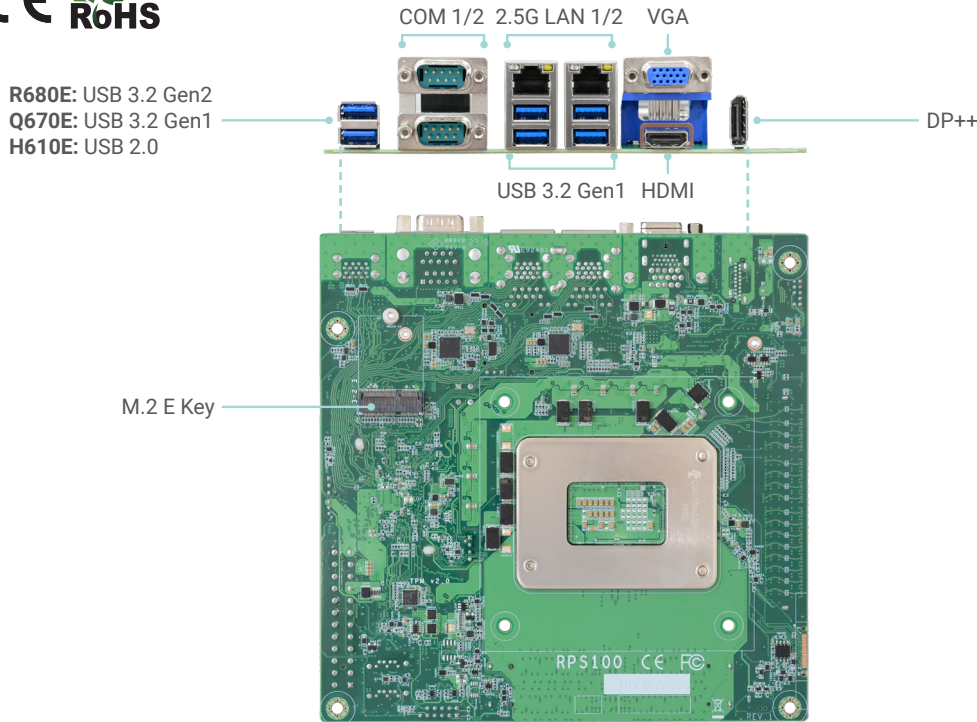


RPS100-R680E RPS100-Q670E RPS100-H610E

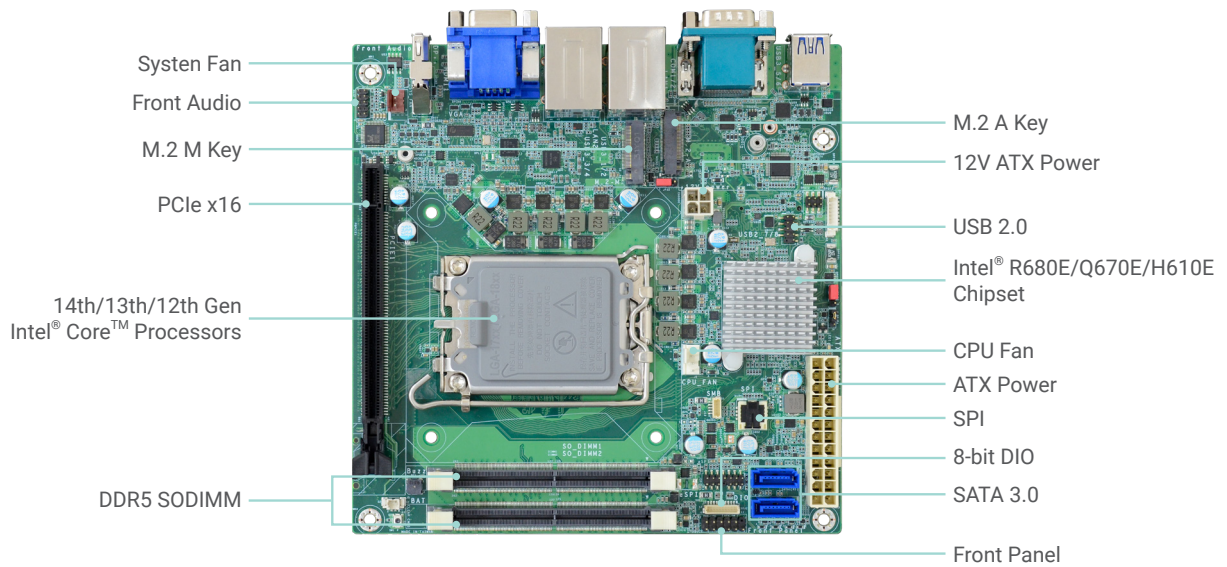
14th/13th/12th Gen Intel® Core™

Desktop

Mini-ITX



Bottom View



Top View

KEY FEATURES



DDR5

2 DDR5 SODIMM up to 64GB



4K High Resolution

Supports 4K resolution



Quad Displays

1 DP++ + 1 HDMI + 1 VGA + M2A Display (eDP/LVDS/VGA/HDMI)



Multiple Expansion

1 PCIe x16, 1 M.2 M key, 1 M.2 E Key, 1 M.2 A Key

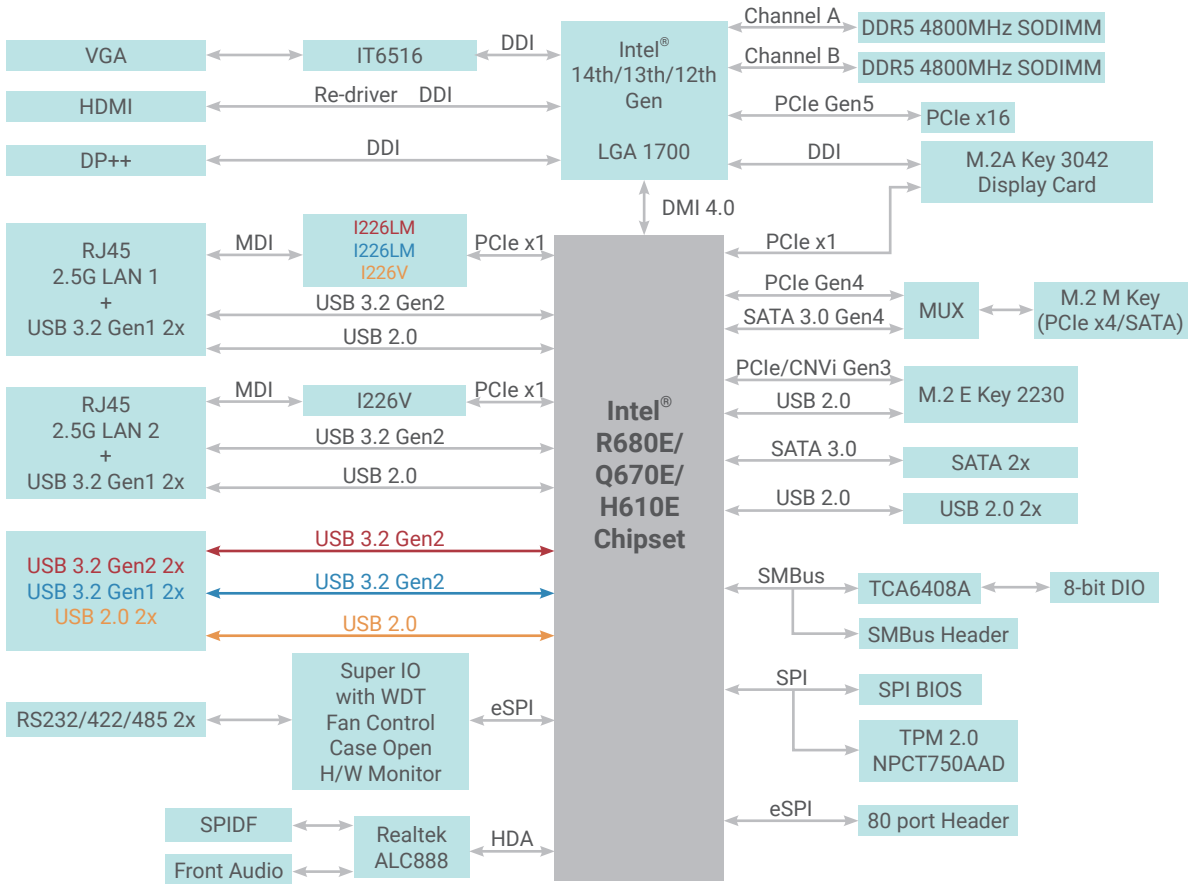


Rich I/O

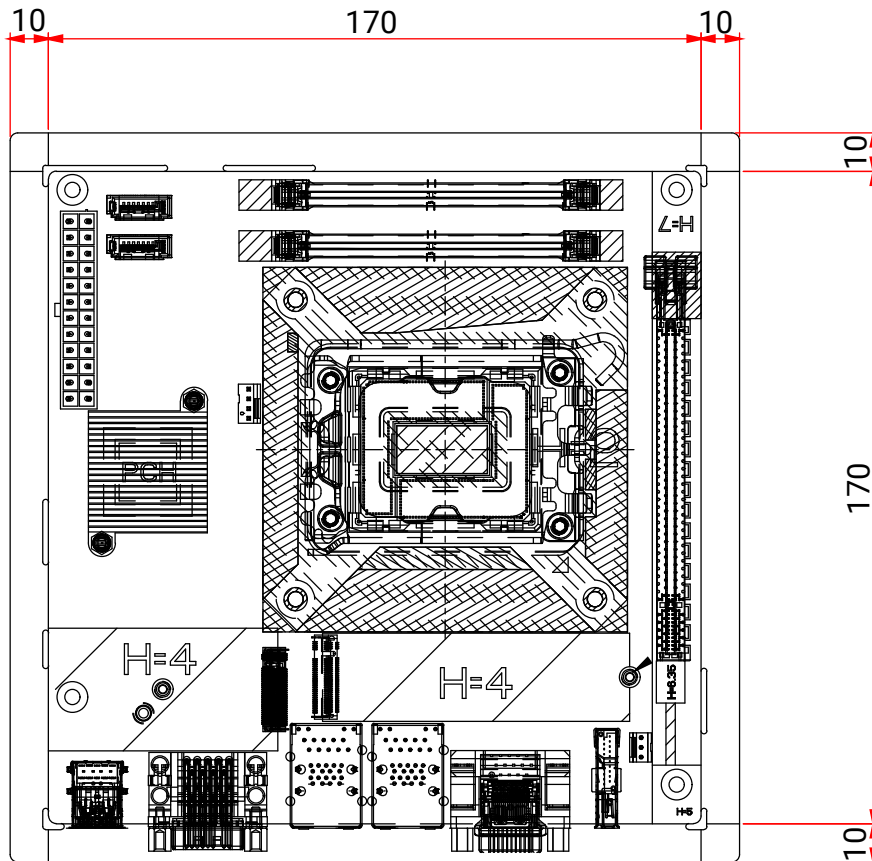
2 Intel 2.5GbE, 2 COM, up to 2 USB 3.2 Gen2, 4 USB 3.2 Gen1, 2 USB2.0 headers

BLOCK DIAGRAM

- R680E Only
- Q670E Only
- H610E Only



MECHANICAL DRAWING



SPECIFICATION

Model Name		RPS100-R680E	RPS100-Q670E	RPS100-H610E
SYSTEM	Processor	14th Generation Intel® LGA 1700 Socket Processors, TDP support up to 65W 13th Generation Intel® LGA 1700 Socket Processors, TDP support up to 65W 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 3.3 GHz); 60W 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 12th Generation Intel® LGA 1700 Socket Processors, TDP support up to 65W 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		
	Chipset	Intel® R680E Chipset	Intel® Q670E Chipset	Intel® H610E Chipset
	Memory	2x 262-pin SODIMM up to 64GB Dual Channel DDR5 4800MHz (ECC supported w/ i7&i5, Non-ECC supported)	2x 262-pin SODIMM up to 64GB Dual Channel DDR5 4800MHz (Non-ECC supported)	2x 262-pin SODIMM up to 64GB Dual Channel DDR5 4800MHz (Non-ECC supported)
	BIOS	AMI SPI 256Mbit	AMI SPI 256Mbit	AMI SPI 256Mbit
	GRAPHICS	Controller	Intel® UHD Graphics 700 series	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	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	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 HDMI 1 x DP++ 1 x VGA HDMI: resolution up to 3840x2160 @ 24Hz DP++: resolution up to 3840x2160 @ 60Hz VGA: resolution up to 2048x1536 @ 60Hz	1 x HDMI 1 x DP++ 1 x VGA HDMI: resolution up to 3840x2160 @ 24Hz DP++: resolution up to 3840x2160 @ 60Hz VGA: resolution up to 2048x1536 @ 60Hz	1 x HDMI 1 x DP++ 1 x VGA HDMI: resolution up to 3840x2160 @ 24Hz DP++: resolution up to 3840x2160 @ 60Hz VGA: resolution up to 2048x1536 @ 60Hz
	Quad Displays	HDMI + DP++ + VGA + M2A-Display (optional)	HDMI + DP++ + VGA + M2A-Display (optional)	HDMI + DP++ + VGA + M2A-Display (optional)
EXPANSION	Interface	1 x PCIe Gen 5 x16 (Bifurcation 1 x16, 2 x8)	1 x PCIe Gen 5 x16 (Bifurcation 1 x16, 2 x8)	1 x PCIe Gen 5 x16 (Bifurcation 1 x16, 2 x8)
		1 x M.2 2230 E Key (PCIe Gen3x1 and USB2.0, support Intel® CNVi)	1 x M.2 2230 E Key (PCIe Gen3x1 and USB2.0, support Intel® CNVi)	1 x M.2 2230 E Key (PCIe Gen3x1 and USB2.0, support Intel® CNVi)
		1 x M.2 3060 A Key support DFI M2A-display module (opt. MOQ required)	1 x M.2 3060 A Key support DFI M2A-display module (opt. MOQ required)	1 x M.2 3060 A Key support DFI M2A-display module (opt. MOQ required)
		1 x M.2 2280 M Key (PCIe Gen 3x4 or SATA3)	1 x M.2 2280 M Key (PCIe Gen 3x4 or SATA3)	1 x M.2 2280 M Key (PCIe Gen 3x1 or SATA3)
AUDIO	Audio Codec	Realtek ALC888S	Realtek ALC888S	Realtek ALC888S
ETHERNET	Controller	1 x Intel® I226LM (10/100/1000/2500Mbps) 1 x Intel® I226V (10/100/1000/2500Mbps)	1 x Intel® I226LM (10/100/1000/2500Mbps) 1 x Intel® I226V (10/100/1000/2500Mbps)	2 x Intel® I226V (10/100/1000/2500Mbps)
		REAR I/O	Ethernet	2 x 2.5GHz RJ45
	USB	2 x USB 3.2 Gen2 4 x USB 3.2 Gen1	6 x USB 3.2 Gen1	4 x USB 3.2 Gen1 2 x USB 2.0
	Display	1 x DP++ 1 x HDMI 1 x VGA	1 x DP++ 1 x HDMI 1 x VGA	1 x DP++ 1 x HDMI 1 x VGA
	Serial	2 x RS-232/422/485	2 x RS-232/422/485	2 x RS-232/422/485

SPECIFICATION

Model Name		RPS100-R680E	RPS100-Q670E	RPS100-H610E
INTERNAL I/O	USB	2 x USB 2.0 (2.0mm pitch)	2 x USB 2.0 (2.0mm pitch)	2 x USB 2.0 (2.0mm pitch)
	Display	1 x M.2 A key, support M2A-Display (eDP/LVDS/VGA/HDMI/DP) by optional	1 x M.2 A key, support M2A-Display (eDP/LVDS/VGA/HDMI/DP) by optional	1 x M.2 A key, support M2A-Display (eDP/LVDS/VGA/HDMI/DP) by optional
	Audio	1 x Line-out/Mic-in	1 x Line-out/Mic-in	1 x Line-out/Mic-in
	SATA	2 x SATA 3.0	2 x SATA 3.0	2 x SATA 3.0
	DIO	1 x 8-bit DIO	1 x 8-bit DIO	1 x 8-bit DIO
	SMBus	1 x SMBus	1 x SMBus	1 x SMBus
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	System Reset, Programmable via Software from 1 to 255 Seconds	System Reset, Programmable via Software from 1 to 255 Seconds
SECURITY	TPM	dTPM (default) fTPM (option)	dTPM (default) fTPM (option)	dTPM (default) fTPM (option)
POWER	Type	ATX	ATX	ATX
	Connector	4-pin ATX 12V power 24-pin ATX power	4-pin ATX 12V power 24-pin ATX power	4-pin ATX 12V power 24-pin ATX power
	Consumption	TBD	TBD	TBD
	RTC Battery	CR2032 Coin Cell	CR2032 Coin Cell	CR2032 Coin Cell
OS SUPPORT	Microsoft	Windows IoT Enterprise 10 LTSC Windows 11	Windows IoT Enterprise 10 LTSC Windows 11	Windows IoT Enterprise 10 LTSC Windows 11
	Linux	Linux	Linux	Linux
ENVIRONMENT	Temperature	Operating: -5°C ~ 65°C Storage: -40°C ~ 85°C	Operating: -5°C ~ 65°C Storage: -40°C ~ 85°C	Operating: -5°C ~ 65°C Storage: -40°C ~ 85°C
	Humidity	Operating: 5% ~ 90% RH Storage: 5% ~ 90% RH	Operating: 5% ~ 90% RH Storage: 5% ~ 90% RH	Operating: 5% ~ 90% RH Storage: 5% ~ 90% RH
	MTBF	TBD	TBD	TBD
MECHANISM	Dimensions	Mini-ITX Form Factor 170mm (6.7") x 170mm (6.7")	Mini-ITX Form Factor 170mm (6.7") x 170mm (6.7")	Mini-ITX Form Factor 170mm (6.7") x 170mm (6.7")
	Height	PCB: 1.6mm Top Side: TBD	PCB: 1.6mm Top Side: TBD	PCB: 1.6mm Top Side: TBD
CERTIFICATION	Certification	CE, FCC, RoHS	CE, FCC, RoHS	CE, FCC, RoHS

ORDERING INFORMATION

Model Name	P/N	Memory	Rear I/O				Internal I/O		TPM	Power	Operating Temp.
			Display	2.5 GbE	USB	COM	M.2	USB			
RPS100-R680EDB	770-RPS1001-000G	2 DDR5	DP++/HDMI/VGA	2	2 USB 3.2 Gen2, 4 USB 3.2 Gen1	2	M.2 M/B/E Key	2 USB 2.0	w/ TPM	ATX	-5 to 65°C
RPS100-Q670EDB	770-RPS1001-100G				6 USB 3.2 Gen1						
RPS100-H610EDB	770-RPS1001-200G				4 USB 3.2 Gen1, 2 USB 2.0						

PACKING LIST

• 1 RPS100 motherboard
• 1 Serial ATA data cable (Length: 500mm)
• 1 I/O shield (P/N: TBD)
• 3 M.2 screw/standoff

OPTIONAL ITEMS

• Thermal solution (For 65W, Height: 46mm)	A71-101137-000G
• Thermal solution (For 35W, Height: 39mm)	A71-101136-000G