6M Cache, 3.6 GHz); 46W            Intel® Pentium® G7400TE (2 Cores, 6M Cache, 3.0 GHz); 35W            Intel® Celeron® G6900E (2 Cores, 4M Cache, 3.0 GHz); 46W            Intel® Celeron® G6900TE (2 Cores, 4M Cache, 2.4 GHz); 35W</p>	
	Chipset	Intel® Q670E/H610E Chipset	
	Memory	Four 288-pin UDIMM up to 192GB (Non-ECC) Dual Channel DDR5 up to 4400 MHz <b>*Speed support list follow User's Manual</b>	
	BIOS	AMI SPI 256Mbit	
	GRAPHICS	Controller	Intel® UHD Graphics 700 series
Feature		OpenGL 4.5, DirectX 12, OpenCL 2.1	
		HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H265, VP8, VP9	
		HW Encode: MPEG2, AVC/H264, JPEG, HEVC/H265, VP8, VP9	
Display		1 x VGA	VGA: resolution up to 1920x1200 @ 60Hz
	1 x DP++	DP++: resolution up to 4096x2304 @ 60Hz	
	1 x HDMI 2.0a	HDMI: resolution up to 4096x2160 @ 24Hz	
Triple Displays	VGA + DP++ + HDMI		
EXPANSION	Interface	1 x PCIe x16 (Gen 5)	
		1 x PCIe x4 (Gen 3) (co-lay M.2 M-key, function selected by BIOS.)	
		2 x PCI	
		1 x M.2 2230 E key (only Q670E support, PCIe/USB 2.0/Intel CNVi support) (Discrete Wifi 6E support)	
		1 x M.2 2242/2260/2280 M key (PCIe x2 NVMe/SATA/Intel RST support)	
		1 x M.2 2242/2260/2280 M key (PCIe x4 NVMe/Intel RST support) (co-lay PCIE x4 slot, function selected by BIOS.)	
AUDIO	Audio Codec	Realtek ALC888	
ETHERNET	Controller	[Q670E] 1 x Intel® I226-LM (Core i9/i7/i5 support iAMT, co-lay I219-LM)	
		[H610E] 1 x Intel® I219-V	
		1 x Intel® I226-V	
REAR I/O	Ethernet	[Q670E] 2 x 2.5GbE (RJ-45) or 1 x 2.5GbE + 1 x GbE (RJ-45)	
		[H610E] 1 x 2.5GbE + 1 x GbE (RJ-45)	
	Serial	1 x RS-232/422/485 (RS-232 w/ power) (DB-9)	
USB	USB	[Q670E] 4 x USB 3.2 Gen 2	
		[H610E] 2 x USB 3.2 Gen 2 + 2 x USB 3.2 Gen1	
		2 x USB 2.0	

## SPECIFICATION

REAR I/O	PS/2	1 x PS/2 (mini-DIN-6)	
	Display	1 x DP++ 1 x HDMI 2.0a 1 x VGA	
	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 (RS-232 w/ power) (2.54mm pitch) 4 x RS-232 (2.54mm pitch)	
	USB	<b>[Q670E]</b> 2 x USB 3.2 Gen1 4 x USB 2.0 (2.54mm pitch) 1 x USB 2.0 vertical Type A	
		<b>[H610E]</b> 2 x USB 2.0 (2.54mm pitch) 2 x USB 2.0 (2.54mm pitch), co-lay 1 x USB 2.0 vertical Type A	
	Audio	1 x Front Audio Header 1 x S/PDIF	
	SATA	4 x SATA 3.0 (up to 6Gb/s) (one port co-lay M.2 M-key (SATA)) ( <b>Q670E</b> : RAID 0/1/5/10 ; <b>H610E</b> : N/A)	
	DIO	4-IN / 8-OUT DIO	
	SMBus	1 x SMBus	
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	Windows 10 IoT Enterprise 64-bit Windows 11 Enterprise	
	Linux	Linux	
ENVIRONMENT	Temperature	Operating: -5 to 65°C Storage: -30 to 60°C with RTC Battery; -40 to 85°C without RTC Battery	
		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	GbE	RS-232/422/485	USB 3.2 Gen2	USB 3.2 Gen1	USB 2.0	TPM 2.0	Power	Thermal	Temp.
RPS330-Q670E	770-RPS3301-000G	4 UDIMM	2	0	2	4	2	7	dTPM	24-pin ATX/8-pin ATX 12V	Active	-5 to 65°C
RPS330-Q670E	770-RPS3301-200G	4 UDIMM	1	1	2	4	2	7	dTPM	24-pin ATX/8-pin ATX 12V	Active	-5 to 65°C
RPS330-H610E	770-RPS3301-300G	2 UDIMM	1	1	2	2	2	6	dTPM	24-pin ATX/8-pin ATX 12V	Active	-5 to 65°C

## PACKING LIST

• 1 RPS330-Q670E/H610E 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	

## 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 (For 35W, Height: 29.39mm)	A71-101136-000G
Thermal solution (For 65W, Height: 46mm)	A71-101137-000G
Thermal solution (For 95W/125W, Height: 110mm)	A71-101145-000G
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