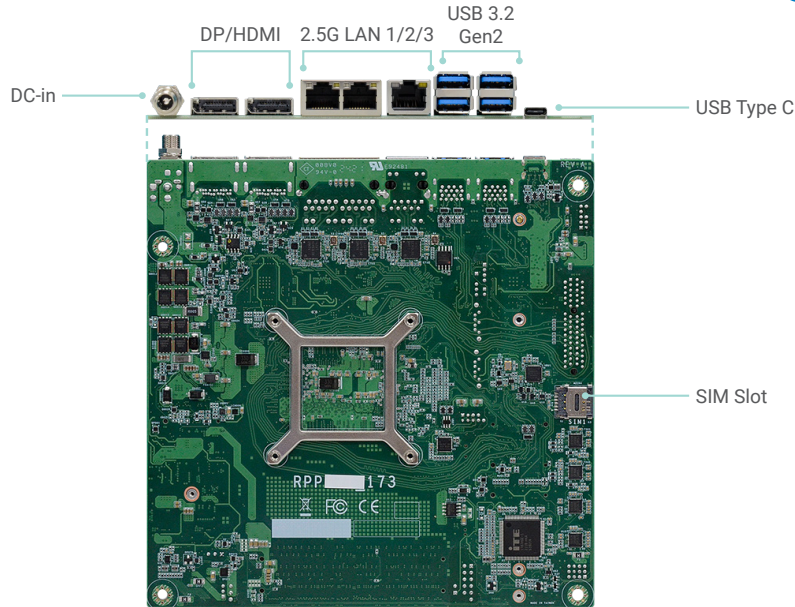
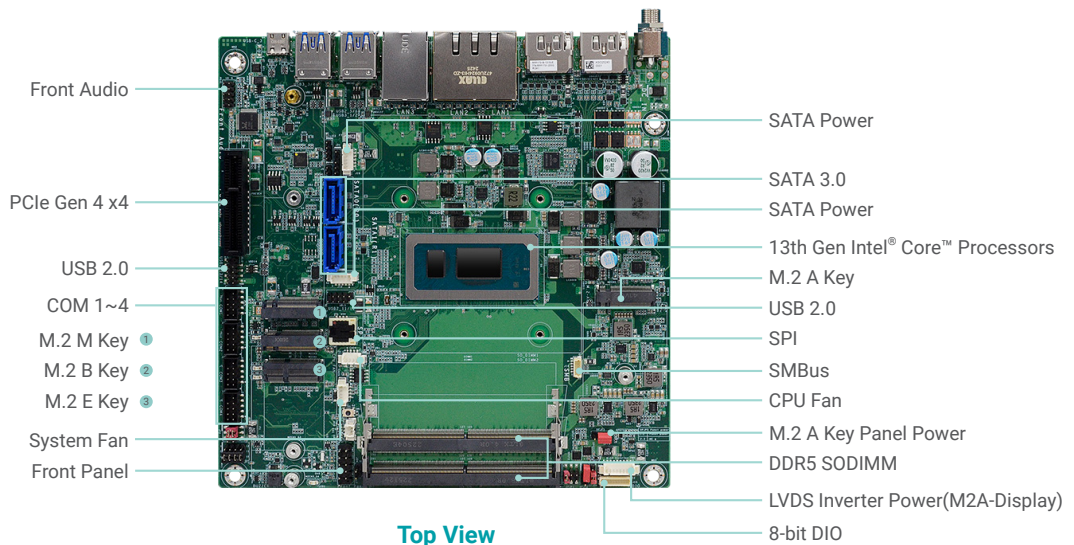


RPP171/RPP173

13th Gen Intel® Core™
Mini-ITX
ULT



Bottom View



Top View

KEY FEATURES



DDR5

2 DDR5 SODIMM up to 64GB



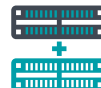
4K High Resolution

Supports 4K resolution



Quad Displays

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



Multiple Expansion

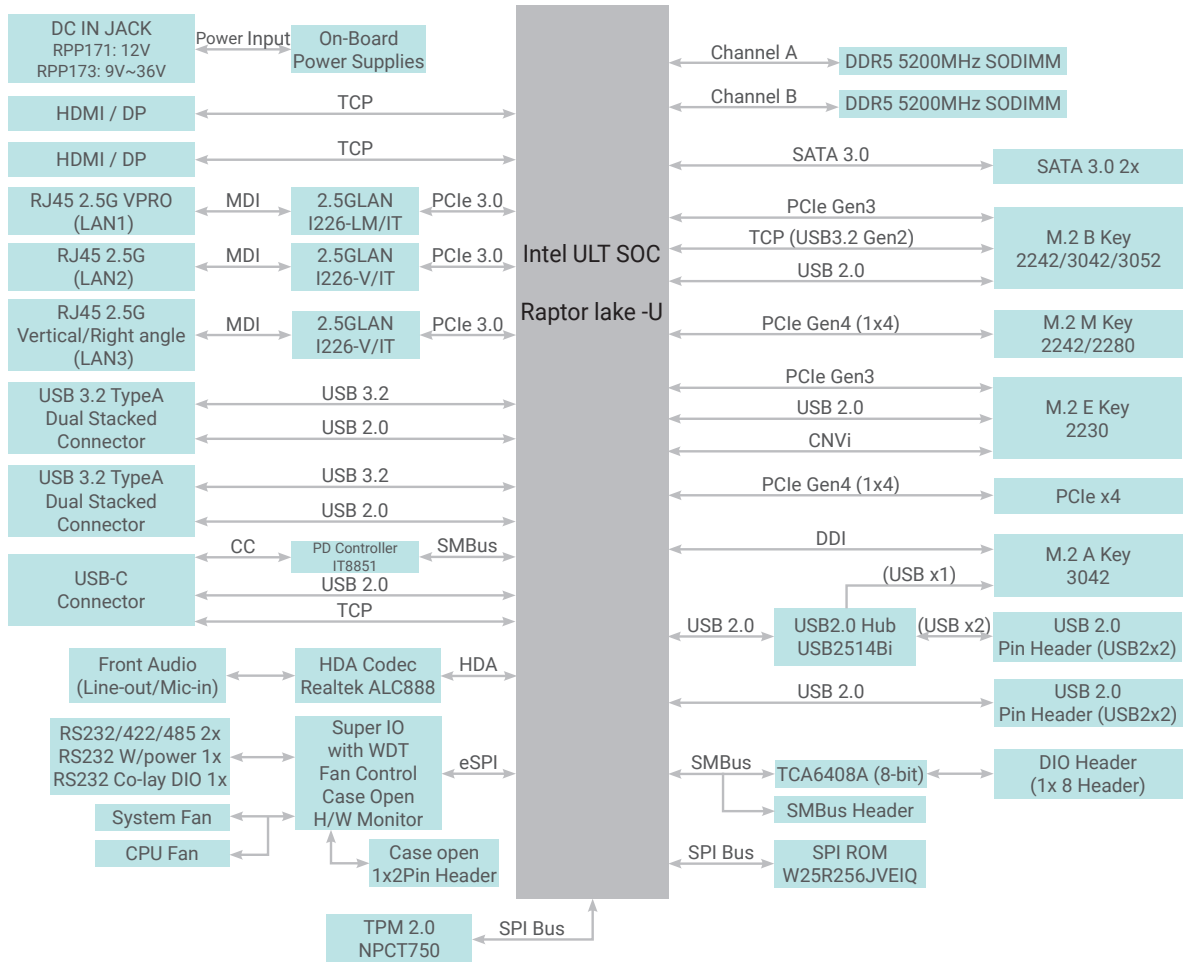
1 PCIe x4, 1 M.2 M key, 1 M.2 B key, 1 M.2 E Key, 1 M.2 A Key



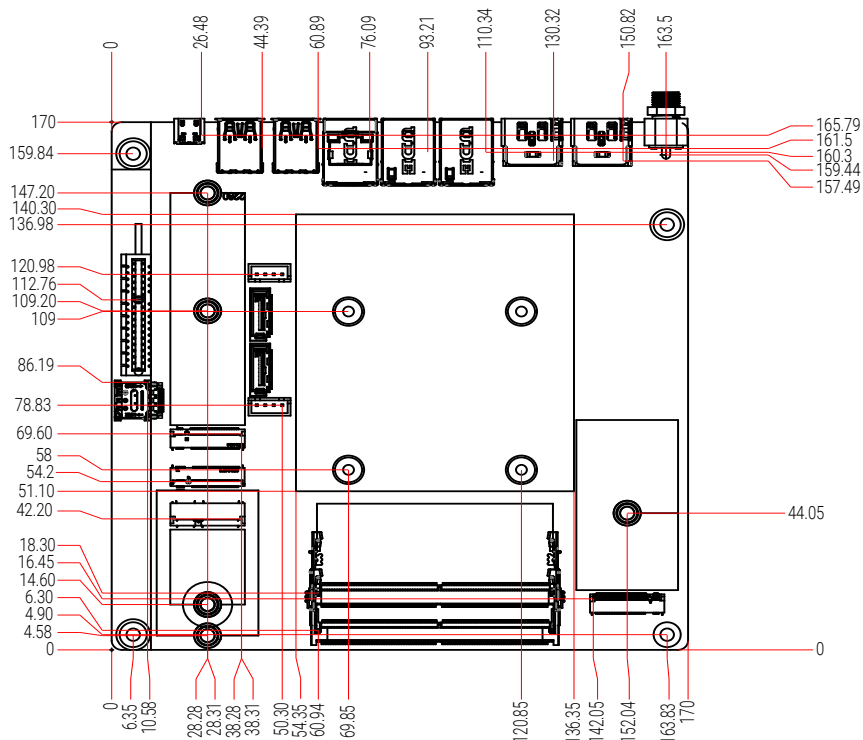
Rich I/O

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 |
| WATCHDOG TIMER | Output & Interval | System Reset, Programmable via Software from 1 to 255 Seconds |
| 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 170mm (6.7") x 170mm (6.7") |
| | 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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