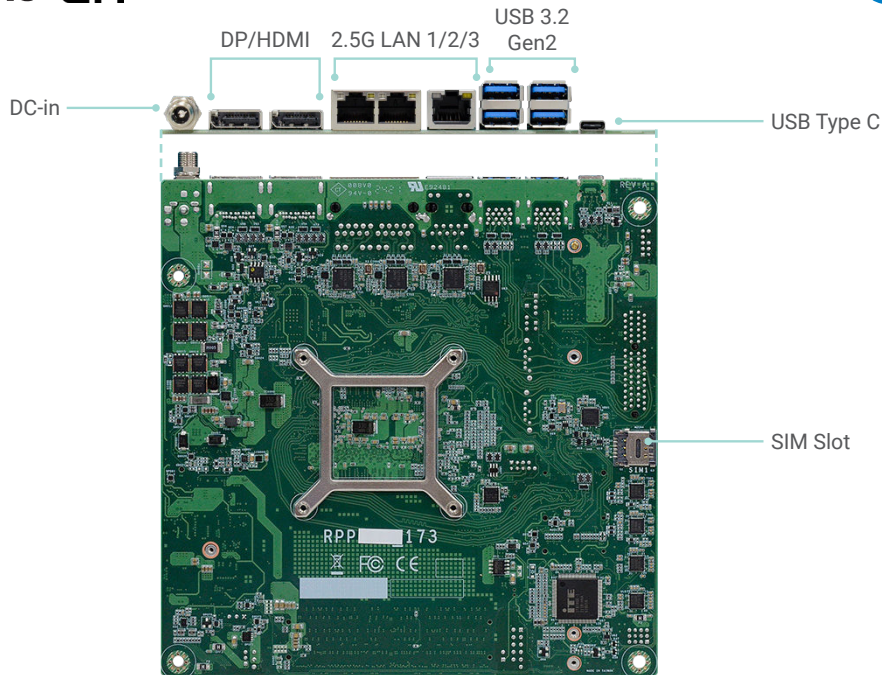


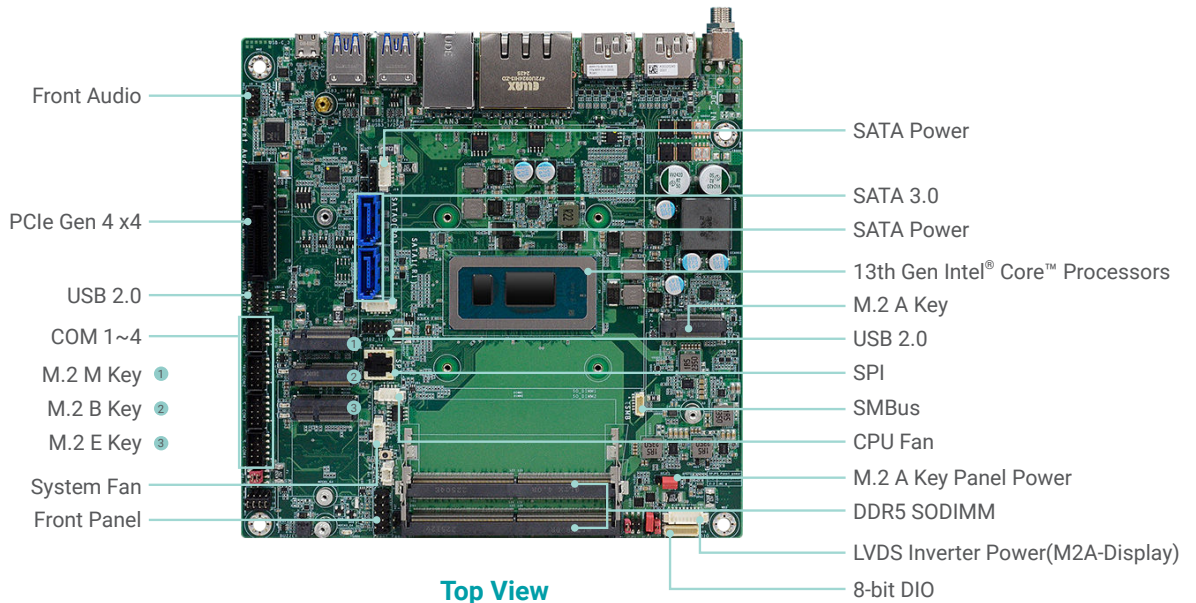
RPP171/RPP173

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/DP)



Multiple Expansion

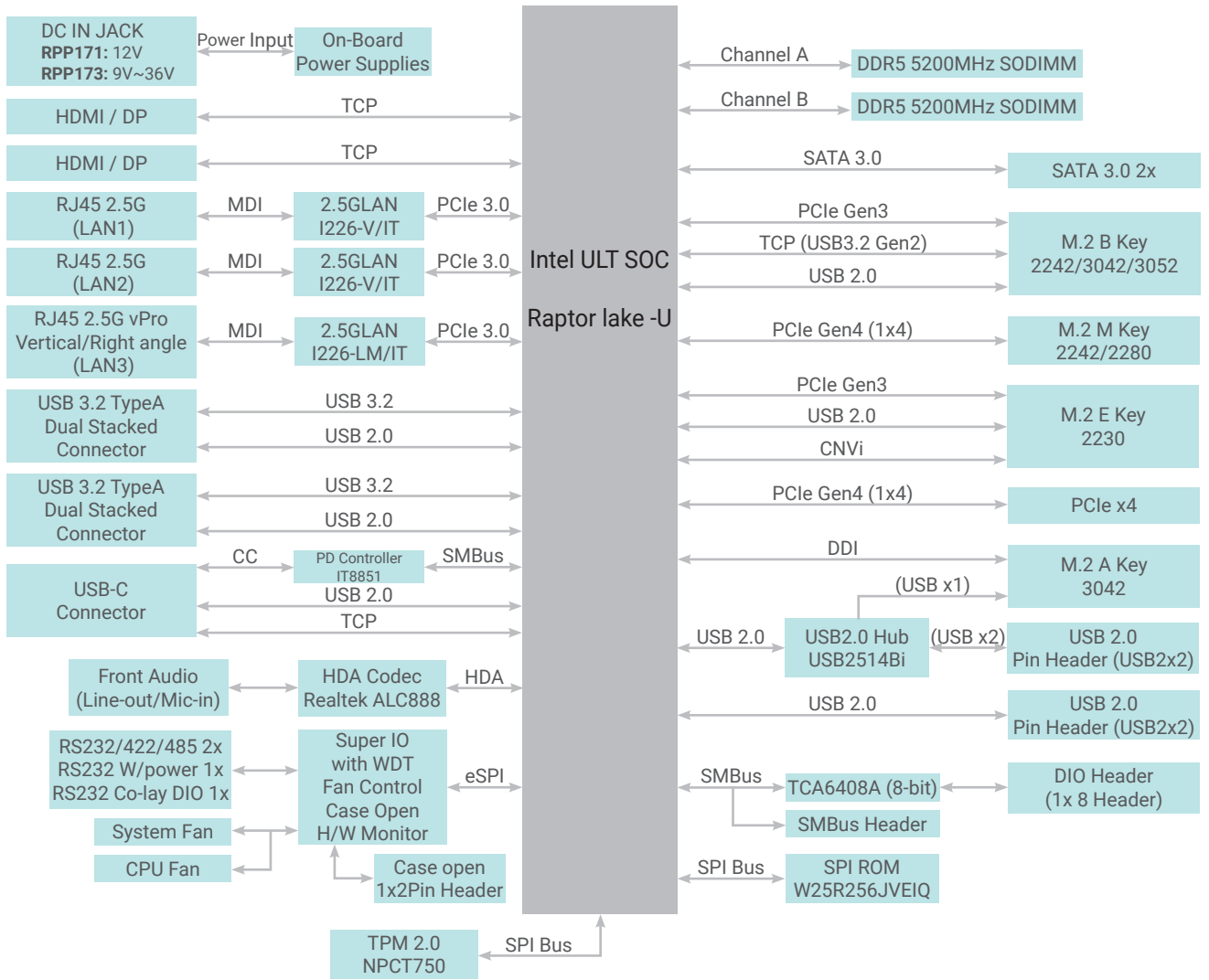
1 PCIe x4, 1 M.2 M key, 1 M.2 B key, 1 M.2 E Key, 1 M.2 A Key



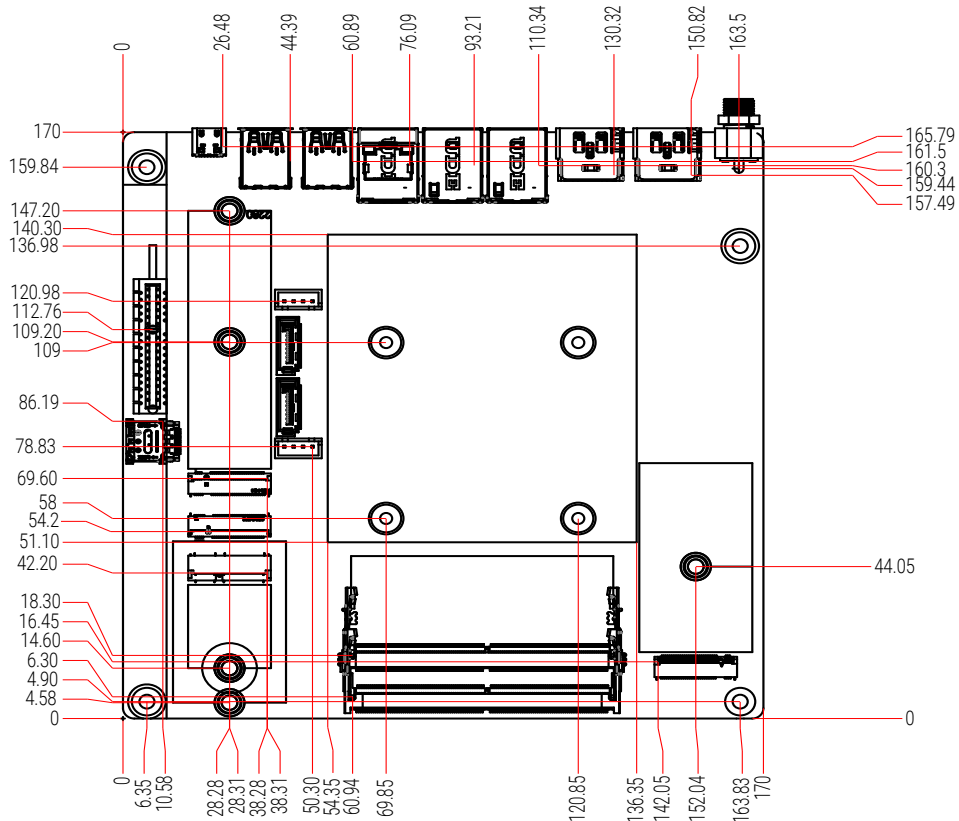
Rich I/O

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

Model Name		RPP171	RPP173
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	2x 262-pin SODIMM up to 64GB Dual Channel DDR5 5200MHz
	BIOS	AMI SPI 256Mbit	AMI SPI 256Mbit
GRAPHICS	Controller	Intel® Iris® Xe Graphics for i7/i5 CPU Intel® UHD Graphics for i3 CPU	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	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)	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)	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)	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 Codec	Realtek ALC888S
ETHERNET	Controller	LAN1/2: i226V/IT (10/100/1000/2.5G speeds) LAN3(vPro): i226LM/IT (10/100/1000/2.5G speeds)	LAN1/2: i226V/IT (10/100/1000/2.5G speeds) LAN3(vPro): i226LM/IT (10/100/1000/2.5G speeds)
REAR I/O	Ethernet	Up to 3 x 2.5GHz RJ45 (LAN 3 colayout with internal vertical RJ45 by option)	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)	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)	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)	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)	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	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
	SATA	2 x SATA 3.0	2 x SATA 3.0
	DIO	1 x 8-bit DIO	1 x 8-bit DIO
	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
SECURITY	TPM	dTPM (default) fTPM (option)	dTPM (default) fTPM (option)
POWER	Type	Single 12VDC	Wide Range 9~36VDC
	Connector	DC-in Jack Right Angle Connector (4-pin) (available upon request) Straightl Type Connector (4-pin) (available upon request)	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)	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	CR2032 Coin Cell
OS SUPPORT	Microsoft	Windows IoT Enterprise 10 LTSB Windows 11	Windows IoT Enterprise 10 LTSB Windows 11
	Linux	Linux	Linux

SPECIFICATION

Model Name		RPP171	RPP173
ENVIRONMENT	Temperature	Operating: -5 to 65°C, -20 to 70°C Storage: -40 to 85°C	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	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	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 170mm (6.7") x 170mm (6.7")	Mini-ITX Form Factor 170mm (6.7") x 170mm (6.7")
	Height	PCB: 1.6mm Top Side: 20mm Bottom Side: 3mm	PCB: 1.6mm Top Side: 20mm Bottom Side: 3mm
CERTIFICATIONS	Certifications	CE, FCC, RoHS, UKCA	CE, FCC, RoHS, UKCA

ORDERING INFORMATION

Model Name	P/N	Memory	Rear I/O			Internal I/O			Power	Operating Temp.
			Display	LAN	USB	M.2	USB	TPM		
RPP171-IE-1365UE	770-RPP1711-000G	2 DDR5	2 DP/HDMI combo	3	4 USB 3.2 Gen2, 1 USB Type C	M.2 M/B/E/A Key	4 USB 2.0	w/TPM	12V DC-Jack	-20 to 70°C
RPP171-IE-1345UE	770-RPP1711-100G								12V DC-Jack	-20 to 70°C
RPP171-IB-1315UE	770-RPP1711-200G								12V DC-Jack	-5 to 65°C
RPP171-IB-U300E	770-RPP1711-300G								12V DC-Jack	-5 to 65°C
RPP173-IE-1365UE	770-RPP1731-000G								9~36V DC-Jack	-20 to 70°C
RPP173-IE-1345UE	770-RPP1731-100G								9~36V DC-Jack	-20 to 70°C
RPP173-IB-1315UE	770-RPP1731-200G								9~36V DC-Jack	-5 to 65°C
RPP173-IB-U300E	770-RPP1731-300G								9~36V 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) (For Sample)	A49-RPP171-010G
- (3 LAN, Regular type) (For Sample)	A49-RPP171-000G
- (2 LAN, Thin type) (For Sample)	A49-RPP171-100G
- (3 LAN, Thin type) (For Sample)	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