



NEXCOM International Co., Ltd.

Intelligent Platform & Services Business Unit
Duro Edge Computer
NDiS B340 Series
User Manual

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PREFACE

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Disclaimer

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Acknowledgements

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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



NEXCOM RoHS Environmental Policy and Status Update

NEXCOM 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, NEXCOM 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 NEXCOM development procedure and that all the new RoHS components and new manufacturing processes maintain the highest industry quality levels for which NEXCOM 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 NEXCOM 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 NEXCOM naming convention.

Warranty and RMA

NEXCOM Warranty Period

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

NEXCOM Return Merchandise Authorization (RMA)

- Customers shall enclose the “NEXCOM 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 “NEXCOM 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, NEXCOM 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 NEXCOM 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

NEXCOM 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: NEXCOM 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 NEXCOM 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, NEXCOM will return it to the customer without any charge.

Board Level

- Component fee: NEXCOM 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, NEXCOM 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.
- Proper grounding is essential to protect against electrical surges and ensure stable operation. Always connect the grounding wire.

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.
- The instructions shall require connection of the equipment protective earthing conductor to the installation protective earthing conductor (for example, by means of a power cord connected to a socket-outlet with earthing connection).

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 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. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. 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.
15. Do not place heavy objects on the equipment.
16. 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.
17. **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 NEXCOM products, visit NEXCOM's website at www.nexcom.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, please verify the contents of the product package. The items included are listed in the table below.

No.	Part Number	Description	Qty
1*	10W00B34001X0	NDiS B340-X7213RE	1
	10W00B34002X0	NDiS B340-X7433RE	1
	10W00B34003X0	NDiS B340-N97	1
	10W00B34008X0	NDiS B340-N150	1
2*	10W00B34005X0	NDiS B340E1-X7213RE	1
	10W00B34006X0	NDiS B340E1-X7433RE	1
	10W00B34007X0	NDiS B340E1-N97	1
	10W00B34009X0	NDiS B340E1-N150	1
3	5060201053X00	60x20x4.5 mm for RAM (bottom side)	1
3	5040480043X00	WALL MOUNT BRACKET FOR NDiS B340 SERIES VER:A CHYUAN-JYH 115x23x1.2mm SUS304 T=1.2mm NCT	2
4	4NCPM00203X00	TERMINAL BLOCKS 2P PHOENIX CONTACT:1803578 ASSY 3.81mm MALE 90D GREEN	1
5	4NCPM00302X00	(T)TERMINAL BLOCKS 3P PHOENIX CONTACT:1777992 5.08mm MALE DIP GREEN	1
6	50311F0112X00	(H)FLAT HEAD SCREW LONG FEI:F3x4iso+防鬆處理 三價黑 FOR SPC-150 M3x4mm(NYLOK) BLACK	4
7	5060201011X00	THERMAL PAD T-GLOBAL 30x30x1.5mm K=3.5W/mk TG-A3500 TWO SIDE STICKY	2
8	5060201094X00	THERMAL PAD FOR NDiS B340 SERIES T-GLOBAL 30x15x1.5mm K=3.0W/mk TG-A3500F	1
9	5060201095X00	THERMAL PAD FOR NDiS B340 SERIES T-GLOBAL 60x20x1.5mm K=3.0W/mk TG-A3500F	1
10**	5061100297X00	SUPPORT SPONGE FOR XPPC24-100 S.W. 30x15x10mm E4382+3M8010	1

* Items 1 and 2 list all models in the series for reference; however, only one specific model is provided per shipment.

** Item 10 is only included in the accessory pack for Item 2.

Ordering Information

The following provides ordering information.

NDiS B340-X7213RE (P/N: 10W00B34001X0)

Duro Edge computer, Intel Atom® x7213RE processor

NDiS B340E1-X7213RE (P/N: 10W00B34005X0)

Duro Edge computer, Intel Atom® x7213RE processor, w/ one PCIe x4 expansion kit (DockInfinity-E4X1)

NDiS B340-X7433RE (P/N: 10W00B34002X0)

Duro Edge computer, Intel Atom® x7433RE processor

NDiS B340E1-X7433RE (P/N: 10W00B34006X0)

Duro Edge computer, Intel Atom® x7433RE processor, w/ one PCIe x4 expansion kit (DockInfinity-E4X1)

NDiS B340-N97 (P/N: 10W00B34003X0)

Duro Edge computer, Intel® processor N97

NDiS B340E1-N97 (P/N: 10W00B34007X0)

Duro Edge computer, Intel® processor N97, w/ one PCIe x4 expansion kit (DockInfinity-E4X1)

NDiS B340-N150 (P/N: 10W00B34008X0)

Duro Edge computer, Intel® processor N150

NDiS B340E1-N150 (P/N: 10W00B34009X0)

Duro Edge computer, Intel® processor N150, w/ one PCIe x4 expansion kit (DockInfinity-E4X1)

DockInfinity-E4X1 (P/N: 10W00DOCK01X0)

One PCIe x4 expansion kit for Duro Edge computer

CHAPTER 1: PRODUCT INTRODUCTION

NDiS B340 Series

Overview

The NDiS B340 supports multiple Intel® low-power platforms, including Intel Atom® x7433RE/x7213RE processor, and Intel® processor N150/N97, allowing customers to scale performance without redesigning the system. Its fanless, compact metal chassis ensures reliable 24/7 operation in space-constrained and harsh environments, making it well suited for smart retail, digital signage, industrial control, transportation, and edge gateway applications.

The system features dual HDMI® 2.0 outputs supporting 4K@60Hz for multi-display use cases, along with dual 2.5GbE LAN ports for high-speed connectivity. Rich industrial I/O, including serial ports and programmable GPIO, enables easy integration with legacy devices and sensors. Optional DockInfinity-E4X1 PCIe expansion provides a half-length PCIe x4 slot for PoE, capture cards, or custom modules. With a wide-range DC 12V to 24V input, wall-mount support, and built-in TPM 2.0 and watchdog support, the NDiS B340 delivers a flexible, future-ready edge platform for long-term deployment.

Key Features

- Intel Atom® Processor X Series/Intel® Processor N-Series
- 1 x DDR5 SO-DIMM, up to 16GB
- 2 x HDMI® 2.0 output, up to 3840x2160@60Hz
- 2 x Intel® LAN port
- 6 x USB 2.0, 1 x Line out, 1 x GPIO, 2 x COM port
- Support one PCIe 3.0 x4 expansion card (w/ optional dock)
- 1 x M.2 Key B 3052 for an optional 5G/LTE module
- 1 x M.2 Key E 2230 for an optional Wi-Fi module
- 1 x M.2 Key M 2242 for an optional SSD
- TPM 2.0 for security
- Support DC +12V~24V power input

Physical Appearance

Front Panel



1. Antenna holes
2. DB9 COM ports
3. Power button
4. HDD LED
5. DB15 GPIO
6. USB 2.0 Type-A
7. Line out

Rear Panel



8. 2.5GbE RJ45 LAN ports
9. Grounding terminal
10. Remote switch cable connector
11. HDMI® 2.0, resolution up to 4096x2160@60Hz
12. USB 3.2 Type-A
13. 12~24V DC input

Hardware Specifications

CPU Support

- Intel Atom® Processor X Series
 - Intel Atom® x7433RE processor, TDP 9W
 - Intel Atom® x7213RE Processor, TDP 9W
- Intel® Processor N series
 - Intel® processor N150, PBP 6W
 - Intel® processor N97, TDP 12W

Memory

- 1 x DDR5 4800 SO-DIMM, non-ECC, unbuffered, up to 16GB (Intel® processor N150)
- 1 x DDR5 4800 SO-DIMM, non-ECC, unbuffered, up to 32GB (Intel® processor N97/Intel Atom® Processor X Series)

Integrated Graphics

- Intel® Graphics

Display Interface

- 2 x HDMI® 2.0, up to 3840x2160@60Hz

Storage

- 1 x M.2 Key M 2242 (SATA)

Expansion Slot

- 1 x M.2 Key E 2230 (PCIe 3.0 x1, USB 2.0)
 - Support a Wi-Fi module
- 1 x M.2 Key B 3052 (PCIe 3.0 x1, USB 3.2)
 - Support a 5G/LTE module
- 1 x nano-SIM slot

I/O Interface Front

- 1 x Power button with LED
- 1 x HDD LED
- 2 x USB 2.0, Type-A
- 1 x Line out
- 1 x GPIO (DB15)
 - 6 x DI, 6 x DO
- 2 x COM port, supports RS-232/422/485 (RS-485 supports Auto Flow as default))
- 2 x Antenna hole

I/O Interface Rear

- 4 x USB 2.0, Type-A
- 2 x 2.5GbE RJ45 port, Intel® I226V
- 2 x HDMI® 2.0 output, up to 3840x2160@60Hz
- 1 x 3-pin Phoenix connector for DC 12V~24V power input
- 1 x 2-pin Phoenix header for remote switch
- 1 x Antenna hole

I/O Interface Internal

- 1 x 4-pin header for speaker out, amplifier 2W/4Ω
- 1 x 4-pin header for mic in
- 1 x 9-pin header for 4 x COM port (COM3~COM6, RS-232, reserved)
- 1 x 2-pin header for reset
- 1 x 2-pin header for buzzer
- 1 x 4-pin header for I2C
- 1 x 2-pin header for power button
- 1 x 4-pin (2x2) header for ATX power connector, 12V/5A output for PoE card
- 1 x 4-pin header for CPU FAN

Environment

- Operating temperature:
 - Intel Atom® Processor X Series: -20°C~60°C
 - Intel® Processor N series: -5°C~55°C w/ PoE card: -5°C~55°C
- Storage temperature: -20°C~80°C
- Humidity: 10%~95% (non-condensing)

System Capabilities

- TPM 2.0

Mechanical

- Dimensions:
 - NDiS B340: 158.4mm (W) x 189.6mm (D) x 44mm (H) (w/ bracket)
 - NDiS B340 w/ DockInfinity-E4X1: 263.2mm (W) x 189.6mm (D) x 44mm (H) (w/ bracket)
- Net Weight:
 - NDiS B340: 1.3kg
 - NDiS B340 w/ DockInfinity-E4X1: 2.0kg

Package Information

- Dimensions: 476mm (W) x 355mm (D) x 206mm (H)
- Gross weight:
 - NDiS B340: 4.6kg (2 units per carton)
 - NDiS B340 w/ DockInfinity-E4X1: 3.0kg (1 unit per carton)

Power Supply

Nominal voltage: DC +12V~24V, 120W

Certifications

- CE approval (EN 50035 + EN 50032)
- FCC Class A (Part 15B)
- LVD (EN 62368-1)

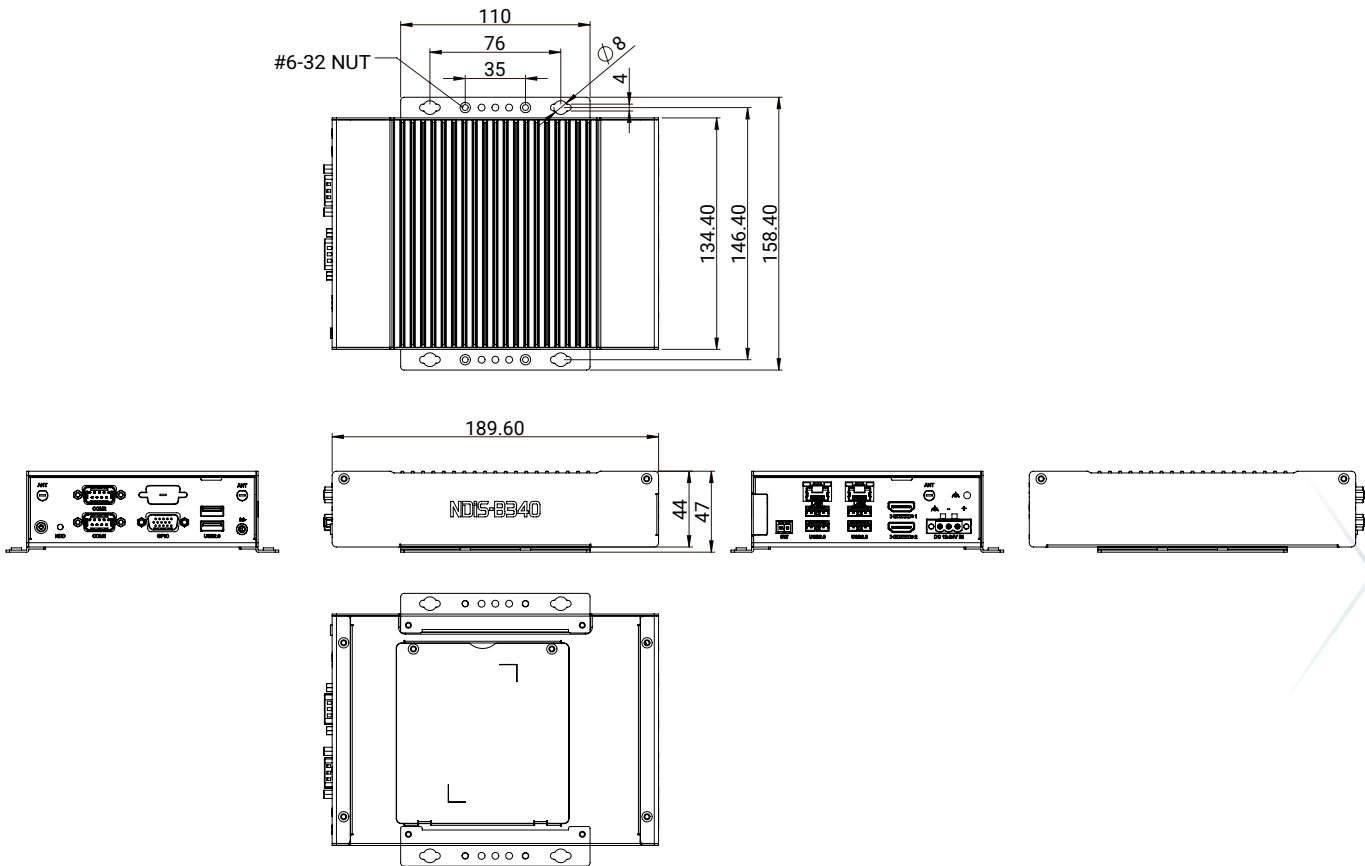
Dimensions

- 238mm (W) x 190mm (D) x 39mm (H)

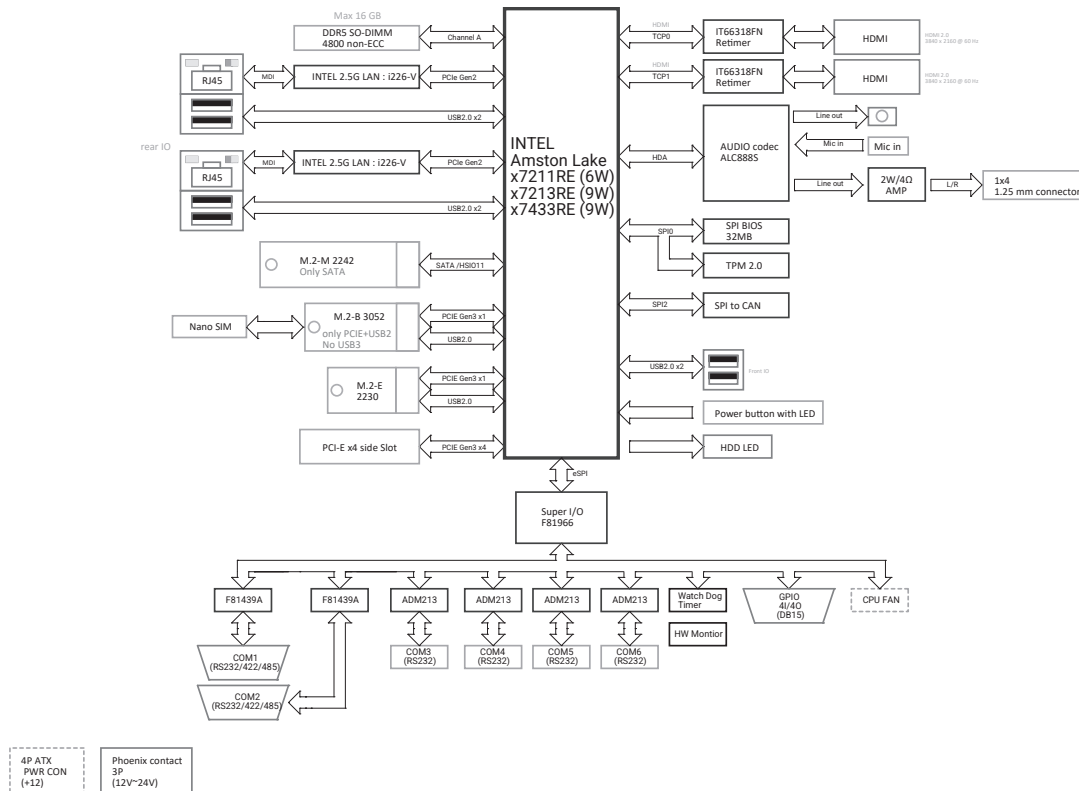
Operating System

- Windows 11
- Windows 10, 64bit
- Linux 5.15

Mechanical Dimensions



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CHAPTER 2: JUMPERS AND CONNECTORS

This chapter describes how to set the jumpers and connectors on the NDiS B340 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:

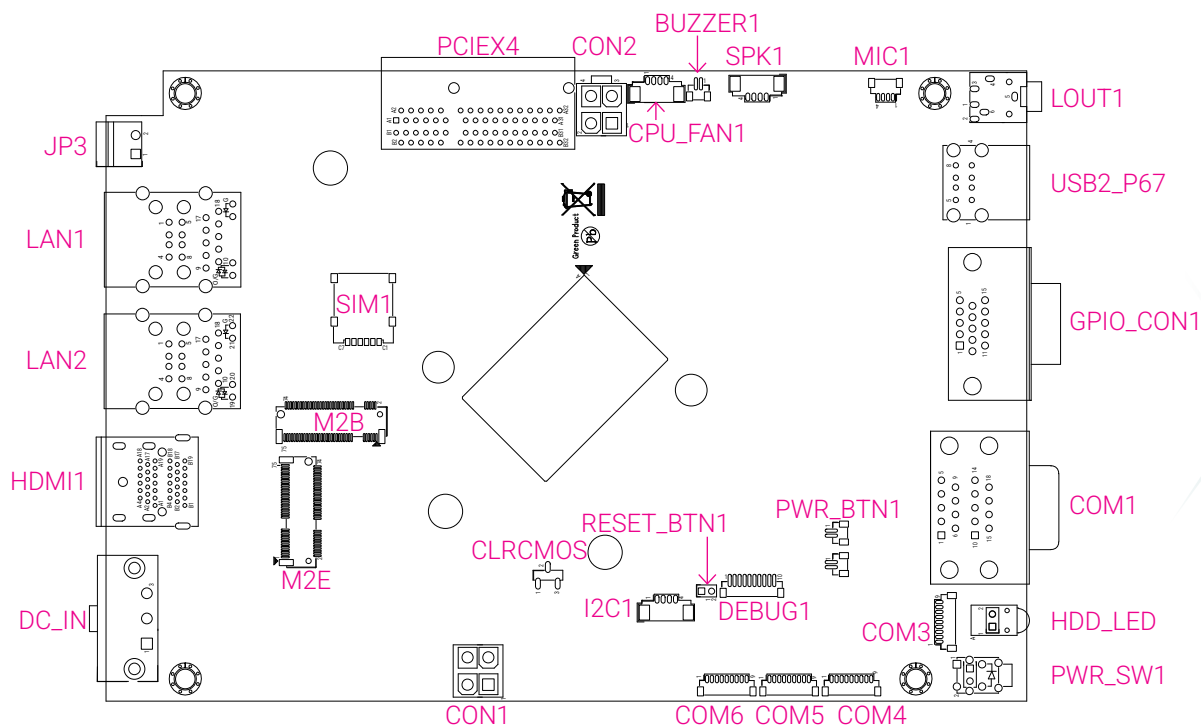
- Always disconnect the unit from the power outlet whenever you are working inside the case.
- If possible, wear a grounded wrist strap when you are working inside the computer case. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal 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.

System Motherboard Overview

This chapter outlines the location and pin assignments of jumpers and connectors, with reference illustrations (not to scale) and pink-marked pin definitions to aid understanding.

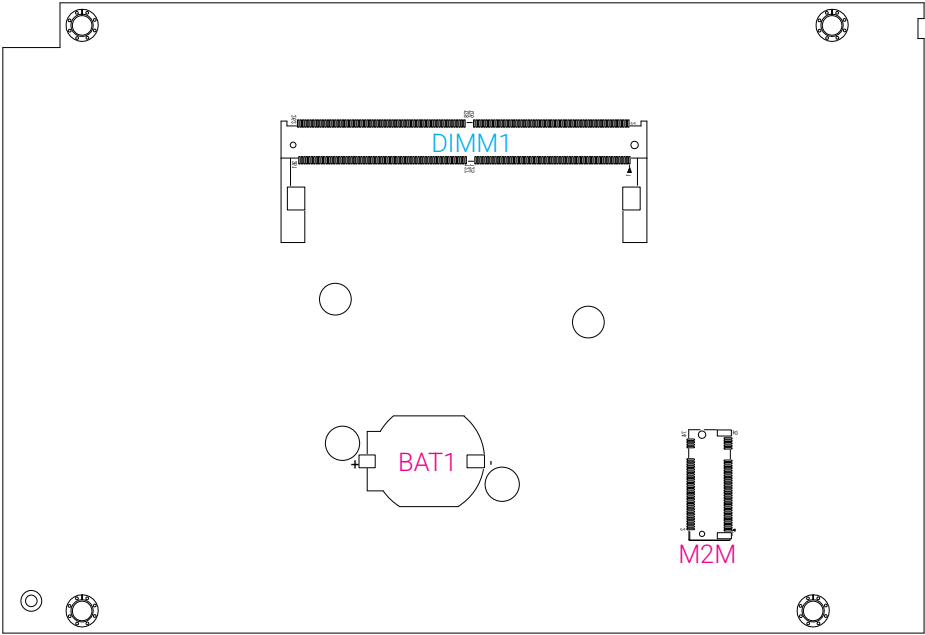
Location of Jumpers and Connectors on the Motherboard

Top View





Bottom View

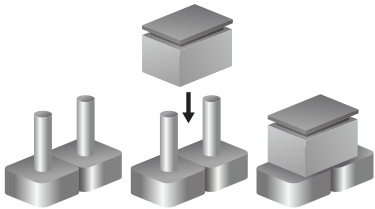


Jumper Settings

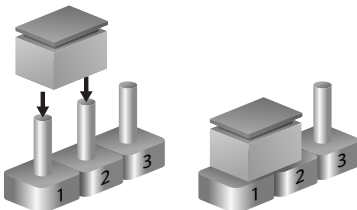
A jumper is the simplest kind of electric switch. It consists of two metal pins and a cap. When setting the jumpers, ensure that the jumper caps are placed on the correct pins. When the jumper cap is placed on both pins, the jumper is short. If you remove the jumper cap, or place the jumper cap on just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



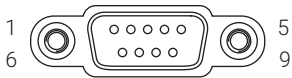
Three-Pin Jumpers: Pins 1 and 2 are Short



External I/O Interfaces

COM Ports

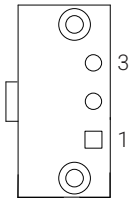
Connector location: COM1, COM2



Pin	RS-232	RS422	RS485
1	DCD#	TX- (B)	D- (B)
2	RXD	TX+ (A)	D+ (A)
3	TXD	RX+ (A)	
4	DTR#	RX- (B)	
5	GND		
6	DSR#		
7	RTS#		
8	CTS#		
9	RI#		

DC Input

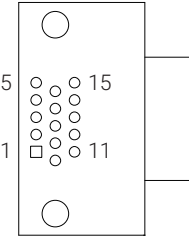
Connector location: DC_IN



Pin	Definition
1	+12V
2	GND
3	GND

GPIO

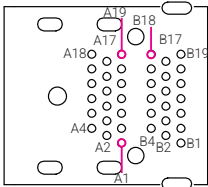
Connector location: GPIO_CON1



Pin	Definition	Pin	Definition
1	+5V	2	GPIO_GPI0
3	GPIO_GPI1	4	GPIO_GPI2
5	GPIO_GPI3	6	GND
7	GPIO_GPO0	8	GPIO_GPO1
9	GPIO_GPO2	10	GPIO_GPO3
11	GPIO_GPO4	12	GPIO_GPO5
13	GPIO_GPI4	14	GPIO_GPI5
15	GND		

HDMI® 2.0

Connector location: HDMI1



HDMI1

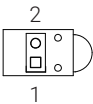
Pin	Definition	Pin	Definition
B1	HDMI1_TX2P	B2	GND
B3	HDMI1_TX2N	B4	HDMI1_TX1P
B5	GND	B6	HDMI1_TX1N
B7	HDMI1_TX0P	B8	GND
B9	HDMI1_TX0N	B10	HDMI1_CLK_P
B11	GND	B12	HDMI1_CLK_N
B13	NC	B14	NC
B15	HDMI1_SCL	B16	HDMI1_SDA
B17	GND	B18	HDMI1_P5V
B19	HDMI1_HPD		

HDMI2

Pin	Definition	Pin	Definition
A1	HDMI2_TX2P	A2	GND
A3	HDMI2_TX2N	A4	HDMI2_TX1P
A5	GND	A6	HDMI2_TX1N
A7	HDMI2_TX0P	A8	GND
A9	HDMI2_TX0N	A10	HDMI2_CLK_P
A11	GND	A12	HDMI2_CLK_N
A13	NC	A14	NC
A15	HDMI2_SCL	A16	HDMI2_SDA
A17	GND	A18	HDMI2_P5V
A19	HDMI2_HPD		

Storage LED

Connector location: HDD_LED



Pin	Definition	Pin	Definition
1	+P5V	2	GND

Terminal Block

Connector location: JP3

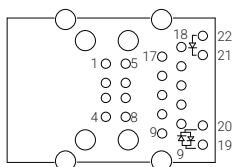


Pin	Definition	Pin	Definition
1	PBT_PU	2	GND

LAN1 + USB 2.0

Connector form factor: RJ45 + USB 2.0 Type-A

Connector location: LAN1

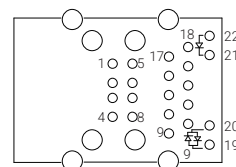


Pin	Definition	Pin	Definition
1	+P5VAUX_USB23	2	USB2_C_N2
3	USB2_C_P2	4	GND
5	+P5VAUX_USB23	6	USB2_C_N3
7	USB2_C_P3	8	GND
9	PHY1_VCC	10	PHY1_MDI0P
11	PHY1_MDI0N	12	PHY1_MDI1P
13	PHY1_MDI2P	14	PHY1_MDI2N
15	PHY1_MDI1N	16	PHY1_MDI3P
17	PHY1_MDI3N	18	GND
19	PHY1_1G_R	20	PHY1_1G
21	PHY1_ACT_N	22	PHY1_LED_P
Mh1	REAR_GND	Mh2	REAR_GND
Mh3	REAR_GND	Mh4	REAR_GND

LAN2 + USB 2.0

Connector form factor: RJ45 + USB 2.0 Type-A

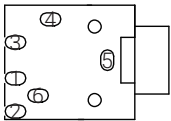
Connector location: LAN2



Pin	Definition	Pin	Definition
1	+P5VAUX_USB45	2	USB2_C_N5
3	USB2_C_P5	4	GND
5	+P5VAUX_USB45	6	USB2_C_N4
7	USB2_C_P4	8	GND
9	GND	10	PHY1_MDI0P
11	I226V2_MDI0N	12	I226V2_MDI1P
13	I226V2_MDI2P	14	I226V2_MDI2N
15	I226V2_MDI1N	16	I226V2_MDI3P
17	I226V2_MDI3N	18	GND
19	I226V2_1G_R	20	I226V2_1G
21	I226V2_ACT_N	22	I226V2_LED_P
Mh1	REAR_GND	Mh2	REAR_GND
Mh3	REAR_GND	Mh4	REAR_GND

Line Out

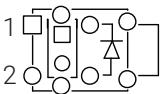
Connector location: LOUT1



Pin	Definition	Pin	Definition
1	HPOUT-R3_C	2	LINE2_JD
3	LINE2_AGND	4	HPOUT-L3_C
5	LINE2_AGND	6	LINE2_AGND

Power Button

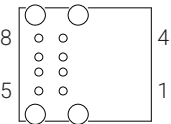
Connector location: PWR_SW



Pin	Definition	Pin	Definition
1	GND	2	HW_PWRBTN#
3	HW_PWRBTN#	4	GND
A1	PWRLED_N	C1	PWRLED_P
MH1	NC	MH2	NC

USB 2.0 Ports

Connector location: USB2_P67

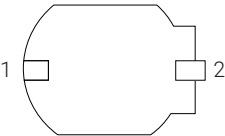


Pin	Definition	Pin	Definition
1	+P5VAUX_USB67	2	USB2_C_N7
3	USB2_C_P7	4	GND
5	USB2_C_N7	6	USB2_C_N6
7	USB2_C_P6	8	GND
MH1	FRONT_GND	MH2	FRONT_GND
MH3	FRONT_GND	MH4	FRONT_GND

Internal I/O Interfaces

Battery Connector

Connector location: BAT1



Pin	Definition
1	BAT
2	GND

Buzzer Connector

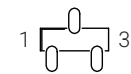
Connector location: BUZZER1



Pin	Definition
1	BUZZER_P
2	BUZZER_N

Clear CMOS

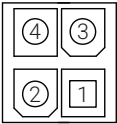
Connector location: CLRCMOS



Pin	Definition
1-2 on	Normal (default)
2-3 on	Clear CMOS

12V Power Connector

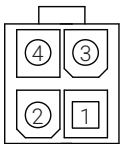
Connector location: CON1



Pin	Definition	Pin	Definition
1	GND	2	GND
3	12V	4	12V

12V Power Connector

Connector location: CON2



Pin	Definition	Pin	Definition
1	GND	2	GND
3	12V	4	12V

COM Ports

Connector location: COM3, COM4, COM5, COM6



Pin	Definition
1	RI
2	CTS
3	RTS
4	DSR
5	GND
6	DTR
7	TXD
8	RXD
9	DCD
10	+3.3VSB

Fan Connector

Connector location: CPU_FAN1



Pin	Definition
1	GND
2	+12V
3	FAN SPEED DETECT
4	FAN SPEED CONTROL

80 debug port

Connector location: DEBUG1



Pin	Definition	Pin	Definition
1	GND	2	PLTRST#
3	ESPI_CLK	4	ESPI_CS#
5	ESPI_IO3	6	ESPI_IO2
7	ESPI_IO1	8	ESPI_IO0
9	ESPI_RST#	10	3.3V

I2C Connector

Connector location: I2C1



Pin	Definition	Pin	Definition
1	GND	2	I2C_DAT_5V
3	I2C_CLK_5V	4	+P5V_I2C

M.2 Key B

Connector form factor: M.2 Key B 3052
Connector interface: PCIe 3.0 x1, USB 3.2
Connector location: M2B

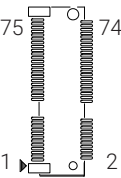


Pin	Definition	Pin	Definition
1	NC	2	+P3V3_AUX
3	GND	4	+P3V3_AUX
5	GND	6	M2B_PWR_EN
7	M2B_USB2P	8	M2B_WIFI_DISABLE#
9	M2B_USB2N	10	M2B_DSS#_R
11	GND		
Key			
21	NC	20	NC
23	NC	22	NC
25	NC	24	NC
27	GND	26	M2B_GNSS_DISABLE#
29	NC	28	UIM_VPP1
31	NC	30	UIM_RST1
33	GND	32	UIM_CLK1
35	NC	34	UIM_DATA1
37	NC	36	UIM_PWR1
39	GND	38	NC
39	GND	40	NC

Pin	Definition	Pin	Definition
41	M2B_RXN	40	NC
43	M2B_RXP	42	NC
45	GND	44	NC
47	M2B_TXN	46	NC
49	M2B_TXP	48	NC
51	GND	50	BUFF_PLTRST#
53	CLKOUT_PCIE_N4	52	SRCCLKREQ4#
55	CLKOUT_PCIE_P4	54	M2B_WAKE#
57	GND	56	NC
59	NC	58	NC
61	NC	60	NC
63	NC	62	NC
65	NC	64	NC
67	M2B_LTE_RESET#	66	NC
69	NC	68	M2B_SUSCLK
71	GND	70	+P3V3_AUX
73	GND	72	+P3V3_AUX
75	NC	74	+P3V3_AUX

M.2 Key E

Connector form factor: M.2 Key E 2230
Connector interface: PCIe 3.0 x1, USB 2.0
Connector location: M2E



Pin	Definition	Pin	Definition
1	GND	2	+P3V3_AUX
3	M2E_USB2P	4	+P3V3_AUX
5	M2E_USB2N	6	NC
7	GND	8	NC
9	NC	10	NC
11	NC	12	NC
13	NC	14	NC
15	NC	16	NC
17	NC	18	GND
19	NC	20	NC
21	NC	22	NC
Key			
33	GND	32	NC
35	M2E_PET0P	34	NC
37	M2E_PET0N	36	NC
39	GND	38	NC
41	PCIE9_RXP	40	NC
43	PCIE9_RXN	42	NC

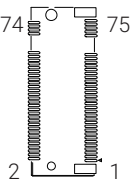
Pin	Definition	Pin	Definition
45	GND	44	NC
47	CLKOUT_PCIE_P2	46	NC
49	CLKOUT_PCIE_N2	48	NC
51	GND	50	M2E_SUSCLK
53	SRCCLKREQ2#	52	M2E_PERST#
55	PCIE_WAKE#	54	NC
57	GND	56	NC
59	NC	58	NC
61	NC	60	NC
63	GND	62	NC
65	NC	64	NC
67	NC	66	NC
69	GND	68	NC
71	NC	70	NC
73	NC	72	+P3V3_AUX
75	GND	74	+P3V3_AUX
73	PEFCLKN1	74	3.3V_4
75	GND11		

M.2 Key M

Connector form factor: M.2 Key M 2242

Connector interface: SATA

Connector location: M2M



Pin	Definition	Pin	Definition
1	GND	2	+P3V3
3	GND	4	+P3V3
5	NC	6	NC
7	NC	8	NC
9	GND	10	M2M_LED#
11	NC	12	+P3V3
13	NC	14	+P3V3
15	GND	16	+P3V3
17	NC	18	+P3V3
19	NC	20	NC
21	GND	22	NC
23	NC	24	NC
25	NC	26	NC
27	GND	28	NC
29	NC	30	NC
31	NC	32	NC
33	GND	34	NC
35	NC	36	NC

Pin	Definition	Pin	Definition
37	NC	38	NC
39	GND	40	NC
41	SATA_RXP(PCIE12_RXP)	42	NC
43	SATA_RXN(PCIE12_RXN)	44	NC
45	GND	46	NC
47	SATA_TXN(PCIE12_TXN)	48	NC
49	SATA_TXP(PCIE12_TXP)	50	BUFF_PLTRST#
51	GND	52	SRCCLKREQ3#
53	CLKOUT_PCIE_N3	54	WAKE#
55	CLKOUT_PCIE_P3	56	NC
57	GND	58	NC
Key			
67	NC	68	NC
69	M2M_PEDET	70	VCC3
71	GND	72	VCC3
73	GND	74	VCC3
75	GND		

Microphone Input

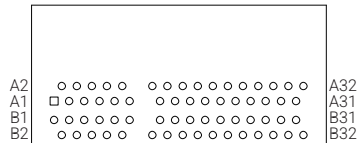
Connector location: MIC1



Pin	Definition	Pin	Definition
1	MIC_OUT-L	2	MIC_AGND
3	MIC_JD	4	MIC_OUT-R

PCIe Connector

Connector form factor: M.2 Key M 2242
Connector physical slot: x16
Connector location: PCIeX4



Pin	Definition	Pin	Definition
A1	GND	A17	PCIEX1_RXN
A2	+P12V	A18	GND
A3	+P12V	A19	NC
A4	GND	A20	GND
A5	PCIEX4_TCK	A21	PCIEX2_RXP
A6	PCIEX4_TDI	A22	PCIEX2_RXN
A7	NC	A23	GND
A8	PCIEX4_TMS	A24	GND
A9	+P3V3	A25	PCIEX3_RXP
A10	+P3V3	A26	PCIEX3_RXN
A11	PCIEX4_RST#	A27	GND
A12	GND	A28	GND
A13	CLKOUT_PCIE_P0	A29	PCIEX4_RXP
A14	CLKOUT_PCIE_N0	A30	PCIEX4_RXN
A15	GND	A31	GND
A16	PCIEX1_RXP	A32	NC

Pin	Definition	Pin	Definition
B1	+P12V	B17	NC
B2	+P12V	B18	GND
B3	+P12V	B19	PCIEX4_TXP2
B4	GND	B20	PCIEX4_TXN2
B5	PCIEX4_SMBCLK	B21	GND
B6	PCIEX4_SMBDAT	B22	GND
B7	GND	B23	PCIEX4_TXP3
B8	+P3V3	B24	PCIEX4_TXN3
B9	PCIEX4_TRST	B25	GND
B10	+P3V3_AUX	B26	GND
B11	PCIEX4_WAKE#	B27	PCIEX4_TXP4
B12	SRCCLKREQ0#	B28	PCIEX4_TXN4
B13	GND	B29	GND
B14	PCIEX4_TXP1	B30	NC
B15	PCIEX4_TXN1	B31	NC
B16	GND	B32	GND

Remote SW

Connector location: PWR_BTN



Pin	Definition
1	GND
2	HW_PWRBTN#

System Reset Button

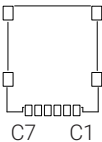
Connector location: RESET_BTN1



Pin	Definition
1	GND
2	RESET#

SIM Card

Connector location: SIM1



Pin	Definition	Pin	Definition
C1	UIM_PWR	C5	GND
C2	UIM_RESET	C6	UIM_VPP_R
C3	UIM_CLK	C4	UIM_DATA
MH1	GND	MH3	GND
MH2	GND	MH4	GND

Speaker Connector

Connector location: SPK1



Pin	Definition
1	L_OUT+
2	L_OUT-
3	R_OUT+
4	R_OUT-

CHAPTER 3: SYSTEM SETUP



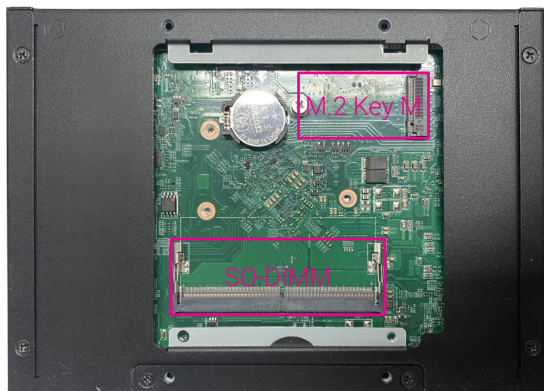
Prior to removing the chassis cover, make sure the unit's power is off and disconnected from the power sources to prevent electric shock or system damage.

Installing a SO-DIMM or an SSD Module

1. Remove the screws shown in the image below. Then, use your finger to lift the rear panel at the notch indicated by the arrow.



2. Once the rear panel is open, locate the SO-DIMM or M.2 Key M slots.



3. Follow the steps below to install the memory modules.

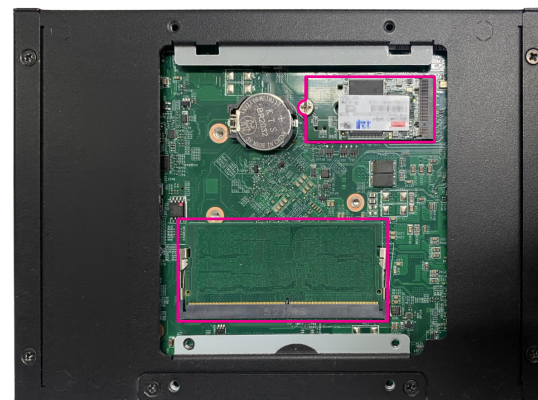
To insert the DDR5 memory:

Insert the module into the socket at an approximately 30-degree angle. Push the module down until the clips on both sides of the socket lock into position. The gold-plated connector on the edge of the module will almost completely disappear inside the socket.

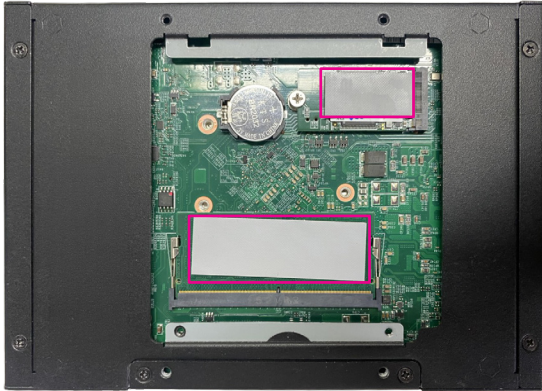
The supported memory capacity for this slot depends on the model. Systems with the Intel® Processor N150 support up to 16 GB of memory, while systems with the N97/Atom Processor X series support up to 32 GB.

To insert the storage memory:

Insert the module into the corresponding slot at a 45-degree angle until the gold-plated connector on the edge of the module completely disappears. With the module fully inserted, tighten the screw in the mounting hole to secure it.



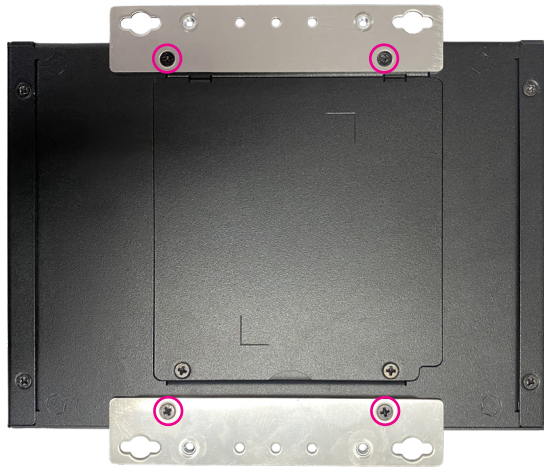
4. Once the memory module is inserted, peel off the film from the thermal pad and attach it to the top of the memory module. Repeat the same procedure for the other module.



The thermal pads shown here are for reference only. The actual thermal pads may vary depending on the shipment.

Installing M.2 Modules

1. Remove the screws securing the wall mount brackets on both sides, then detach the brackets.

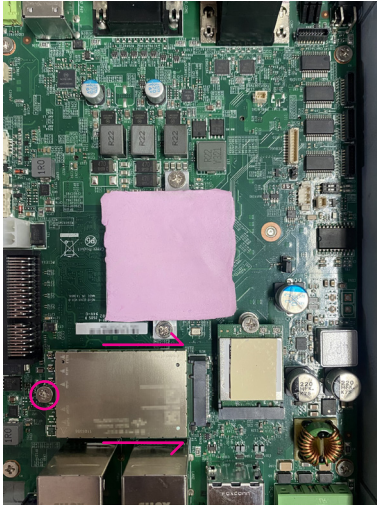


2. Remove the screws shown in the images below, then lift the top cover slightly.



Installing a Cellular/Mobile Module

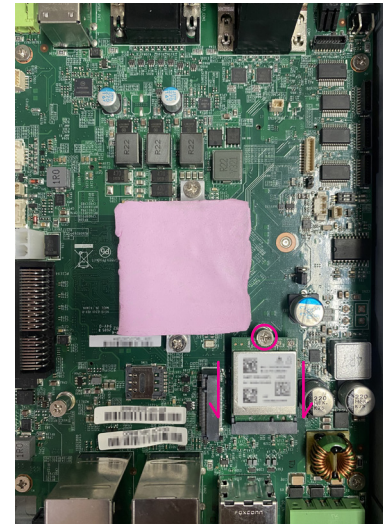
1. Insert a cellular/mobile module into the M.2 Key B (3052) slot at a 45-degree angle until the gold-plated connector on the edge of the module completely disappears.
2. With the module fully inserted, tighten the screw in the mounting hole to secure it.



To enable cellular/mobile network functionality, ensure the SIM card is properly inserted into the SIM slot located beneath the network module.

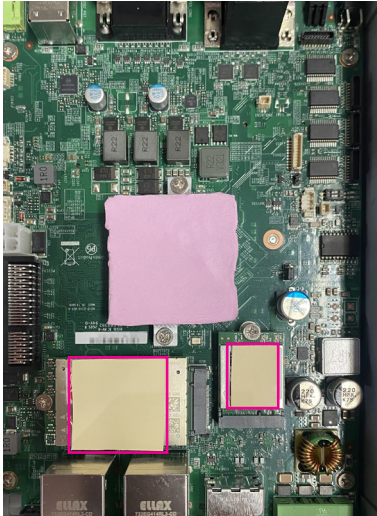
Installing a Wi-Fi Modules

1. Insert a Wi-Fi module into the M.2 Key E (2230) slot at a 45-degree angle until the gold-plated connector on the edge of the module completely disappears.
2. With the module fully inserted, tighten the screw in the mounting hole to secure it.



Attaching the Thermal Pad

- Peel off the protective film from the thermal pad, then attach the thermal pad to the LTE/Wi-Fi module.



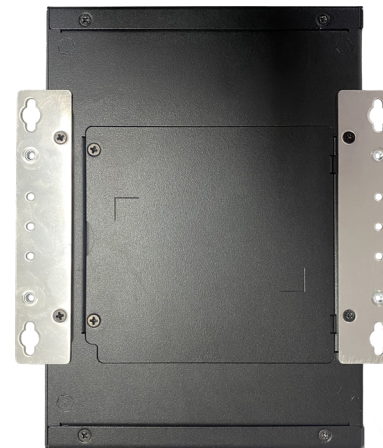
Installing the Wall Mount Brackets

Some models in this product series are shipped without the wall mount brackets pre-installed. If your system does not have the wall mount brackets installed, follow the steps below to install them.

1. Align the mounting holes on a wall mount bracket with the corresponding mounting holes on the system. Secure the bracket using the supplied screws.



2. Repeat Steps 1 and 2 to install the wall mount bracket on the opposite side of the system.



Installing the DockInfinity (Optional)

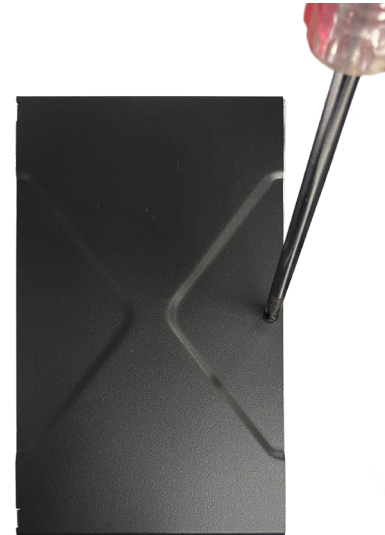


This system is part of a product series that supports various docking modules. The installation procedure described in this section uses the DockInfinity-E4X1 model as the reference example. The installation steps may vary depending on the docking model used.

1. Follow the instructions in the previous section to remove the wall mount brackets if they are pre-installed.
2. Remove the screws from the side panel (left side when viewed from the front panel), then detach the side panel. Place the side panel aside for later use.



3. Remove the screw shown on the image below.



4. Slide the dock's top cover outward to remove it.



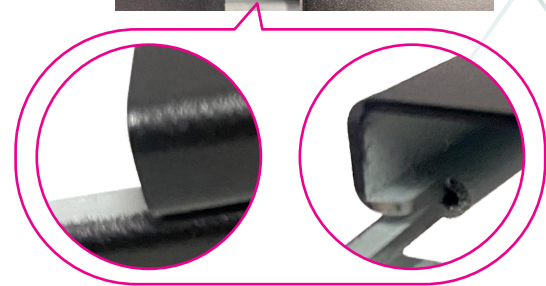
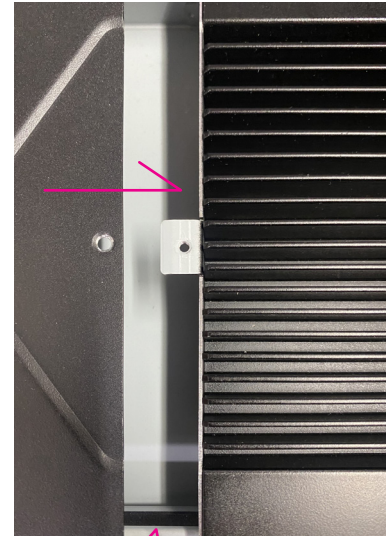
5. Align the dock with the system's mounting holes, then gently push the dock's latch into the system.



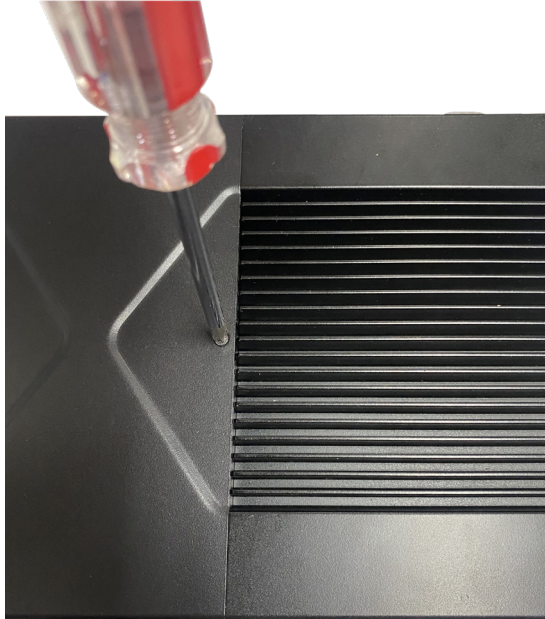
- Secure the dock using the screws.



- Slide the top cover back to the dock. Note that the dock features a guide rail on the top. Slide the top cover along the guide rail until it is fully engaged to ensure a secure fit.



8. Secure the top cover onto the dock.



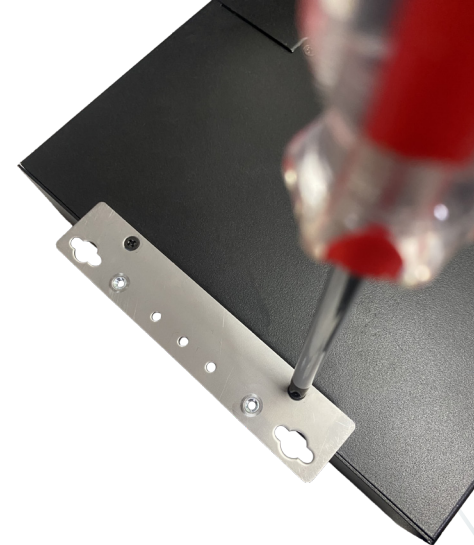
9. Reinstall the side panel removed in [Step 2](#) onto the dock.



10. Turn the system over to access the bottom side, then secure the dock to the system.



11. Secure the wall mount brackets.



CHAPTER 4: BIOS SETUP

This chapter describes how to use the BIOS setup program for the NDiS B340 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 NEXCOM Web site at www.nexcom.com.tw.

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 such items 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.

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 .

Legends

Key	Function
 	Moves the highlight left or right to select a menu.
 	Moves the highlight up or down between sub-menus 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

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  to accept or enter the submenu.

Main

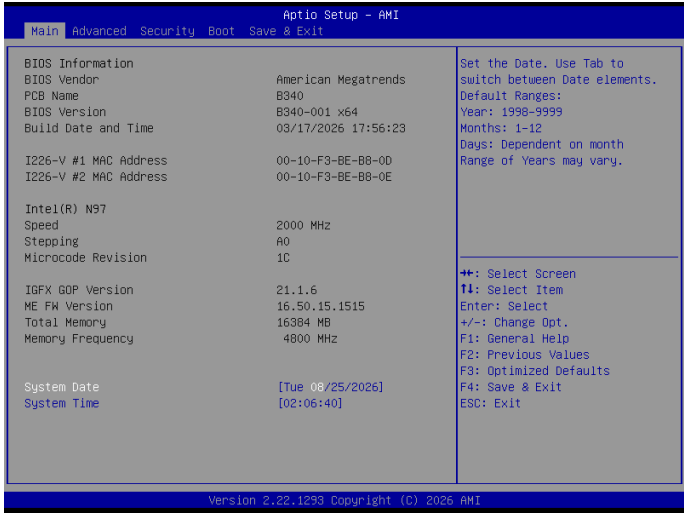
The Main menu is the first screen that you will see when you enter the BIOS Setup Utility.

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 1999 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.

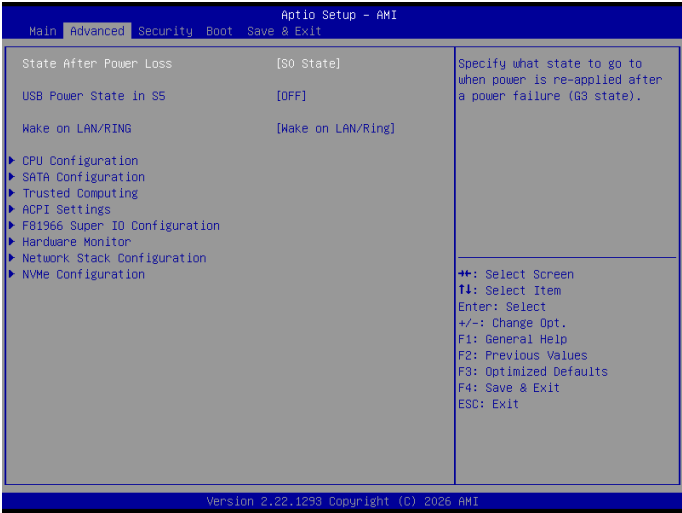


Advanced

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.



State After Power Loss

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

USB Power State in S5

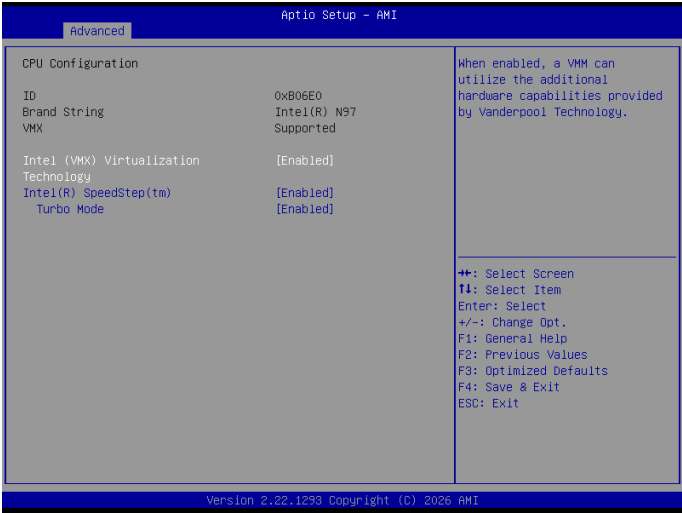
Configure the USB power state in S5.

Wake on LAN/RING

Enable or disable the integrated LAN/RING to wake the system.



CPU Configuration



Intel® Virtualization Technology

When enabled, the VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

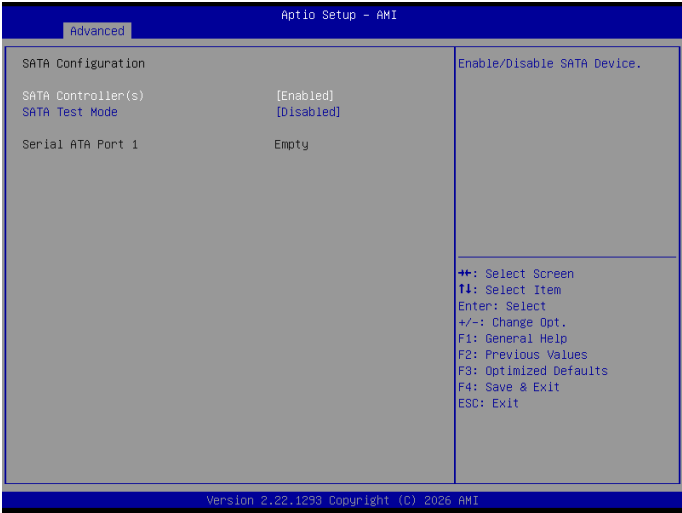
Intel(R) SpeedStep(tm)

Enable or disable Intel SpeedStep.

Turbo Mode

Enable or disable turbo mode

SATA Configuration



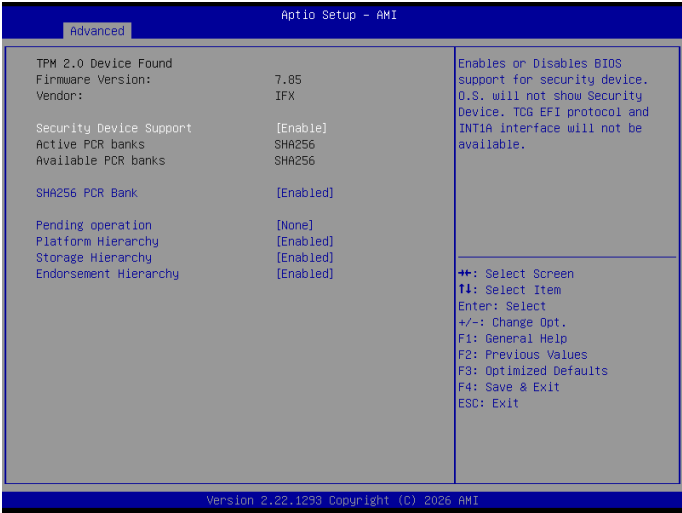
SATA Controller(s)

Enable or disable SATA device.

SATA Test Mode

Enable or disable SATA test mode.

Trusted Computing



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.

Platform Hierarchy

Enable or disable platform hierarchy.

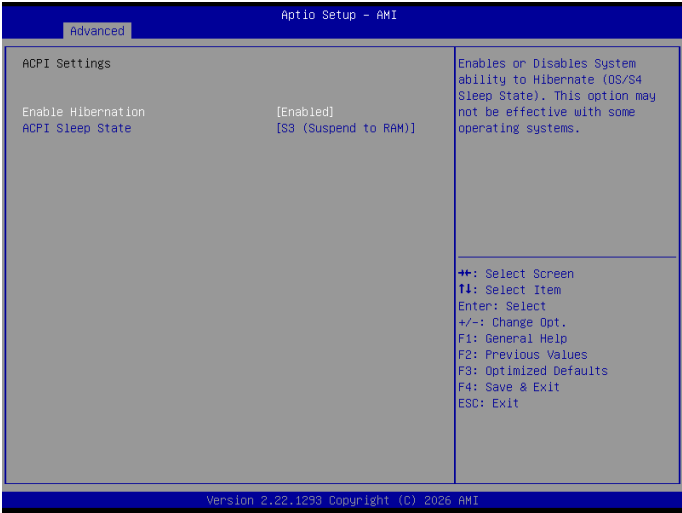
Storage Hierarchy

Enable or disable storage hierarchy.

Endorsement Hierarchy

Enable or disable endorsement hierarchy

ACPI Settings



Enable Hibernation

Enable or disable system ability to hibernate (OS/S4 Sleep State). This option may not be effective with some operating systems.

ACPI Sleep State

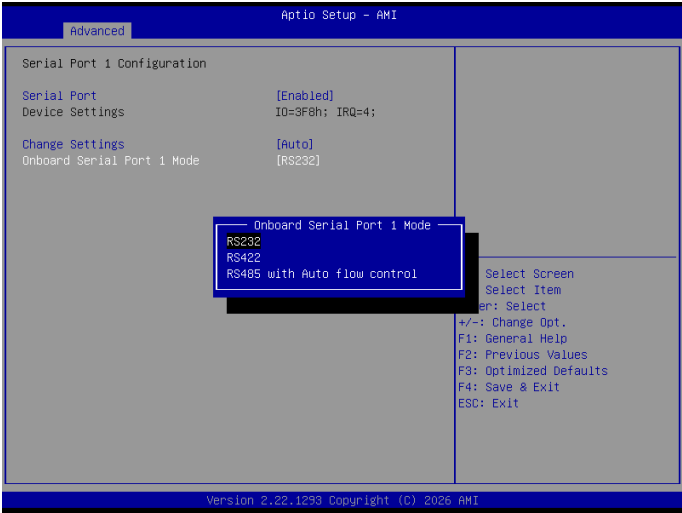
Select the highest ACPI sleep state the system will enter when the suspend button is pressed. The options are Suspend Disabled and S3 (Suspend to RAM).

F81966 Super IO Configuration



Serial Port 1~6 Configuration
Press <Enter> to open each submenu.

F81966 Super IO Configuration > Serial Port 1(~6) Configuration

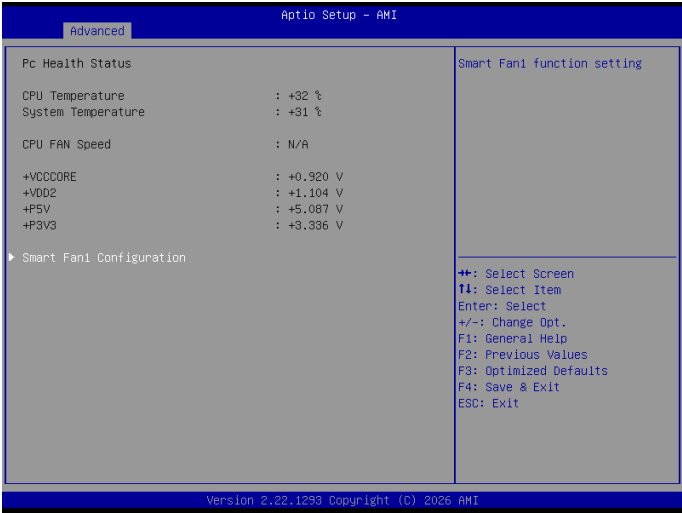


Serial Port 1(~6)
Enable or disable the serial port.

Change Settings 1(~6)
Select an optimal setting for the Super IO device

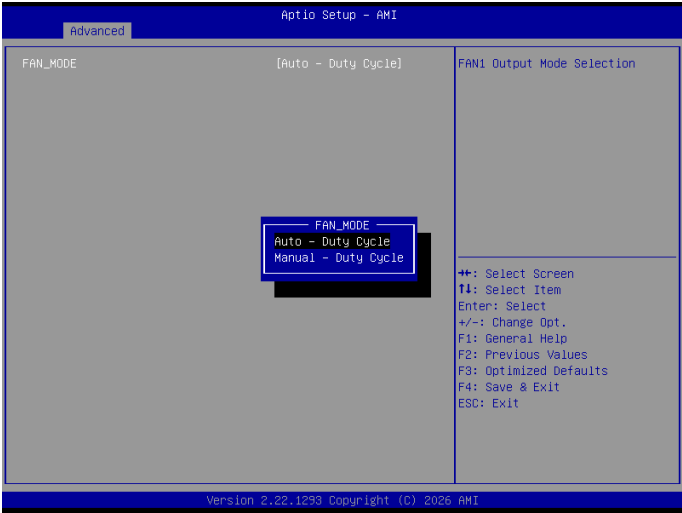
Onboard Serial 1(~2) Port Mode
Select this to change the serial port mode to RS-232, RS-422, or RS-485.

Hardware Monitor



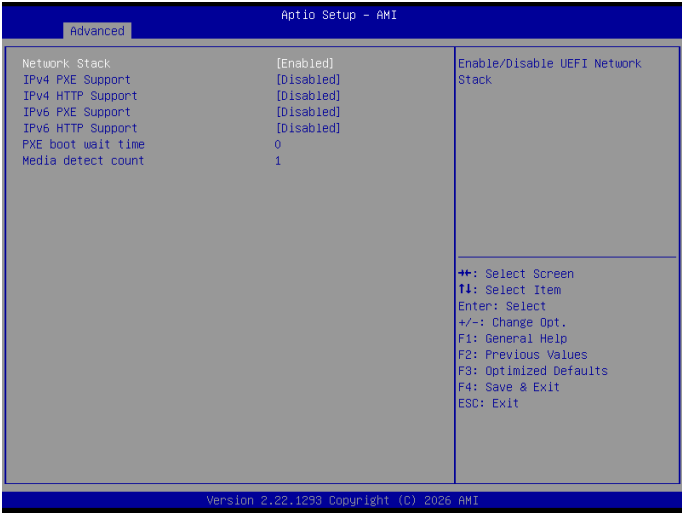
Smart Fan1 Configuration
Press <Enter> to open the submenu.

Hardware Monitor > Smart Fan1 Configuration



FAN_MODE
Fan1 output mode selection.

Network Stack Configuration



Network Stack

Enable or disable UEFI network stack.

IPv4 PXE Support

Enable or disable IPv4 PXE support. If disabled, the IPv4 boot option will not be created.

IPv4 HTTP Support

Enable or disable IPv4 HTTP support. If disabled, the IPv4 boot option will not be created.

IPv6 PXE Support

Enable or disable IPv6 PXE support. If disabled, the IPv6 boot option will not be created.

IPv6 HTTP Support

Enable or disable IPv6 HTTP support. If disabled, the IPv6 boot option will not be created.

PXE boot wait time

Wait time in seconds to press ESC key to abort the PXE boot. Use either +/- or numeric keys to set the value.

Media detect count

Number of times presence of media will be checked. Use either +/- or numeric keys to set the value.

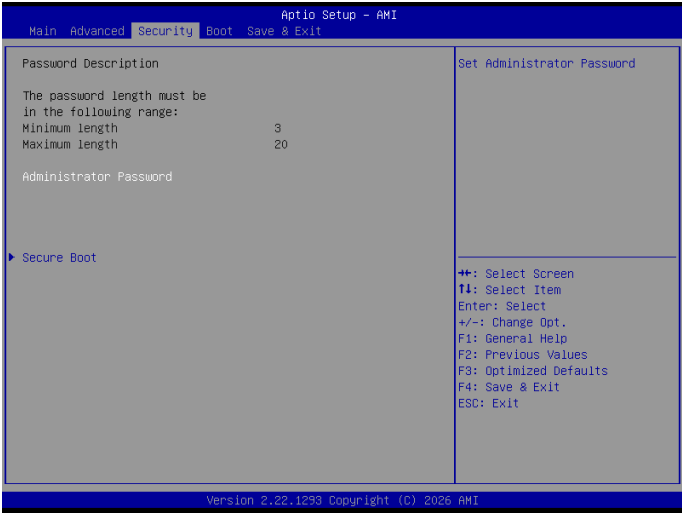


NVMe Configuration



When an NVMe device is plugged in, press <Enter> to open the submenu and view detailed information about the device.

Security



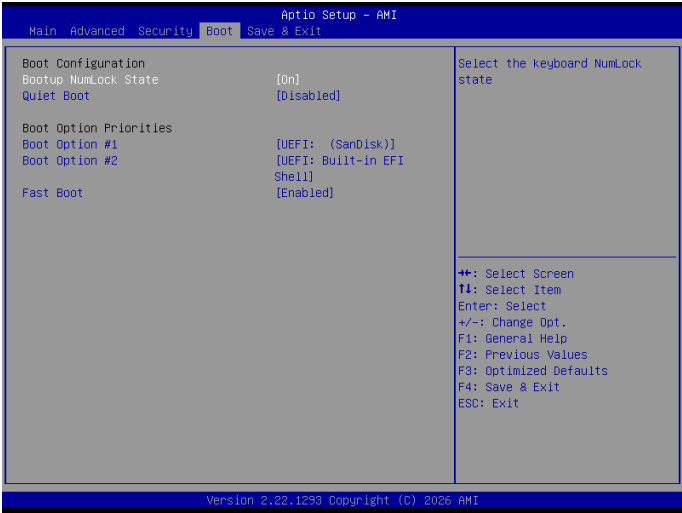
Administrator Password

Select this to configure the administrator's password.

Secure Boot

Press <Enter> to open the submenu.

Boot



Bootup NumLock State

Select the keyboard NumLock state.

Quick Boot

When enabled, displays the OEM logo instead of POST messages. When disabled, displays the normal POST messages.

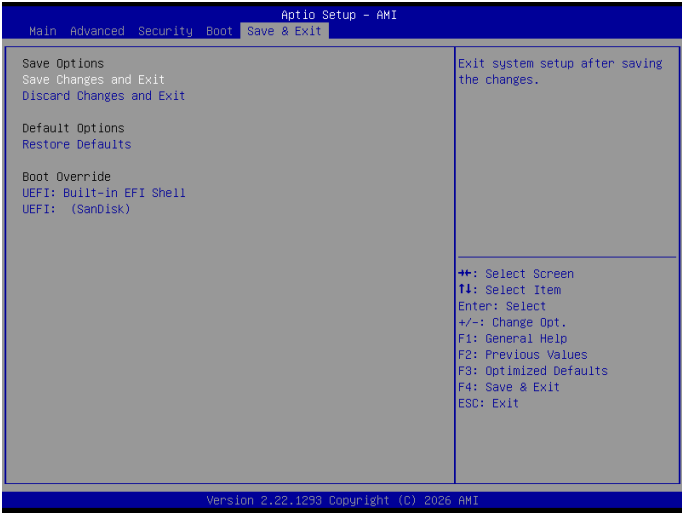
Boot Option Priorities

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

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.

Restore Defaults

To restore the BIOS to default settings, select this field then press <Enter>. A dialog box will appear. Confirm it by selecting 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: POWER CONSUMPTION

System Feature and Configuration

Item	Description
System	NDiS B340
CPU	Intel® N97
System Memory	16GB DDR5 4800 SO-DIMM
Wi-Fi Module	WNFT-238AX(BT)
5G Module	Qualcomm Snapdragon X55
Storage Device	M.2 Key M 2242 128GB SSD
Operating System	Windows10 Enterprise x64 (22H2)

Test Data

Test Voltage	12V	
S3	Watts(W)	2.4
Idle	Watts(W)	27.6
Full Load	Watts(W)	49.2

Power Consumption of Add-on Module

Wifi Module	Watts(W)	3
5G/LTE Mode	Watts(W)	5.6

Test Condition

Item	Test	Description	Test
BurnIn Item(100%)	✓	Burn-in Item(100%)	✓
2D Graphic	✓	Serial Port COM1/COM2	✓
3D Graphic	✓	Sound	✓
CPU	✓	Video Playback	✓
Disk (M.2 PCIe)	✓	USB 2.0 Port x6 (Keyboard/Mouse)	✓
GPGPU	✓	USB 3.0 Port USB Dummy Load (1A x4)	✗
Memory (RAM)	✓	Network	✓
TPM	✓	Speaker	✗