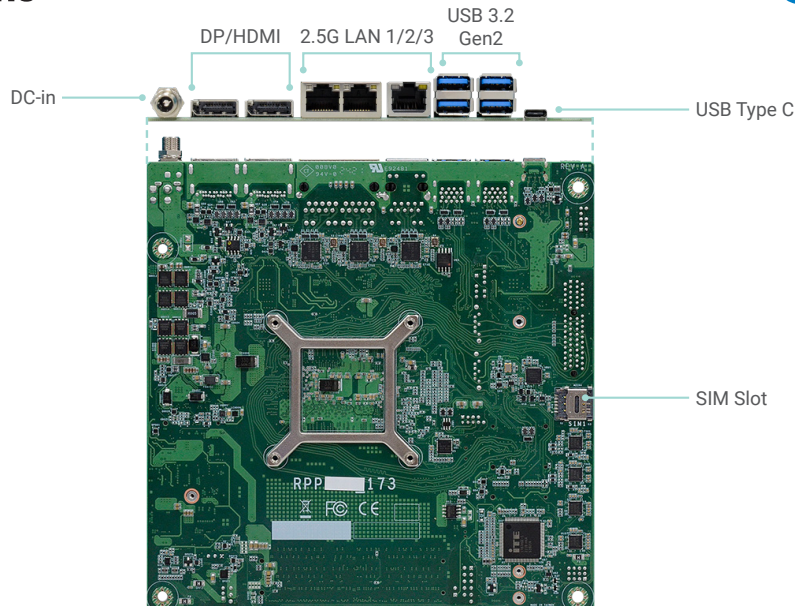


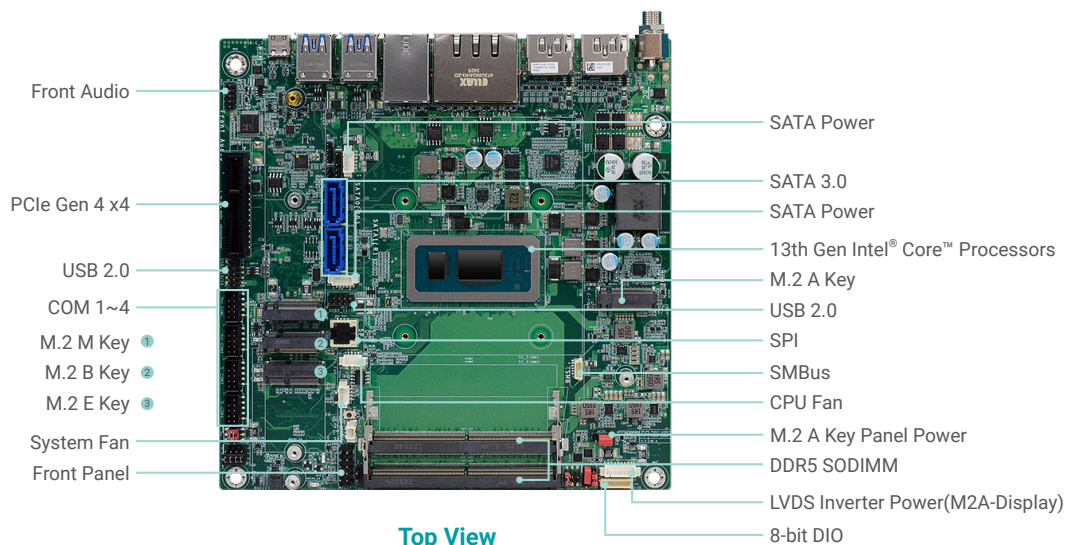
RPP171/RPP173

13th Gen Intel® Core™
Mini-ITX

ULT



Bottom View



Top View

KEY FEATURES



DDR5

2 DDR5 SODIMM up to 64GB



4K High Resolution

Supports 4K resolution



Quad Displays

2 DP/HDMI + 1 USB Type C + 1 M2A Display (eDP/LVDS/VGA/HDMI)



Multiple Expansion

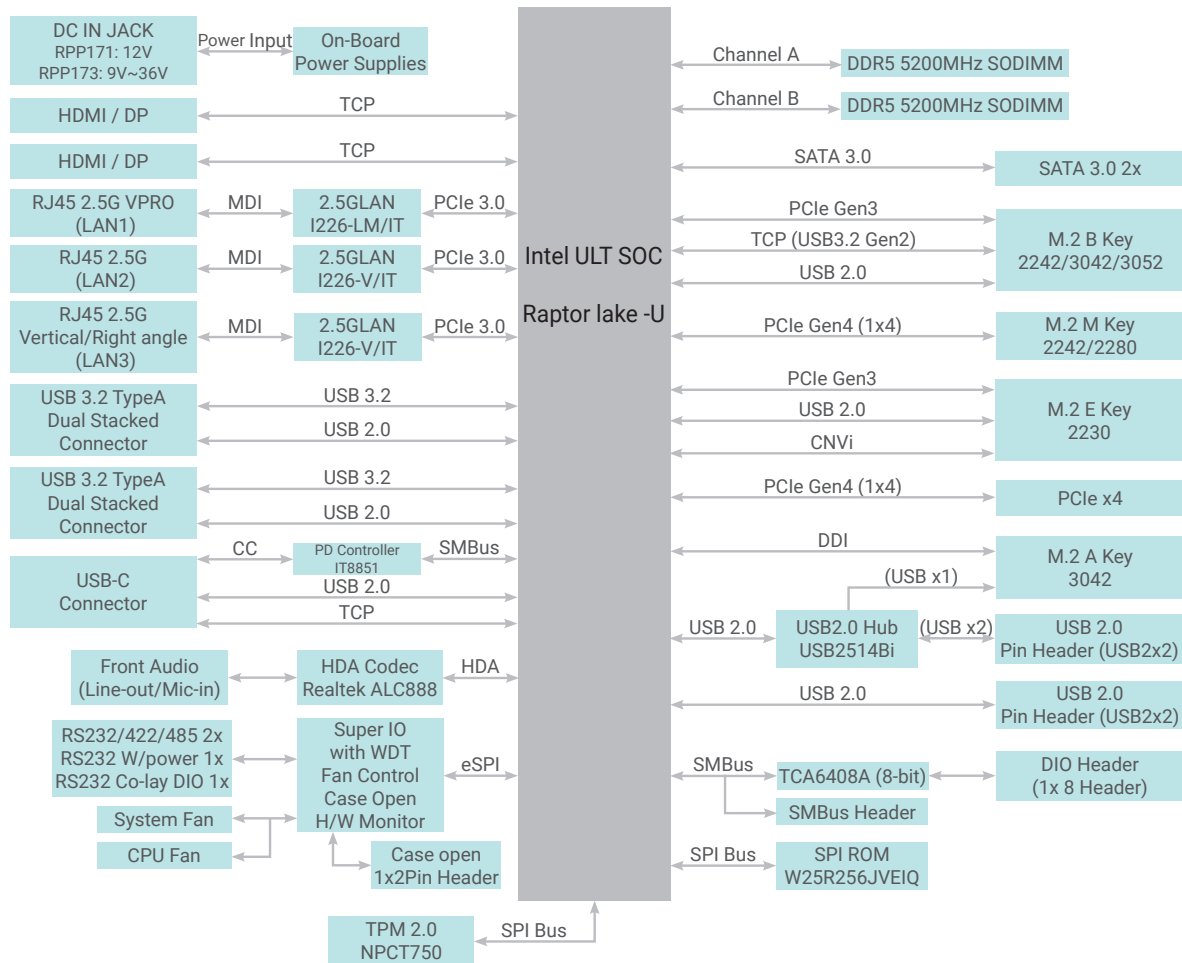
1 PCIe x4, 1 M.2 M key, 1 M.2 B key, 1 M.2 E Key, 1 M.2 A Key



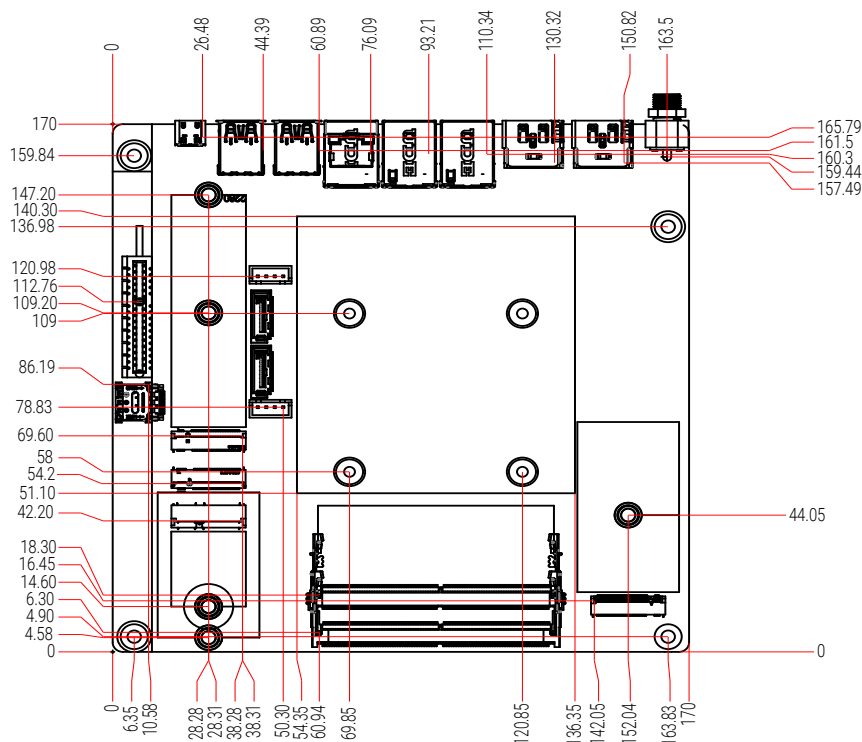
Rich I/O

Up to 3 Intel 2.5GbE, 4 USB 3.2 Gen2, 1 USB Type C and 4 USB2.0 headers

BLOCK DIAGRAM



MECHANICAL DRAWING



SPECIFICATION

SYSTEM	Processor	13th Generation Intel® Core™ Processors Intel® Core™ i7-1365UE (10 Cores, 12M Cache, up to 4.9 GHz); 15~28W Intel® Core™ i5-1345UE (10 Cores, 12M Cache, up to 4.6 GHz); 15~28W Intel® Core™ i3-1315UE (6 Cores, 10M Cache, up to 4.5 GHz); 15~28W Intel® Processor U300E (Formerly Pentium) (5 Cores, 24M Cache, up to 4.3 GHz); 15~28W
	Memory	2x 262-pin SODIMM up to 64GB Dual Channel DDR5 5200MHz
	BIOS	AMI SPI 256Mbit
GRAPHICS	Controller	Intel® Iris® Xe Graphics for i7/i5 CPU Intel® UHD Graphics for i3 CPU
	Feature	OpenGL 4.6, DirectX 12.1, OpenCL 3.0, OpenGL 4.6 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	2 x HDMI/DP Combo (Auto detect) HDMI: resolution up to 4096x2160 @30Hz DP: resolution up to 4096x2304 @60Hz USB Type C (DP alt-mode/USB3.2 Gen2/PD 15W): resolution up to 4096x2304 @60Hz (HBR2)
	Quad Displays	HDMI + DP + USB Type C (DP alt-mode/USB3.2 Gen2/PD 15W) + M2A-Display (optional)
EXPANSION	Interface	1 x PCIe Gen 4 x4 1 x M.2 2242/2280 M Key (PCIe Gen4x4, support NVMe) 1 x M.2 2242/3042/3052 B Key (PCIe Gen3x1, USB3.2 Gen2, USB2.0, selected by BIOS) 1 x M.2 2230 E Key (PCIe Gen3x1 and USB2.0, support Intel® CNVi) 1 x M.2 3042 A Key support DFI M2A-display module (opt. MOQ required)
AUDIO	Audio Codec	Realtek ALC888S
ETHERNET	Controller	1 x Intel® I226LM/IT (10/100/1000/2500Mbps) 2 x Intel® I226V/IT (10/100/1000/2500Mbps)
REAR I/O	Ethernet	Up to 3 x 2.5GHz RJ45 (LAN 3 colayout with internal vertical RJ45 by option)
	USB	4 x USB 3.2 Gen2 1 x USB Type C (DP alt-mode/USB3.2 Gen2/PD 15W)
	Display	2 x DP/HDMI combo (Auto detect)
INTERNAL I/O	Serial	2 x RS-232/422/485 (2.0mm pitch) 1 x RS-232 with power (2.0mm pitch) 1 x RS-232 (2.0mm pitch) colay with DIO-4bit (JP1)
	USB	4 x USB 2.0 (2.0mm pitch)
	Display	1 x M.2 A key, support M2A-Display (eDP/LVDS/VGA/HDMI/DP) by optional
	Audio	1 x Line-out/Mic-in
	SATA	2 x SATA 3.0
	DIO	1 x 8-bit DIO
	SMBus	1 x SMBus
	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds
WATCHDOG TIMER		
SECURITY	TPM	dTPM (default) fTPM (option)
POWER	Type	RPP171: Single 12VDC RPP173: Wide Range 9~36VDC
	Connector	DC-in Jack Right Angle Connector (4-pin) (available upon request) Straightl Type Connector (4-pin) (available upon request)
	Consumption	Idle: RPP171-IE-1370PRE 28W: 12V@ 0.81A (9.72W) Max: RPP171-IE-1370PRE 28W: 12V@ 8.83A (105.96W) Idle: RPP171-IE-1365UE 15W: 12V@ 0.75 (9W) Max: RPP171-IE-1365UE 15W: 12V@ 8.83 (99.96W)
	RTC Battery	CR2032 Coin Cell
OS SUPPORT	Microsoft	Windows IoT Enterprise 10 LTSB Windows 11
	Linux	Linux
ENVIRONMENT	Temperature	Operating: -5 to 65°C, -20 to 70°C Storage: -40 to 85°C
	Humidity	Operating: 5 to 95% RH Storage: 5 to 95% RH
	MTBF	RPP173-IE-1365UE 442,970 hrs @ 25°C; 271,011 hrs @ 45°C; 160, 178,357 @ 60°; 133,264 hrs @ 70°C; Calculation model: Telcordia Issue 4 Environment: GB, GC – Ground Benign, Controlled
MECHANISM	Dimensions	Mini-ITX Form Factor
	Height	PCB: 1.6mm Top Side: 20mm Bottom Side: 3mm
CERTIFICATIONS	Certifications	CE, FCC, RoHS

ORDERING INFORMATION

Model Name	P/N	Description
RPP171-IE-1365UE	770-RPP1711-000G	RPP171-IE-1365UE, 2 DDR5, Rear I/O(2 DP/HDMI combo, 3 LAN, 4 USB 3.2 Gen2, 1 USB Type C), Internal I/O (M.2 M/B/E/A Key, 4 USB 2.0, w/TPM), DC-Jack, Wide Temp -20 to 70°C
RPP171-IE-1345UE	770-RPP1711-100G	RPP171-IE-1345UE, 2 DDR5, Rear I/O(2 DP/HDMI combo, 3 LAN, 4 USB 3.2 Gen2, 1 USB Type C), Internal I/O (M.2 M/B/E/A Key, 4 USB 2.0, w/TPM), DC-Jack, Wide Temp -20 to 70°C
RPP171-IB-1315UE	770-RPP1711-200G	RPP171-IB-1315UE, 2 DDR5, Rear I/O(2 DP/HDMI combo, 3 LAN, 4 USB 3.2 Gen2, 1 USB Type C), Internal I/O (M.2 M/B/E/A Key, 4 USB 2.0, w/TPM), DC-Jack, -5 to 65°C
RPP171-IB-U300E	770-RPP1711-300G	RPP171-IB-U300E, 2 DDR5, Rear I/O(2 DP/HDMI combo, 3 LAN, 4 USB 3.2 Gen2, 1 USB Type C), Internal I/O (M.2 M/B/E/A Key, 4 USB 2.0, w/TPM), DC-Jack, -5 to 65°C
RPP173-IE-1365UE	770-RPP1731-000G	RPP173-IE-1365UE, 2 DDR5, Rear I/O(2 DP/HDMI combo, 3 LAN, 4 USB 3.2 Gen2, 1 USB Type C), Internal I/O (M.2 M/B/E/A Key, 4 USB 2.0, w/TPM), DC-Jack, Wide Temp -20 to 70°C
RPP173-IE-1345UE	770-RPP1731-100G	RPP173-IE-1345UE, 2 DDR5, Rear I/O(2 DP/HDMI combo, 3 LAN, 4 USB 3.2 Gen2, 1 USB Type C), Internal I/O (M.2 M/B/E/A Key, 4 USB 2.0, w/TPM), DC-Jack, Wide Temp -20 to 70°C
RPP173-IB-1315UE	770-RPP1731-200G	RPP173-IB-1315UE, 2 DDR5, Rear I/O(2 DP/HDMI combo, 3 LAN, 4 USB 3.2 Gen2, 1 USB Type C), Internal I/O (M.2 M/B/E/A Key, 4 USB 2.0, w/TPM), DC-Jack, -5 to 65°C
RPP173-IB-U300E	770-RPP1731-300G	RPP173-IB-U300E, 2 DDR5, Rear I/O(2 DP/HDMI combo, 3 LAN, 4 USB 3.2 Gen2, 1 USB Type C), Internal I/O (M.2 M/B/E/A Key, 4 USB 2.0, w/TPM), DC-Jack, -5 to 65°C

OPTIONAL ITEMS

Model Name	P/N	Description
SATA Cable	A81-002144-018G	SATA 7+15P to SATA 7P, Length: 300mm
COM Port Cable	A81-015115-018G	COM Port D-Sub 9P Cable, Length: 250mm
USB 2.0 cable	A81-001083-016G	2-port USB2.0 w/bracket, Length: 300mm
Audio cable	A81-022036-016G	Line-out/Mic-in, Length: 110m
Front Panel cable	A81-009615-016G	Length: 270mm

PACKING LIST

· 1 RPP171/RPP173 motherboard	
· 1 COM port cable with bracket (Length: 250mm, 1 x COM ports)	A81-015115-018G
· 1 Serial ATA data with power cable (Length: 300mm)	A81-002144-018G
· 4 M.2 screw/standoff	
· 1 I/O Shield	
- (2 LAN, Regular type)	A49-RPP171-010G
- (3 LAN, Regular type)	A49-RPP171-000G
- (2 LAN, Thin type) (By request)	A49-RPP171-100G
- (3 LAN, Thin type) (By request)	A49-RPP171-110G
· 1 Cooler/Heat sink	
- (Wide/Normal Temp. -Cooler for 28W) (Default)	A71-108160-010G
- (Wide Temp. Fanless HS for 15W) (By request)	A71-008184-010G
- (Normal Temp. Fanless HS for 15W) (By request)	A71-008184-000G

Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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