



**NEXCOM International Co., Ltd.**

# **Intelligent Platform & Services Business Unit**

## **Digital Signage Platform**

### **NDiS V1100**

#### User Manual

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# PREFACE

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## Acknowledgements

NDiS V1100 is a trademark of NEXCOM International 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



### **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.

## 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.

## 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. The unit is intended only for use in a RESTRICTED ACCESS AREA for Standard 60950-1 used only.
18. **ATTENTION: Risque d'explosion si la batterie est remplacée par un type incorrect. Mettre au rebus les batteries usagées selon les instructions.**

CAUTION: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
19. 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).
20. This product is intended to be supplied by a Listed (Certificate) power adapter, rated 12Vdc minimum, 10A minimum Tma 45 degree C minimum and altitude 2000m, if further assistance is needed, please contact NEXCOM International Co., Ltd. further information.

## Technical Support and Assistance

1. For the most updated information of NEXCOM products, visit NEXCOM's website at [www.nexcom.com](http://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.

## Global Service Contact Information

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## Package Contents

Before continuing, verify that the NDiS V1100 package that you received is complete. Your package should have all the items listed in the following table.

Item	Part Number	Name	Description	Qty
1	5060200638X00	Thermal Pad	Thermal Pad For Neu-X300-Q370-F65 Ver:A S.W	1
2	7400096008X00	Power Adapter	Power Adapter FSP:FSP096-AHAN3(9NA0961432)	1

## Ordering Information

The following below provides ordering information for NDiS V1100.

- **NDiS V1100-i3 (P/N: 10W00110000X0)**  
11th Gen Intel® Core™ i3-1115G4E processor fanless system,  
0°C~45°C
- **NDiS V1100-i5 (P/N: 10W00110001X0)**  
11th Gen Intel® Core™ i5-1145G7E processor fanless system,  
0°C~45°C

# CHAPTER 1: PRODUCT INTRODUCTION

## NDiS V1100

### Overview



### Key Features

- 11th Gen Intel® Core™ (Tiger Lake UP3) processor SoC
- Dual non-ECC DDR4 3200 SO-DIMM, support up to 32Gb
- 4 x HDMI 2.0, support 4K@60Hz
- Dual LAN ports and 3 x USB 3.0 ports
- Onboard M.2 2280 Key M with PCIe x4 signal for storage modules
- Onboard mini-PCIe for optional Wi-Fi or LTE modules
- Fanless design

## Hardware Specifications

### CPU Support

- Onboard 11th Gen Intel® Core™ i3-1115G4E processor, dual core, 2.2 GHz, 6M cache
- Onboard 11th Gen Intel® Core™ i5-1145G7E processor, quad core, 1.5 GHz, 8M cache
- Onboard 11th Gen Intel® Core™ i7-1185G7E processor, quad core, 1.8 GHz, 12M cache (by request)

### Chipset

- SoC (codenamed Tiger Lake UP3)

### Main Memory

- 2 x 260-pin DDR4 SO-DIMM, supports non-ECC, un-buffered memory up to 64G

### Graphics & Display

- Intel® UHD graphics on i3 processor
- Intel® Iris® Xe graphics on i5 and i7 processor
- 4 x HDMI, support 4096 x 2160@60Hz

### Interface-Rear

- 1 x power button with LED
- 1 x HDD LED
- 2 x DB9
  - COM1: RS232/422/485
  - COM2: RS232

### I/O Interface-Rear

- 1 x 4-pin DC Jack, 12V
- 4 x HDMI
- 2 x RJ45 Intel® Gigabit LAN port
  - 1 x Intel® I219-LM GbE PHY
  - 1 x Intel® I225-V GbE LAN
- 3 x USB 3.0
- 1 x USB 2.0

### I/O Interface-Internal

- 4 x USB 2.0, internal connector
- 1 x Mic-in/Line out, internal connector
- 1 x Speaker out with 2W/4Ω amplifier, internal connector
- 8 x GPIO pin header for 4 x GPI and 4 x GPO
- 1 x 4-pin connector for PWM smart fan
- Onboard TPM2.0

### Expansion

- 1 x M.2 3052 Key B, support optional 5G modules
- 1 x mini-PCIe, support optional 4G/Wi-Fi/Bluetooth modules

### Storage

- 1 x M.2 2280 Key M (PCIe Gen4 x4, SATA III), support optional storage modules
- 1 x SATA & SATA power connector



## Power Supply

- 1 x External 96W AC/DC power adapter
- Input: 100V AC to 240V AC
- Output: DC+12VDC

## Environment

- Operating temperature: 0°C to 45°C
- Storage temperature: -20°C to 80°C
- Humidity: 10 to 90% (non-condensing)

## Certification

- CE Approval
- FCC Class A

## Dimensions

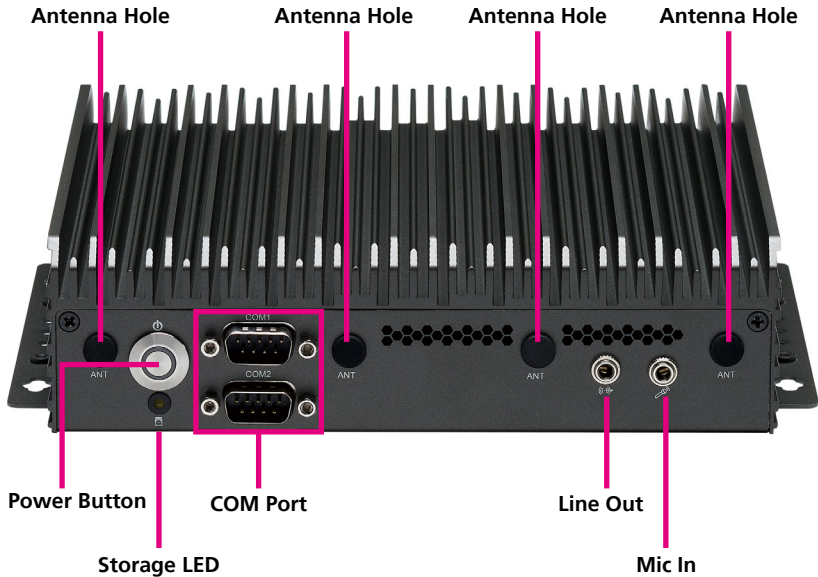
- 190mm (W) x 165mm (D) x 51.1mm (H) (without wall mount bracket)

## Operating System Support

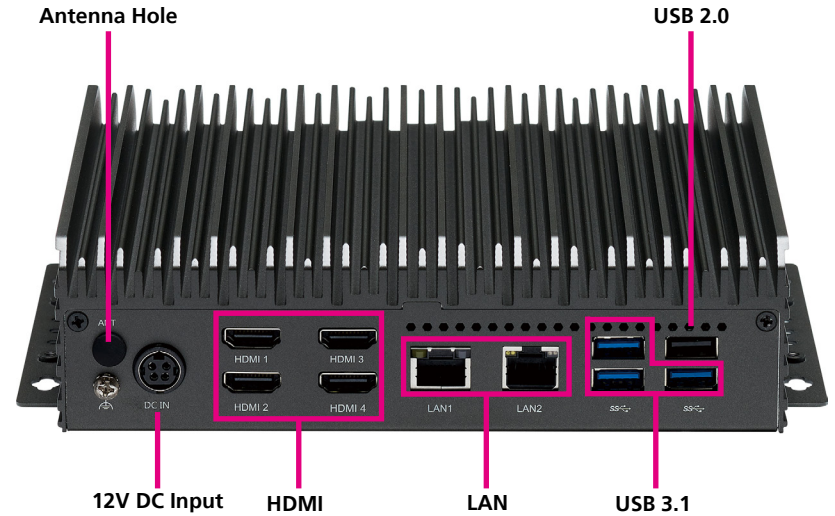
- Win10/Linux

# Physical Features

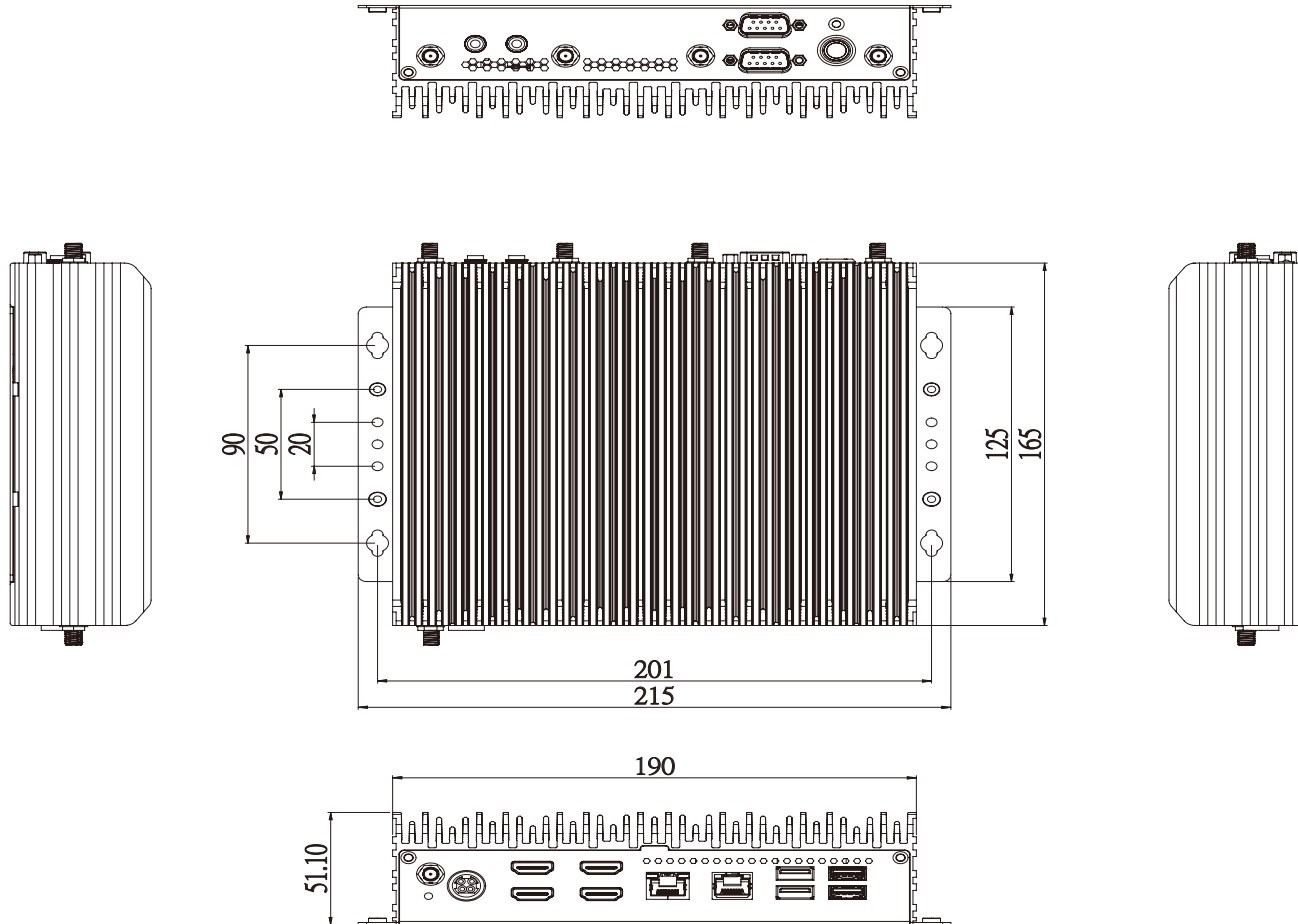
## Front Panel



## Rear Panel



# Mechanical Dimensions



## CHAPTER 2: JUMPERS AND CONNECTORS

This chapter describes how to set the jumpers and connectors on the NDiS V1100 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:

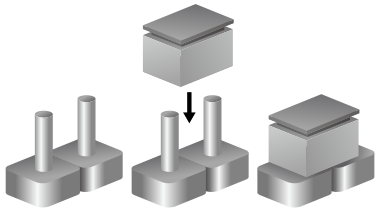
- Always disconnect the unit from the power outlet whenever you are working inside the case.
- If possible, wear a grounded wrist strap when you are working inside the computer case. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal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

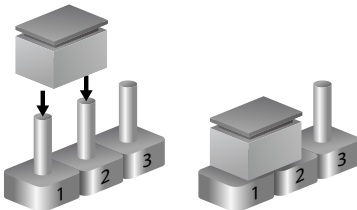
A jumper is the simplest kind of electric switch. It consists of two metal pins and a cap. When setting the jumpers, ensure that the jumper caps are placed on the correct pins. When the jumper cap is placed on both pins, the jumper is short. If you remove the jumper cap, or place the jumper cap on just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



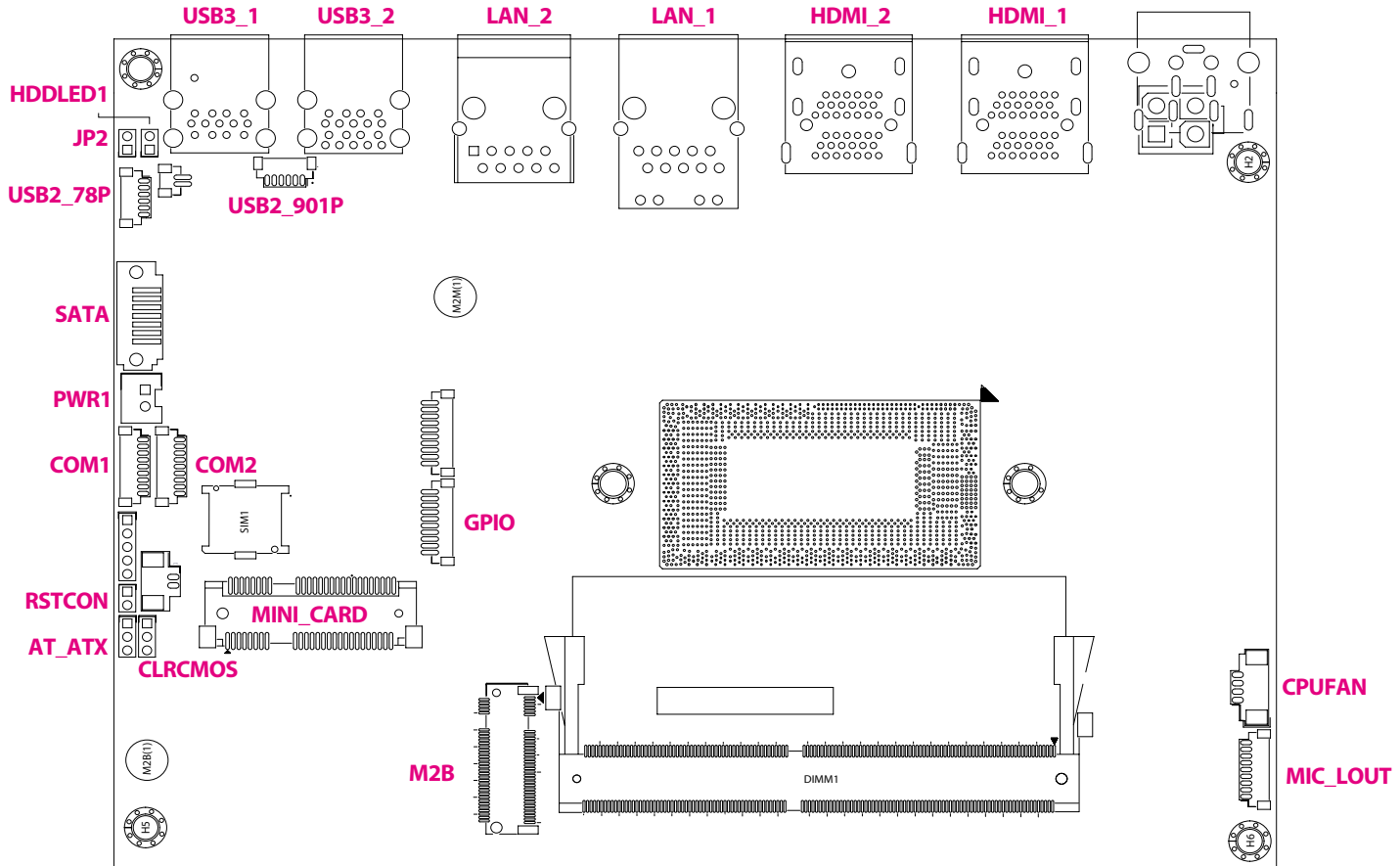
Three-Pin Jumpers: Pins 1 and 2 are Short



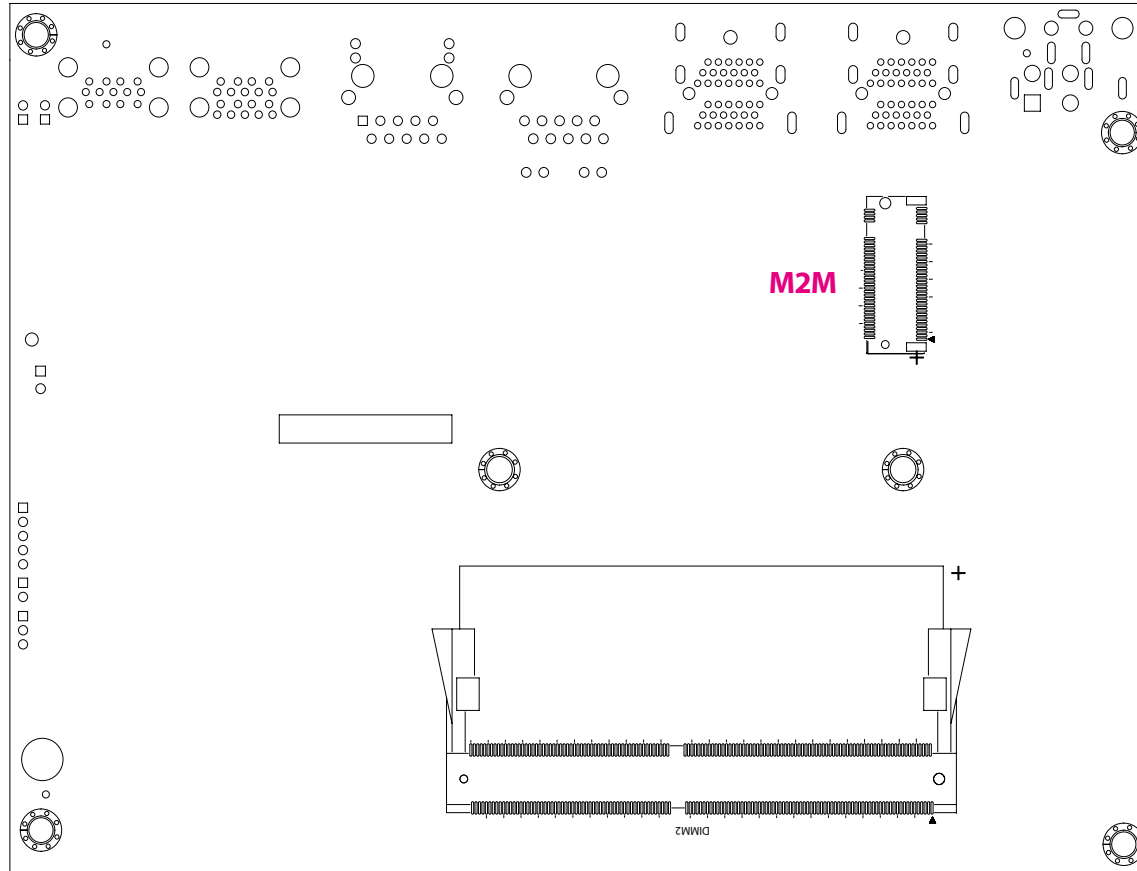
# Locations of the Jumpers and Connectors

The figure below shows the locations of the jumpers and connectors.

## Top View



### Bottom View

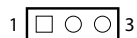


## Jumpers

### AT/ATX Mode Selection

Connector type: 1x3 3-pin header

Connector location: AT\_ATX

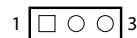


Pin	Settings
1-2 On	AT Mode
2-3 On	ATX Mode (Default)

### Clear CMOS

Connector type: 1x3 3-pin header

Connector location: CLR CMOS



Pin	Settings
1-2 On	Normal (Default)
2-3 On	Clear CMOS



## Internal Connectors

### System Reset

Connector type: 1x2 2-pin header

Connector location: RSTCON

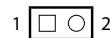


Pin	Definition
1	GND
2	RESET#

### HDD LED Header

Connector type: 1x2 2-pin header

Connector location: HDDLED1

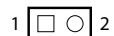


Pin	Definition
1	HDD_LED+
2	HDD_LED-

## Power LED Header

Connector type: 1x2 2-pin header

Connector location: JP2

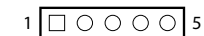


Pin	Definition
1	PWR_LED-
2	PWR_LED+

## RI Connector

Connector type: 1x5 5-pin header

Connector location: JP1

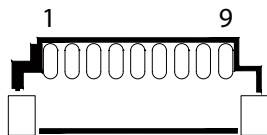


Pin	Definition	Pin	Definition
1	RI1	2	COM1_RI
3	+5V	4	COM1_RI
5	+12V		

## MIC & Line Out Connector

Connector type: 1x9 9-pin header

Connector location: MIC\_LOUT

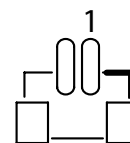


Pin	Definition	Pin	Definition
1	LOUT_R	2	LOUT_JD
3	GND	4	LOUT_L
5	GND	6	MIC_R
7	MIC_JD	8	MIC_L
9	GND		

## System Power Button

Connector type: 1x2 2-pin header

Connector location: J1

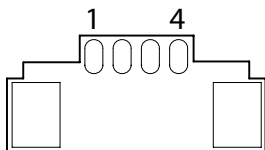


Pin	Definition
1	GND
2	PWRBTN#

## Fan Connector

Connector type: 1x4 4-pin header

Connector location: CPUFAN

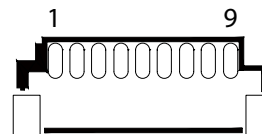


Pin	Definition	Pin	Definition
1	GND	2	+12V
3	FAN SPEED DETECT	4	FAN SPEED CONTROL

## COM Port Connector

Connector type: 1x9 9-pin header

Connector location: COM1, COM2

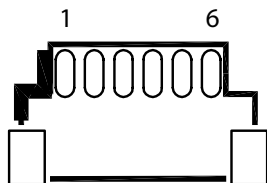


Pin	Definition	Pin	Definition
1	RI	2	CTS
3	RTS	4	DSR
5	GND	6	DTR
7	TXD	8	RXD
9	RXD	10	DCD

## Internal USB2.0 x2 Port

Connector type: 1x6 6-pin header

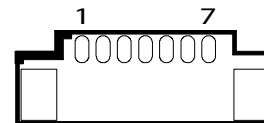
Connector location: USB2\_78P, USB2\_910P



Pin	Definition	Pin	Definition
1	GND	2	USB2N
3	USB2P	4	USB1N
5	USB1P	6	+5V

## SATA Connector

Connector location: SATA

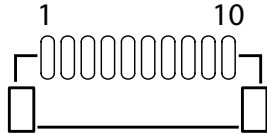


Pin	Definition	Pin	Definition
1	GND	2	SATA_TXP
3	SATA_TXN	4	GND
5	SATA_RXN	6	SATA_RXP
7	GND		

## GPIO Connector

Connector type: 1x10 10-pin header

Connector location: GPIO1

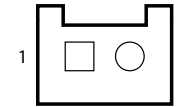


Pin	Definition	Pin	Definition
1	+5V	2	GND
3	GPIO_PIN3	4	GPIO_PIN4
5	GPIO_PIN5	6	GPIO_PIN6
7	GPIO_PIN7	8	GPIO_PIN8
9	GPIO_PIN9	10	GPIO_PIN10

## SATA Power Connector

Connector type: 1x2 2-pin header

Connector location: PWR1

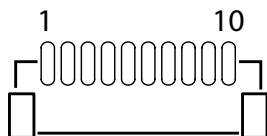


Pin	Definition
1	+5V
2	GND

## 80 Debug Port Connector

Connector type: 1x10 10-pin header

Connector location: 80PORT

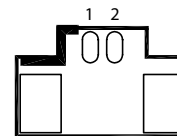


Pin	Definition	Pin	Definition
1	GND	2	PLTRST#
3	ESPI_CLK	4	ESPI_CS#
5	ESPI_IO3	6	ESPI_IO2
7	ESPI_IO1	8	ESPI_IO0
9	ESPI_RST#	10	3.3V

## Battery Connector

Connector type: 1x2 2-pin header

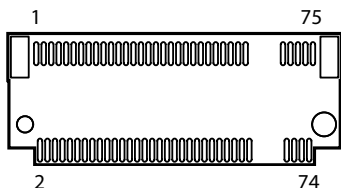
Connector location: BAT



Pin	Definition
1	GND
2	BAT

## M.2 2280\_2242 Connector (Key M)

Connector location: M2M



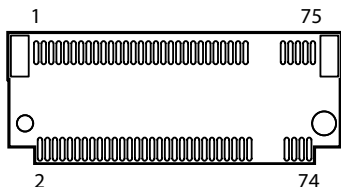
Pin	Definition	Pin	Definition
1	GND	2	+3VSB
3	GND	4	+3VSB
5	PCIE4_RXN	6	NC
7	PCIE4_RXP	8	NC
9	GND	10	M2M_LED#
11	PCIE4_RXN	12	+3VSB
13	PCIE4_RXP	14	+3VSB
15	GND	16	+3VSB
17	PCIE3_RXN	18	+3VSB
19	PCIE3_RXP	20	NC
21	GND	22	NC
23	PCIE3_RXN	24	NC
25	PCIE3_RXP	26	NC
27	GND	28	NC
29	PCIE2_RXN	30	NC
31	PCIE2_RXP	32	NC
33	GND	34	NC
35	PCIE2_RXN	36	NC

Pin	Definition	Pin	Definition
37	PCIE2_RXP	38	DEVSLP
39	GND	40	NC
41	SATA_RXP(PCIE1_RXP)	42	NC
43	SATA_RXN(PCIE1_RXN)	44	NC
45	GND	46	NC
47	SATA_TXN(PCIE1_TXN)	48	NC
49	SATA_TXP(PCIE1_TXP)	50	RESET#
51	GND	52	CLKREQ#
53	CLK_PCIEN	54	WAKE#
55	CLK_PCIEP	56	NC
57	GND	58	NC
67	NC	68	
69	M2M_PEDET	70	+3VSB
71	GND	72	+3VSB
73	GND	74	+3VSB
75	GND		



## M.2 2242 Connector (Key B)

Connector location: M2B



Pin	Definition	Pin	Definition
1	CONFIG3	2	3.3V
3	GND	4	3.3V
5	GND	6	3.3V
7	USB2_5P	8	WIFI_DIS#
9	USB2_5N	10	NC
11	NC		
	PCIE4_RXP	14	+3VSB
		20	NC
21	CONFIG0	22	NC
23	NC	24	NC
25	NC	26	WWAN_GPS_ON
27	GND	28	NC
29	USB3_RXN	30	UIM_RESET
31	USB3_RXP	32	UIM_CLK
33	GND	34	UIM_DATA
35	USB3_TXN	36	UIM_PWR
37	USB3_TXP	38	DEVSLP
39	GND	40	NC

Pin	Definition	Pin	Definition
41	PCIE_RXN	42	NC
43	PCIE_RXP	44	NC
45	GND	46	NC
47	PCIE_TXN	48	NC
49	PCIE_TXP	50	RESET(3.3V)
51	GND	52	CLKREQ#
53	CLK_DN	54	WAKE#
55	CLK_DP	56	NC
57	GND	58	NC
59	NC	60	NC
61	NC	62	NC
63	NC	64	NC
65	NC	66	NC
67	RESET(1.8V)	68	SUS_CLK
69	CONFIG1	70	3.3V
71	GND	72	3.3V
73	GND	74	3.3V
75	CONFIG2		

## Mini PCIe Card

Connector location: MINI\_CARD



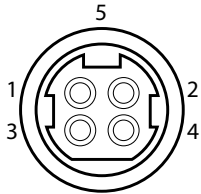
Pin	Definition	Pin	Definition
1	WAKE#	2	3.3V
3	NC	4	GND
5	NC	6	1.5V
7	CLKREQ#	8	UIM_PWR
9	GND	10	UIM_DATA
11	CLKN0	12	UIM_CLK
13	CLKP0	14	UIM_RESET
15	GND	16	UIM_VPP
17	NC	18	GND
19	NC	20	W_DIS#
21	GND	22	RESET#
23	PCIE5_RXN	24	3.3V
25	PCIE5_RXP	26	GND
27	GND	28	1.5V
29	GND	30	SMB_CLK
31	PCIE5_TXN	32	SMB_DATA
33	PCIE5_TXP	34	GND
35	GND	36	USB2_6DN

Pin	Definition	Pin	Definition
37	GND	38	USB2_6DP
39	3.3V	40	GND
41	3.3V	42	NC
43	GND	44	NC
45	NC	46	NC
47	NC	48	1.5V
49	NC	50	GND
51	3.3V	52	3.3V

## External Connectors

### DC Power Input Jack (+12V Only)

Connector location: DCIN1

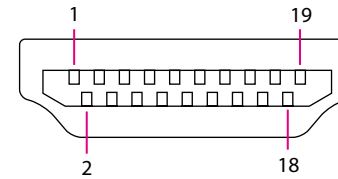


Pin	Definition	Pin	Definition
1	+12VSUS	2	+12VSUS
3	GND	4	GND
5	CGND		

### DP Connector

Connector type:HDMI CON DUAL 38P SMT

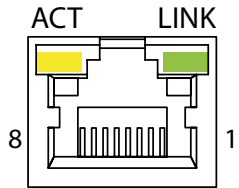
Connector location: HDMI1, HDMI2



Pin	Definition	Pin	Definition
A1	HDMI2_TX2P	B1	HDMI1_TX2P
A2	GND	B2	GND
A3	HDMI2_TX2N	B3	HDMI1_TX2N
A4	HDMI2_TX1P	B4	HDMI1_TX1P
A5	GND	B5	GND
A6	HDMI2_TX1N	B6	HDMI1_TX1N
A7	HDMI2_TX0P	B7	HDMI1_TX0P
A8	GND	B8	GND
A9	HDMI2_TX0N	B9	HDMI1_TX0N
A10	HDMI2_CLKP	B10	HDMI1_CLKP
A11	GND	B11	GND
A12	HDMI2_CLKN	B12	HDMI1_CLKN
A13	NC	B13	NC
A14	NC	B14	NC
A15	HDMI2_SCL	B15	HDMI1_SCL
A16	HDMI2_SDA	B16	HDMI1_SDA
A17	GND	B17	GND
A18	+5V	B18	+5V
A19	HDMI2_HPD	B19	HDMI1_HPD

### LAN Connector

Connector type: LAN Jack W/LED R/A DIP  
 Connector location: LAN1



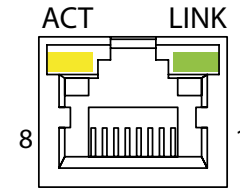
Act	Status
Flashing Yellow	Data activity
Off	No activity

Link	Status
Steady Green	1G network link
Steady Green	100Mbps network link
Off	10Mbps or no link

Pin	Definition	Pin	Definition
1	MDI_0P	2	MDI_0N
3	MDI_1P	4	MDI_1N
5	CT1	6	CT2
7	MDI_2P	8	MDI_2N
9	MDI_3P	10	MDI_3N
11	LINK1000#	12	LINK100#
13	ACTLED#	14	+3VSB

### LAN Connector

Connector type: LAN Jack W/LED R/A DIP  
 Connector location: LAN2



Act	Status
Flashing Yellow	Data activity
Off	No activity

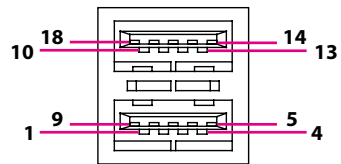
Link	Status
Steady Green	1G network link
Steady Green	100Mbps network link
Off	10Mbps or no link

Pin	Definition	Pin	Definition
1	MDI_0P	2	MDI_0N
3	MDI_1P	4	MDI_1N
5	CT1	6	CT2
7	MDI_2P	8	MDI_2N
9	MDI_3P	10	MDI_3N
11	+3VSB	12	ACTLED#
13	LINK1000#	14	LINK100#

## USB 3.0 Connector

Connector type: USB 3.0 CON Dual Port

Connector location: USB3\_2

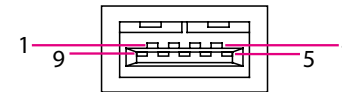


Pin	Definition	Pin	Definition
1	+5V	2	USB2_1N
3	USB2_1P	4	GND
5	USB3_RX1N	6	USB3_RX1P
7	GND	8	USB3_TX1N
9	USB3_TX1P	10	+5V
11	USB2_2N	12	USB2_2P
13	GND	14	USB3_RX2N
15	USB3_RX2P	16	GND
17	USB3_TX2N	18	USB3_TX2P

## USB 3.0 Connector

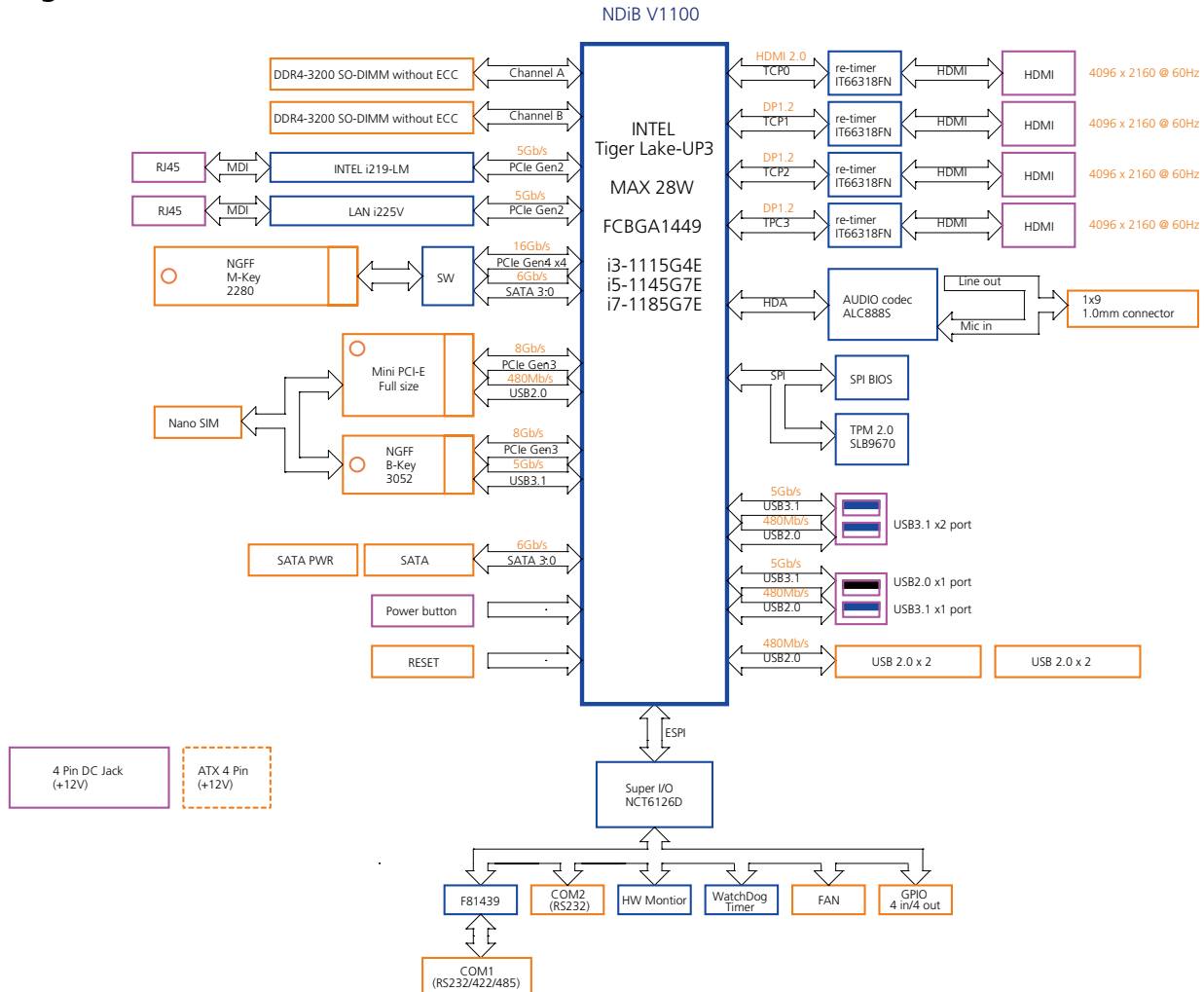
Connector type: USB 3.0 Connector

Connector location: USB3\_1



Pin	Definition	Pin	Definition
1	+5V	2	USB2_3N
3	USB2_3P	4	GND
5	USB3_RX3N	6	USB3_RX3P
7	GND	8	USB3_TX3N
9	USB3_TX3P	10	+5V
11	USB2_4N	12	USB2_4P
13	GND		

## Block Diagram



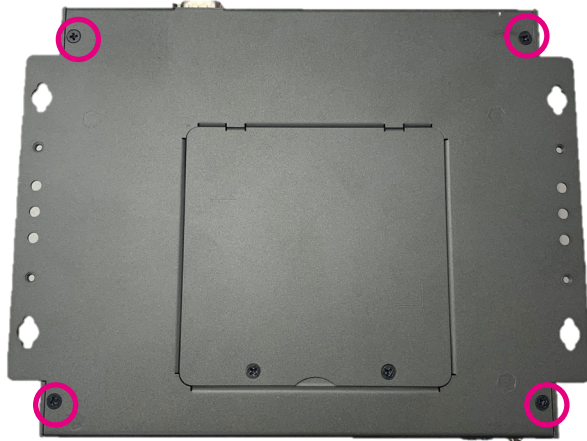
# CHAPTER 3: SYSTEM SETUP

## Removing the Chassis Cover



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.

1. The screws on the bottom, front and rear sides are used to secure the cover to the chassis. Remove these screws and put them in a safe place for later use.



Bottom

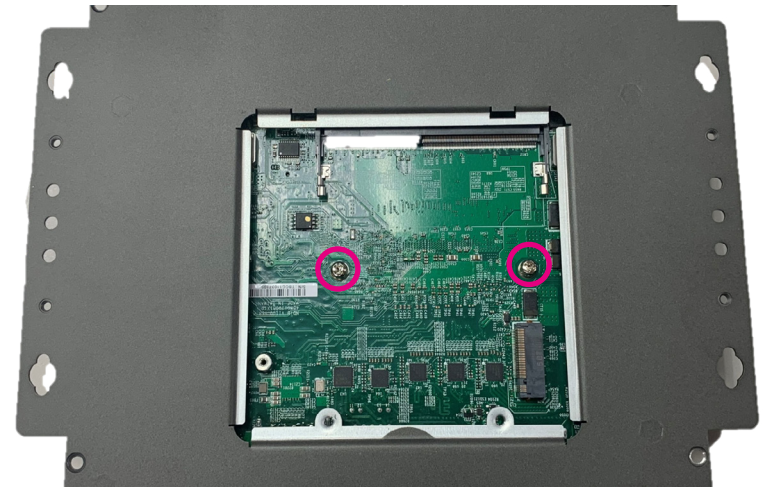
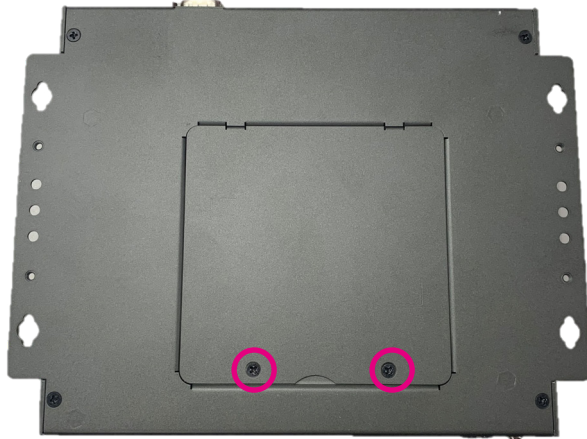


Front



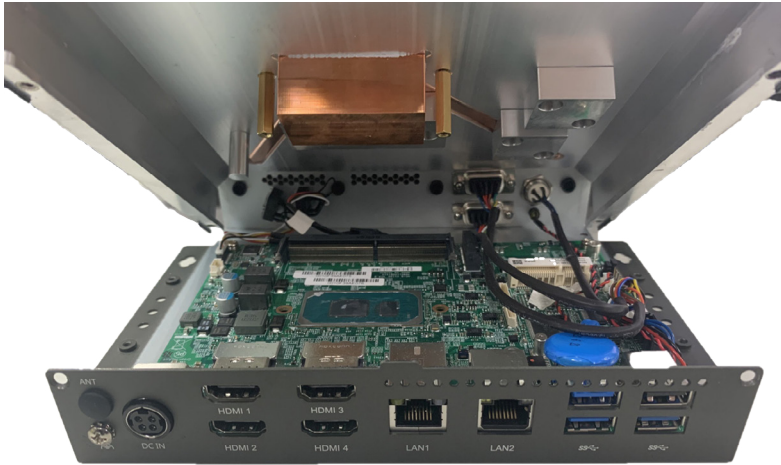
Rear

2. Open the memory cover on the bottom by removing two screws, then remove the other two screws on the main board inside it.



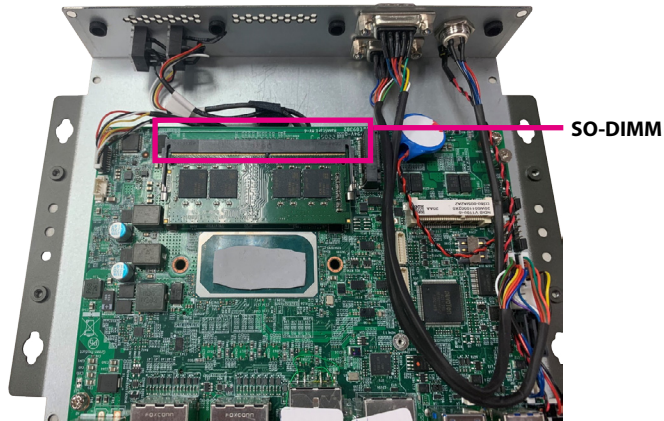


3. With the screws removed, lift up the cover and remove it from the chassis.



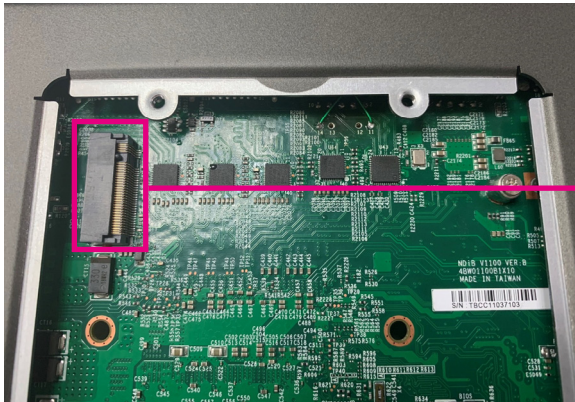
## Installing a SO-DIMM Memory Module

1. Locate two SO-DIMM sockets on the TOP side and back side of the board.
2. Insert the module into the socket at a 30-degree angle. Then push the module down until the clips on both sides of the socket lock into position. You will hear a distinctive “click” sound, indicating the module is correctly locked into position.

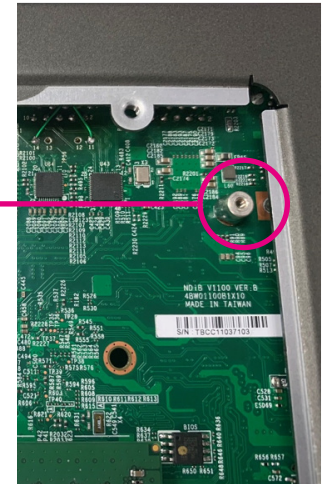
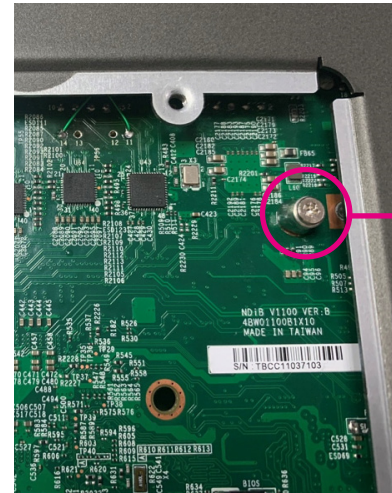


## Installing an M.2 Storage Module (Key M 2280)

1. Locate the M.2 Key M slot on the board.
2. Remove the screw on the board. Store the screw in a safe place for later use.



M.2 Key M Slot

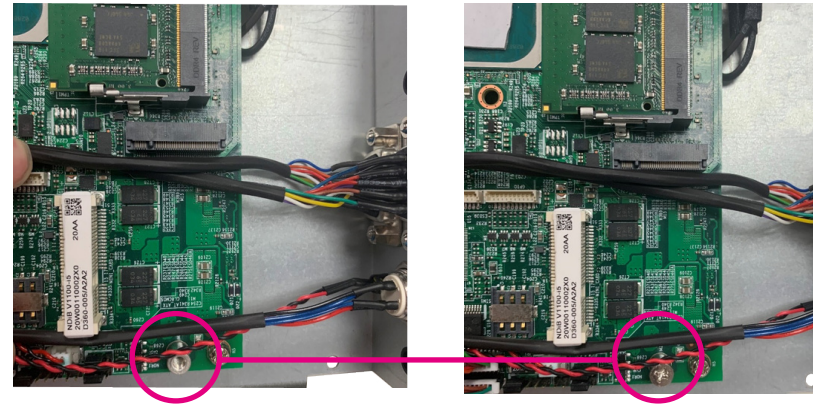
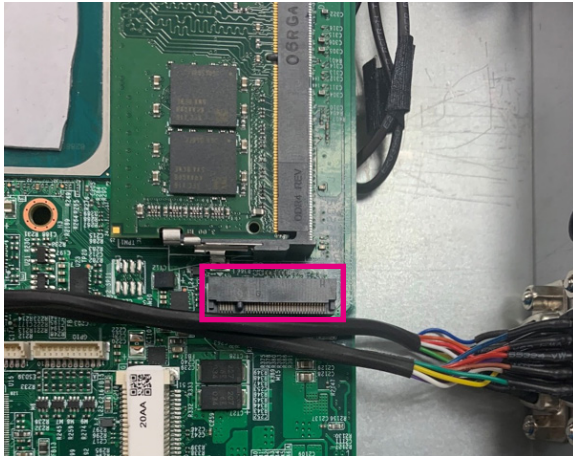


3. Insert the M.2 module into the M.2 slot at a 45-degree angle until the gold-plated connector on the edge of the module completely disappears into the slot. Then push the module down and secure it with the screw removed in step 2.



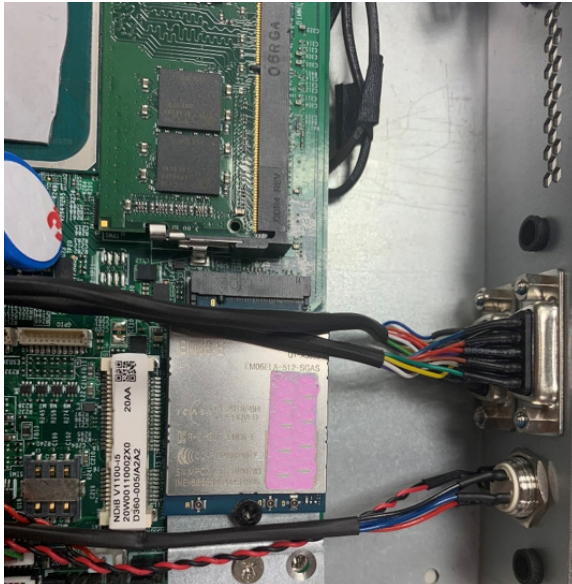
## Installing an M.2 5G/4G Module (Key B 3052 or 3042 w/ bracket)

1. Locate the M.2 Key B slot on the board.
2. Remove the screw on the board. Store the screw in a safe place for later use.



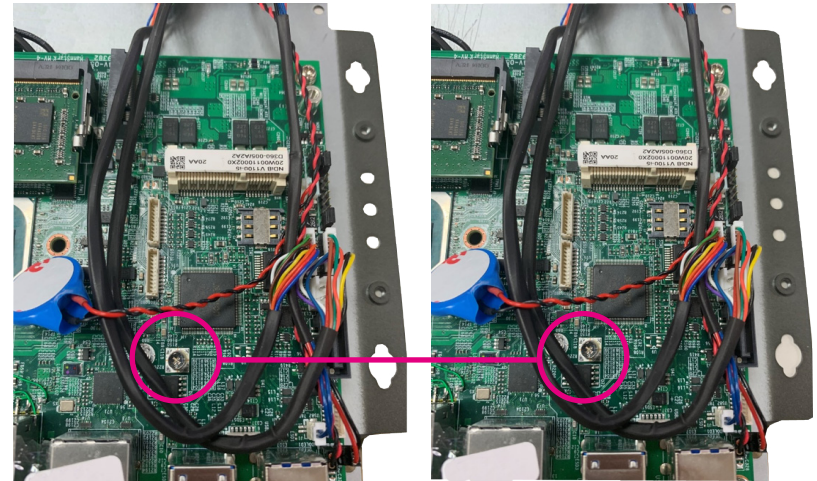
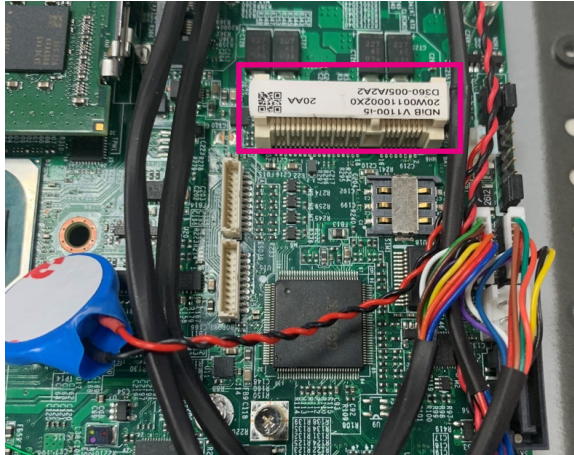


3. Insert the 4G/5G module into the M.2 slot at a 45-degree angle until the gold-plated connector on the edge of the module completely disappears inside the slot, then push the module down and then secure it with the mounting screw.

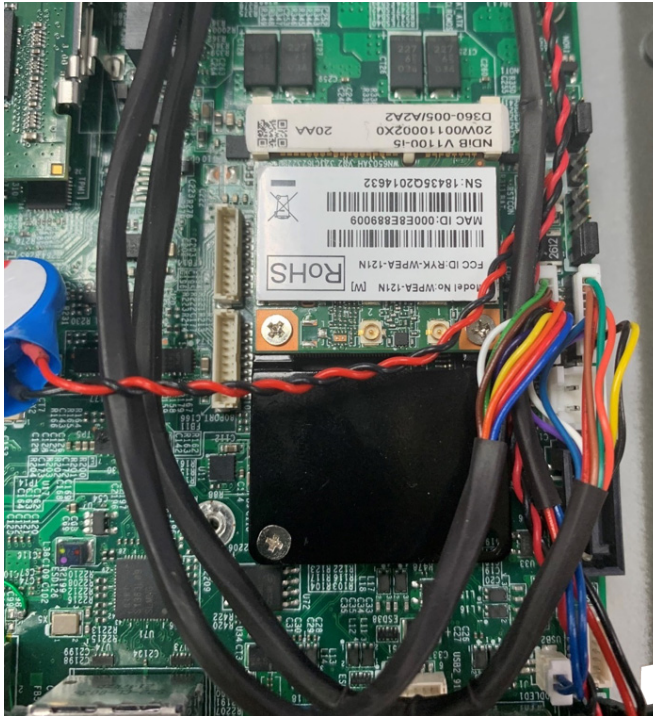


## Installing a Wi-Fi and Bluetooth card (miniPCIe)

1. Locate the mini-PCIe slot on the board.
2. Remove the screw on the board. Store the screw in a safe place for later use.



3. Insert the Wi-Fi/BT module into the mini-PCIe slot at a 45-degree angle until the gold-plated connector on the edge of the module completely disappears inside the slot, then push the module down and then secure it with the mounting screw.





## Wall Mount Installation



Note: The bottom cover of the system also serves as the wall mount bracket. Before wall mounting the system, please ensure the top cover is secured with 8 screws.

1. Align the M4 mounting holes on the chassis cover to the desired installation location. Then mount the system by fastening 4 screws through the mounting holes.



# CHAPTER 4: BIOS SETUP

This chapter describes how to use the BIOS setup program for NDiS V1100. 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 website at [www.nexcom.com.tw](http://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 <Del> allows you to enter Setup.

Press the  key to enter Setup:


## 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


## 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

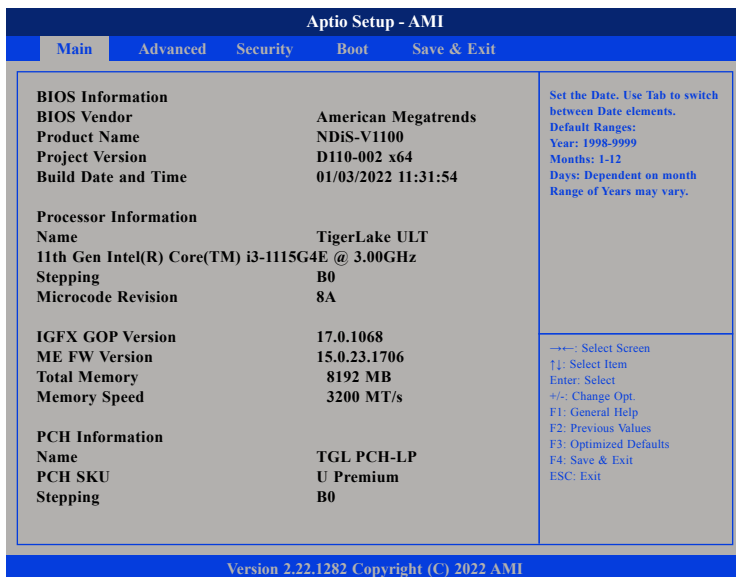
When “▶” appears on the left of a particular field, it indicates that a submenu which contains additional options are available for that field. To display the submenu, move the highlight to that field and press  .

## 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  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.



**Aptio Setup - AMI**

Main | Advanced | Security | Boot | Save & Exit

<b>BIOS Information</b>		Set the Date. Use Tab to switch between Date elements. Default Ranges: Year: 1998-9999 Months: 1-12 Days: Dependent on month Range of Years may vary.
BIOS Vendor	American Megatrends	
Product Name	NDiS-V1100	
Project Version	D110-002 x64	
Build Date and Time	01/03/2022 11:31:54	
<b>Processor Information</b>		
Name	TigerLake ULT	
11th Gen Intel(R) Core(TM) i3-1115G4E @ 3.00GHz		
Stepping	B0	
Microcode Revision	8A	
<b>IGFX GOP Version</b>		←→: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
ME FW Version	17.0.1068	
Total Memory	15.0.23.1706	
Memory Speed	8192 MB 3200 MT/s	
<b>PCH Information</b>		
Name	TGL PCH-LP	
PCH SKU	U Premium	
Stepping	B0	

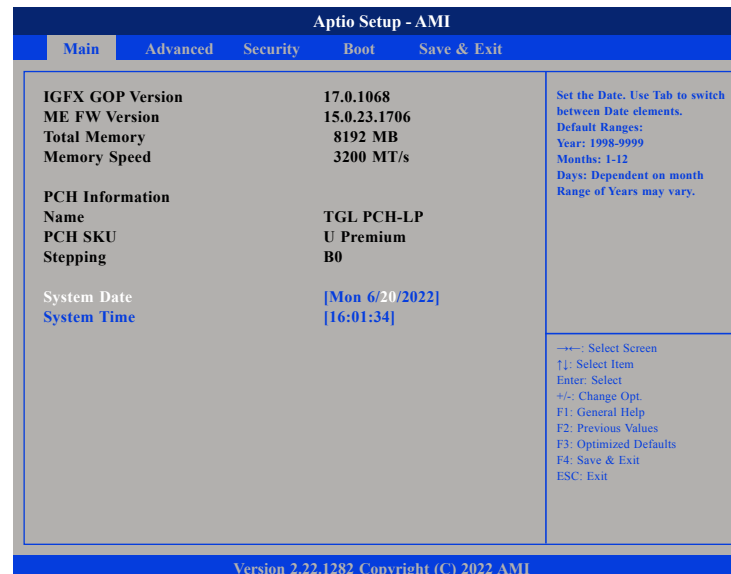
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### System Date

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 1998 to 9999.

### 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.



**Aptio Setup - AMI**

Main | Advanced | Security | Boot | Save & Exit

<b>IGFX GOP Version</b>		Set the Date. Use Tab to switch between Date elements. Default Ranges: Year: 1998-9999 Months: 1-12 Days: Dependent on month Range of Years may vary.
ME FW Version	17.0.1068	
Total Memory	15.0.23.1706	
Memory Speed	8192 MB 3200 MT/s	
<b>PCH Information</b>		
Name	TGL PCH-LP	
PCH SKU	U Premium	
Stepping	B0	
<b>System Date</b>		[Mon 6/20/2022]
<b>System Time</b>		[16:01:34]

←→: Select Screen  
↑↓: Select Item  
Enter: Select  
+/-: Change Opt.  
F1: General Help  
F2: Previous Values  
F3: Optimized Defaults  
F4: Save & Exit  
ESC: Exit

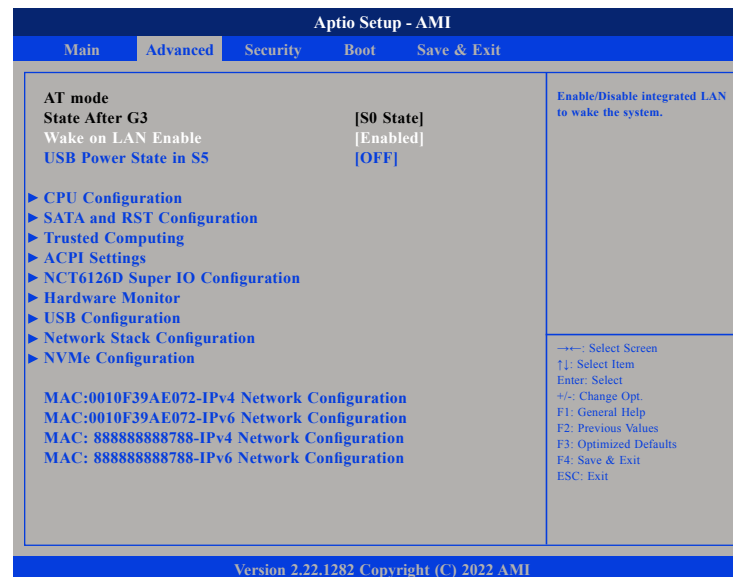
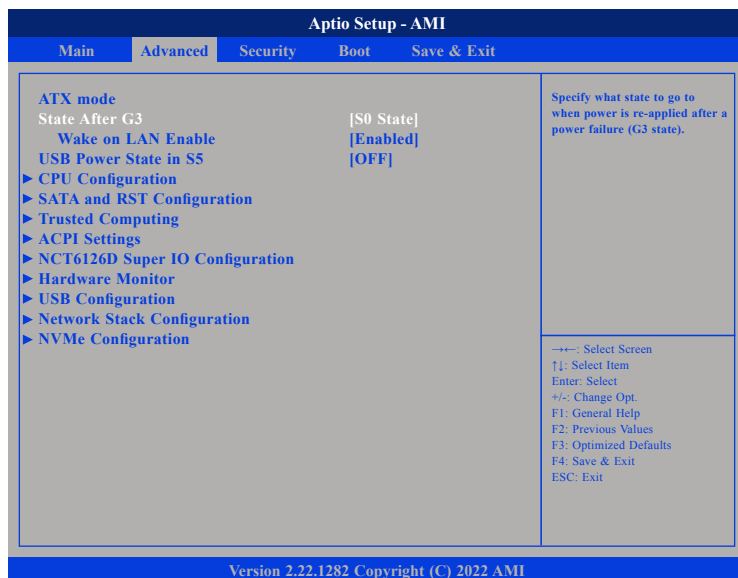
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## Advanced

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 G3

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

### Wake on LAN Enable

Enables or disables integrated LAN to wake the system.

### USB Power State in S5

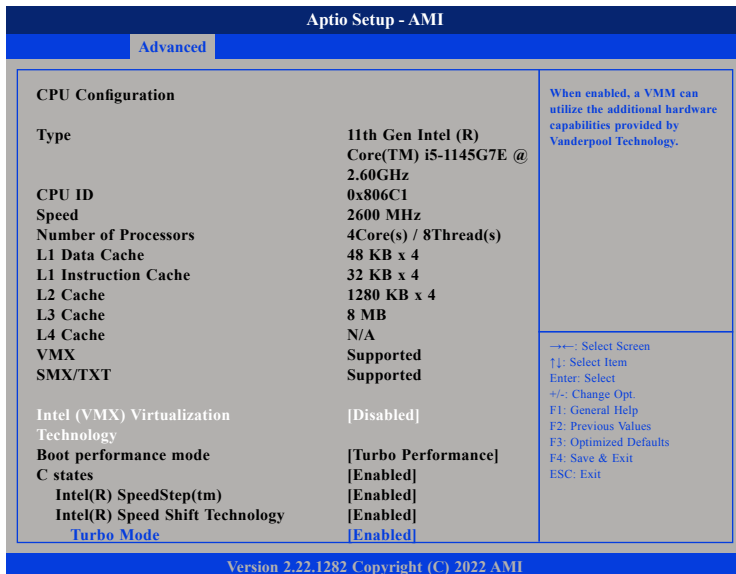
Select USB power state in S5.

### Pending operation

Schedules an operation for the security device.

## CPU Configuration

This section is used to configure CPU parameters.



The screenshot shows the 'Advanced' tab of the 'Aptio Setup - AMI' BIOS. The 'CPU Configuration' section is expanded, showing various CPU parameters and their current settings. A help box on the right provides instructions for navigating the BIOS menu.

CPU Configuration		When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.
Type	11th Gen Intel (R) Core(TM) i5-1145G7E @ 2.60GHz	
CPU ID	0x806C1	
Speed	2600 MHz	
Number of Processors	4Core(s) / 8Thread(s)	
L1 Data Cache	48 KB x 4	
L1 Instruction Cache	32 KB x 4	
L2 Cache	1280 KB x 4	
L3 Cache	8 MB	
L4 Cache	N/A	
VMX	Supported	→ Select Screen
SMX/TXT	Supported	↑↓: Select Item
Intel (VMX) Virtualization Technology	[Disabled]	Enter: Select
Boot performance mode	[Turbo Performance]	+/-: Change Opt
C states	[Enabled]	F1: General Help
Intel(R) SpeedStep(tm)	[Enabled]	F2: Previous Values
Intel(R) Speed Shift Technology	[Enabled]	F3: Optimized Defaults
Turbo Mode	[Enabled]	F4: Save & Exit
		ESC: Exit

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## Intel® SpeedStep™

Enables or disables Intel SpeedStep.

## Intel® Speed Shift Technology

Enables or disables Intel Speed Shift Technology support. Enabling it will expose the CPPC v2 interface to allow hardware controlled P-states.

## Turbo Mode

Enables or disables turbo mode.

## Intel® Virtualization Technology

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

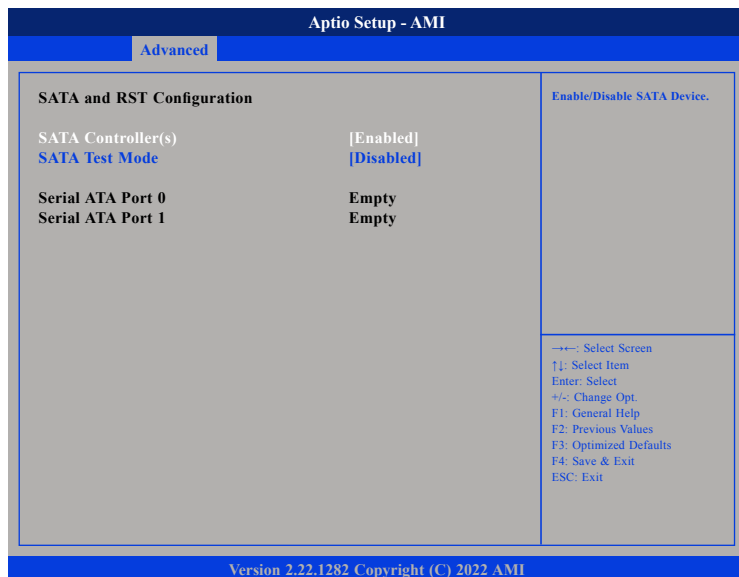
## Boot Performance Mode

Configures the performance state that the BIOS will set before OS handoff.

## C States

Enables or disables CPU power management. Allows CPU to go to C states when it's not 100% utilized.

## SATA and RST Configuration



### SATA Controller(s)

Enables or disables the SATA controller.

### SATA Test Mode

Enables or disables SATA test mode.

## Trusted Computing

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



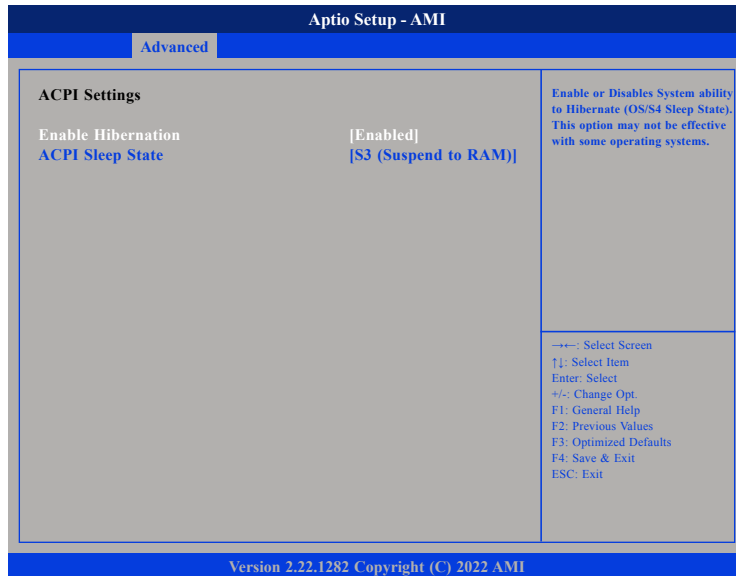
### Security Device Support

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



## ACPI Settings

This section is used to configure ACPI settings.



### Enable Hibernation

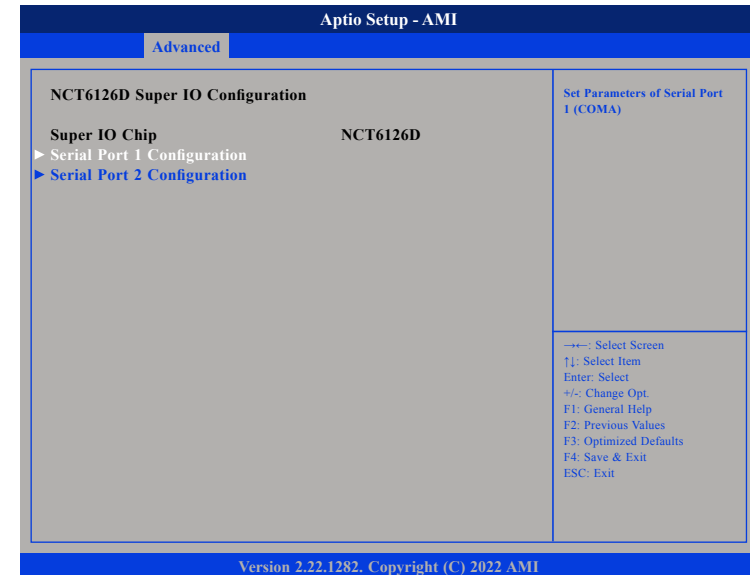
Enables or disables system ability to Hibernate (OS/S4 Sleep State). This option may not be effective with some operating systems.

### ACPI Sleep State

Select the highest ACPI sleep state the system will enter when the suspend button is pressed.

## NCT6126D Super IO Configuration

This section is used to configure the I/O functions supported by the onboard Super I/O chip.

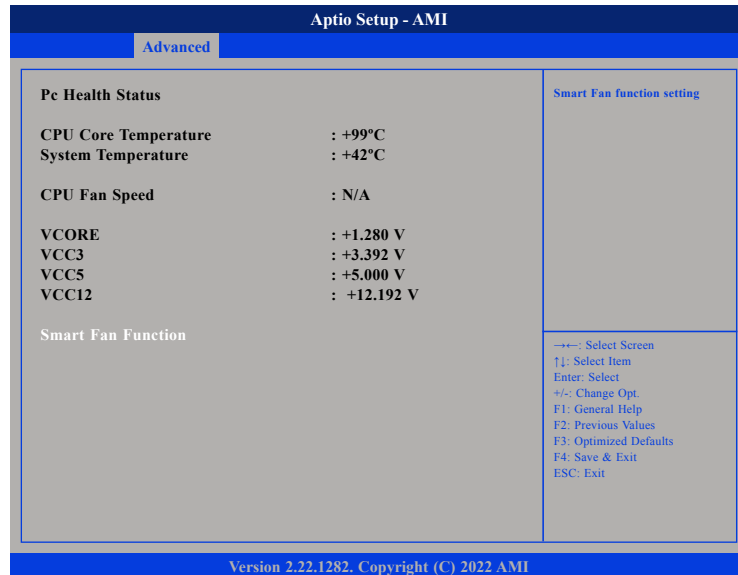


### Super IO Chip

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

## Hardware Monitor

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



## VCORE to VCC12

Detects and displays the voltage from Vcore to VCC12.

## Smart Fan Function

Smart Fan function settings.

## CPU Core Temperature

Detects and displays the current CPU core temperature.

## System Temperature

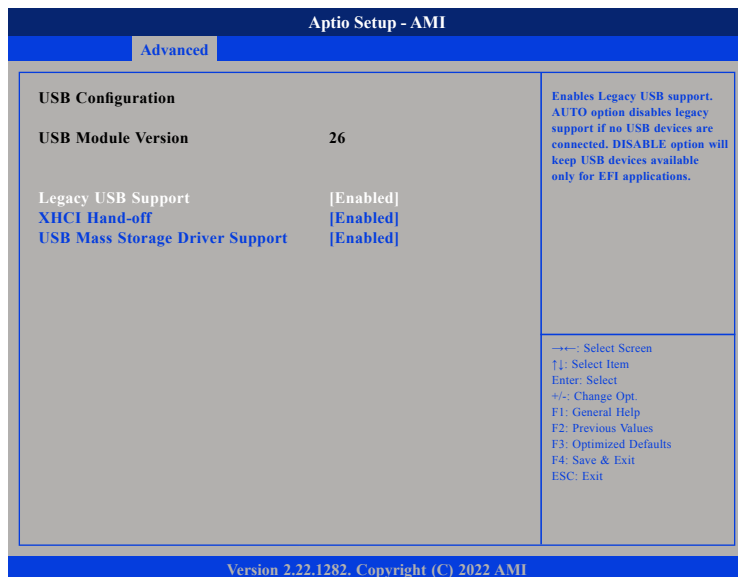
Detects and displays the current system temperature.

## CPU FAN Speed

Detects and displays the current CPU fan speed.

## USB Configuration

This section is used to configure USB parameters.



### Legacy USB Support

Enabled Enables Legacy USB.

Auto Disables support for Legacy when no USB devices are connected.

Disabled Keeps USB devices available only for EFI applications.

### XHCI Hand-off

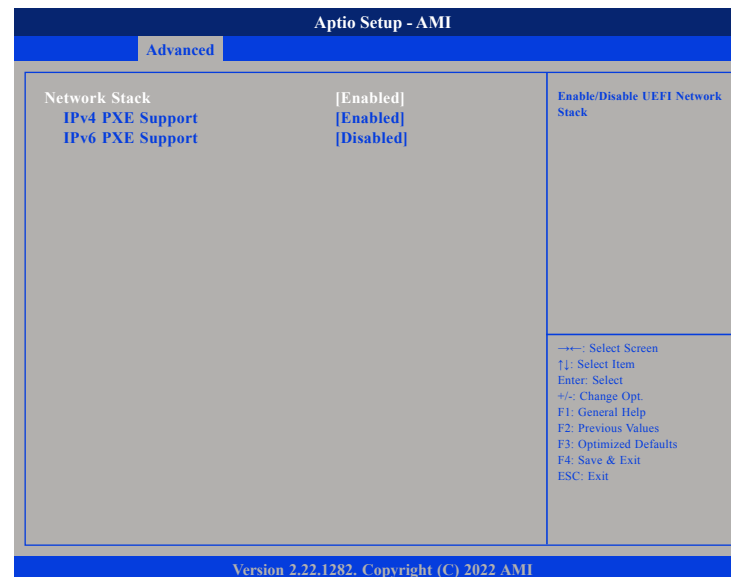
This is a workaround for OSs that does not support XHCI hand-off. The XHCI ownership change should be claimed by the XHCI driver.

### USB Mass Storage Driver Support

Enables or disables USB mass storage device driver support.

## Network Stack

This section is used to configure the network stack.



### Network Stack

Enables or disables UEFI network stack.

### IPv4 PXE Support

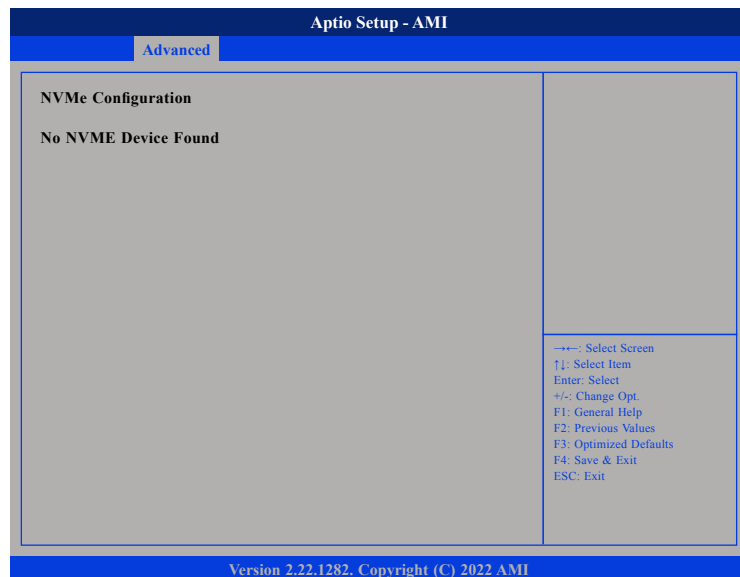
Enables or disables IPv4 PXE support. If disabled, the IPv4 boot option will not be created.

### IPv6 PXE Support

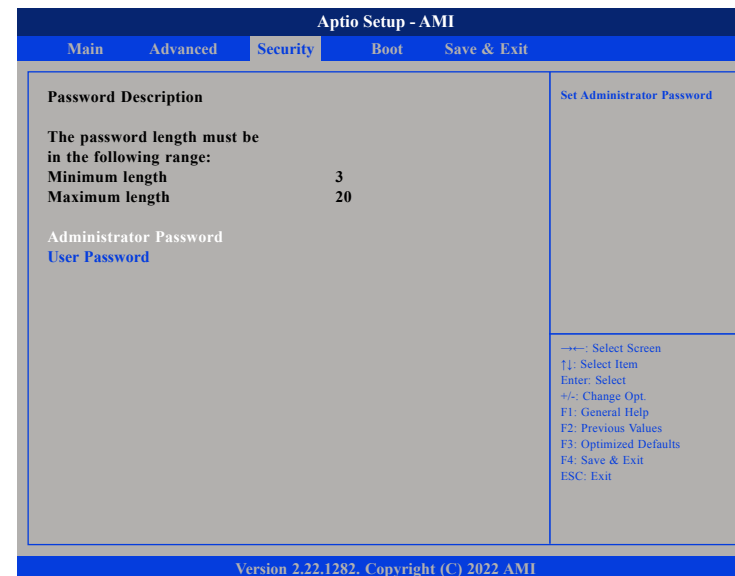
Enables or disables IPv6 PXE support. If disabled, the IPv6 boot option will not be created.

## NVMe Configuration

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



## Security



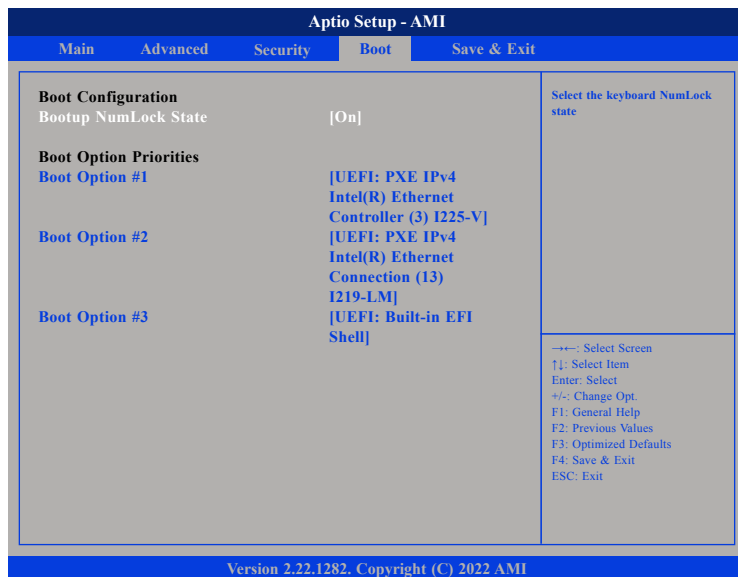
### Administrator Password

Select this to reconfigure the administrator's password.

### User Password

Select this to reconfigure the user's password.

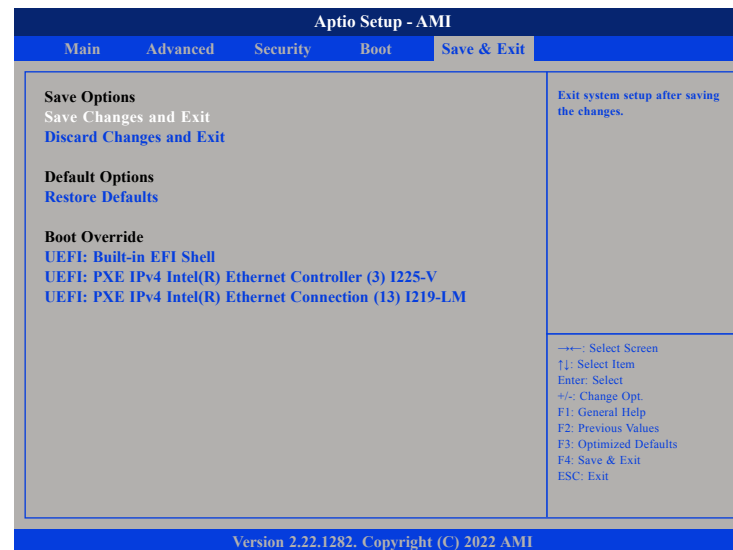
## Boot



### 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.

## 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 by selecting Yes.