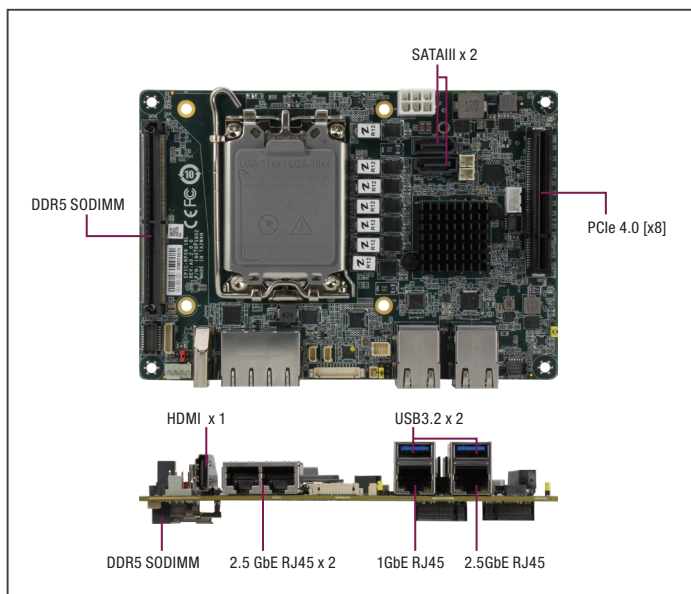


EPIC-RPS9

EPIC Board with 12th/13th Generation Intel® Core™ Processor



Specifications

System	
Form Factor	4" EPIC Board
CPU	13th Generation Intel® Core™ Processor (up to 35W/65W) 12th Generation Intel® Core™ Processor (up to 35W/65W)
Chipset	Intel 600 Series Chipset (R680E/Q670E/H610E)
Memory Type	DDR5 4800 Dual Channel SODIMM x 2, up to 64GB (ECC support only for R680E)
BIOS	UEFI
Wake On Lan	Yes
Watchdog Timer	255 Levels
Security	TPM 2.0 (Optional)
RTC Battery	Lithium Battery 3V/240mAh
Dimension	4.53" x 6.50" (115mm x 165mm)
OS Support	Windows 10 (64bit) Ubuntu 22.04.2/kernel 5.19.0-32-generic #33
Power	
Power Requirement	+12V (Note: To achieve stable performance, using the power supply unit rated 22A@12V DC output, to meet the potential maximum peak requirement is recommended)
Power Supply Type	AT/ATX
Connector	6-Pin Connector
Power Consumption	Intel® Core™ i9-13900E, DDR5 32GB x2, 7.73A @+12V (Typical) Intel® Core™ i9-13900E, DDR5 32GB x2, 21.39A @+12V (Max)
Display	
Controller	Intel® UHD Graphics 770 (i5 SKU and above) Intel® UHD Graphics 730 (i3 SKU) Intel® UHD Graphics 710 (Intel® Celeron® G6900TE SKU)
LVDS/eDP	eDP 1.4 x 1, up to 3840 x 2160
Display Interface	HDMI 2.0 x 1, up to 3840 x 2160 @60Hz VGA x 1, up to 1920 x 1080
Multiple Display	Up to 3 Simultaneous Displays
Audio	
CODEC	Realtek ALC897
Audio Interface	Line-In/Line-Out/MIC
Speaker	—
External I/O	
Ethernet	Intel® I226, 2.5GbE RJ-45 x 3, Intel® I219, GbE RJ-45 x 1 (R680E & Q670E sku) Intel® I226, 2.5GbE RJ-45 x 1 + Intel® I219, GbE RJ-45 x 1 (H610E sku only)
USB	USB 3.2 Gen 2 x 2
Serial Port	—
Video	HDMI 2.0 x 1 up to 3840 x 2160 @60Hz
Internal I/O	
USB	USB 2.0 x 2

Features

- 12th/13th Generation Intel® Core™ Processor
- DDR5 SODIMM 4800 x 2, up to 64 GB
- Triple Display: HDMI 2.0 x 1, eDP x 1, VGA x 1
- Intel® I226-LM 2.5GbE x 3, Intel® I219-LM GbE x 1
- USB 3.2 Gen 2 x 2 (Rear I/O), USB 2.0 x 2 (Pin Header)
- M.2 2280 M-key x 1, M.2 3052 B-key x 1, M.2 2230 E-key x 1, FPC (PCIe3.0[x2] x 1), PCIe4.0[x8] x 1
- COM Port x 2, GPIO 8-bit, DC 12V in

Serial Port	COM 1 (RS-232/422/485, supports RI only) COM 2 (RS-232/422/485, supports 12V/5V/RI)
Video	eDP 1.4 x 1, up to 3840 x 2160 VGA x 1, up to 1920 x 1080
SATA	SATA 6Gb/s x 2 +5V SATA Power Connector x 2
Audio	Audio Header x 1
DIO/GPIO	GPIO 8-bits
SMBus/I2C	SMBus /I2C (change by BOM, i2C only for Windows 10)
Touch	—
Fan	4 Pin Smart Fan
SIM	Nano SIM x 1
Front Panel	Power Button, Reset Button, Power LED, SATA LED, Buzzer
Others	TCC x 1 (R680E sku only)
Expansion	
Mini PCI-E/mSATA	—
M.2	M.2 2280 M-Key x 1 (PCIe 4.0 [x4] x 1, R680E & Q670E support) M.2 3052 B-Key x 1 (PCIe 3.0 [x1] + USB 3.0) M.2 2230 E-Key x 1 (PCIe 3.0 [x1] + USB 2.0)
Others	PCIe 4.0 [x8] Slot x 1 FPC Connector x 1 (PCIe 3.0 [x2] x 1)
Environment & Certification	
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) (Note: To achieve the best performance, keeping the EPIC-RPS9 operating with 0.5m/sec airflow when DDR5 SODIMM1 installed on bottom side is recommended)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	353,666
EMC	CE/FCC Class A

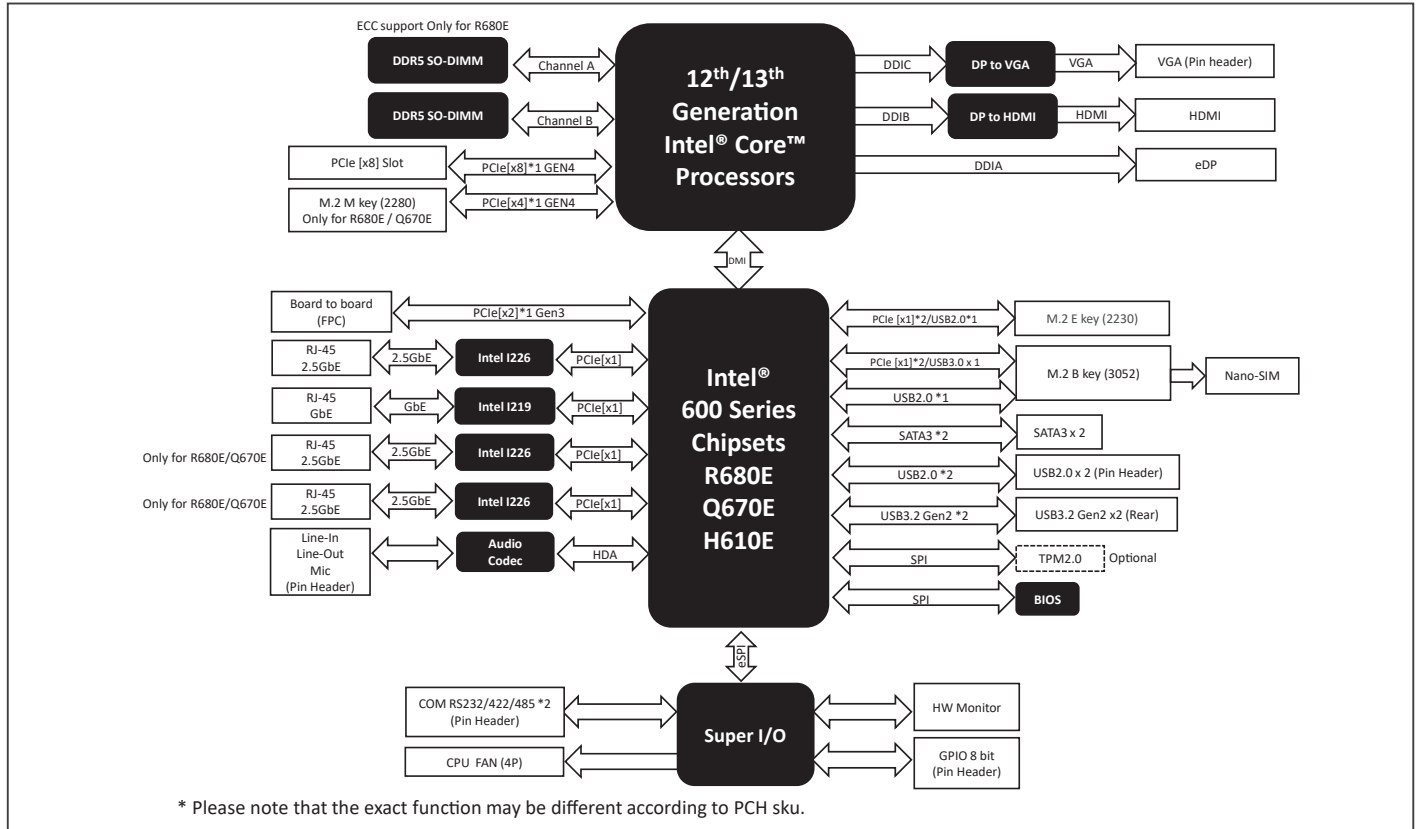
Packing List

- EPIC-RPS9 x 1
- CPU Cooler Bracket x 2
- Screw Kit x 1

Optional Accessories

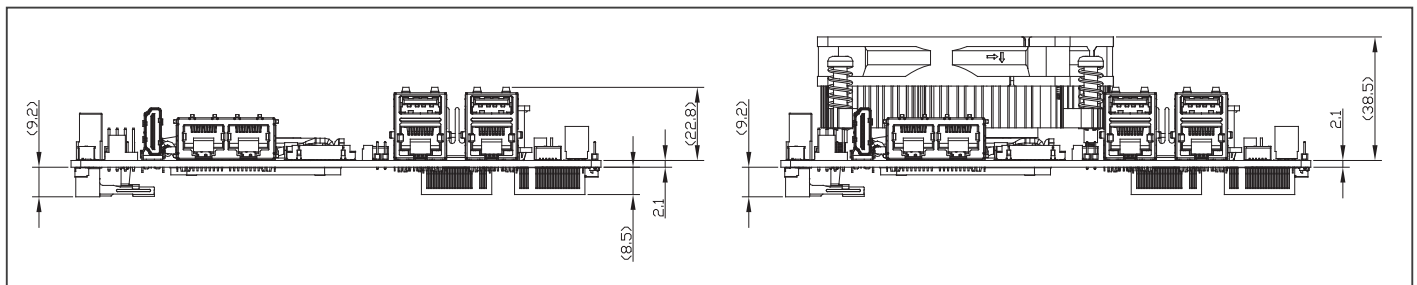
Part Number	Description	QTY
170X000593	SATA cable, Length 15 cm	1
1702150155	SATA Power Cable, Length 15cm	1
170X000231	Dual COM Port, Length 30 cm	1
170220020B	3 Pin ATX Cable	1
170010010D	Dual USB2.0 Cable, Length 10 cm	1
170X000517	Audio Cable, Length 20 cm	1
170X000603	Front Panel Cable, Length 10 cm	1
170X000823	3x2 DC in Power Cable	1
EPIC-RPS9-FAN01	CPU Cooler for EPIC-ADS7 & EPIC-RPS9	1

Block Diagram



Dimension

Unit: mm



Ordering Information

Part Number	CPU	Memory	Display	Storage	LAN	USB	COM Port	Expansion	TPM	Power	Operating Temperature	Others
EPIC-RPS9-A10-0001	LGA1700 Socket Type (with R680E)	DDR5 SODIMM x 2	eDP x 1, HDMI x 1, VGA x 1	SATA 6.0 Gbps x 2	2.5GbE x 3, GbE x 1	USB3.2 Gen2 x 2 USB2.0 x 2	RS232/422/485 x 2	M.2 2280 M-Key x 1, M.2 3052 B-Key x 1, M.2 2230 E-Key x 1, PCIe[x8] x 1, FPC x 1	Optional	+12Vin (3x2 ATX Connector)	0°C ~ 60°C	GPIO 8 bits, Nano SIM x 1, TCC x 1
EPIC-RPS9-A10-0002	LGA1700 Socket Type (with Q670E)	DDR5 SODIMM x 2 (Non-ECC)	eDP x 1, HDMI x 1, VGA x 1	SATA 6.0 Gbps x 2	2.5GbE x 3, GbE x 1	USB3.2 Gen2 x 2 USB2.0 x 2	RS232/422/485 x 2	M.2 2280 M-Key x 1, M.2 3052 B-Key x 1, M.2 2230 E-Key x 1, PCIe[x8] x 1, FPC x 1	Optional	+12Vin (3x2 ATX Connector)	0°C ~ 60°C	GPIO 8 bits, Nano SIM x 1
EPIC-RPS9-A10-0003	LGA1700 Socket Type (with H610E)	DDR5 SODIMM x 2 (Non-ECC)	eDP x 1, HDMI x 1, VGA x 1	SATA 6.0 Gbps x 2	2.5GbE x 1, GbE x 1	USB3.2 Gen2 x 2 USB2.0 x 2	RS232/422/485 x 2	M.2 3052 B-Key x 1, M.2 2230 E-Key x 1, PCIe[x8] x 1, FPC x 1	Optional	+12Vin (3x2 ATX Connector)	0°C ~ 60°C	GPIO 8 bits, Nano SIM x 1