NexAIoT Co., Ltd.

IoT Automation Solutions Business Group

Smart Functional PC

TT 300 A-Series

User Manual

NexAIoT Co., Ltd.
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PREFACE

Copyright

Disclaimer

The information in this document is subject to change without prior notice and does not represent commitment from NexAIoT Co., Ltd. However, users may update their knowledge of any product in use by constantly checking its manual posted on our website: http://www.nexaiot.com. NexAIoT shall not be liable for direct, indirect, special, incidental, or consequential damages arising out of the use of any product, nor for any infringements upon the rights of third parties, which may result from such use. Any implied warranties of merchantability or fitness for any particular purpose is also disclaimed.

Acknowledgements

TT 300-A Series are the trademark of NexAIoT Co., Ltd. All other product names mentioned herein are registered trademarks of their respective owners.

Regulatory Compliance Statements

This section provides the FCC compliance statement for Class A devices and describes how to keep the system CE compliant.

Declaration of Conformity

FCC

This equipment has been tested and verified to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area (domestic environment) is likely to cause harmful interference, in which case the user will be required to correct the interference (take adequate measures) at their own expense.

CE

The product(s) described in this manual complies with all applicable European Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques.

RoHS Compliance

NexAIoT RoHS Environmental Policy and Status Update

NexAIoT is a global citizen for building the digital infrastructure. We are committed to providing green products and services, which are compliant with European Union RoHS (Restriction on Use of Hazardous Substance in Electronic Equipment) directive 2011/65/EU, to be your trusted green partner and to protect our environment.

RoHS restricts the use of Lead (Pb) < 0.1% or 1,000ppm, Mercury (Hg) < 0.1% or 1,000ppm, Cadmium (Cd) < 0.01% or 100ppm, Hexavalent Chromium (Cr6+) < 0.1% or 1,000ppm, Polybrominated biphenyls (PBB) < 0.1% or 1,000ppm, and Polybrominated diphenyl Ethers (PBDE) < 0.1% or 1,000ppm.

In order to meet the RoHS compliant directives, NexAIoT has established an engineering and manufacturing task force to implement the introduction of green products. The task force will ensure that we follow the standard NexAIoT development procedure and that all the new RoHS components and new manufacturing processes maintain the highest industry quality levels for which NexAIoT are renowned.

The model selection criteria will be based on market demand. Vendors and suppliers will ensure that all designed components will be RoHS compliant.

How to recognize NexAIoT RoHS Products?

For existing products where there are non-RoHS and RoHS versions, the suffix "(LF)" will be added to the compliant product name.

All new product models launched after January 2013 will be RoHS compliant. They will use the usual NexAIoT naming convention.

Warranty and RMA

NexAIoT Warranty Period

NexAIoT manufactures products that are new or equivalent to new in accordance with industry standard. NexAIoT warrants that products will be free from defect in material and workmanship for 2 years, beginning on the date of invoice by NexAIoT.

NexAIoT Return Merchandise Authorization (RMA)

- Customers shall enclose the "NexAIoT RMA Service Form" with the returned packages.
- Customers must collect all the information about the problems encountered and note anything abnormal or, print out any on-screen messages, and describe the problems on the "NexAIoT RMA Service Form" for the RMA number apply process.
- Customers can send back the faulty products with or without accessories (manuals, cable, etc.) and any components from the card, such as CPU and RAM. If the components were suspected as part of the problems, please note clearly which components are included. Otherwise, NexAIoT is not responsible for the devices/parts.
- Customers are responsible for the safe packaging of defective products, making sure it is durable enough to be resistant against further damage and deterioration during transportation. In case of damages occurred during transportation, the repair is treated as "Out of Warranty."
- Any products returned by NexAIoT to other locations besides the customers' site will bear an extra charge and will be billed to the customer.

Repair Service Charges for Out-of-Warranty Products

NexAIoT will charge for out-of-warranty products in two categories, one is basic diagnostic fee and another is component (product) fee.

System Level

- Component fee: NexAIoT will only charge for main components such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistor, capacitor.
- Items will be replaced with NexAIoT products if the original one cannot be repaired. Ex: motherboard, power supply, etc.
- Replace with 3rd party products if needed.
- If RMA goods can not be repaired, NexAIoT will return it to the customer without any charge.

Board Level

- Component fee: NexAIoT will only charge for main components, such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistors, capacitors.
- If RMA goods can not be repaired, NexAIoT will return it to the customer without any charge.

Warnings

Read and adhere to all warnings, cautions, and notices in this guide and the documentation supplied with the chassis, power supply, and accessory modules. If the instructions for the chassis and power supply are inconsistent with these instructions or the instructions for accessory modules, contact the supplier to find out how you can ensure that your computer meets safety and regulatory requirements.

Cautions

Electrostatic discharge (ESD) can damage system components. Do the described procedures only at an ESD workstation. If no such station is available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the computer chassis.

Installation Recommendations

Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.

Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:

- A Philips screwdriver
- A flat-tipped screwdriver
- A grounding strap
- An anti-static pad

Using your fingers can disconnect most of the connections. It is recommended that you do not use needle-nose pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.

Safety Information

Before installing and using the device, note the following precautions:

- Read all instructions carefully.
- Do not place the unit on an unstable surface, cart, or stand.
- Follow all warnings and cautions in this manual.
- When replacing parts, ensure that your service technician uses parts specified by the manufacturer.
- Avoid using the system near water, in direct sunlight, or near a heating device.
- The load of the system unit does not solely rely for support from the rackmounts located on the sides. Firm support from the bottom is highly necessary in order to provide balance stability.
- The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.
- Field wiring shall be conducted by skilled persons
  - Insert the positive and negative wires into the V+ and V- contacts on the terminal block connector.
  - Tighten the wire-clamps screws to prevent the DC wires coming loose.
- Take into consideration the following guidelines before wiring the device
  - The Input connector is suitable for 30-12 AWG (min.7.5A). Torque value 5-7 lb-in.
  - Please choose Copper wire.

Danger of explosion if battery is incorrectly replaced. Replace with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

ATTENTION
IL Y A RISQUE D'EXPLOSION SI LA BATTERIE EST REMPLACÉE PAR UNE BATTERIE DE TYPE INCORRECT.
METTRE AU REBUT LES BATTERIES USAGÉES CONFORMÉMENT AUX INSTRUCTIONS.

Safety Precautions

1. Read these safety instructions carefully.

2. Keep this User Manual for later reference.

3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.

4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.

5. Keep this equipment away from humidity.

6. Put this equipment on a stable surface during installation. Dropping it or letting it fall may cause damage.

7. The openings on the enclosure are for air convection to protect the equipment from overheating. DO NOT COVER THE OPENINGS.

8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.

9. Place the power cord in a way so that people will not step on it. Do not place anything on top of the power cord. Use a power cord that has been approved for use with the product and that it matches the voltage and current marked on the product's electrical range label. The voltage and current rating of the cord must be greater than the voltage and current rating marked on the product.

10. All cautions and warnings on the equipment should be noted.

11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.

12. Never pour any liquid into an opening. This may cause fire or electrical shock.

13. This equipment is not suitable for use in locations where children are likely to be present.

14. Ensure to connect the power cord to a socket-outlet with earthing connection.

15. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.

16. If one of the following situations arises, get the equipment checked by service personnel:
    a. The power cord or plug is damaged.
    b. Liquid has penetrated into the equipment.
    c. The equipment has been exposed to moisture.
    d. The equipment does not work well, or you cannot get it to work according to the user's manual.
    e. The equipment has been dropped and damaged.
    f. The equipment has obvious signs of breakage.

17. Do not place heavy objects on the equipment.

18. The unit uses a three-wire ground cable which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If your outlet does not support this kind of plug, contact your electrician to replace your obsolete outlet.

19. CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

Technical Support and Assistance

1. For the most updated information of NexAIoT products, visit NexAIoT's website at www.nexaiot.com.

2. For technical issues that require contacting our technical support team or sales representative, please have the following information ready before calling:
   – Product name and serial number
   – Detailed information of the peripheral devices
   – Detailed information of the installed software (operating system, version, application software, etc.)
   – A complete description of the problem
   – The exact wordings of the error messages

Warning!
1. Handling the unit: carry the unit with both hands and handle it with care.

2. Maintenance: to keep the unit clean, use only approved cleaning products or clean with a dry cloth.

Conventions Used in this Manual

Warning:
Information about certain situations, which if not observed, can cause personal injury. This will prevent injury to yourself when performing a task.

Caution:
Information to avoid damaging components or losing data.

Note:
Provides additional information to complete a task easily.

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Package Contents

Before continuing, verify that the package that you received is complete. Your TT 300-A Series package should have all the items listed in the following table.

Item	Part Number	Description	Specification
1	6014606898X00	LABEL BLANK WAI GHA	60x60mm ART PAPER CLW5
2	Z300000040X00	OUTSIDE BOX LABEL FOR STANDARD VER.A	60x60mm ART PAPER CLW5
3	60111A0887X00	OUTSIDE CARTON FOR TT300-F31 VER:A BOTH SQUERITY	350x280x300mm AB FLUTE 16KG
4	6013301557X00	EPE FOR TT300-F31 VER:A BOTH SQUERITY	280x300x112mm EPE FOAM
5	6012200198X00	PE BAG FOR APPC1940T SERIES VER:A MP	457x610mm T=0.08mm
6	6012200052X00	PE ZIPPER BAG #8 炎洲:印刷由任袋8號	170x240mm,W/China RoHS SYMBOL
7	6012200053X00	PE ZIPPER BAG #3 炎洲:印刷由任袋3號	100x70mm,W/China RoHS SYMBOL
8	4NCPM00302X00	(T)TERMINAL BLOCKS 3P PHOENIX CONTACT:1777992	5.08mm MALE DIP GREEN
9	50311F0098X00	(H)ROUND HEAD SCREW LONG FEI	P3x5mm TWIN WASHER 8mm NYLOK NI
10	5061711760X00	MINI PCI-E BRACKET FOR NISE106 SERIES VER:A ASDA	30x29x2.1mm SPCC T=1.0mm
11	50311F0295X00	FLAT HEAD SCREW LONG FEI:F2x4 NYLOK NIGP	F2x4 NIGP NYLOK
12	50311F0330X00	ROUND HEAD SCREW LONG FEI:P2x3 ISO+NYLON	P2x3 NI NYLOK
13	5061600245X00	WASHER KANGYANG:TW-320-01	10.4x6.4mm T=1mm NYLON BLACK
14	50344C0379X00	COPPER POST FOR NISE53 SERIES VER:A LONG FEI	WITH FEMALE/MALE (FEMALE)6mmx(MALE)5mmxM3
15	50311F0215X00	(H)I HEAD SCREW LONG FEI:I3x5ISO+NYLOK NIGP	I3x5 NI NYLOK
16	50311F0575X00	P HEAD SCREW W/WASHER LONG FEI	P3x10 ISO / OUTER TEETH NI
17	50311P0020X00	F HEAD SCREW KANG YANG:M3-6F(B)	M3x6mm PLASTICS
18	50311F0213X00	FLAT HEAD SCREW LONG FEI:F3x4ISO+NYLOK NIGP	F3x4 NI NYLOK

Ordering Information

The following information below provides ordering information for TT 300-A Series.

- **TT 300-A0Q barebone (P/N:10JT0030022X0)**
- **TT 300-A2Q barebone (P/N: 10JT0030023X0)**
- **TT 300-A3Q barebone (P/N: 10JT0030024X0)**
- **TT300-A3Q-1EP2 barebone (P/N: 10JT0030028X0)**
- **24V, 120W AC to DC power adapter w/o power cord (P/N: 7400120029X00)**
- **24V, 180W AC to DC power adapter w/o power cord (P/N: 7400180012X00)**

Chapter 1: Product Introduction

Overview:

TT 300-A0Q

TT 300-A2Q

TT 300-A3Q

Key Features

- Support 12/13th Gen Intel® Core™ i7/i5/i3 socket type processor
- Intel® Q670E PCH
- 2 x HDMI & 2 x DP
- 4 x USB 3.2, 2 x RS232/422/485, 2 x RS232 (TT300-A0Q)
- 4 x USB 3.2, 2 x RS232/422/485, 6 x RS232 (TT300-A2Q)
- 4 x USB 3.2, 2 x RS232/422/485, 2 x RS232 (TT300-A3Q)
- 1 x M.2 2280 Key M (PCIe x4, SATA)
- 1 x M.2 Key B 2242/3042/3052 (PCIe x1, USB 3.0, SATA)
- 1 x mini-PCIe (PCIe x1, USB 2.0, SATA)
- 2 x PCIe x4 (TT300-A2Q)
- 1 x PCIe x16 + 2 x PCIe x4 (TT300-A3Q)
- 1 x PCIe x16 + 2 x PCI (TT300-A3Q-1EP2)

Hardware Specifications:

CPU Support

- Support 13/12th Gen Intel® Core™ i7/i5/i3 socket type processor

Main Memory

- 1 x DDR5 4800MHz SO-DIMM socket, supports up to 32GB

Display Option

- Quad independent display
  - 2 x HDMI
  - 2 x DP

Front I/O Interface Status LEDs

- 2 x GPO status
- COM TX/RX LEDS

Front I/O Interface

- ATX power on/off switch
- 4 x USB 3.2 ports (4 x USB 3.2 Gen1)
- 2 x HDMI
- 2 x DP
- 2 x 1GbE LAN port with Intel® I226-V
- 4 x DB9 for COM1 to COM4
  - COM1/2: RS232/422/485 auto flow control
  - COM3/4: RS232
  - COM5/6/7/8: RS232 (TT 300-if A2Q)

Rear I/O Interface

- 6 x Antenna holes

Storage Device

- 2 x 2.5" SSD slots
- 1 x M.2 Key M 2280 (PCIe x4, SATA)
- 1 x M.2 Key B 2242/3042/3052 (PCIe x1, USB 3.0, SATA)
- 1 x Mini PCIe socket (PCIe x1, USB 2.0, SATA)

Expansion Slot

- 1 x PCIe x16 (TT300-A3Q only)
  - Add-on card length: 225mm max (w/ system fan)
  - Power consumption: 75W/slot max
- Two PCIe x4 or Two PCI (TT300-A3Q-1EP2 only)
  - Add-on card length: 169mm max
  - Power consumption: 25W/slot max
- 1 x Mini PCIe socket support optional mSATA/Wi-Fi/4G LTE
- 1 x Nano SIM card slot

Power Requirements

- AT/ATX power mode (default: ATX power mode)
- Power input: +24V DC in
- Power adapter: optional AC to DC power adapter (24V DC, 120W /180W)

Dimensions

- 200.2 (W) x 270 (D) x 141.8 (H) mm (TT300-A0Q)
- 200.2 (W) x 270 (D) x 141.8 (H) mm (TT300-A0Q)

Construction

- Aluminum and metal chassis with design

Environment

- Operating temperature:
  Ambient with air flow: -5°C to 50° (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 95% (non-condensing)
- Shock protection:
  - SSD: 20G, half sine, 11ms, IEC60068-2-27
  - M.2: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection with SSD & M.2 condition:
  - Random: 0.5Grms@5~500 Hz, IEC60068-2-64
  - Sinusoidal: 0.5Grms@5~500 Hz, IEC60068-2-6
- Vibration protection with SSD & M.2 condition:
  - Random: 2Grms@5~500 Hz, IEC60068-2-64
  - Sinusoidal: 2Grms@5~500 Hz, IEC60068-2-6

Certifications

- CE approval- EN61000-6-2- EN61000-6-4
- FCC Class A

OS Support

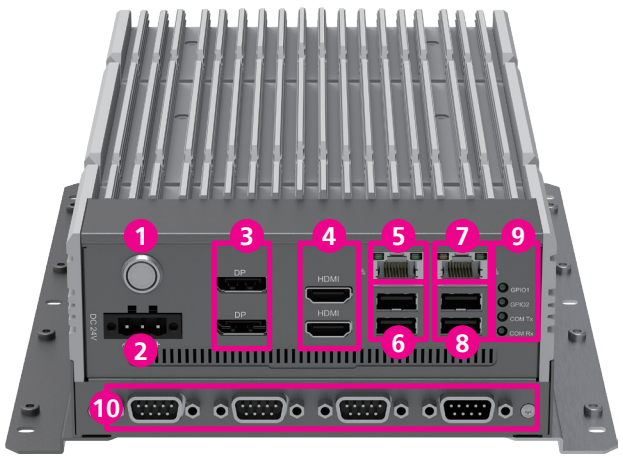
- Windows 10, 64-bit

Weight Information

- Gross weight: 5.9kg
- Net weight: 4.4kg

Knowing Your TT 300 Series

TT300-A0Q Front Panel



1. Power Switch
Press to turn the power on or off. Lights up in blue when the power is on.

2. 3-Pin DC-In (24VDC)
Plug a DC power cord.

3. DiplayPort 1.4a
Connect a monitor with a DisplayPort interface, supporting resolution up to 4k@60Hz.

4. HDMI 2.1
Connect a monitor with an HDMI interface, supporting resolution up to 4k@30Hz.

5. LAN1 Port
Connect the system to a local area network at speeds of up to 1GbE.

6. USB 3.2 Gen 1
Connect a USB device with data transfer speeds of up to 5Gbps.

7. LAN2 Port
Connect the system to a local area network at speeds of up to 1GbE.

8. USB 3.2 Gen 1
Connect a USB device with data transfer speeds of up to 5Gbps.

9. LED Indicator
9.1: GPIO1 (lights up in green when activated)
9.2: GPIO2 (lights up in green when activated)
9.3: COM Tx (only for COM Port on the motherboard)
9.4: COM Rx (only for COM Port on the motherboard)

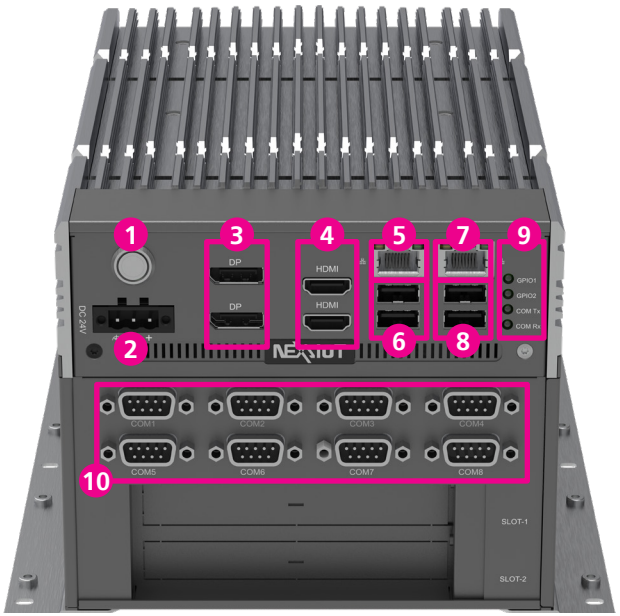
Continued on the next page

TT300-A0Q Rear Panel

10. COM Port (1~4)
Connect to a serial device.

11. Antenna Connectors
Used to install the external antennas.

TT300-A2Q Front Panel



1. Power Switch
Press to turn the power on or off. Lights up in blue when the power is on.

2. 3-Pin DC-In (24VDC)
Plug a DC power cord.

3. DiplayPort 1.4a
Connect a monitor with a DisplayPort interface, supporting resolution up to 4k@60Hz.

4. HDMI 2.1
Connect a monitor with an HDMI interface, supporting resolution up to 4k@30Hz.

5. LAN1 Port
Connect the system to a local area network at speeds of up to 1GbE.

6. USB 3.2 Gen 1
Connect a USB device with data transfer speeds of up to 5Gbps.

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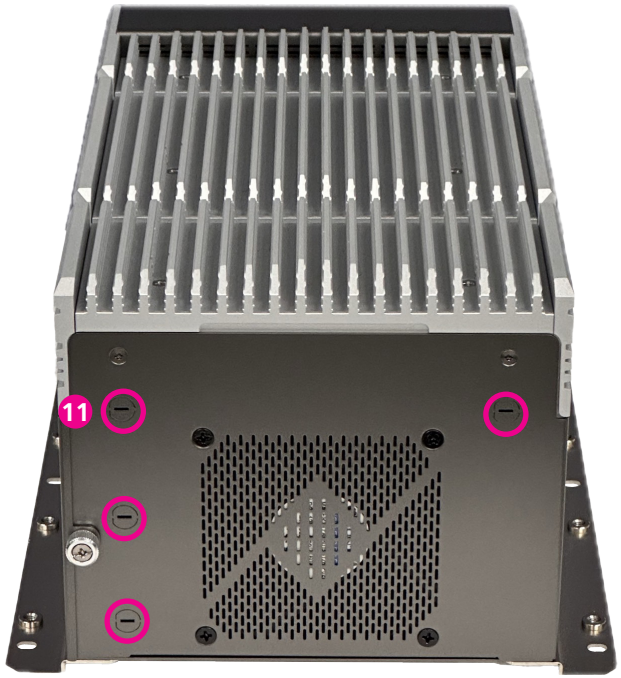
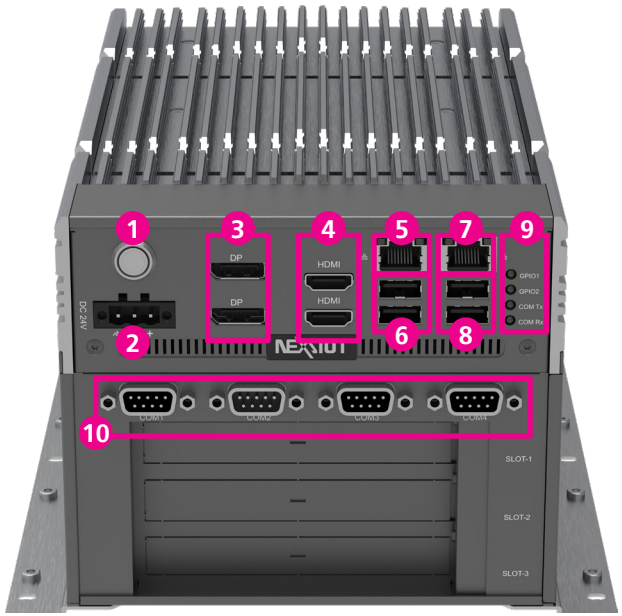
TT300-A2Q Rear Panel



10. COM Port (1~8)
Connect to a serial device.

11. Antenna Hole
Used to install an external antenna.

TT300-A3Q Front Panel



1. Power Switch
Press to turn the power on or off. Lights up in blue when the power is on.

2. 3-Pin DC-In (24VDC)
Plug a DC power cord.

3. DiplayPort 1.4a
Connect a monitor with a DisplayPort interface, supporting resolution up to 4k@60Hz.

4. HDMI 2.1
Connect a monitor with an HDMI interface, supporting resolution up to 4k@30Hz.

5. LAN1 Port
Connect the system to a local area network at speeds of up to 1GbE.

6. USB 3.2 Gen 1
Connect a USB device with data transfer speeds of up to 5Gbps.

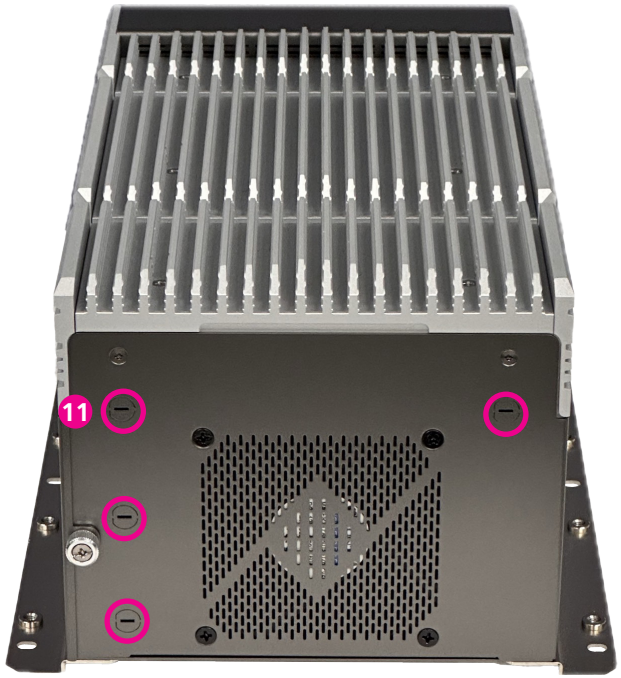
7. LAN2 Port
Connect the system to a local area network at speeds of up to 1GbE.

8. USB 3.2 Gen 1
Connect a USB device with data transfer speeds of up to 5Gbps.

9. LED Indicator
9.1: GPIO1 (lights up in green when activated)
9.2: GPIO2 (lights up in green when activated)
9.3: COM Tx (only for COM Port on the motherboard)
9.4: COM Rx (only for COM Port on the motherboard)

Continued on the next page

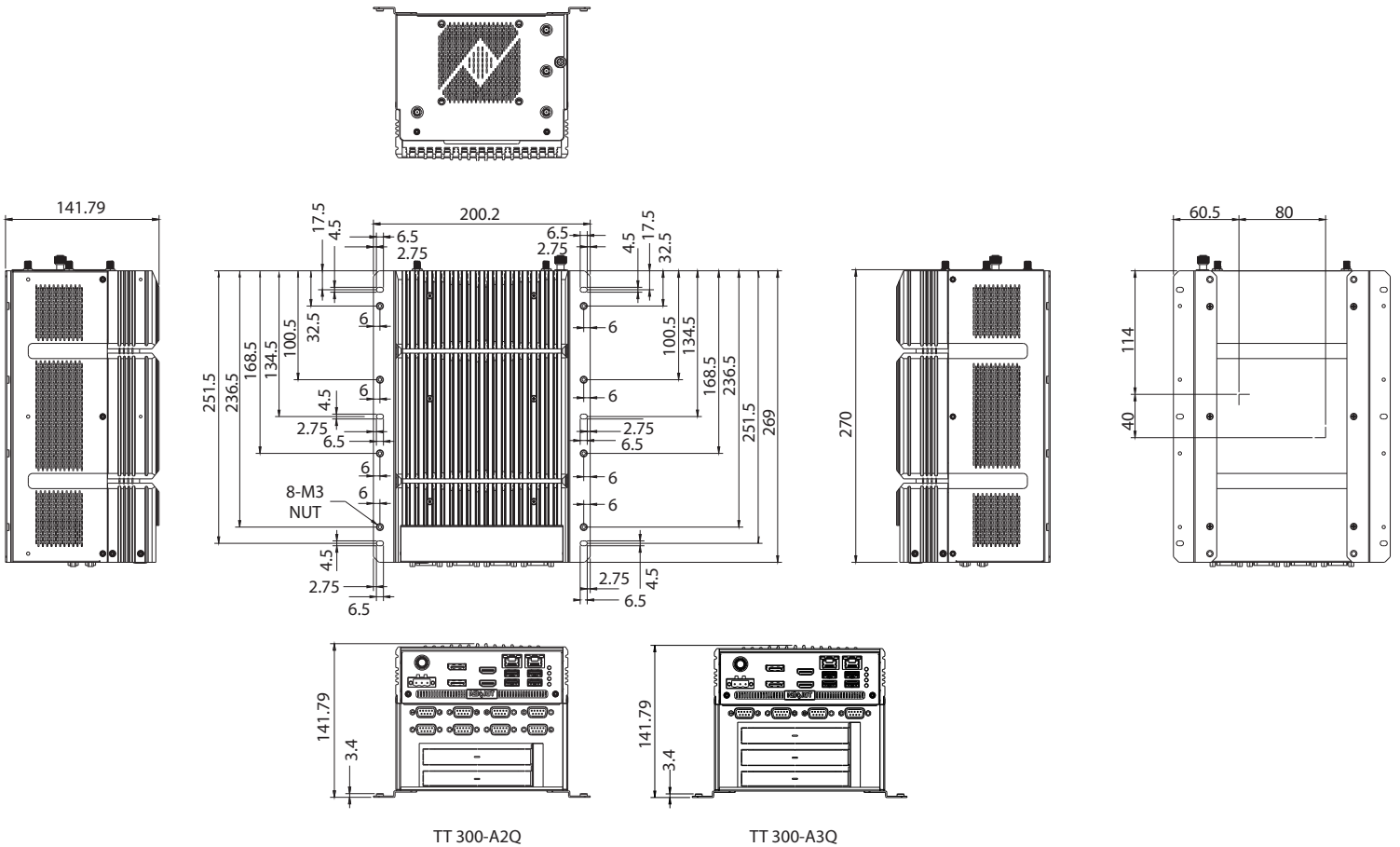
TT300-A3Q Rear Panel



10. COM Port (1~4)
Connect to a serial device.

11. Antenna Hole
Used to install an external antenna.

Mechanical Dimensions



Chapter 2: Jumpers and Connectors

This chapter describes how to set the jumpers and connectors on the TT 300-A Series motherboard.

Before You Begin

- Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.
- Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:
  - A Philips screwdriver
  - A flat-tipped screwdriver
  - A set of jewelers screwdrivers
  - A grounding strap
  - An anti-static pad
- Using your fingers can disconnect most of the connections. It is recommended that you do not use needle-nosed pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.
- Before working on internal components, make sure that the power is off. Ground yourself before touching any internal components, by touching a metal object. Static electricity can damage many of the electronic components. Humid environments tend to have less static electricity than dry environments. A grounding strap is warranted whenever danger of static electricity exists.

Precautions

Computer components and electronic circuit boards can be damaged by discharges of static electricity. Working on computers that are still connected to a power supply can be extremely dangerous.

Follow the guidelines below to avoid damage to your computer or yourself:

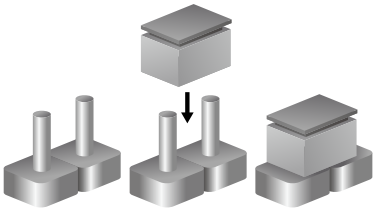
- Always disconnect the unit from the power outlet whenever you are working inside the case.
- If possible, wear a grounded wrist strap when you are working inside the computer case. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.
- Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Don't flex or stress the circuit board.
- Leave all components inside the static-proof packaging that they shipped with until they are ready for installation.
- Use correct screws and do not over tighten screws.

Jumper Settings

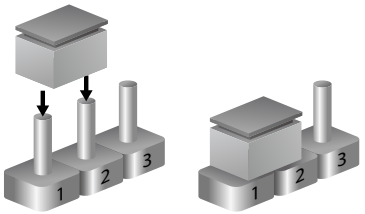
A jumper is the simplest kind of electric switch. It consists of two metal pins and a cap. When setting the jumpers, ensure that the jumper caps are placed on the correct pins. When the jumper cap is placed on both pins, the jumper is short. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is open.

Refer to the illustrations below for examples of what the 2-pin and 3-pin jumpers look like when they are short (on) and open (off).

Two-Pin Jumpers: Open (Left) and Short (Right)

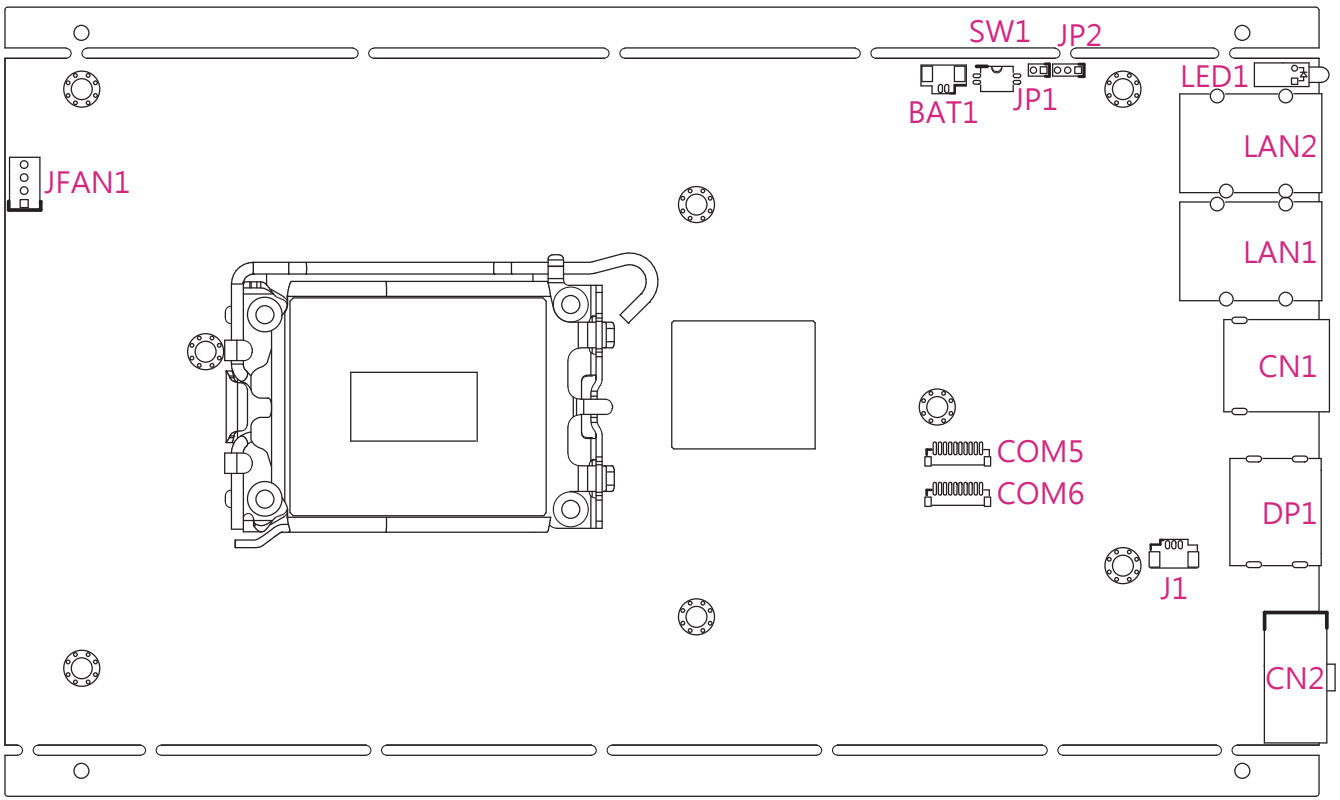


Three-Pin Jumpers: Pins 1 and 2 are Short

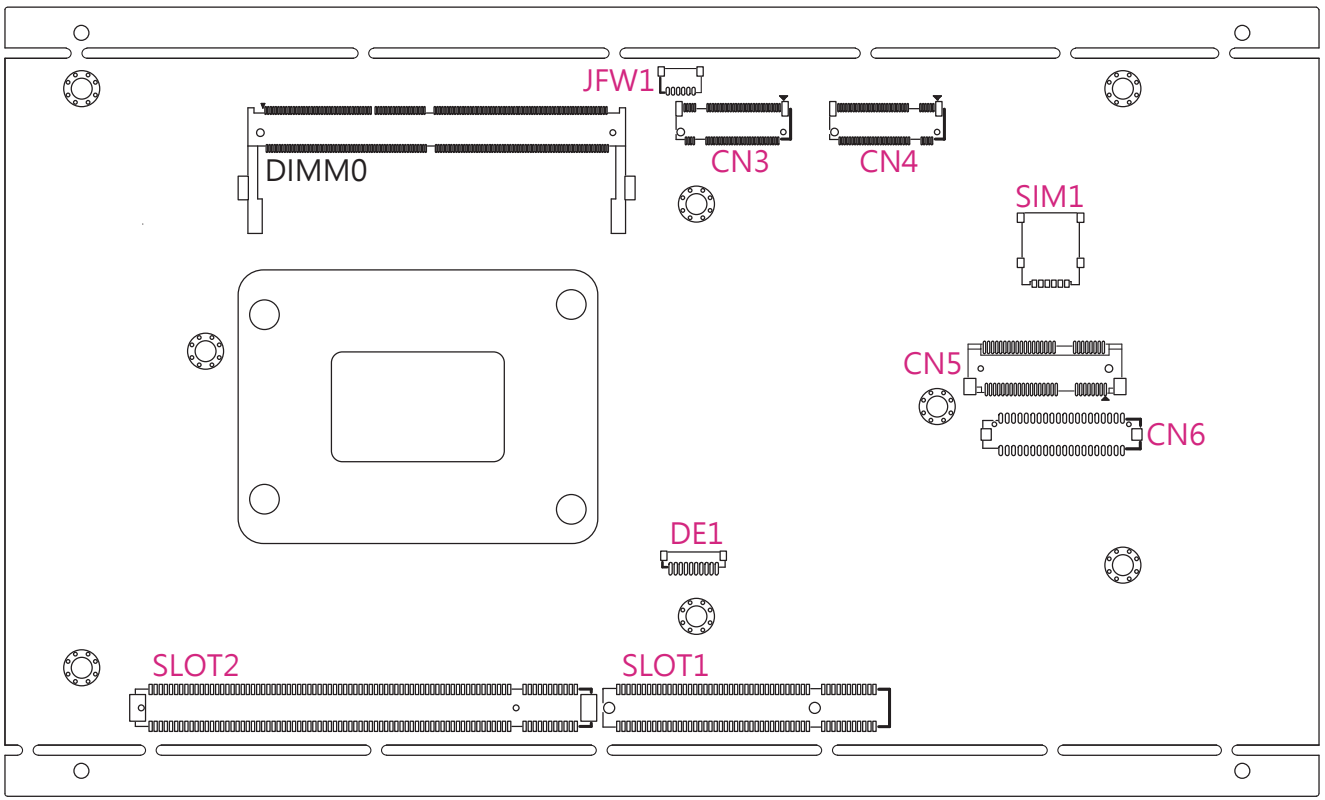


Locations of the Jumpers and Connectors for TT 300-A Series

Top View



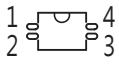
Bottom View



Jumpers

Clear CMOS

Connector location and type: SW1 / 25mA PIT: 1.27mm SMD



Pin	Definition
1	RTCRST_N
2	SRTCRST_N
3	GND
4	GND

Pin	Settings
1-2 Off	Normal (Default)
1-2 On	Clear CMOS

AT/ATX Mode Select Pin Header

Connector location and type: JP2 / 2.0mm MALE 180D DIP

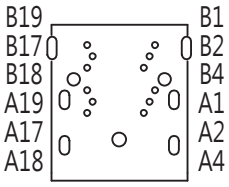
Pin	Definition
1	AT_PWRBT#
2	S_PWRBTN#
3	ATX_PWRBT#

Pin	Settings
1-2 On	AT Mode
2-3 On	ATX Mode (Default)

External Connector Pin Definitions

HDMI Connectors

Connector location: CN1

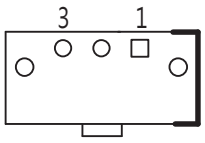


Pin	Definition	Pin	Definition
A1	HDMITX2P1	A2	GND
A3	HDMITX2N1	A4	HDMITX1P1
A5	GND	A6	HDMITX1N1
A7	HDMITX0P1	A8	GND
A9	HDMITX0N1	A10	HDMICLKP1
A11	GND	A12	HDMICLKN1
A15	HDMIDDCSCL	A16	HDMIDDCSDA
A17	GND	A18	VCC5HDMI
A19	HDMIHPD		

Pin	Definition	Pin	Definition
B1	HDMITX2P1_2	B2	GND
B3	HDMITX2N1_2	B4	HDMITX1P1_2
B5	GND	B6	HDMITX1N1_2
B7	HDMITX0P1_2	B8	GND
B9	HDMITX0N1_2	B10	HDMICLKP1_2
B11	GND	B12	HDMICLKN1_2
B15	HDMIDDCSCL_2	B16	HDMIDDCSDA_2
B17	GND	B18	VCC5HDMI_2
B19	HDMIHPD_2		

DC-IN Connector

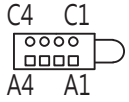
Connector location: CN2



Pin	Definition
1	VINPIN1
2	VINVSS
3	VINPIN3

LED Indicators

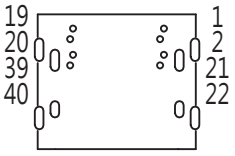
Connector location: LED1



Pin	Definition
A1	LED1+
C1	COM_RXLEDN
A2	LED2+
C2	COM_TXLEDN
A3	LED3+
C3	S_GP34
A4	LED4+
C4	S_GP33

DisplayPort Connectors

Connector location: DP1

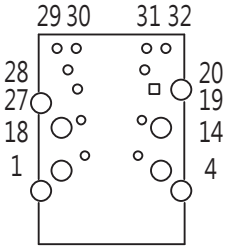


Pin	Definition	Pin	Definition
1	DP1TX0P	2	GND
3	DP1TX0N	4	DP1TX1P
5	GND	6	DP1TX1N
7	DP1TX2P	8	GND
9	DP1TX2N	10	DP1TX3P
11	GND	12	DP1TX3N
13	DP1CFG1	14	DP1CFG2
15	DP1AUXP	16	GND
17	DP1AUXN	18	DP1HPD
19	DP1RETURN	20	VCC3DP1

Pin	Definition	Pin	Definition
21	DP2TX0P	22	GND
23	DP2TX0N	24	DP2TX1P
25	GND	26	DP2TX1N
27	DP2TX2P	28	GND
29	DP2TX2N	30	DP2TX3P
31	GND	32	DP2TX3N
33	DP2CFG1	34	DP2CFG2
35	DP2AUXP	36	GND
37	DP2AUXN	38	DP2HPD
39	DP2RETURN	40	VCC3DP2

USB3.2 Gen1 + RJ45 Connector

Connector location: LAN1

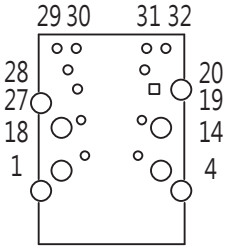


Pin	Definition	Pin	Definition
1	5VUSB1	2	USB2N_1
3	USB2P_1	4	GND
5	USB32_RXN1	6	USB32_RXP1
7	GND	8	USB32_TXN1
9	USB32_TXP1	10	5VUSB1
11	USB2N_2	12	USB2P_2
13	GND	14	USB32_RXN2
15	USB32_RXP2	16	GND
17	USB32_TXN2	18	USB32_TXP2
19	LAN1TCT	20	LAN1_MDIAP

Pin	Definition	Pin	Definition
21	LAN1_MDIAN	22	LAN1_MDIBP
23	LAN1_MDIBN	24	LAN1_MDICP
25	LAN1_MDICN	26	LAN1_MDIDP
27	LAN1_MDIDN	28	GND
29	LAN1_ACTPW	30	LAN1LEDACTN
31	LAN1_LED2500	32	LAN1_LED1GL
MH1	CHASIS_GND	MH2	CHASIS_GND
MH3	CHASIS_GND	MH4	CHASIS_GND
MH5	CHASIS_GND	MH6	CHASIS_GND
MH7	CHASIS_GND	MH8	CHASIS_GND

USB3.2 Gen1 + RJ45 Connector

Connector location: LAN2



Pin	Definition	Pin	Definition
1	5VUSB2	2	USB2N_3
3	USB2P_3	4	GND
5	USB32_RXN3	6	USB32_RXP3
7	GND	8	USB32_TXN3
9	USB32_TXP3	10	5VUSB2
11	USB2N_4	12	USB2P_4
13	GND	14	USB32_RXN4
15	USB32_RXP4	16	GND
17	USB32_TXN4	18	USB32_TXP4
19	LAN2TCT	20	LAN2_MDIAP

Pin	Definition	Pin	Definition
21	LAN2_MDIAN	22	LAN2_MDIBP
23	LAN2_MDIBN	24	LAN2_MDICP
25	LAN2_MDICN	26	LAN2_MDIDP
27	LAN2_MDIDN	28	GND
29	LAN2_ACTPW	30	LAN2LEDACTN
31	LAN2_LED2500	32	LAN2_LED1GL
MH1	CHASIS_GND	MH2	CHASIS_GND
MH3	CHASIS_GND	MH4	CHASIS_GND
MH5	CHASIS_GND	MH6	CHASIS_GND
MH7	CHASIS_GND	MH8	CHASIS_GND

Internal Connector Pin Definitions

RTC Battey Connector

Connector location and type: BAT1 / 1.25mm MALE 180D SMD

Pin	Definition
1	GND
2	3V_BAT1

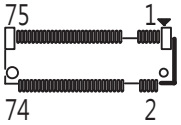
System Reset Pin Header

Connector location and type: JP1 / 2.0mm MALE 180D DIP

Pin	Definition
1	SYSRESETN
2	GND

M.2 Key M (PCIe/SATA) Connector

Connector location and type: CN3 / SMD H:8.5mm

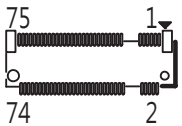


Pin	Definition	Pin	Definition
1	GND	2	M2MKEYPWR
3	GND	4	M2MKEYPWR
5	H_PCIEM2MRXN3	6	NC
7	H_PCIEM2MRXP3	8	NC
9	GND	10	M2SATADSSL
11	H_PCIEM2MTXN3	12	M2MKEYPWR
13	H_PCIEM2MTXP3	14	M2MKEYPWR
15	GND	16	M2MKEYPWR
17	H_PCIEM2MRXN2	18	M2MKEYPWR
19	H_PCIEM2MRXP2	20	NC
21	GND	22	NC
23	H_PCIEM2MTXN2	24	NC
25	H_PCIEM2MTXP2	26	NC
27	GND	28	NC
29	H_PCIEM2MRXN1	30	NC
31	H_PCIEM2MRXP1	32	NC
33	GND	34	NC
35	H_PCIEM2MTXN1	36	NC
37	H_PCIEM2MTXP1	38	DEVSLP_0

Pin	Definition	Pin	Definition
39	GND	40	NC
41	PCIE_mSATA_RXN_R	42	NC
43	PCIE_mSATA_RXP_R	44	NC
45	GND	46	NC
47	PCIE_mSATA_TXN_R	48	NC
49	PCIE_mSATA_TXP_R	50	M2M_PLTRSTN
51	GND	52	SRCCLKREQ7L
53	CLK_PCIE_M2M_N	54	I_WAKEN
55	CLK_PCIE_M2M_P	56	NC
57	GND	58	NC
59		60	
61		62	
63		64	
65		66	
67	NC	68	M2MSUSCLK
69	PCIE_mSATA_SEL	70	M2MKEYPWR
71	GND	72	M2MKEYPWR
73	GND	74	M2MKEYPWR
75	GND		

M.2 Key B (PCIe/SATA_USB3.0_USB2.0) Connector

Connector location and type: CN4 / SMD H:8.5mm 90D

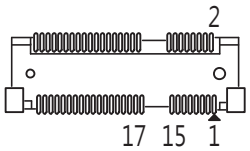


Pin	Definition	Pin	Definition
1	GND	2	M2LTEPWR
3	GND	4	M2LTEPWR
5	GND	6	M2POWEROFF
7	USB_M2B_DP	8	M2LTEDISL
9	USB_M2B_DN	10	M2SATADSSL
11	GND	12	
13		14	
15		16	
17		18	
19		20	NC
21	M2LTECONFIG0	22	NC
23	NC	24	NC
25	NC	26	NC
27	GND	28	BKEY_UIM_VPP
29	USB_M2B_RXN	30	BKEY_UIM_RESET
31	USB_M2B_RXP	32	BKEY_UIM_CLK
33	GND	34	BKEY_UIM_DATA
35	USB_M2B_TXN	36	BKEY_UIM_PWR
37	USB_M2B_TXP	38	NC

Pin	Definition	Pin	Definition
39	GND	40	NC
41	NGFF_PE_SSD_RXP1	42	NC
43	NGFF_PE_SSD_RXN1	44	NC
45	GND	46	NC
47	NGFF_PE_SSD_TXN1	48	NC
49	NGFF_PE_SSD_TXP1	50	M2B_PLTRSTN
51	GND	52	SRCCLKREQ3L_M2B
53	CLK_PCIE_M2B_N	54	I_WAKEN
55	CLK_PCIE_M2B_P	56	NC
57	GND	58	NC
59	NC	60	NC
61	NC	62	NC
63	NC	64	NC
65	NC	66	NC
67	M2LTERSTL	68	M2SUSCLK
69	M2LTECONFIG1	70	M2LTEPWR
71	GND	72	M2LTEPWR
73	GND	74	M2LTEPWR
75	M2LTECONFIG2		

MINI PCIe Connector

Connector location and type: CN5 / H: 8mm 90D 3u SMD

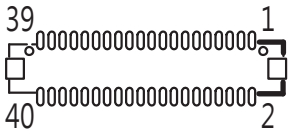


Pin	Definition	Pin	Definition
1	I_WAKEN	27	GND
2	3VSBMINIPCIE	28	1V5MINIPCIE
3	N/A	29	GND
4	GND	30	SMB_CLK
5	N/A	31	PCIE_mSATA_TXN_1R
6	1V5MINIPCIE	32	SMB_DATA
7	SRCCLKREQ2L_MINIPCIE	33	PCIE_mSATA_TXP_1R
8	UIM_PWR	34	GND
9	GND	35	GND
10	UIM_DATA	36	USB2_DN7
11	CLK_PCIE_MINIPCIE_N	37	GND
12	UIM_CLK	38	USB2_DP7
13	CLK_PCIE_MINIPCIE_P	39	3VSBMINIPCIE

Pin	Definition	Pin	Definition
14	UIM_RESET	40	GND
15	GND	41	3VSBMINIPCIE
16	UIM_VPP	42	N/A
17	N/A	43	GND
18	GND	44	N/A
19	N/A	45	N/A
20	MINICARD2DIS#	46	N/A
21	GND	47	N/A
22	MINIPCIEPERSTN	48	1V5MINIPCIE
23	PCIE_mSATA_RXN_1R	49	N/A
24	3VSBMINIPCIE	50	GND
25	PCIE_mSATA_RXP_1R	51	PCIE_mSATA_SEL_1
26	GND	52	3VSBMINIPCIE

4x1 COM Port Connector

Connector location and type: CN6 / 1.25mm FEMALE 180D SMD



Pin	Definition	Pin	Definition
1	NC	2	NC
3	NC	4	NC
5	COM1_DTRL	6	COM3_DTRL
7	COM1_RTSL	8	COM3_RTSL
9	COM1_TXD	10	COM3_TXD
11	COM1_DCDL	12	COM3_DCDL
13	COM1_CTSL	14	COM3_CTSL
15	COM1_DSRL	16	COM3_DSRL
17	COM1_RXD	18	COM3_RXD
19	COM1_RIL	20	COM3_RIL

Pin	Definition	Pin	Definition
21	GND	22	GND
23	COM2_RTSL	24	COM4_RTSL
25	COM2_TXD	26	COM4_TXD
27	COM2_DTRL	28	COM4_DTRL
29	COM2_DCDL	30	COM4_DCDL
31	COM2_CTSL	32	COM4_CTSL
33	COM2_DSRL	34	COM4_DSRL
35	COM2_RXD	36	COM4_RXD
37	COM2_RIL	38	COM4_RIL
39	GND	40	GND

COM5 Connector (Optional)

Connector location and type: COM5 / 1.0mm MALE 180D 0.5A SMD

Pin	Definition	Pin	Definition
1	COM5_DCDL	2	COM5_RXD
3	COM5_TXD	4	COM5_DTRL
5	GND	6	COM5_DSRL
7	COM5_RTSL	8	COM5_CTSL
9	COM5_RIL	10	GND

COM6 Connector (Optional)

Connector location and type: COM6 / 1.0mm MALE 180D 0.5A SMD

Pin	Definition	Pin	Definition
1	COM6_DCDL	2	COM6_RXD
3	COM6_TXD	4	COM6_DTRL
5	GND	6	COM6_DSRL
7	COM6_RTSL	8	COM6_CTSL
9	COM6_RIL	10	GND

Debug Connector

Connector location and type: DE1 / 1.0mm MALE 180D 0.5A SMD

Pin	Definition	Pin	Definition
1	GND	6	I_ESPIIO2
2	I_PLTRSTN	7	I_ESPIIO1
3	I_ESPICLK	8	I_ESPIIO0
4	I_ESPICS0L	9	I_ESPIRSTL
5	I_ESPIIO3	10	3VSB
MH1	GND	MH2	GND

Power Button Connector

Connector location and type: J1 / 1.25mm MALE 180D SMD

Pin	Definition
1	PBT_PU
2	GND
3	PB_POWER

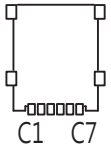
BIOS FW Connector

Connector location and type: JFW1 / 1.0mm MALE 90D 0.5A SMD

Pin	Definition
1	BIOSSPISI
2	BIOSSPISO
3	BIOSSPICLK
4	BIOSSPICSL0
5	GND
6	VSPI

SIM Card Slot

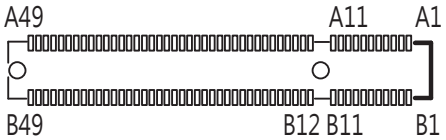
Connector location and type: SIM1 / 12.4x14x1.5mm SMD NO PUSH TYPE



Pin	Definition	Pin	Definition
C1	UIM_PWR	C2	UIM_RESET
C3	UIM_CLK	C5	GND
C6	UIM_VPP	C7	UIM_DATA
MH1	N/A	MH2	N/A
MH3	N/A	MH4	N/A

PCIe x8 Slot

Connector location and type: SLOT1 / SMD H:11.1mm 180D 15u



Pin	Definition	Pin	Definition
A1	VIN	A2	VIN
A3	VIN	A4	VIN
A5	VCC5	A6	VCC5
A7	VCC5	A8	VCC5
A9	1V8SB	A10	1V8SB
A11	I_PLTRSTN	A12	GND
A13	CLK_PCIE_SLOT1_P	A14	CLK_PCIE_SLOT1_N
A15	GND	A16	I_SATATXP3
A17	I_SATATXN3	A18	GND
A19	I_SATARXN3	A20	I_SATARXP3
A21	GND	A22	NC
A23	NC	A24	NC
A25	GND	A26	PCIEX8_SLOT1_RXP

Pin	Definition	Pin	Definition
A27	PCIEX8_SLOT1_RXN	A28	GND
A29	PCIE22_SLOT_RXP	A30	PCIE22_SLOT_RXN
A31	GND	A32	PCIE23_SLOT_RXP
A33	PCIE23_SLOT_RXN	A34	GND
A35	PCIE24_SLOT_RXP	A36	PCIE24_SLOT_RXN
A37	GND	A38	PCIEX8_SLOT2_RXP
A39	PCIEX8_SLOT2_RXN	A40	GND
A41	PCIE26_SLOT_RXP	A42	PCIE26_SLOT_RXN
A43	GND	A44	PCIE27_SLOT_RXP
A45	PCIE27_SLOT_RXN	A46	GND
A47	PCIE28_SLOT_RXP	A48	PCIE28_SLOT_RXN
A49	GND		

Continued on the next page

Pin	Definition	Pin	Definition
B1	VIN	B2	VIN
B3	VIN	B4	GND
B5	SMB_CLK	B6	SMB_DATA
B7	GND	B8	5VSB
B9	5VSB	B10	5VSB
B11	I_WAKEN	B12	GND
B13	CLK_PCIE_SLOT2_P	B14	CLK_PCIE_SLOT2_N
B15	GND	B16	12VSB
B17	12VSB	B18	12VSB
B19	12VSB	B20	12VSB
B21	12VSB	B22	NC
B23	NC	B24	NC
B25	GND	B26	PCIEX8_SLOT1_TXP

Pin	Definition	Pin	Definition
B27	PCIEX8_SLOT1_TXN	B28	GND
B29	PCIE22_SLOT_TXP	B30	PCIE22_SLOT_TXN
B31	GND	B32	PCIE23_SLOT_TXP
B33	PCIE23_SLOT_TXN	B34	GND
B35	PCIE24_SLOT_TXP	B36	PCIE24_SLOT_TXN
B37	GND	B38	PCIEX8_SLOT2_TXP
B39	PCIEX8_SLOT2_TXN	B40	GND
B41	PCIE26_SLOT_TXP	B42	PCIE26_SLOT_TXN
B43	GND	B44	PCIE27_SLOT_TXP
B45	PCIE27_SLOT_TXN	B46	GND
B47	PCIE28_SLOT_TXP	B48	PCIE28_SLOT_TXN
B49	GND		

PCIe x16 Slot

Connector location and type: SLOT2 / H: 10.66mm 180D 15u SMD

Pin	Definition	Pin	Definition
A1	VIN	A2	VIN
A3	VIN	A4	VIN
A5	SATA_TXP3	A6	SATA_TXN3
A7	GND	A8	VCC3
A9	VCC3	A10	VCC3
A11	I_PLTRSTN	A12	GND
A13	CLK_PCIEX16_SLOT_P	A14	CLK_PCIEX16_SLOT_N
A15	GND	A16	I_ESPIALERT0L
A17	I_ESPICS0L	A18	I_ESPIIO0
A19	I_ESPIIO1	A20	I_ESPIIO2
A21	I_ESPIIO3	A22	NC
A23	I_ESPICLK	A24	CLK_RUNL
A25	I_ESPIRSTL	A26	VCCRTC

Pin	Definition	Pin	Definition
A27	H_PECI	A28	NC
A29	PCH_RSMRST_N	A30	S_PMEL
A31	I_SLPS3_N	A32	I_SLPS4_N
A33	I_SLPS5_N	A34	GND
A35	PEG_RXP15	A36	PEG_RXN15
A37	GND	A38	PEG_RXP14
A39	PEG_RXN14	A40	GND
A41	PEG_RXP12	A42	PEG_RXN13
A43	GND	A44	PEG_RXP12
A45	PEG_RXN12	A46	GND
A47	PEG_RXP11	A48	PEG_RXN11
A49	GND	A50	PEG_RXP10
A51	PEG_RXN10	A52	GND

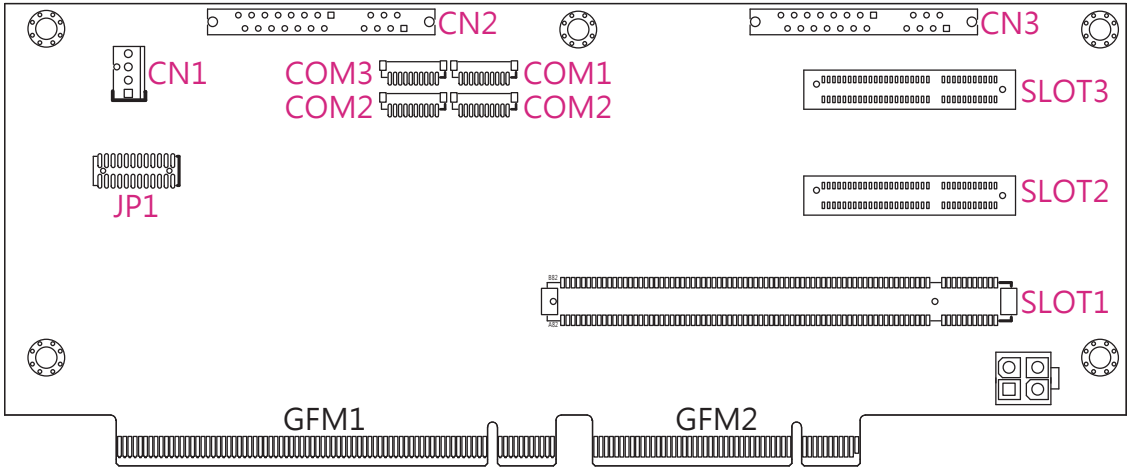
Continued on the next page

Pin	Definition	Pin	Definition
A53	PEG_RXP9	A54	PEG_RXN9
A55	GND	A56	PEG_RXP8
A57	PEG_RXN8	A58	GND
A59	PEG_RXP7	A60	PEG_RXN7
A61	GND	A62	PEG_RXP6
A63	PEG_RXN6	A64	GND
A65	PEG_RXP5	A66	PEG_RXN5
A67	GND	A68	PEG_RXP4
A69	PEG_RXN4	A70	GND
A71	PEG_RXP3	A72	PEG_RXN3
A73	GND	A74	PEG_RXP2
A75	PEG_RXN2	A76	GND
A77	PEG_RXP1	A78	PEG_RXN1
A79	GND	A80	PEG_RXP0
A81	PEG_RXN0	A82	GND
B1	VIN	B2	VIN
B3	VIN	B4	VIN
B5	SATA_RXN3	B6	SATA_RXP3
B7	GND	B8	3VSB
B9	3VSB	B10	3VSB
B11	3VSB	B12	FAN_TAC1
B13	FAN_CTL1	B14	S_GP31
B15	S_GP32	B16	3V3ALW
B17	24V_EN	B18	NC
B19	I_ESPIALERT1L	B20	I_ESPICS1L

Pin	Definition	Pin	Definition
B21	NC	B22	FAN_TAC2
B23	FAN_CTL2	B24	NC
B25	I_ESPIALERT2L	B26	I_ESPICS2L
B27	NC	B28	RISER_CARD_INL
B29	S_GP30	B30	NC
B31	NC	B32	NC
B33	NC	B34	GND
B35	PEG_TXP15	B36	PEG_TXN15
B37	GND	B38	PEG_TXP14
B39	PEG_TXN14	B40	GND
B41	PEG_TXP13	B42	PEG_TXN13
B43	GND	B44	PEG_TXP12
B45	PEG_TXN12	B46	GND
B47	PEG_TXP11	B48	PEG_TXN11
B49	GND	B50	PEG_TXP10
B51	PEG_TXN10	B52	GND
B53	PEG_TXP9	B54	PEG_TXN9
B55	GND	B56	PEG_TXP8
B57	PEG_TXN8	B58	GND
B59	PEG_TXP7	B60	PEG_TXN7
B61	GND	B62	PEG_TX6
B63	PEG_TXN6	B64	GND
B65	PEG_TXP5	B66	PEG_TXN5
B67	GND	B68	PEG_TXP4

Locations of Connectors for TT 300-A Series Riser Card

Top View



Internal Connector Pin Definitions of Riser Card

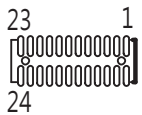
Fan Connector

Connector location and type: CN1 / 2.54mm MALE 180D DIP

Pin	Definition	Pin	Definition
1	GND	2	VCC12
3	FAN1TACH	4	FAN1PWM

GPIO Connector

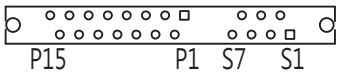
Connector location and type: JP1 / SMD 1.27mm MALE 180D



Pin	Definition	Pin	Definition
1	VCC5	2	GND
3	SGPI1	4	SGPO1
5	SGPI2	6	SGPO2
7	SGPI3	8	SGPO3
9	SGPI4	10	SGPO4
11	SGPI5	12	SGPO5
13	SGPI6	14	SGPO6
15	SGPI7	16	SGPO7
17	SGPI8	18	SGPO8
19	NC	20	NC
21	NC	22	NC
23	NC	24	NC

SATA Connectors

Connector location and type: CN2 and CN3 / 1.27mm H:9mm FEMALE DIP



CN2

Pin	Definition	Pin	Definition
S1	GND	S2	SATA_TXP3
S3	SATA_TXN3	S4	GND
S5	SATA_RXN3	S6	SATA_RXP3
S7	GND		
P1	VCC3	P2	VCC3
P3	VCC3	P4	GND
P5	GND	P6	GND
P7	VCC5	P8	VCC5
P9	VCC5	P10	GND
P11	NC	P12	GND
P13	VCC12	P14	VCC12
P15	VCC12		

CN3

Pin	Definition	Pin	Definition
S1	GND	S2	SATA_TXP2
S3	SATA_TXN2	S4	GND
S5	SATA_RXN2	S6	SATA_RXP2
S7	GND		
P1	VCC3	P2	VCC3
P3	VCC3	P4	GND
P5	GND	P6	GND
P7	VCC5	P8	VCC5
P9	VCC5	P10	GND
P11	NC	P12	GND
P13	VCC12	P14	VCC12
P15	VCC12		

COM Port Connectors

Connector location and type: COM1~4 / 1.0mm MALE 180D 0.5A SMD

COM1

Pin	Definition	Pin	Definition
1	COM_DCD#1	2	COM_RXD1
3	COM_TXD1	4	COM_DTR#1
5	GND	6	COM_DSR#1
7	COM_RTS#1	8	COM_CTS#1
9	COM_RI#1	10	GND

COM3

Pin	Definition	Pin	Definition
1	COM_DCD#3	2	COM_RXD3
3	COM_TXD3	4	COM_DTR#3
5	GND	6	COM_DSR#3
7	COM_RTS#3	8	COM_CTS#3
9	COM_RI#3	10	GND

COM2

Pin	Definition	Pin	Definition
1	COM_DCD#2	2	COM_RXD2
3	COM_TXD2	4	COM_DTR#2
5	GND	6	COM_DSR#2
7	COM_RTS#2	8	COM_CTS#2
9	COM_RI#2	10	GND

COM4

Pin	Definition	Pin	Definition
1	COM_DCD#4	2	COM_RXD4
3	COM_TXD4	4	COM_DTR#4
5	GND	6	COM_DSR#4
7	COM_RTS#4	8	COM_CTS#4
9	COM_RI#4	10	GND

PCIe x16 Slot

Connector location and type: SLOT1 / SMD H:10.66mm 180D 15u

Pin	Definition	Pin	Definition
A1	GND	B1	VCC12
A2	VCC12	B2	VCC12
A3	VCC12	B3	VCC12
A4	GND	B4	GND
A5	TCK	B5	SMB_CLK
A6	TDI	B6	SMB_DATA
A7	GND	B7	GND
A8	TMS	B8	VCC3
A9	VCC3	B9	JTAG1
A10	VCC3	B10	3VSB
A11	PCIEX8PLTRSTN	B11	I_WAKEN
A12	GND	B12	NC
A13	I_CLKOUTPCIEP10	B13	GND
A14	I_CLKOUTPCIEN10	B14	PEG_TXP0

Pin	Definition	Pin	Definition
A15	GND	B15	PEG_TXN0
A16	PEG_RXP0	B16	GND
A17	PEG_RXN0	B17	PRSNT2_1
A18	GND	B18	GND
A19	NC	B19	PEG_TXP1
A20	GND	B20	PEG_TXN1
A21	PEG_RXP1	B21	GND
A22	PEG_RXN1	B22	GND
A23	GND	B23	PEG_TXP2
A24	GND	B24	PEG_TXN2
A25	PEG_RXP2	B25	GND
A26	PEG_RXN2	B26	GND
A27	GND	B27	PEG_TXP3
A28	GND	B28	PEG_TXN3

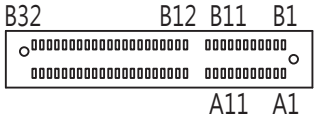
Continued on the next page

Pin	Definition	Pin	Definition
A29	PEG_RXP3	B29	GND
A30	PEG_RXN3	B30	NC
A31	GND	B31	PRSNT2_2
A32	NC	B32	GND
A33	NC	B33	PEG_TXP4
A34	GND	B34	PEG_TXN4
A35	PEG_RXP4	B35	GND
A36	PEG_RXN4	B36	GND
A37	GND	B37	PEG_TXP5
A38	GND	B38	PEG_TXN5
A39	PEG_RXP5	B39	GND
A40	PEG_RXN5	B40	GND
A41	GND	B41	PEG_TXP6
A42	GND	B42	PEG_TXN6
A43	PEG_RXP6	B43	GND
A44	PEG_RXN6	B44	GND
A45	GND	B45	PEG_TXP7
A46	GND	B46	PEG_TXN7
A47	PEG_RXP7	B47	GND
A48	PEG_RXN7	B48	PRSNT2_3
A49	GND	B49	GND
A50	NC	B50	PEG_TXP8
A51	GND	B51	PEG_TXN8
A52	PEG_RXP8	B52	GND
A53	PEG_RXN8	B53	GND
A54	GND	B54	PEG_TXP9
A55	GND	B55	PEG_TXN9

Pin	Definition	Pin	Definition
A56	PEG_RXP9	B56	GND
A57	PEG_RXN9	B57	GND
A58	GND	B58	PEG_TXP10
A59	GND	B59	PEG_TXN10
A60	PEG_RXP10	B60	GND
A61	PEG_RXN10	B61	GND
A62	GND	B62	PEG_TXP11
A63	GND	B63	PEG_TXN11
A64	PEG_RXP11	B64	GND
A65	PEG_RXN11	B65	GND
A66	GND	B66	PEG_TXP12
A67	GND	B67	PEG_TXN12
A68	PEG_RXP12	B68	GND
A69	PEG_RXN12	B69	GND
A70	GND	B70	PEG_TXP13
A71	GND	B71	PEG_TXN13
A72	PEG_RXP13	B72	GND
A73	PEG_RXN13	B73	GND
A74	GND	B74	PEG_TXP14
A75	GND	B75	PEG_TXN14
A76	PEG_RXP14	B76	GND
A77	PEG_RXN14	B77	GND
A78	GND	B78	PEG_TXP15
A79	GND	B79	PEG_TXN15
A80	PEG_RXP15	B80	GND
A81	PEG_RXN15	B81	PRSNT2_4
A82	GND	B82	NC

PCIe x4 Slot

Connector location and type: SLOT2 / SMD H:7.98mm 180D 30u

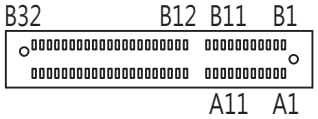


Pin	Definition	Pin	Definition
A1	GND	A17	H_PCIERXN7
A2	VCC12	A18	GND
A3	VCC12	A19	NC
A4	GND	A20	GND
A5	JTAG2	A21	H_PCIERXP7_1
A6	JTAG3	A22	H_PCIERXN7_1
A7	NC	A23	GND
A8	JTAG5	A24	GND
A9	VCC3	A25	H_PCIERXP7_2
A10	VCC3	A26	H_PCIERXN7_2
A11	PCIEX8PLTRSTN	A27	GND
A12	GND	A28	GND
A13	I_CLKOUTPCIEP11	A29	H_PCIERXP7_3
A14	I_CLKOUTPCIEN11	A30	H_PCIERXN7_3
A15	GND	A31	GND
A16	H_PCIERXP7	A32	NC

Pin	Definition	Pin	Definition
B1	VCC12	B17	PRSNT2_1
B2	VCC12	B18	GND
B3	VCC12	B19	H_PCIETXP7_1
B4	GND	B20	H_PCIETXN7_1
B5	SMB_CLK	B21	GND
B6	SMB_DATA	B22	GND
B7	GND	B23	H_PCIETXP7_2
B8	VCC3	B24	H_PCIETXN7_2
B9	JTAG1	B25	GND
B10	3VSB	B26	GND
B11	I_WAKEN	B27	H_PCIETXP7_3
B12	NC	B28	H_PCIETXN7_3
B13	GND	B29	GND
B14	H_PCIETXP7	B30	NC
B15	H_PCIETXN7	B31	PRSNT2_2
B16	GND	B32	GND

PCIe x4 Slot

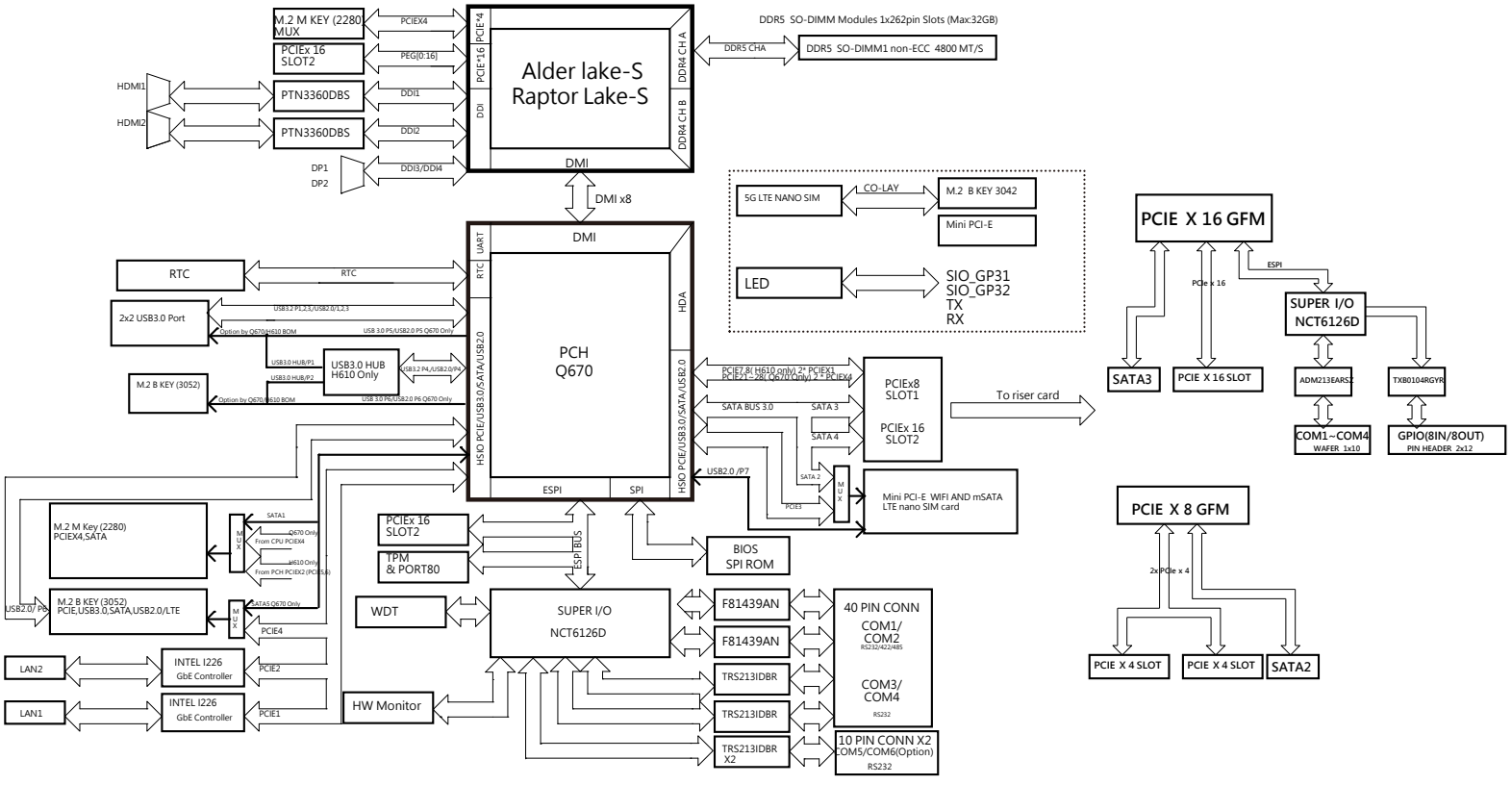
Connector location and type: SLOT3 / SMD H:7.98mm 180D 30u



Pin	Definition	Pin	Definition
A1	GND	A17	H_PCIERXN6
A2	VCC12	A18	GND
A3	VCC12	A19	NC
A4	GND	A20	GND
A5	JTAG2	A21	H_PCIERXP6_1
A6	JTAG3	A22	H_PCIERXN6_1
A7	NC	A23	GND
A8	JTAG5	A24	GND
A9	VCC3	A25	H_PCIERXP6_2
A10	VCC3	A26	H_PCIERXN6_2
A11	PCIEX8PLTRSTN	A27	GND
A12	GND	A28	GND
A13	I_CLKOUTPCIEP9	A29	H_PCIERXP6_3
A14	I_CLKOUTPCIEN9	A30	H_PCIERXN6_3
A15	GND	A31	GND
A16	H_PCIERXP6	A32	NC

Pin	Definition	Pin	Definition
B1	VCC12	B17	PRSNT2_1
B2	VCC12	B18	GND
B3	VCC12	B19	H_PCIETXP6_1
B4	GND	B20	H_PCIETXN6_1
B5	SMB_CLK	B21	GND
B6	SMB_DATA	B22	GND
B7	GND	B23	H_PCIETXP6_2
B8	VCC3	B24	H_PCIETXN6_2
B9	JTAG1	B25	GND
B10	3VSB	B26	GND
B11	I_WAKEN	B27	H_PCIETXP6_3
B12	NC	B28	H_PCIETXN6_3
B13	GND	B29	GND
B14	H_PCIETXP6	B30	NC
B15	H_PCIETXN6	B31	PRSNT2_2
B16	GND	B32	GND

Block Diagram



Chapter 3: System Setup

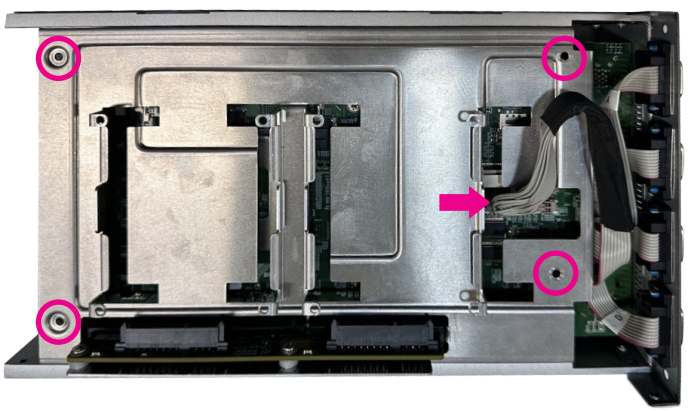
Prior to removing the chassis cover, make sure the unit's power is off and disconnected from the power sources to prevent electric shock or system damage.

The system images depicted in this chapter are provided for illustrative purposes only. While they represent products within the same series, the actual appearance of the system may vary depending on the specific shipment.

Removing the Chassis Cover (A0Q)

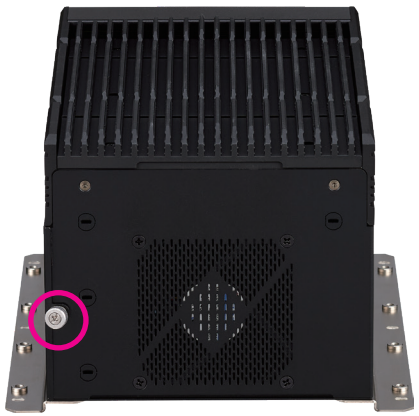
1. Remove the screws as shown in the images below.

2. After removing the top chassis, disconnect the COM port cable from the connector indicated by the pink arrow. Next, remove the partition bracket and riser by loosening the screws highlighted by the pink circles.

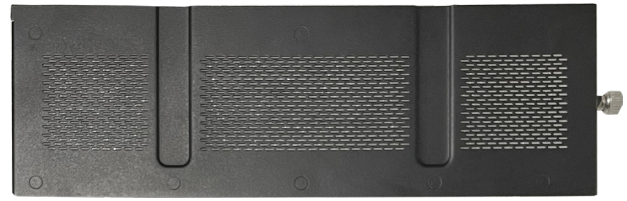


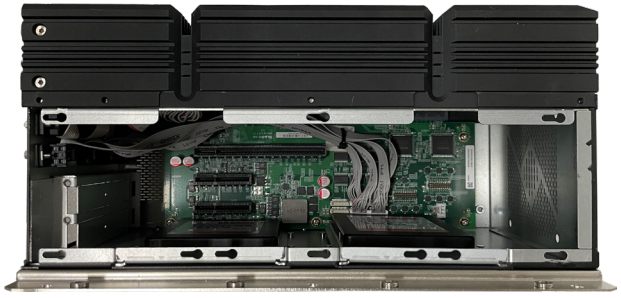
Removing the Chassis Cover (A2Q/A3Q)

1. Remove the thumb screw on the side of the chassis cover.

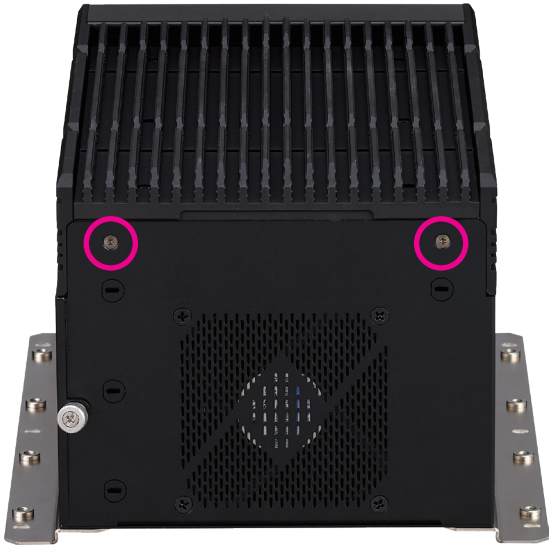


2. With the screw removed, push the cover to the right and remove it from the chassis.

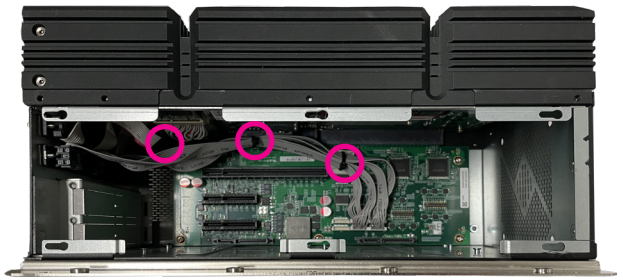




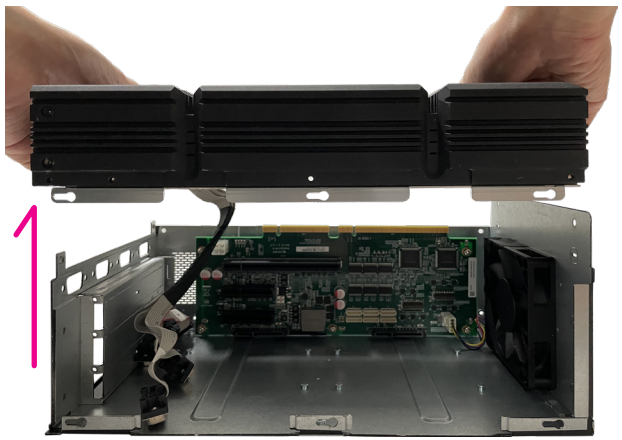
3. Remove the screws and copper posts from the chassis.



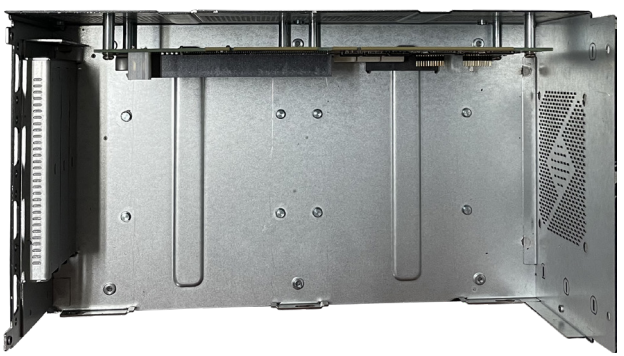
4. Remove the cable ties from the cables of the board's COM ports.



5. With the screws, copper posts, and cable removed, lift up the cover and remove it from the chassis.



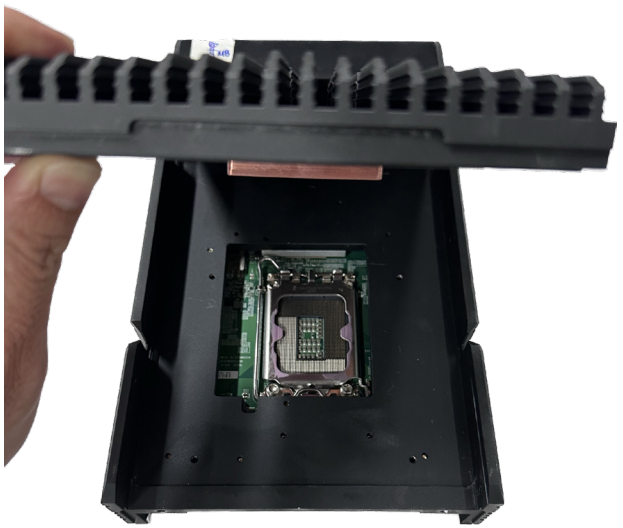
6. Complete.



Installing CPU

1. Remove the screws from the top cover of the chassis.

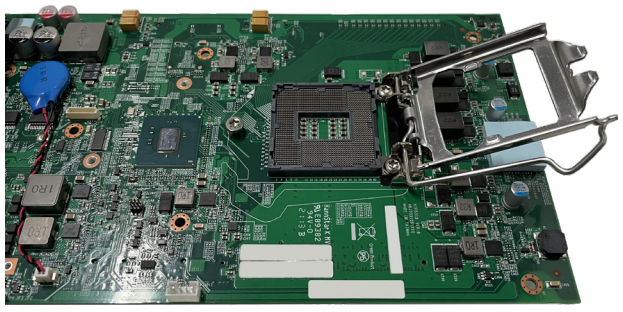
2. Remove the top cover.



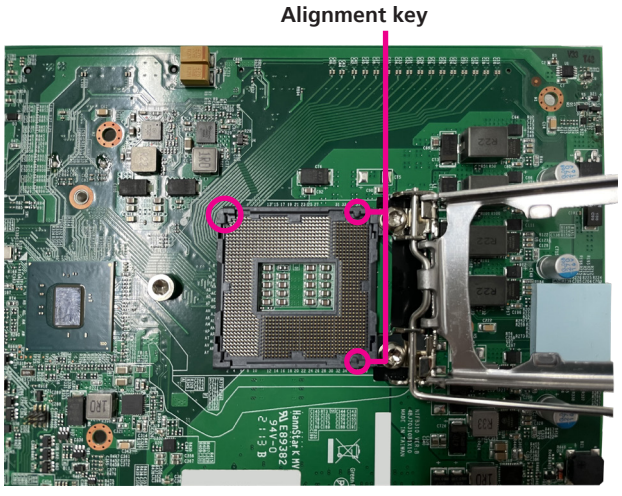
3. Locate the CPU socket on the board.

4. Unlock the socket by pushing the load lever down, moving it sideways until it is released from the retention tab.

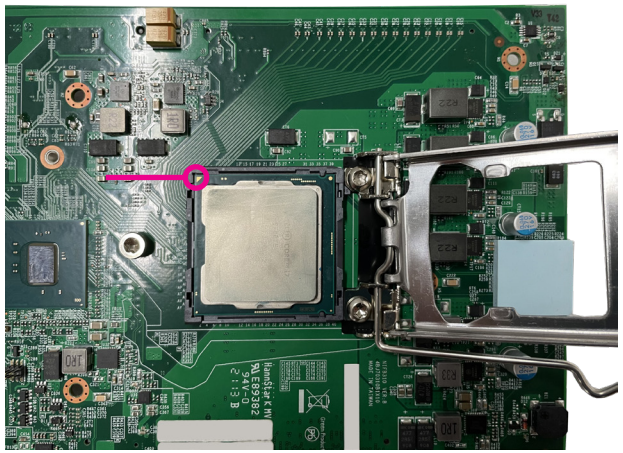
5. Lift the load lever up to open the CPU retention bracket.



6. Insert the CPU into the socket. The triangular edge on the CPU must align with the corner of the CPU socket shown in the following photo.



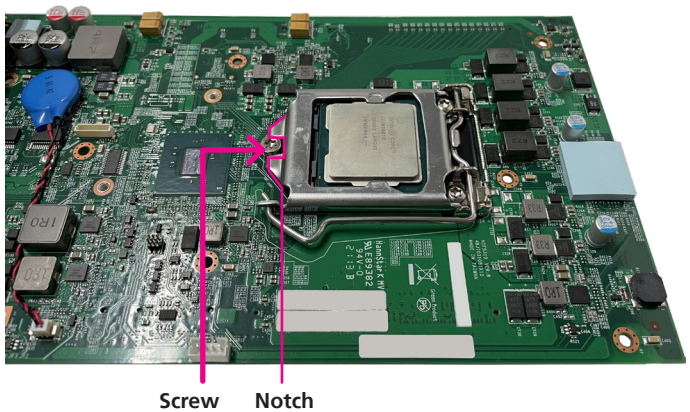
The notch on the CPU will also fit into the alignment key on the socket.



CAUTION!

- Handle the CPU by its edges and avoid touching the pins.
- The CPU will fit in only one orientation and can easily be inserted without exerting any force.

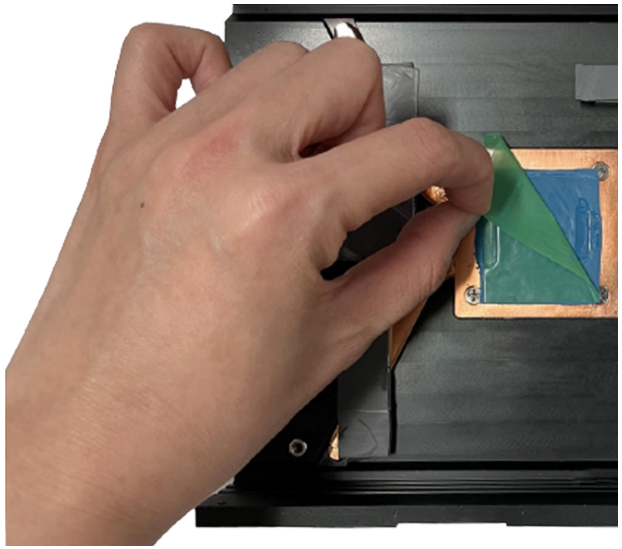
7. With the CPU installed, close the retention bracket and then hook the load lever under the retention tab. Ensure that the notch on the retention bracket is slid under the screw before lowering the load lever as shown below.



CAUTION!

- Do not force the CPU into the socket. Forcing the CPU into the socket may bend the pins and damage the CPU.

<**Reminder**> After installing the CPU, remove the plastic protective film attached to the CPU thermal pad on the top cover.

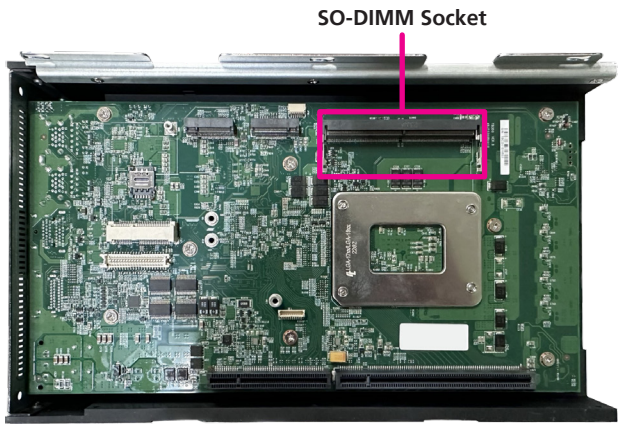


8. Ensure that one end of the top cover is pushed towards the end of the chassis then lower the top cover when assembling.

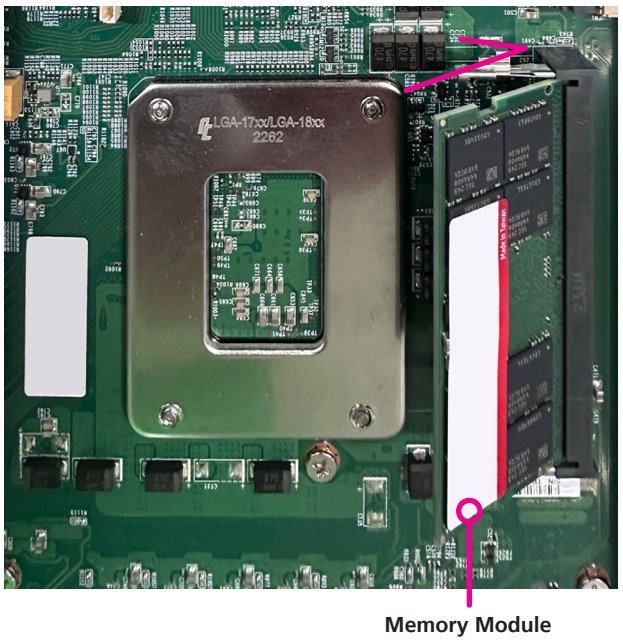
Installing a SO-DIMM Memory Module

Note: Follow the previous section to remove the chassis before installing a SO-DIMM module.

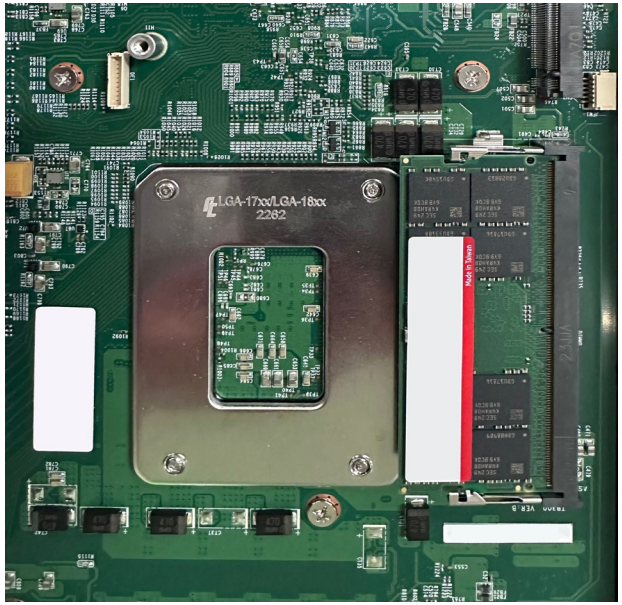
1. Locate the SO-DIMM socket.



2. Insert the module into the socket at an approximately 30-degree angle. The ejector tab at the ends of the socket will automatically snap into the locked position to hold the module in place.

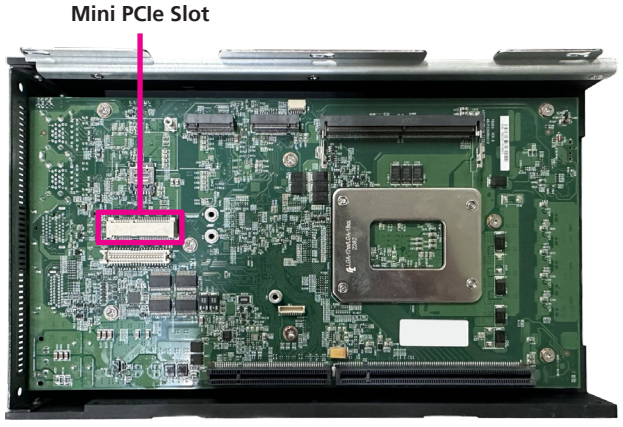


3. Complete.



Installing a Mini-PCIe 4G LTE/mSATA Module (Full-size)

1. Locate the Mini-PCIe slot on the board.

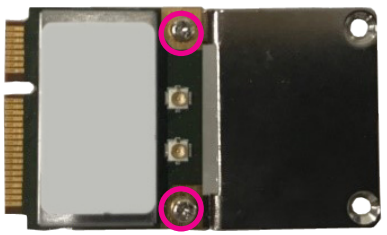


2. Insert the module into the Mini-PCIe slot at a 45-degree angle until the gold-plated connector on the edge of the module completely disappears into the slot.

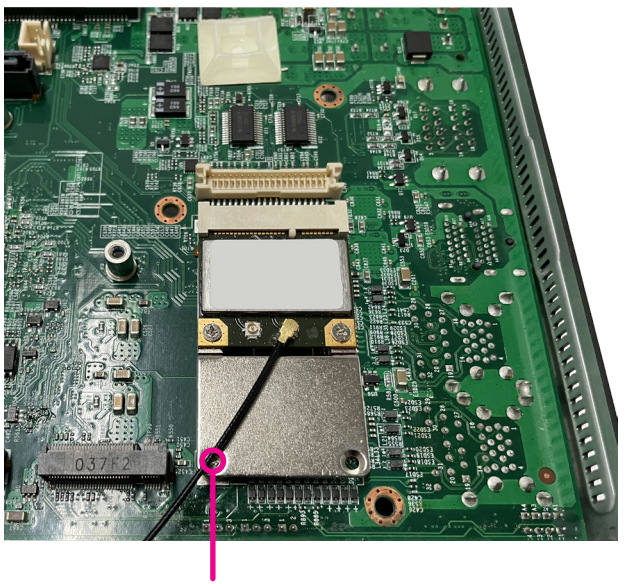
3. Push the module down and secure it with a screw.

Installing a WLAN/Bluetooth Mini-PCIe Module (Half-size)

1. Align the wireless LAN module to the module bracket and secure both together with screws.

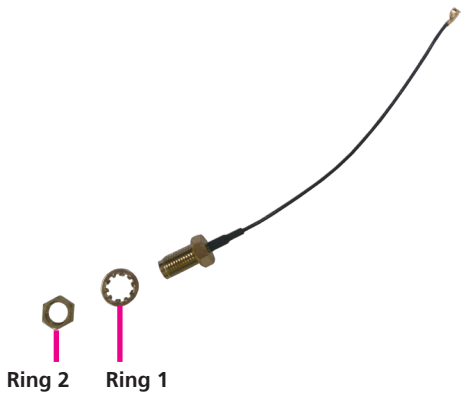


2. Fix the antenna cable onto the WiFi module and insert the WiFi module into the Mini-PCIe slot. Push the module down and then secure it with a mounting screw.

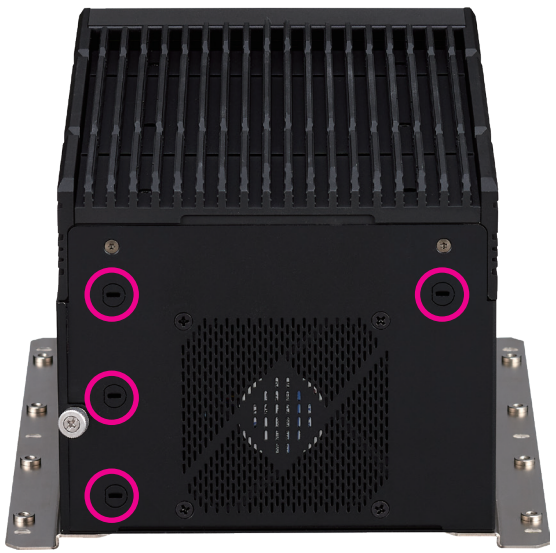


Installing an Antenna

- Please remove the gaskets (ring1 and ring 2) on the SMA antenna jack first.

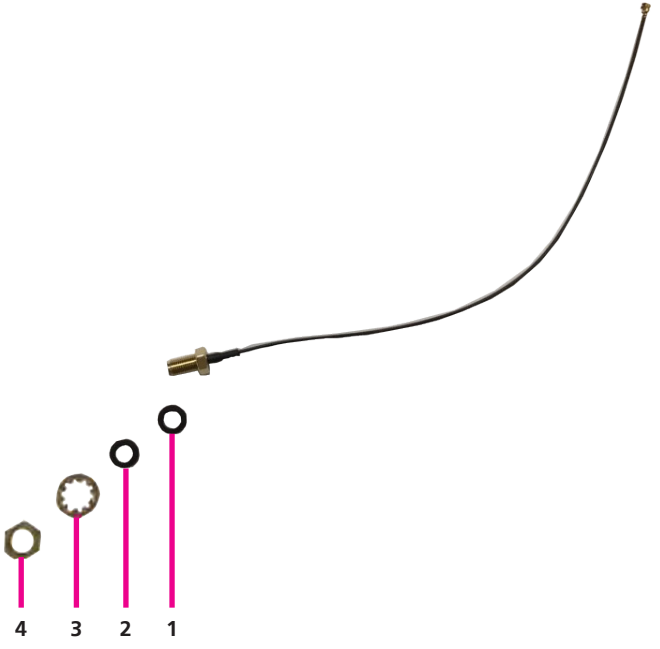


1. Remove the antenna hole covers located on the rear panel.



2. Insert ring 1 through the SMA antenna jack end of the cable, then pass it through the antenna hole in the chassis. Attach the ring 2 and 2 washers onto the antenna jack in sequence.

Installation order of the gasket and washer.



When installing WiFi or 4G LTE antennas, make sure the washers (P/N: 5061600245X00) are fitted onto the antenna connector, one on each side as shown below.

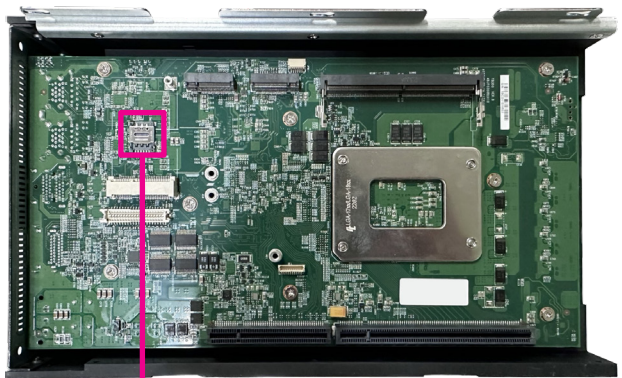
Side A facing inwards and each other.

Side A

Side B

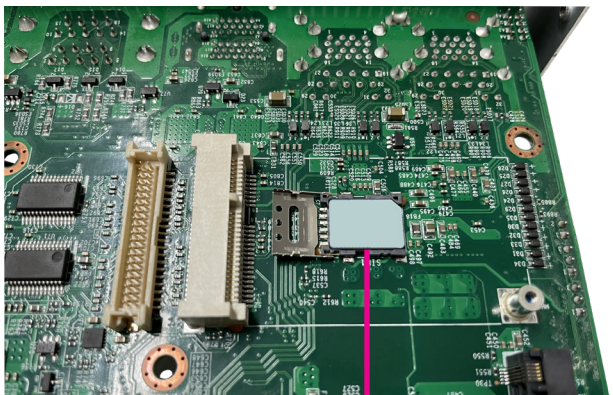
Installing a SIM Card

1. Locate the SIM card holder on the board.



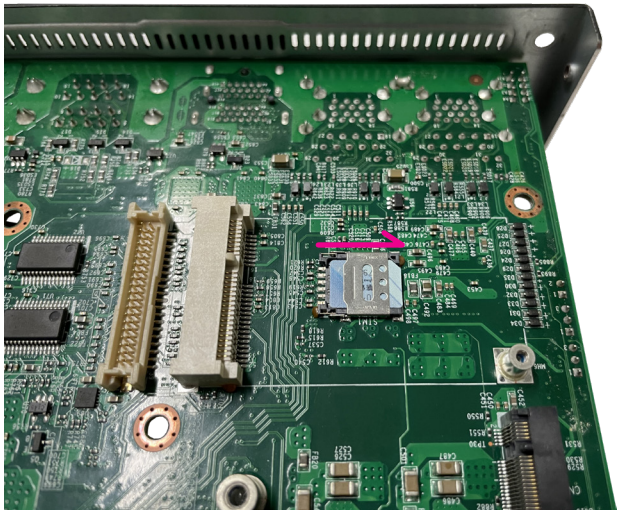
SIM Card Cover

2. Open the cover and place the SIM card on the holder.



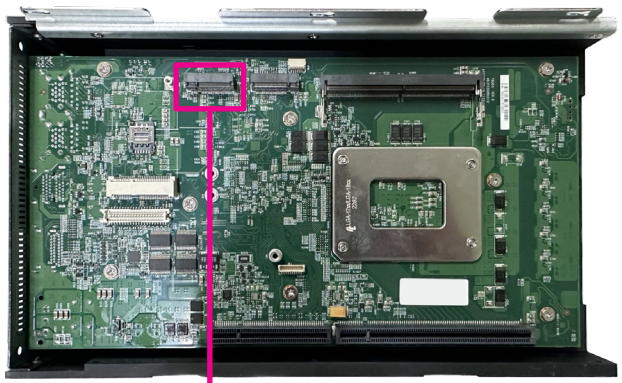
SIM Card

3. Close the cover and secure it to the original position.

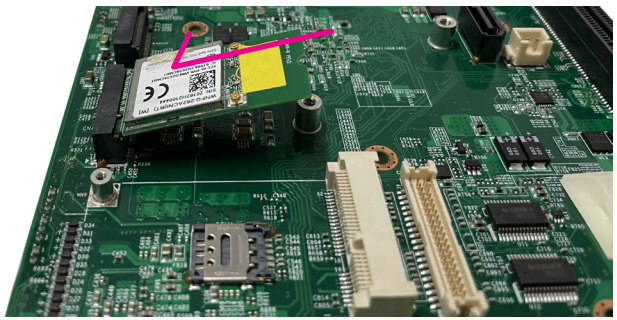


Installing an M.2 Card for Storage and 4G LTE (2242/3042)

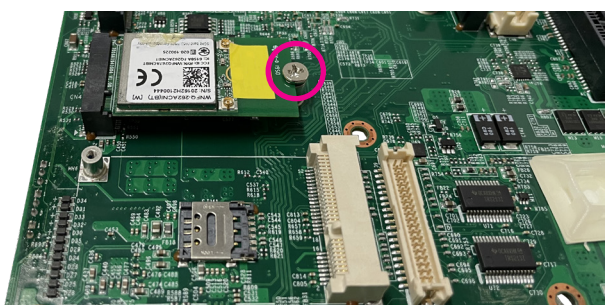
1. Locate the M.2 Key B slot on the board.



2. Insert the M.2 module into the slot at a 30-degree angle.

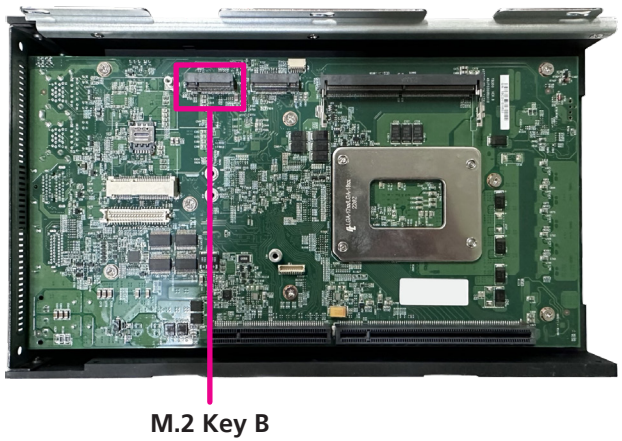


3. Push the module down and then secure it with a mounting screw.

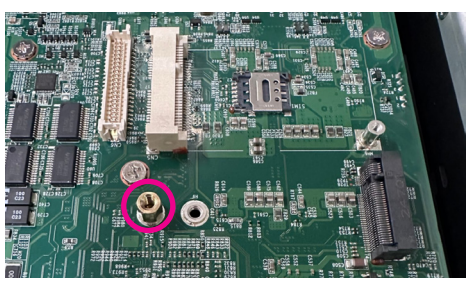


Installing an M.2 Card for 5G (3052)

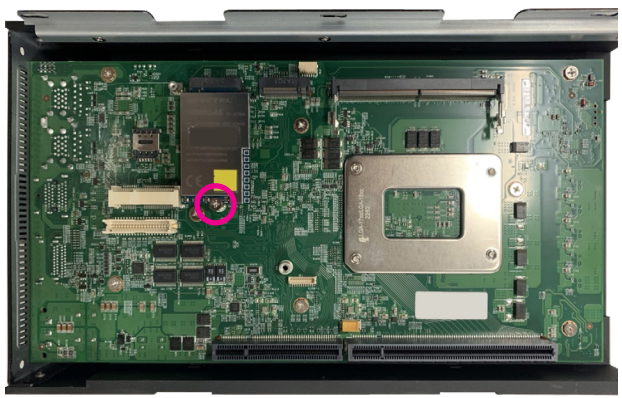
1. Locate the M.2 Key B slot on the board.



2. Tighten the copper post from the accessory kit.

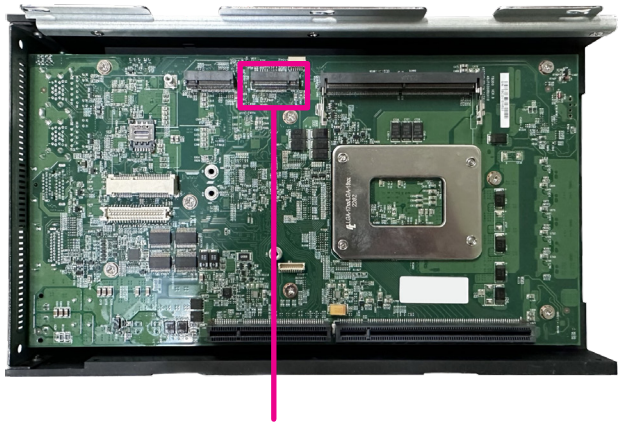


3. Insert the M.2 module into the slot at a 30-degree angle. Push the module down and then secure it with a mounting screw.

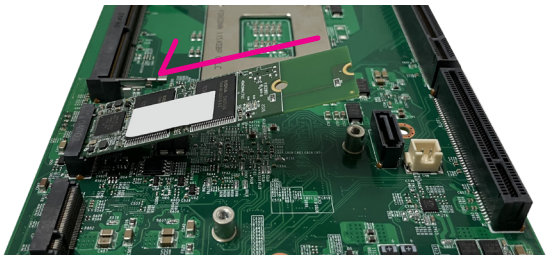


Installing an M.2 Card for Storage (2280)

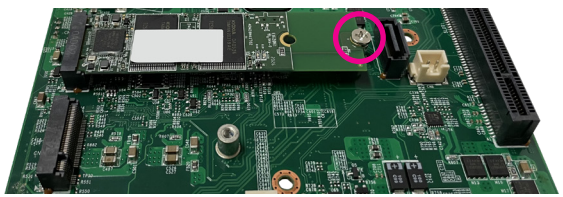
1. Locate the M.2 Key M slot on the board.



2. Insert the M.2 module into the slot at a 30-degree angle.



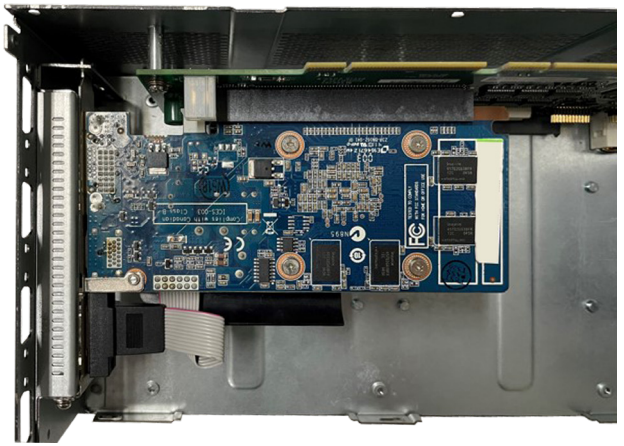
3. Push the module down and then secure it with a mounting screw.

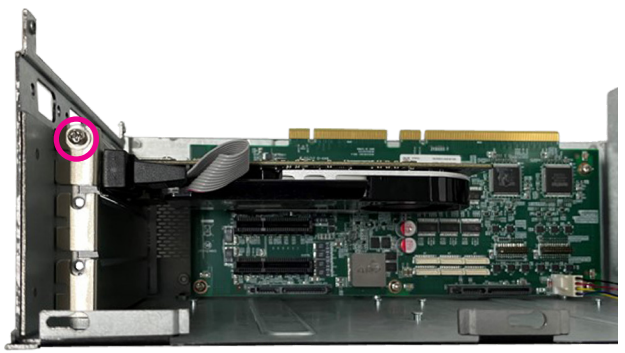


Installing a PCIe Expansion Card

1. Remove the PCIe slot cover from the chassis.

2. Insert the PCIe expansion card and fasten the screw to secure the card in place.

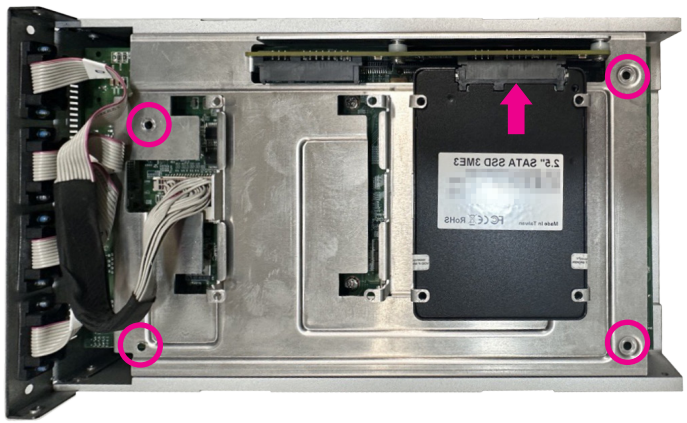




TT 300-A2Q is equipped with two PCIe x 4 expansion slots. Whereas, TT 300-A3Q is equipped with one PCIe x 16 and two PCIe x 4 slots.

Installing an SATA Storage Drive (A0Q)

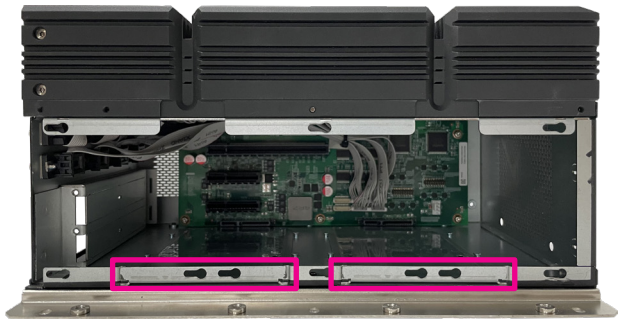
- Refer to this section to remove the chassis and partition bracket. Slide the storage device into the connector indicated by the pink arrow, then secure it with screws.

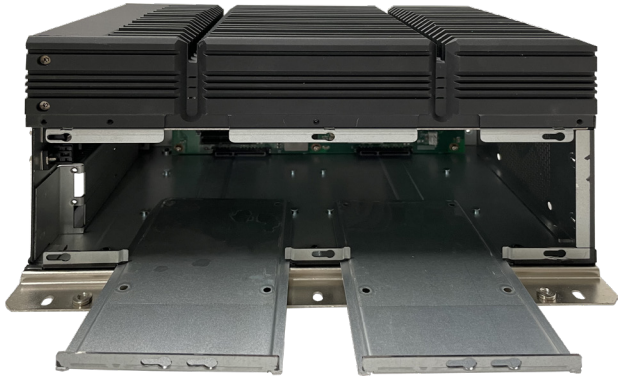


Please pay attention to the installation orientation; it features a fool-proof design for connecting the storage drive.

Installing an SATA Storage Drive (A2Q/ A3Q)

1. Open the side cover, there are two SSD trays at the bottom of the case.



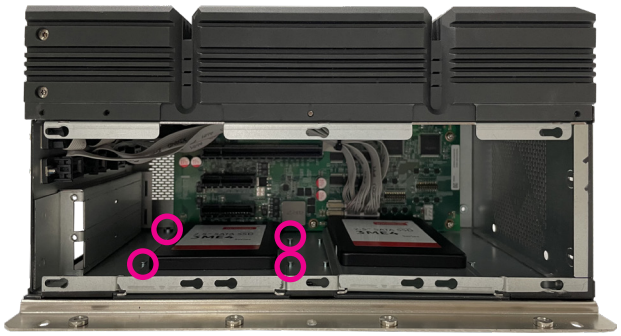


2. Insert the storage drive into the drive bay with SATA data facing towards the end. Next, while supporting the storage drive, turn the bracket to the other side. From the outside of the storage bracket, secure the drive in place with screws.

3. Push the tray disk with the SSD installed to the end, and confirm that it is stuck in the SATA connector.

Please pay attention to the installation orientation; it features a fool-proof design for connecting the storage drive.

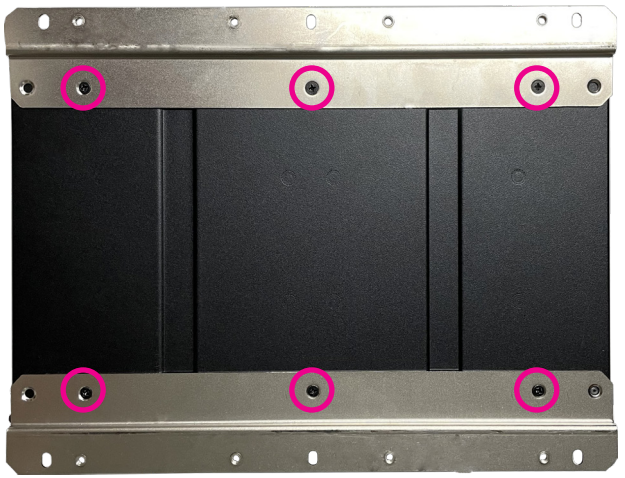
When pushing the SSD tray back, pay attention to the four positioning/fixing rivets in the middle of the tray.



Wallmount Brackets

- The bundled wallmount brackets allow users to easily mount the system on the wall in either a horizontal or vertical orientation. By default, the brackets are fixed at the bottom of the system, which places the system in a horizontal position.

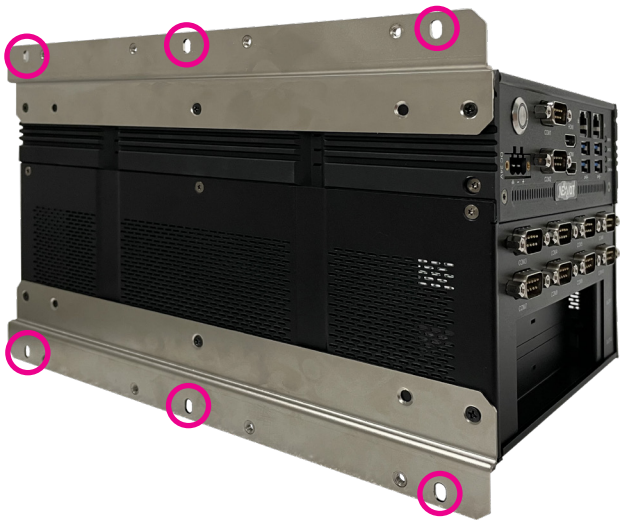
1. To switch the wallmount brackets from a horizontal (where the brackets are fixed to the bottom) to a vertical position, loosen the screws highlighted in the image below.



2. Position the mounting brackets onto the side cover, and then secure them in place with the screws that were previously loosened from the bottom.

Make sure the brackets are properly aligned with the screw holes indicated in the image above.

3. Align the mounting holes on the wall mount brackets with the holes on the flat surface where you wish to assemble the system. Then tighten the screws into the holes to secure the system.



Select screws based on the wall thickness. Recommended screw specification: stainless steel truss head screws M4 x L8 (or above), quantity: 6 pcs.

Chapter 4: BIOS Setup

This chapter describes how to use the BIOS setup program for TT 300-A Series. The BIOS screens provided in this chapter are for reference only and may change if the BIOS is updated in the future.

To check for the latest updates and revisions, visit the NexAIoT website at www.nexaiot.com.

About BIOS Setup

The BIOS (Basic Input and Output System) Setup program is a menu driven utility that enables you to make changes to the system configuration and tailor your system to suit your individual work needs. It is a ROM-based configuration utility that displays the system's configuration status and provides you with a tool to set system parameters.

These parameters are stored in non-volatile battery-backed-up CMOS RAM that saves this information even when the power is turned off. When the system is turned back on, the system is configured with the values found in CMOS.

With easy-to-use pull down menus, you can configure items such as:

- Hard drives, diskette drives, and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power management features

The settings made in the setup program affect how the computer performs. It is important, therefore, first to try to understand all the setup options, and second, to make settings appropriate for the way you use the computer.

When to Configure the BIOS

- This program should be executed under the following conditions:
- When changing the system configuration
- When a configuration error is detected by the system and you are prompted to make changes to the setup program
- When resetting the system clock
- When redefining the communication ports to prevent any conflicts
- When making changes to the Power Management configuration
- When changing the password or making other changes to the security setup

Normally, CMOS setup is needed when the system hardware is not consistent with the information contained in the CMOS RAM, whenever the CMOS RAM has lost power, or the system features need to be changed.

Default Configuration

Most of the configuration settings are either predefined according to the Load Optimal Defaults settings which are stored in the BIOS or are automatically detected and configured without requiring any actions. There are a few settings that you may need to change depending on your system configuration.

Entering Setup

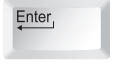
When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines. These routines perform various diagnostic checks; if an error is encountered, the error will be reported in one of two different ways:

- If the error occurs before the display device is initialized, a series of beeps will be transmitted.
- If the error occurs after the display device is initialized, the screen will display the error message.

Powering on the computer and immediately pressing 

allows you to enter Setup.

Legends

Key	Function
	Moves the highlight left or right to select a menu.
	Moves the highlight up or down between sub-menu or fields.
	Exits the BIOS Setup Utility.
	Scrolls forward through the values or options of the highlighted field.
	Scrolls backward through the values or options of the highlighted field.
	Selects a field.
	Displays General Help.
	Load previous values.
	Load optimized default values.
	Saves and exits the Setup program.
	Press <Enter> to enter the highlighted sub-menu.

Scroll Bar

When a scroll bar appears to the right of the setup screen, it indicates that there are more available fields not shown on the screen. Use the up and down arrow keys to scroll through all the available fields.

Submenu

When "▶" appears on the left of a particular field, it indicates that a submenu which contains additional options are available for that field. To display the submenu, move the highlight to that field and press 

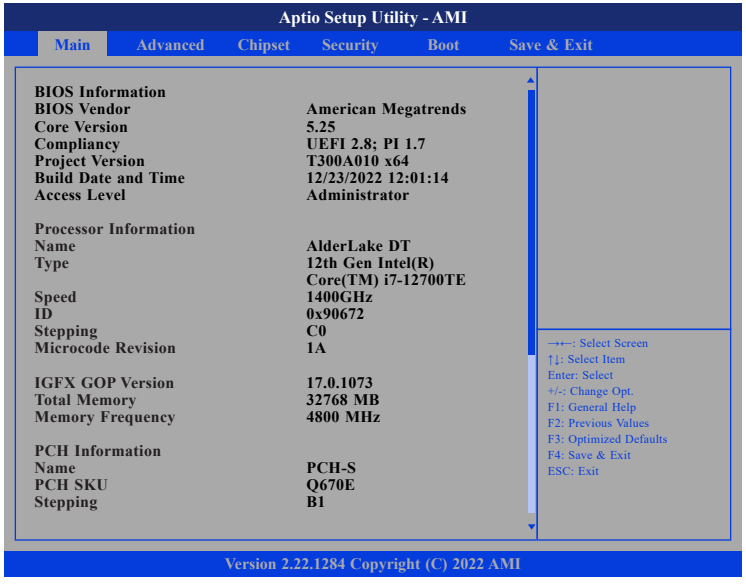
.

BIOS Setup Utility

Once you enter the AMI BIOS Setup Utility, the Main Menu will appear on the screen. The main menu allows you to select from several setup functions and one exit. Use arrow keys to select among the items and press Enter to accept or enter the submenu.

Main

The Main menu is the first screen that you will see when you enter the BIOS Setup Utility.



System Date

The date format is <day>, <month>, <date>, <year>. Day displays a day, from Monday to Sunday. Month displays the month, from January to December. Date displays the date, from 1 to 31. Year displays the year, from 2005 to 2099.

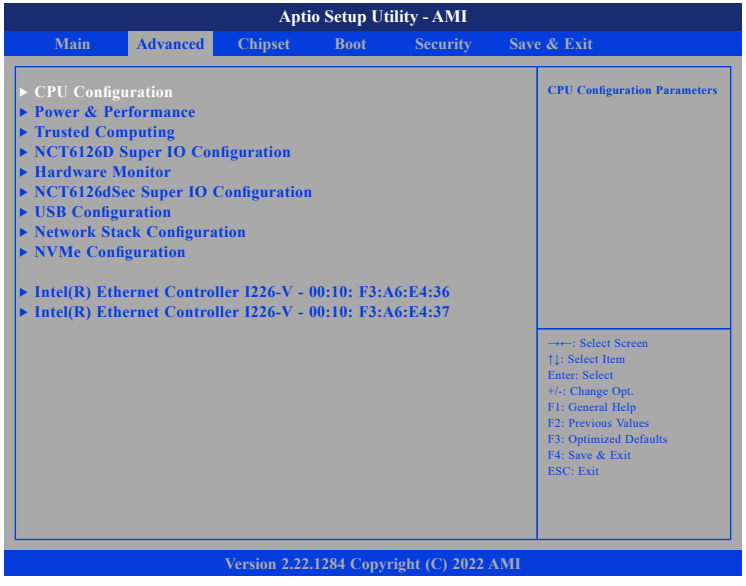
System Time

The time format is <hour>, <minute>, <second>. The time is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Hour displays hours from 00 to 23. Minute displays minutes from 00 to 59. Second displays seconds from 00 to 59.

Advanced

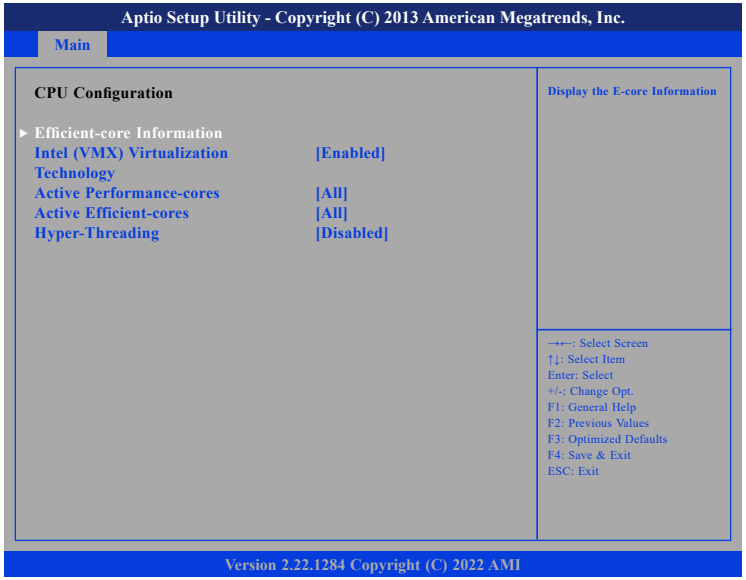
The Advanced menu allows you to configure your system for basic operation. Some entries are defaults required by the system board, while others, if enabled, will improve the performance of your system or let you set some features according to your preference.

Setting incorrect field values may cause the system to malfunction.



CPU Configuration

This section is used to configure CPU settings.



Efficient-core Information
Display the E-core information.

Intel (VMX) Virtualization Technology
When this field is set to Enabled, the VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

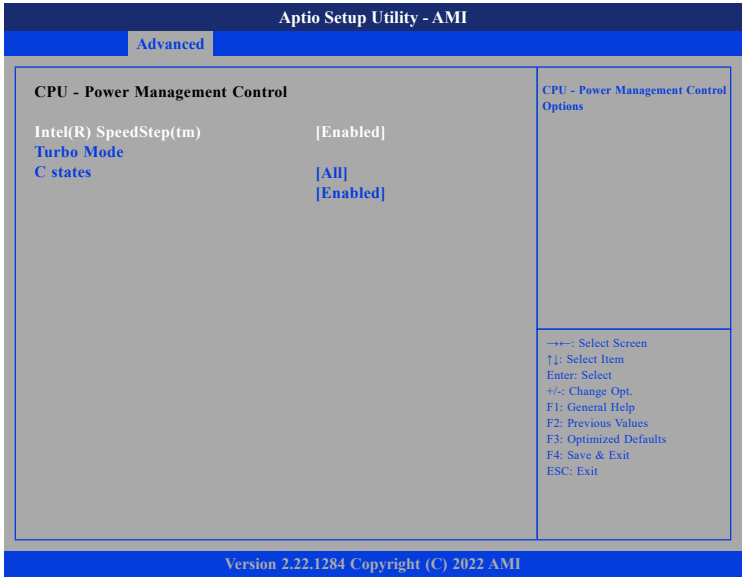
Active Performance-cores
Select the number of P-cores to activate in each processor package.

Active Efficient-cores
Select the number of E-cores to activate in each processor package.

Hyper-threading
Enable or disable hyper-threading technology.

Power & Performance > CPU - Power Management Control

This section is used to configure the CPU power management features.



Intel(R) SpeedStep(tm)

Enable or disable Intel® SpeedStep.

Turbo mode

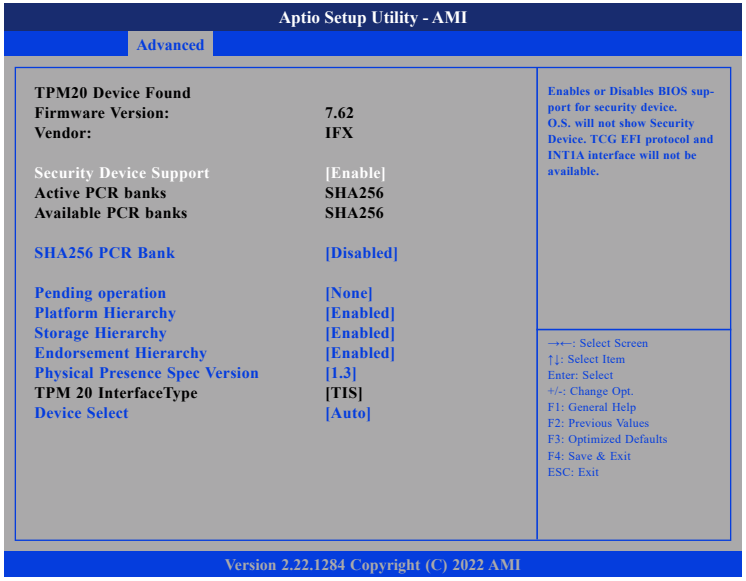
Enable or disable processor turbo mode.

C states

Enable or disable CPU power management. It allows CPU to go to C states when it's not 100% utilized.

Trusted Computing

This section is used to configure Trusted Platform Module (TPM) settings.



Security Device Support
Enable or disable BIOS support for security device. O.S will not show Security Device. TCG EFI protocol and INT1A interface will not be available.

SHA256 PCR Bank
Enable or disable SHA256 PCR Bank.

Pending operation
Schedule an operation for the security device. Note that your device will reboot during restart in order to change State of Security Device.

Platform Hierarchy
Enable or disable platform hierarchy.

Storage Hierarchy
Enable or disable storage hierarchy.

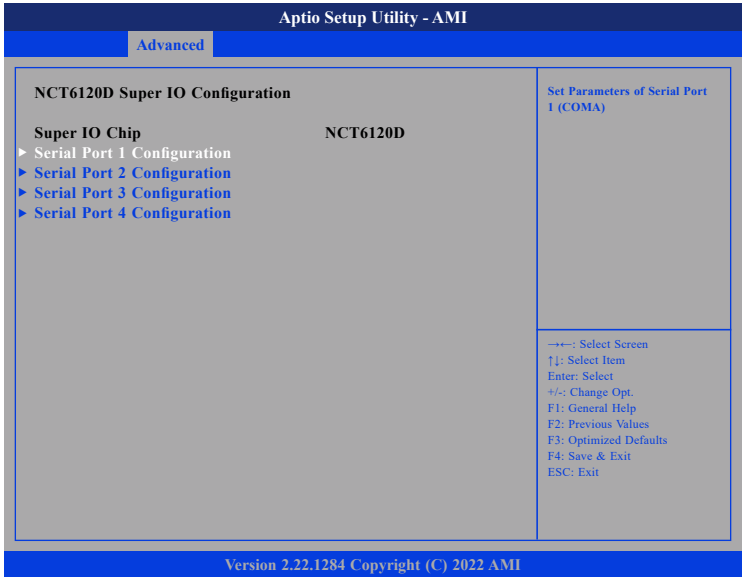
Endorsement Hierarchy
Enable or disable endorsement hierarchy.

Physical Presence Spec Version
Configure the physical presence spec version. Note that some HCK tests might not support 1.3.

Device Select
Configure the TPM version. TPM 1.2 will restrict support to TPM 1.2 devices and TPM 2.0 will restrict support to TPM 2.0 devices. Auto will support both TPM 1.2 and 2.0 devices with the default set to TPM 2.0 devices if not found, and TPM 1.2 devices will be enumerated.

NCT6126D Super IO Configuration

This section is used to configure the serial ports.



Super IO Chip
Displays the Super I/O chip used on the board.

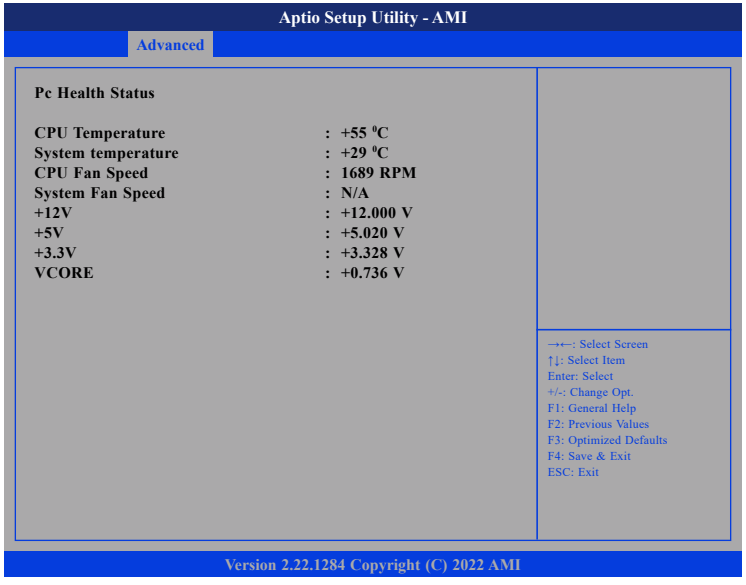
Serial Port 1/2/3/4 Configuration > Serial Port
Enable or disable the serial port.

Serial Port 1/2/3/4 Configuration > Device Settings

Serial Port 1/2 Configuration > Onboard Serial Port Mode
Select to change the serial port mode to RS232, RS422, or RS485 Auto.

Hardware Monitor

This section is used to monitor hardware status such as temperature, fan speed, and voltages.



CPU Temperature
Detect and display the current CPU temperature.

System Temperature
Detect and display the current system temperature.

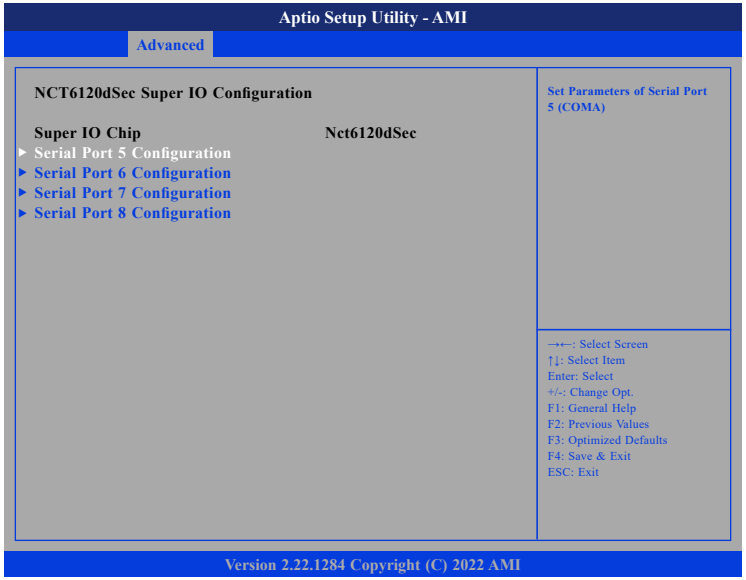
CPU Fan Speed
Detect and display the CPU fan speed.

System Fan Speed
Detect and display the system fan speed.

VCore
Detect and display the Vcore CPU voltage.

NCT6126dSec Super IO Configuration

This section is used to configure the serial ports.



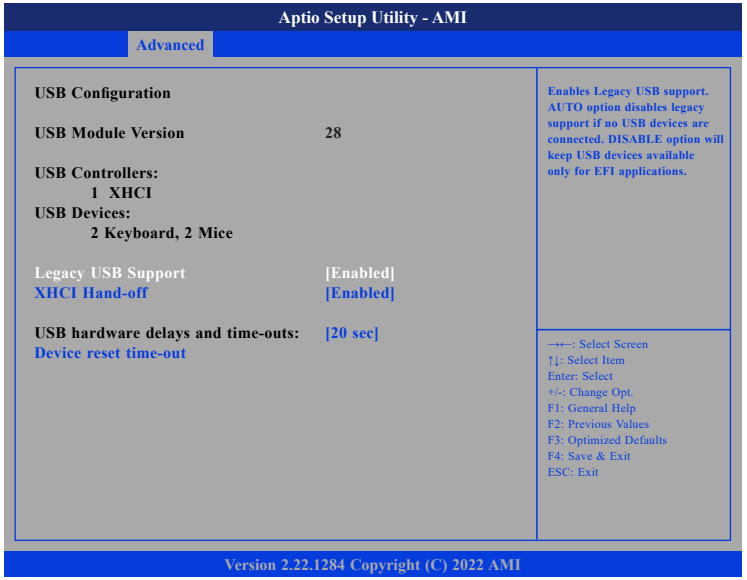
Super IO Chip
Displays the Super I/O chip used on the board.

Serial Port 5/6/7/8 Configuration > Serial Port
Enable or disable the serial port.

Serial Port 5/6/7/8 Configuration > Device Settings

USB Configuration

This section is used to configure the USB.



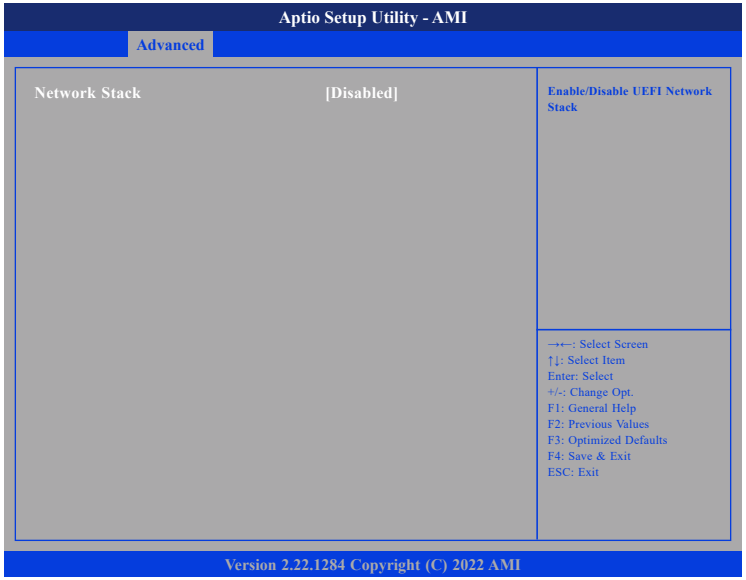
Legacy USB Support
Enable: Enables Legacy USB.
Auto: Disables support for Legacy when no USB devices are connected.
Disable: Keeps USB devices available only for EFI applications.

XHCI Hand-off
This is a workaround for OSs without XHCI hnd-off support. The XHCI ownership change should be claimed by XHCI driver.

Device reset time-out
Select the USB mass storage device's start unit command time-out.

Network Stack Configuration

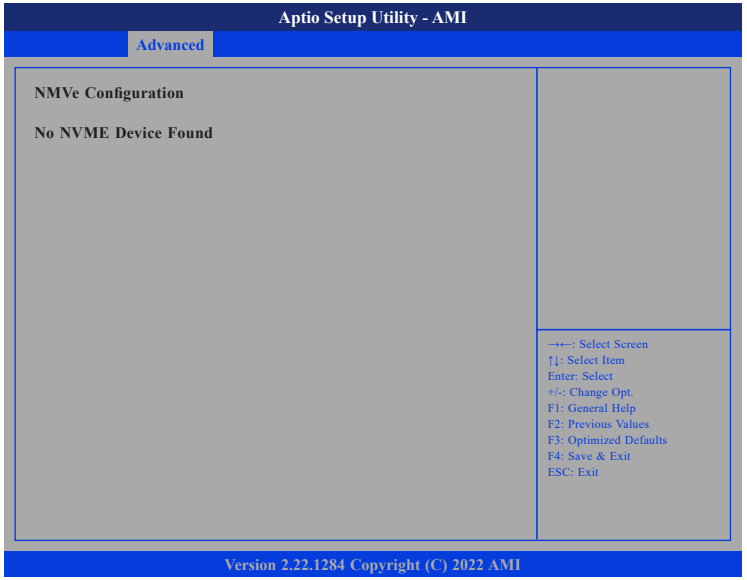
This section is used to configure the network stack settings.



Network Stack
Enable or disable UEFI network stack.

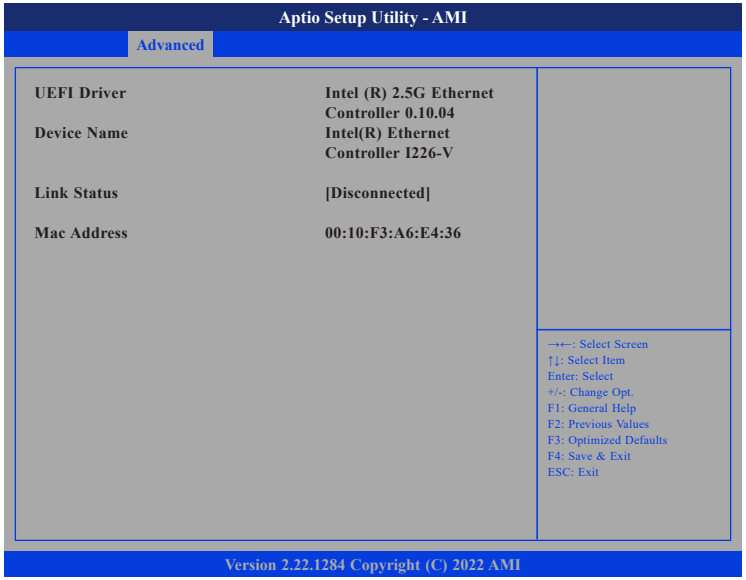
NVMe Configuration

This section is used to display information on the NVMe devices installed.



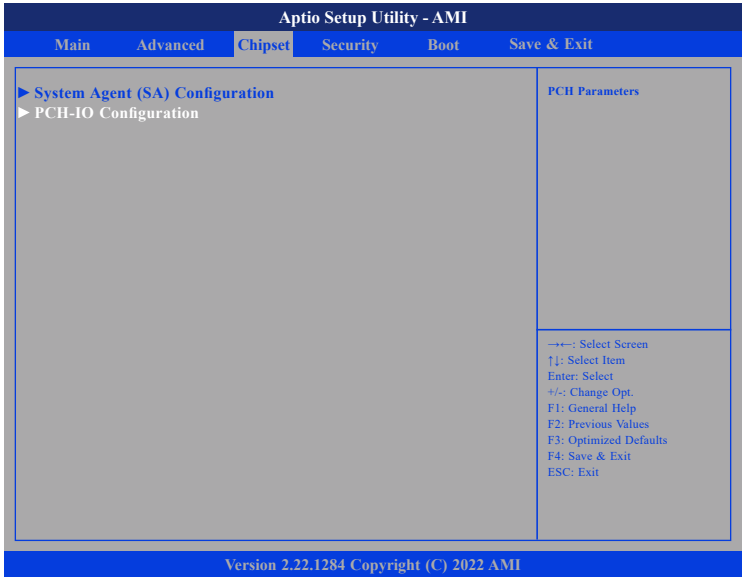
Intel(R) Ethernet Controller I226-V

This section is used to display information of the Intel Ethernet controller.



Chipset

This section gives you functions to configure the system based on the specific features of the chipset. The chipset manages bus speeds and access to system memory resources.



System Agent (SA) Configuration

This section is used to configure the System Agent (SA) configuration.

Graphic Configuration > DVMT Pre-Allocated

Select DVMT 5.0 Pre-Allocated (Fixed) graphic memory size used by the internal graphic device.

VMD Setup Menu > Enable VMD controller(Raid)

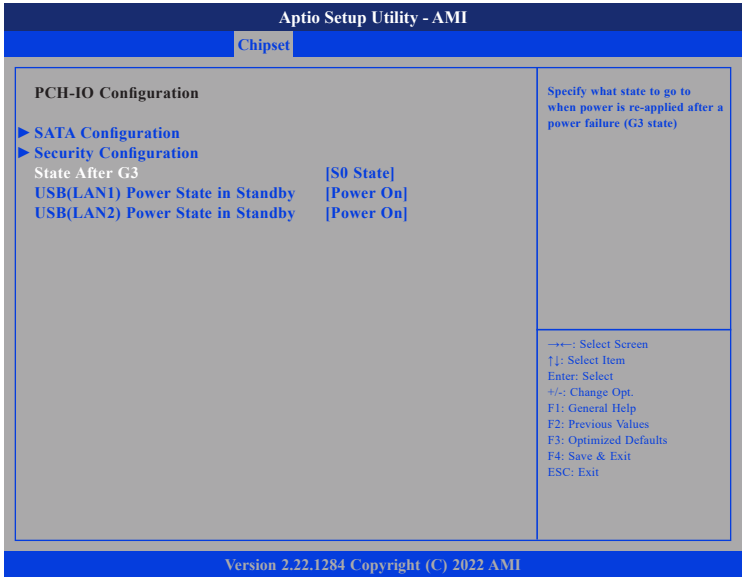
Enable or disable the VMD controller.

VT-d

Enable or disable VT-d function on MCH.

PCH-IO Configuration

This section is used to configure PCH-IO configuration.



SATA Configuration
Enter the SATA configuration sub-menu.

SATA Configuration > SATA Controller(s)
Enable or disable the SATA controller. The devices shown on screen may vary depending on the SATA devices you have installed.

Security Configuration
Enter the Security Configuration sub-menu.

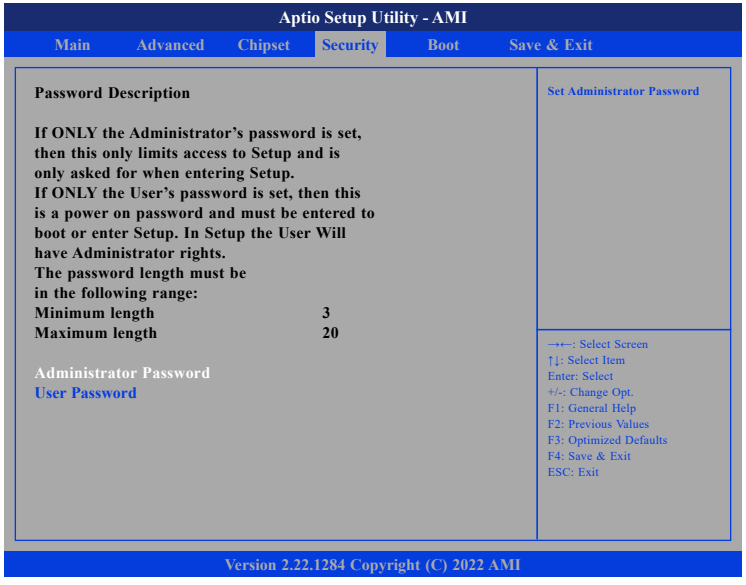
Security Configuration > RTC Memory Lock
Enable will lock bytes 38h-3Fh in the lower/upper 128-byte bank of RTC RAM.

State After G3
Specify what state to go to when power is re-applied after a power failure (G3 state).

USB(LAN1) Power State in Standby
Select USB LAN1 power state in standby mode.

USB(LAN2) Power State in Standby
Select USB LAN2 power state in standby mode.

Security



Administrator Password

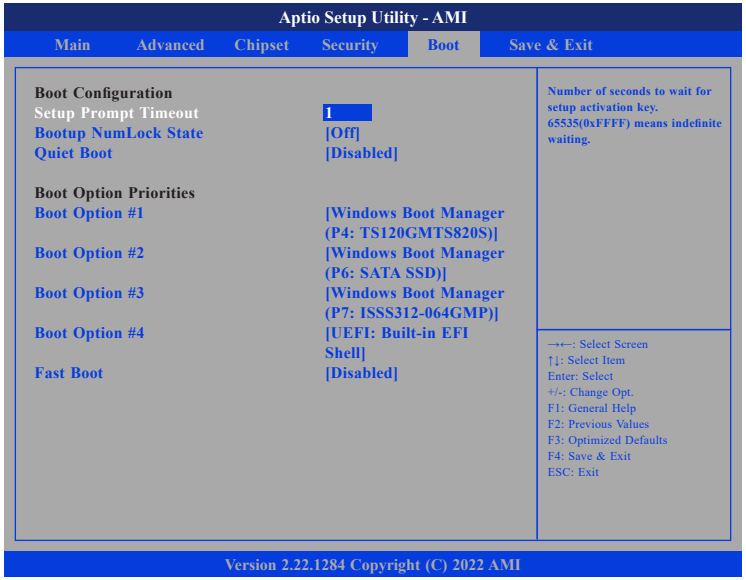
Select this to reconfigure the administrator's password.

User Password

Select this to reconfigure the user's password.

Boot

This section is used to configure the boot features.



Setup Prompt Timeout
Selects the number of seconds to wait for the setup activation key. 65535(0xFFFF) denotes indefinite waiting.

Bootup NumLock State
This allows you to determine the default state of the numeric keypad. By default, the system boots up with NumLock on wherein the function of the numeric keypad is the number keys. When set to Off, the function of the numeric keypad is the arrow keys.

Quiet Boot
Enable or disable quiet boot option.

Boot Option Priorities
Adjust the boot sequence of the system. Boot Option #1 is the first boot device that the system will boot from, next will be #2 and so forth.

Fast Boot
Enables or disables fast boot technology to speed up the system boot time. This is achieved by skipping specific tests during BIOS POST routine. When enabled, the BIOS will shorten or skip some check items during POST. This will decrease the time needed to boot the system.

Save & Exit

Save Changes and Exit
To save the changes and exit the Setup utility, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes. You can also press <F4> to save and exit Setup.

Discard Changes and Exit
To exit the Setup utility without saving the changes, select this field then press <Enter>. You may be prompted to confirm again before exiting. You can also press <ESC> to exit without saving the changes.

Save Changes and Reset
To save the changes and reset, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

Discard Changes and Reset
To exit the Setup utility and reset without saving the changes, select this field then press <Enter>. You may be prompted to confirm again before exiting.

Save Changes
To save changes and continue configuring the BIOS, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

Discard Changes
To discard the changes, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes to discard all changes made and restore the previously saved settings.

Restore Defaults
To restore the BIOS to default settings, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

Save as User Defaults
To use the current configurations as user default settings for the BIOS, select this field then press <Enter>. A dialog box will appear. Confirm by selecting Yes.

Restore User Defaults
To restore the BIOS to user default settings, select this field then press <Enter>. A dialog box will appear. Confirm by selecing Yes.

Boot Override
To bypass the boot sequence from the Boot Option List and boot from a particular device, select the desired device and press <Enter>.

Appendix A: GPI/O Programming Guide

GPI/O (General Purpose Input/Output) pins are provided for custom system design. This appendix provides definitions and its default setting for the ten GPI/O pins in the TT 300-A series. The pin definition is shown in the following table:

First Set A40h to 0x00

Pin No.	GPI/O mode	Address	Pin No.	GPI/O mode	Address
1	VCC	-	2	GND	-
3	GPI0	A42h (Bit1)			
5	GPI1	A42h (Bit2)			
7	GPI2	A42h (Bit3)			
9	GPI3	A42h (Bit4)			
11	GPI4	A42h (Bit5)			
13	GPI5	A42h (Bit6)			
15	GPI6	A42h (Bit7)			

JP1 - GPI/O Connector(1)

First Set A40h to 0x01

Pin No.	GPI/O mode	Address	Pin No.	GPI/O mode	Address
17	GP17	A42h (Bit0)	4	GPI11	A42h (Bit3)
19	GPI8	A42h (Bit1)	6	GPI12	A42h (Bit4)
21	GPI9	A42h (Bit2)	8	GPI13	A42h (Bit5)
			10	GPI14	A42h (Bit6)
			12	GPI15	A42h (Bit7)

JP1 - GPI/O Connector(2)

First Set A40h to 0x02

Pin No.	GPI/O mode	Address	Pin No.	GPI/O mode	Address
			14	GPI16	A42h (Bit0)
			16	GPI17	A42h (Bit1)
			18	GPI18	A42h (Bit2)
			20	GPI19	A42h (Bit3)
			22	GPI20	A42h (Bit4)
			24	GPI21	A42h (Bit5)

JP1 - GPI/O Connector(3)

First Set A40h to 0x09

Pin No.	GPI/O mode	Address	Pin No.	GPI/O mode	Address
23	GP10	A42h (Bit6)			

JP1 - GPI/O Connector(4)

First Set A40h to 0x02

Pin No.	GPI/O mode	PowerOn Default	Address	Pin No.	GPI/O mode	Address
1	VCC	-	-	2	GND	-
3	GPO0	Low	A42h (Bit6)			
5	GPO1	Low	A42h (Bit7)			

JP2 - GPI/O Connector(1)

First Set A40h to 0x03

Pin No.	GPI/O mode	PowerOn Default	Address	Pin No.	GPI/O mode	Address
7	GPO2	Low	A42h (Bit0)			
9	GPO3	Low	A42h (Bit1)			
11	GPO4	Low	A42h (Bit2)			
13	GPO5	Low	A42h (Bit3)			
15	GPO6	Low	A42h (Bit4)			
17	GPO7	Low	A42h (Bit5)			
19	GPO8	Low	A42h (Bit6)			
21	GPO9	Low	A42h (Bit7)			

JP2 - GPI/O Connector(2)

First Set A40h to 0x04

Pin No.	GPI/O mode	PowerOn Default	Address	Pin No.	GPI/O mode	PowerOn Default	Address
23	GPO10	Low	A42h (Bit0)	4	GPO11	Low	A42h (Bit1)
				6	GPO12	Low	A42h (Bit2)
				8	GPO13	Low	A42h (Bit3)
				12	GPO15	Low	A42h (Bit4)
				14	GPO16	Low	A42h (Bit5)
				16	GPO17	Low	A42h (Bit6)
				18	GPO18	Low	A42h (Bit7)

JP2 - GPI/O Connector(3)

First Set A40h to 0x09

Pin No.	GPI/O mode	PowerOn Default	Address	Pin No.	GPI/O mode	PowerOn Default	Address
				10	GPO14	Low	A42h (Bit0)
				20	GPO19	Low	A42h (Bit1)
				24	GPO21	Low	A42h (Bit7)

JP2 - GPI/O Connector(4)

First Set A40h to 0x00

Pin No.	GPI/O mode	PowerOn Default	Address	Pin No.	GPI/O mode	PowerOn Default	Address
				22	GPO20	Low	A42h (Bit0)

JP2 - GPI/O Connector(5)

Pin No.	GPI/O mode	PowerOn Default	Address
A4	GPO	High	A06h (Bit2)
A3	GPO	High	A06h (Bit3)

LED1 - GPO LED

Control the GPO pin (A3/A4) level from I/O port A06h bit (3/2).
The bit is Set/Clear indicated output High/Low.

Appendix B: WatchDog Programming Guide

ITE8786 WatchDog Programming Guide

```
#define SUPERIO_PORT     0x2E
#define WDT_ PWRGD      0xFA
#define WDT_SET     0x72
#define WDT_VALUE 0x73

void main(void)
{
  #Enter SuperIO Configuration
    outportb(SUPERIO_PORT, 0x87);
    outportb(SUPERIO_PORT, 0x01);
    outportb(SUPERIO_PORT, 0x55);
    outportb(SUPERIO_PORT, 0x55);

  # Set LDN
    outportb(SUPERIO_PORT, 0x07);
    outportb(SUPERIO_PORT+1 ,0x04);

  # Set WDT setting
    outportb(SUPERIO_PORT, WDT_PWRGD);
    outportb(SUPERIO_PORT+1, 0x20);       # WDT output through PWRGD

  # Set LDN
    outportb(SUPERIO_PORT, 0x07);
    outportb(SUPERIO_PORT+1 ,0x07);

# Set WDT setting
   outportb(SUPERIO_PORT, WDT_SET);
   outportb(SUPERIO_PORT+1, 0x80);    # Use the second
                                      # Use the minute, change value to 0x10
  # Set WDT sec/min
    outportb(SUPERIO_PORT, WDT_VALUE);
    outportb(SUPERIO_PORT+1, 0x05);        #Set 5 seconds
}
```

Appendix C: Windows Troubleshooting

If you install Windows 10 Enterprise 64 bit and encounter the following warning. Please don't be worried. OOBE or "Out-of-Box Experience" is a new auto operating tool that comprises a guided setup and an introduction to the features of Windows.
It facilitates the process of device enrollment when you are trying to set up new system. Microsoft claims in the documentation that OOBEAADV10 error can be a result of time difference, which is necessary for Kerberos-based authentication.
Error OOBEAADV10 generally occurs in the last stage of installing or resetting the PC when setting configurations of Windows 10. Although the error screen shows a "Try again" link, using it rarely works anything positive.

Just click on **Skip**, then you can complete OS installation and succeed entering OS normally.