DFI



RPP171_RPP173

Mini-ITX Industrial Motherboard
User's Manual

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FCC and DOC Statement on Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio TV technician for help.

Notice:

1. The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
2. Shielded interface cables must be used in order to comply with the emission limits.

Table of Contents

Chapter 1 - Introduction 6
Specifications 6
Block Diagram 8
Dimension 8
Chapter 2 - Hardware Installation 9
Board Layout 9
Installing the heat sink 10
Installing the Heat Sink 10
Jumper Settings 11
Clear CMOS Data (SW1) 11
Inverter Panel Power Select (DPJP2) 11
VCC Panel Power Select (DPJP3) 12
Panel Backlight ON Level Select (DPJP4) 12
COM4 DIO & COM4 Select (JP1) 13
COM3 Power Select (JP2) 13
Pin Assignment 14
RTC Battery (J1) 14
Case Open (J24) 14
System Fan (CN25) 15
CPU Fan (CN24) 15
UART Header (Debug) (J21) 16
SMBus (J16) 16
SATA POWER (J18) 17
SATA POWER (J19) 17
SATA0 (J12) 18
SATA1 (J13) 18
Backlight CON (DPJ1) 19
DIO (J15) 19
Front Audio (AUJ1) 20
USB2.0 Pin Header (UBJ1) 20
USB2.0 Pin Header (UBJ2) 21
COM3 Power Select (JP2) 21
COM1 (TSJ1) 22
COM2 (TSJ2) 22
COM3 RS232 (J5) 23
COM4 RS232 (J6) 23
Front Panel (J17) 24
COM4 DIO & COM4 Select (JP1) 24
Expansion Slots 25
Installing the M.2 Module 25
Chapter 3 - BIOS Settings 27
Overview 27
Main 28
Advanced 28
CPU Configuration 29
Power & Performance 29
Power & Performance ► **CPU- Power Management Control** **30**
Power & Performance ► **GT- Power Management Control** **30**
PCH-FW Configuration 31
Trusted Computing 31
IT8786 Super IO Configuration 32
IT8786 Super IO Configuration ► **Serial Port 1, 2 Configuration** **32**
IT8786 Super IO Configuration ► **Serial Port 3, 4 Configuration** **33**
IT8786 HW Monitor 33
IT8786 HW Monitor ► **Smart FAN Function** **34**
IT8786 HW Monitor ► **Smart FAN Function ► CPU FAN Setting** **34**
IT8786 HW Monitor ► **Smart FAN Function ► SYS_FAN Setting** **34**
Serial Port Console Redirection 35
Serial Port Console Redirection ► **Console Redirection Settings** **36**
ACPI Settings 37
Network Stack Configuration 37
DFI WDT Configuration 38
USB Power Control 39
Tls Auth Configuration 39
Chipset 40
System Agent (SA) Configuration 40
PCH-IO Configuration 41
PCH-IO Configuration► **PCI Express Configuration** **41**
PCH-IO Configuration► **SATA Configuration** **42**
PCH-IO Configuration► **HD Audio Configuration** **42**
Security 43
Secure Boot 43
Boot 44
Save & Exit 44
Updating the BIOS 45
Notice: BIOS SPI ROM 45

About this Manual

This manual can be downloaded from the website.

The manual is subject to change and update without notice, and may be based on editions that do not resemble your actual products. Please visit our website or contact our sales representatives for the latest editions.

Warranty

1. Warranty does not cover damages or failures that occur from misuse of the product, inability to use the product, unauthorized replacement or alteration of components and product specifications.

2. The warranty is void if the product has been subjected to physical abuse, improper installation, modification, accidents or unauthorized repair of the product.

3. Unless otherwise instructed in this user's manual, the user may not, under any circumstances, attempt to perform service, adjustments or repairs on the product, whether in or out of warranty. It must be returned to the purchase point, factory or authorized service agency for all such work.

4. We will not be liable for any indirect, special, incidental or consequential damages to the product that has been modified or altered.

Static Electricity Precautions

It is quite easy to inadvertently damage your PC, system board, components or devices even before installing them in your system unit. Static electrical discharge can damage computer components without causing any signs of physical damage. You must take extra care in handling them to ensure against electrostatic build-up.

1. To prevent electrostatic build-up, leave the system board in its anti-static bag until you are ready to install it.

2. Wear an antistatic wrist strap.

3. Do all preparation work on a static-free surface.

4. Hold the device only by its edges. Be careful not to touch any of the components, contacts or connections.

5. Avoid touching the pins or contacts on all modules and connectors. Hold modules or connectors by their ends.



Important:
Electrostatic discharge (ESD) can damage your processor, disk drive and other components. Perform the upgrade instruction procedures described at an ESD workstation only. If such a station is not available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the system chassis. If a wrist strap is unavailable, establish and maintain contact with the system chassis throughout any procedures requiring ESD protection.

Safety Measures

- To avoid damage to the system, use the correct AC input voltage range.

- To reduce the risk of electric shock, unplug the power cord before removing the system chassis cover for installation or servicing. After installation or servicing, cover the system chassis before plugging the power cord.

About the Package

The package contains the following items. If any of these items are missing or damaged, please contact your dealer or sales representative for assistance.

- 1 RPP171/RPP173 Motherboard
- 1 COM port cable with bracket (Length: 250mm, 1 x COM ports)
- 1 Serial ATA data with power cable (Length: 300mm)
- 4 M.2 screw/standoff
- 1 I/O Shield
  - (2 LAN, Regular type)
  - (3 LAN, Regular type)
  - (2 LAN, Thin type) (By request)
  - (3 LAN, Thin type) (By request)
- 1 Cooler/Heat sink
  - (Wide/Normal Temp. -Cooler for 28W) (Default)
  - (Wide Temp. Fanless HS for 15W) (By request)
  - (Normal Temp. Fanless HS for 15W) (By request)

The board and accessories in the package may not come similar to the information listed above. This may differ in accordance with the sales region or models in which it was sold. For more information about the standard package in your region, please contact your dealer or sales representative.

Before Using the System Board

When installing the system board in a new system, you will need at least the following internal components.

- Memory module
- Storage device such as a hard disk drive.
- Power supply

External system peripherals may also be required for navigation and display, including at least a keyboard, a mouse and a video display monitor.

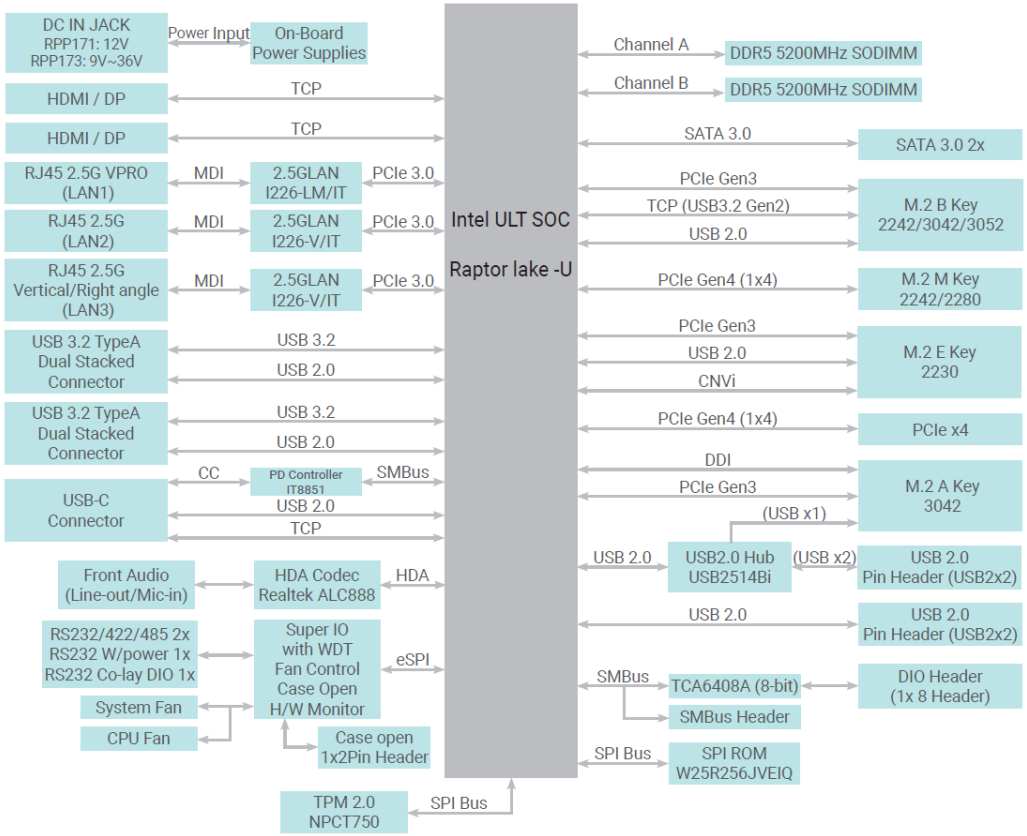
Chapter 1 - Introduction

▶ Specifications

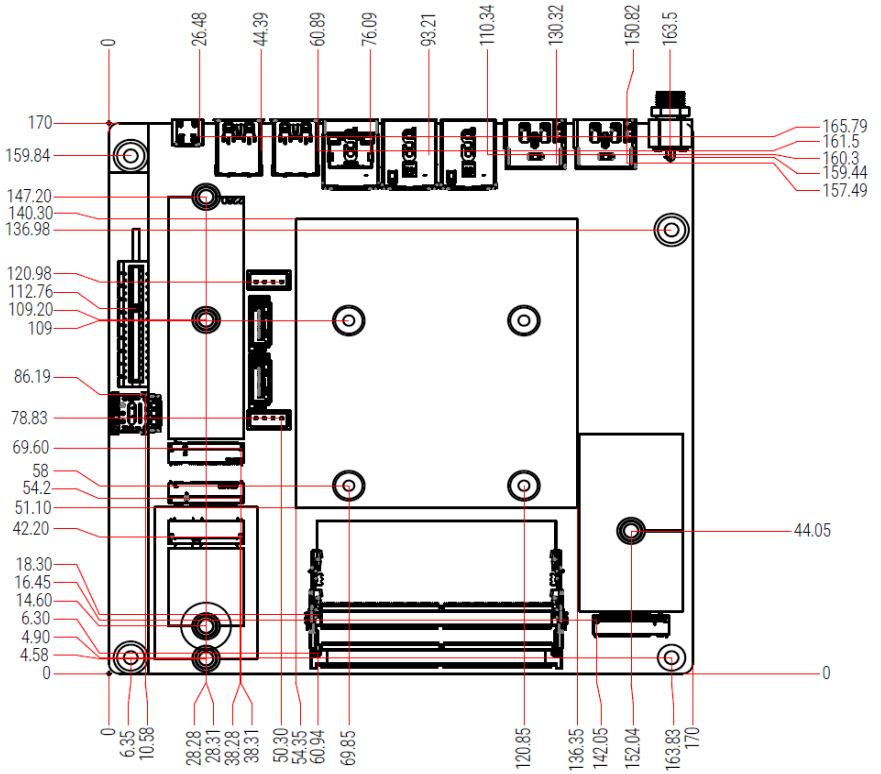
SYSTEM	Processor	13th Generation Intel® Core™ Processors Intel® Core™ i7-1365UE (10 Cores, 12M Cache, up to 4.9 GHz); 15~28W Intel® Core™ i5-1345UE (10 Cores, 12M Cache, up to 4.6 GHz); 15~28W Intel® Core™ i3-1315UE (6 Cores, 10M Cache, up to 4.5 GHz); 15~28W Intel® Processor U300E (Formerly Pentium) (5 Cores, 24M Cache, up to 4.3 GHz); 15~28W
	Memory	One 262-pin SODIMM up to 64GB Dual Channel DDR5 5200MHz
	BIOS	AMI SPI 256Mbit
GRAPHICS	Controller	Intel® Iris® Xe Graphics eligible
	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	TBD
	RTC Battery	CR2032 Coin Cell
OS SUPPORT	Microsoft	Windows IoT Enterprise 10 LTSB
	Linux	Linux
ENVIRONMENT	Temperature	Operating: -5 to 65°C, -20 to 70°C Storage: -40 to 85°C
	Humidity	Operating: 5 to 90% RH Storage: 5 to 90% 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
STANDARDS AND CERTIFICATIONS	Certifications	CE, FCC, RoHS

▶ Block Diagram



▶ Dimension



以上内容仅为本文档的试下载部分，为可阅读页数的一半内容。如要下载或阅读全文，请访问：https://d.book118.com/575004210332011243