

USER'S MANUAL

RSC101 Series

Edge AI Embedded System

User's Manual



www.axiomtek.com

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Safety Precautions

Before getting started, please read the following important safety precautions.

1. Be sure to ground yourself to prevent static charge when installing any internal components. Use a wrist grounding strap and place all electronic components in any static-shielded devices. Most electronic components are sensitive to static electrical charge.
2. Disconnect the power cord from the RSC101 prior to making any installation. Be sure both the system and all external devices are turned OFF. Sudden surge of power could ruin sensitive components. Make sure the RSC101 is properly grounded.
3. Make sure the voltage of the power source is correct before connecting it to any power outlet.
4. Turn Off system power before cleaning. Clean the system using a cloth only. Do not spray any liquid cleaner directly onto the screen.
5. Do not leave equipment in an uncontrolled environment where the storage temperature is below -20°C or above 80°C as it may damage the equipment.
6. Do not open the system's back cover. If opening the cover for maintenance is a must, only a trained technician is allowed to do so. Integrated circuits on computer boards are sensitive to static electricity. To avoid damaging chips from electrostatic discharge, observe the following precautions:
 - Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This will help discharge any static electricity on human body.
 - When handling boards and components, wear a wrist grounding strap available from most electronic component stores.
7. Note!! Caution with touch! RSC101 will be hot when it's on.

Classification

1. Degree of protection against electric shock: not classified
2. Degree of protection against ingress of water: IP40
3. Equipment not suitable for use in the presence of a flammable anesthetic mixture with air, oxygen or nitrous oxide.
4. Mode of operation: Continuous



Note: All of I/O connectors should be connected with corresponding cables when the system is operating with IP40 rated definition. If some of I/O ports are not be used or connected during operation, users must to connect optional I/O covers to meet IP40 standard.

General Cleaning Tips

Please keep the following precautions in mind while understanding the details fully before and during any cleaning of the computer and any components within.

A piece of dry cloth is ideal to clean the device.

1. Be cautious of any tiny removable components when using a vacuum cleaner to absorb dirt on the floor.
2. Turn the system off before clean up the computer or any components within.
3. Avoid dropping any components inside the computer or getting circuit board damp or wet.
4. For cleaning, be cautious of all kinds of cleaning solvents or chemicals which may cause allergy to certain individuals.
5. Keep foods, drinks or cigarettes away from the computer.

Cleaning Tools:

Although many companies have created products to help improve the process of cleaning computer and peripherals, users can also use house hold items accordingly for cleaning. Listed below are items available for cleaning computer or computer peripherals.

Pay special attention to components requiring designated products for cleaning as mentioned below.

- Cloth: A piece of cloth is the best tool to use when rubbing up a component. Although paper towels or tissues can be used on most hardware as well, it is recommended to use a piece of cloth.
- Water or rubbing alcohol: A piece of cloth may be somewhat moistened with water or rubbing alcohol before being rubbed on the computer. Unknown solvents may be harmful to plastic parts.
- Absorb dust, dirt, hair, cigarette and other particles outside of a computer can be one of the best methods of cleaning a computer. Over time these items may restrict the airflow in a computer and cause circuitry to corrode.
- Cotton swabs: Cotton swaps moistened with rubbing alcohol or water are applicable to reach areas in keyboard, mouse and other areas.
- Foam swabs: If possible, it is better to use lint free swabs such as foam swabs.



Note: It is strongly recommended that customer should shut down the system before start to clean any single components.

Please follow the steps below:

1. Close all application programs;
2. Close operating software;
3. Turn off power switch;
4. Remove all devices;
5. Pull out power cable.

Scrap Computer Recycling

If the computer equipment's needs the maintenance or are beyond repair, we strongly recommended that you should inform your Axiomtek distributor as soon as possible for the suitable solution. For the computers that are no longer useful or no longer working well, please contact your Axiomtek distributor for recycling and we will make the proper arrangement.

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SECTION 1 INTRODUCTION



This chapter contains general information and detailed specifications of the RSC101. The Chapter 1 includes the following sections:

- General Description
- System Specifications
- Dimensions
- I/O Outlets
- Packing List
- Model List
- Optional Accessory List

1.1 General Description

The RSC101 is a fanless edge AI vision system with Hailo-8™ AI accelerator to support Linux Ubuntu 20.04, suitable for the most endurable operation.

It features fanless design with full feature I/O, one DDR4 SO-DIMM slot for system memory, and one M.2 Key B 2242 SSD slot (SATA3).

- **Features**

1. Hailo-8™ AI accelerator, up to 26 TOPS
2. Palm size with high AI computing performance
3. Supports dual GbE LAN for cameras
4. Supports Wi-Fi/Bluetooth/5G wireless connection
5. Wide operating temperature from -10°C to +70°C
6. Wide voltage input from 12 to 24 VDC
7. Supports Linux Ubuntu
8. Ideal for edge AI smart city applications
9. IP40 rating cover kit for semi-outdoor applications

1.2 System Specifications

1.2.1 Product Specification

- **AI Accelerator**
 - Hailo-8™ SoC, up to 26 TOPS
- **CPU**
 - Intel® Elkhart Lake processor
- **Storage**
 - One M.2 2242 B Key SSD slot (SATA3)
- **System Memory**
 - One DDR4 SO-DIMM slot, up to 32GB
- **WLAN & WWAN**
 - One M.2 2230 E Key for Wi-Fi/Bluetooth modules
 - One M.2 3052 B Key for 5G modules
 - One SIM card slot

1.2.2 I/O System

- **Single HDMI 1.4 for display (HDMI 1.4 Resolution: up to 4096 x 2160@30Hz)**
- **Dual RJ-45 connectors for 10/100/1000 Mbps Ethernet**
- **Single USB 3.2 Gen1 and single USB 2.0 connectors**
- **Single 5X2 Thermal Block for 8-CH programmable DI/DO**
- **Single Reset button**
- **Dual Indicators LEDs**
 - **Green LED for System Power**
 - **Yellow LED for M.2 SSD Storage**
- **Quad SMA type connector openings for Antenna**
- **Single 12VDC to 24VDC Power Jack connector**

1.2.3 System Specification

- **Watchdog Timer**
- **Power Supply**
 - Input : 12VDC to 24VDC
- **Operation Temperature**
 - -10°C to +70°C (-14°F to +158°F)
- **Storage Temperature**
 - -20°C to +80°C (-4°F to +176°F)
- **Humidity**
 - 10% ~ 95% (non-condensation)
- **Vibration Endurance**
 - 3.5 Grm with M.2 SSD Storage (5/200/500Hz, X, Y, Z directions)
- **Shock Endurance**
 - 50g acceleration with M.2 SSD Storage (11 msec., ±X, ±Y, ±Z directions)
- **Weight**
 - Net Weight: 1.5 kg (3.31 lb)
 - Gross Weight: 1.9 kg (4.19 lb)
- **Dimensions**
 - 150.0 mm (5.91") (W) x 111.0 mm (4.37") (D) x 71.7 mm (2.82") (H)

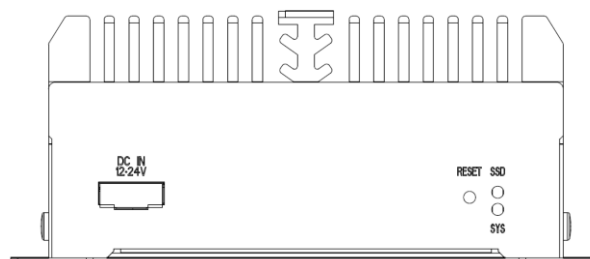
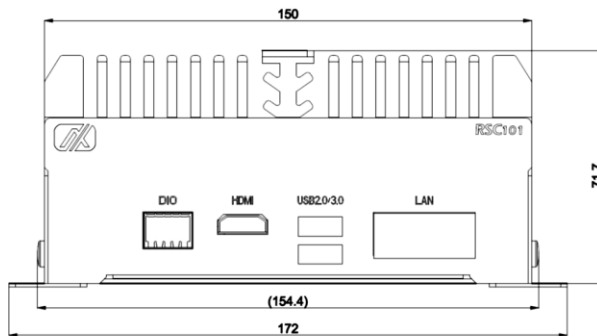
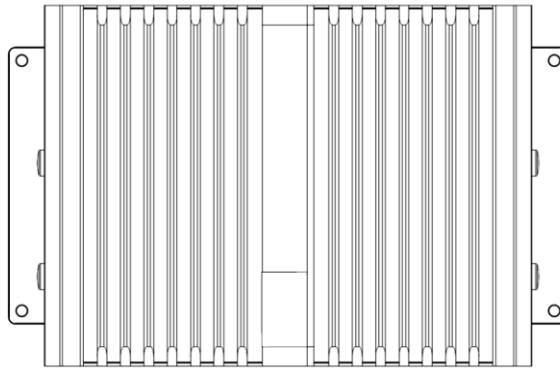


Note: All specifications and images are subject to change without notice.

1.3 Dimensions

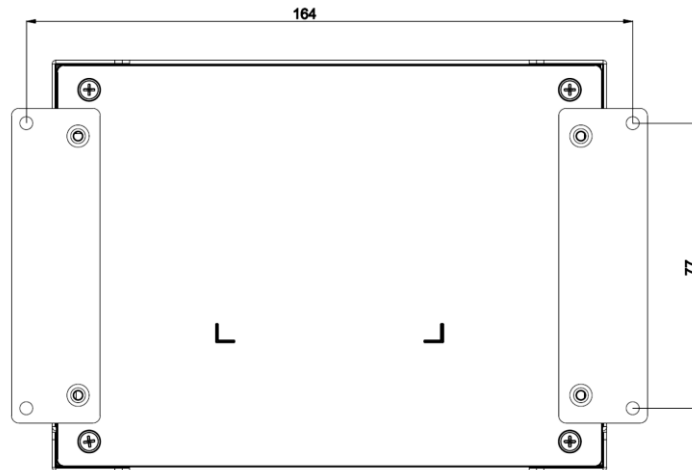
The following diagrams show you dimensions and outlines of the RSC101.

1.3.1 System Dimension



1.3.2 Wall mount Bracket Dimension

Please use the Screws Pack for Wall Mount (4pcs of M3 x 4L screws) for the installation.

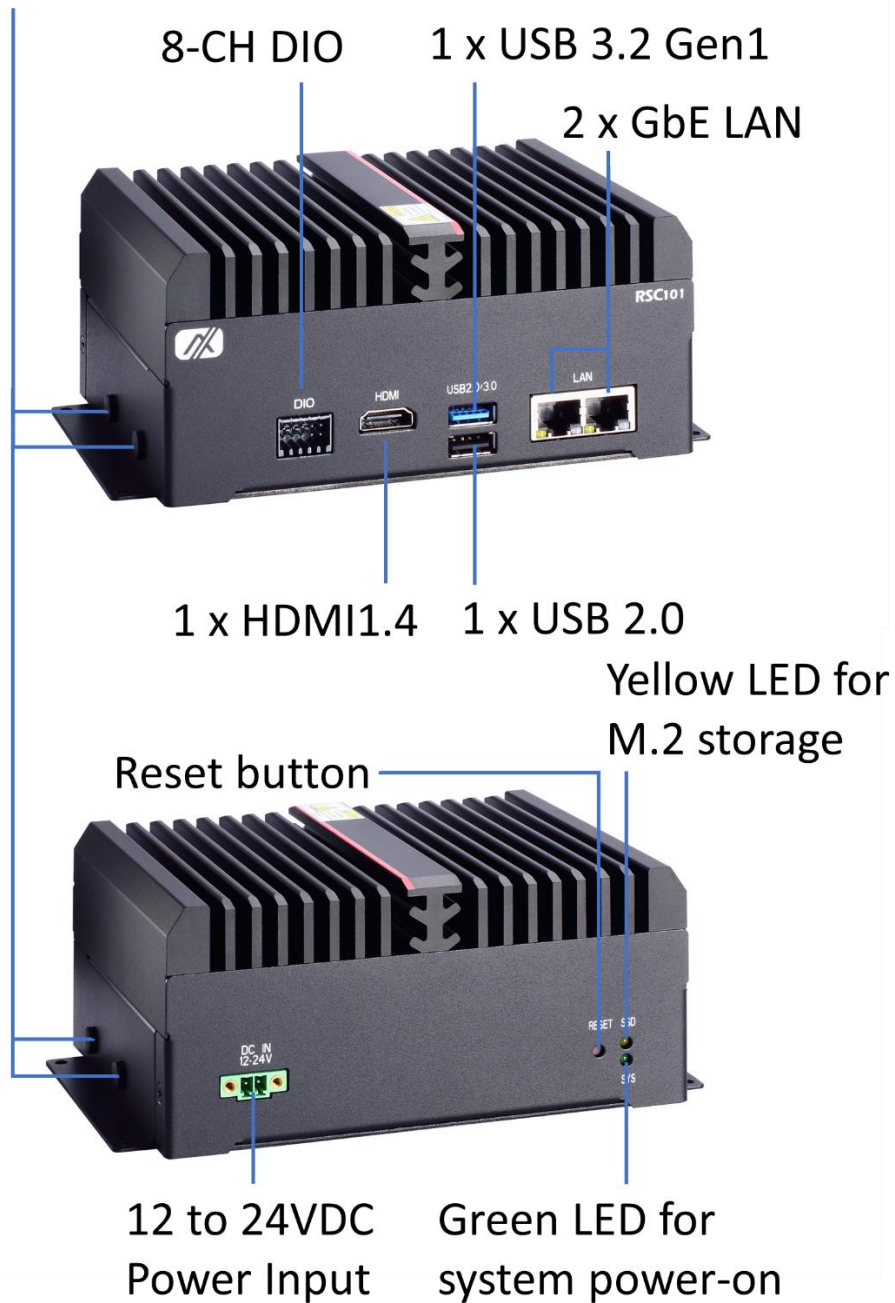


1.4 I/O Outlets

The following figures show you I/O outlets on front view of the RSC101.

- Front view and rear view drawing

4 x SMA-type antenna connector



1.5 Packing List

The package bundled with your RSC101-H-AX should contain the following items:

- **RSC101 System Unit x 1**
- **2-pin Terminal Block to DC Jack cable x 1**
- **Wall Mount Bracket Pack x 1**
- **Screws Pack for Wall Mount (M3 x 4L) x 1**
- **Screws Pack for Extension M.2 slot (M3 x 3L) x 1**

※Regarding the latest product manual, please download them from Axiomtek official website.

1.6 Model List

RSC101-H-AX	Fanless Edge AI Computer Vision System with Hailo-8™ Processor, HDMI, 2 GbE LAN, 2 USB, DIO, 8GB SO-DIMM DDR4, and 64GB M.2 SSD
RSC101-H-0	Fanless Edge AI Computer Vision System with Hailo-8™ Processor, HDMI, 2 GbE LAN, and 2 USB, DIO (To order SO-DIMM DDR4 & M.2 SSD from optional accessory list separately)


1.7 Optional Accessory List

DDR4 SO-DIMM	2GB or 8GB or 16GB
M.2 SATA SSD	64GB or 128GB or 256GB
5G Module Kit	5G module, antennas and coaxial cables
Wi-Fi/Bluetooth Module Kit	Wi-Fi/Bluetooth module, antennas and coaxial cables
50966124050E	Power adapter 12V/60W
599000001100	Power cord (US)
59904010000E	Power cord (UK)
59903000000E	Power cord (EU)
59906000010E	Power cord (JP)

If you cannot find this package or any items are missing, please contact Axiomtek distributors immediately.

SECTION 2 HARDWARE INSTALLATION

The RSC101 is convenient for your various hardware configurations, such as SSD (Solid State Drive), WiFi/BT Module, 5G Module and SIM Card. The chapter 2 will show you how to install the hardware.

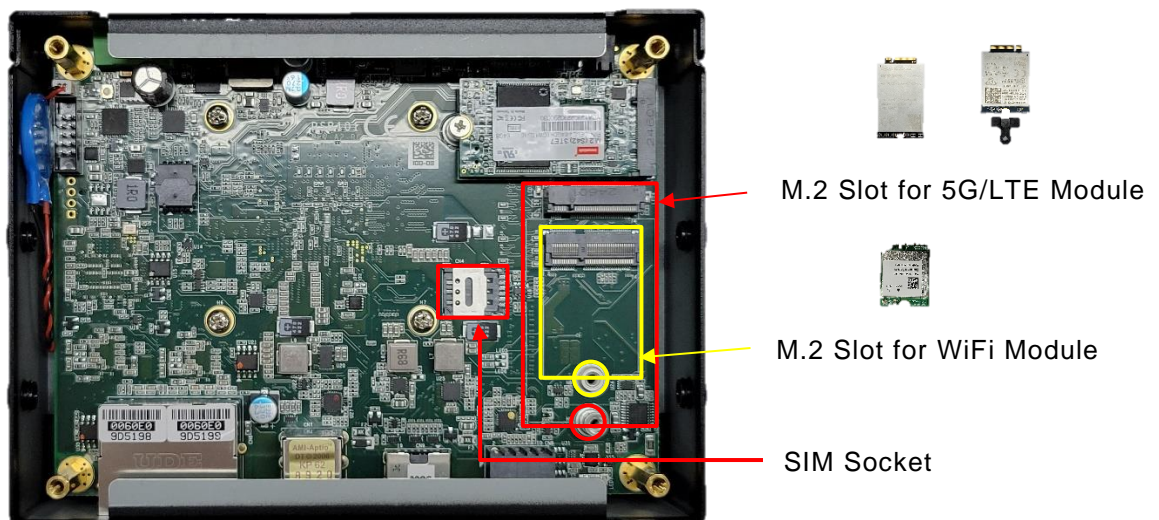
 **Note:** To support the IP40 rating, RSC101 must be installed with waterproof SMA cables and antennas.

2.1 Expansion Module Installation

Step 1 Remove the bottom cover by unscrewing the four screws as shown.

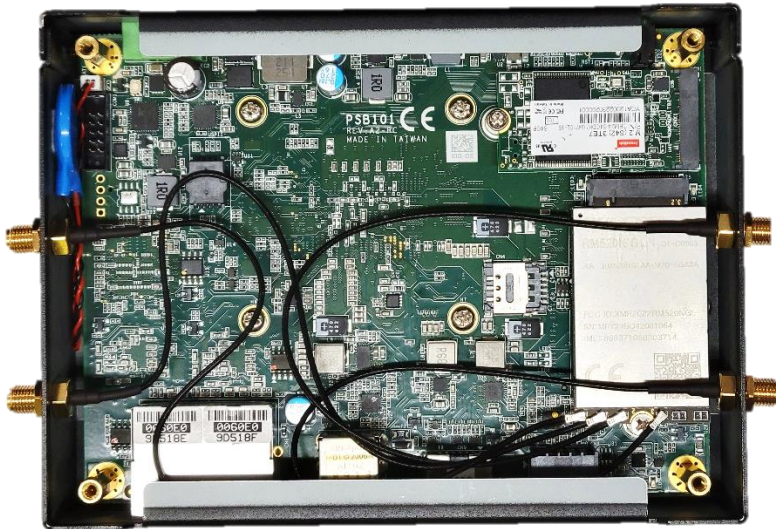


Step 2 Locate the M.2 slots as shown. Follow standard procedures for installing expansion modules. Note the location of the mounting screws.



2.2 Installing Antenna Cable

Install the antenna cable connector through the opening at the side of the chassis and connect the antenna cable to the M.2 wireless communication module. The example is for 5G module with antenna cable.

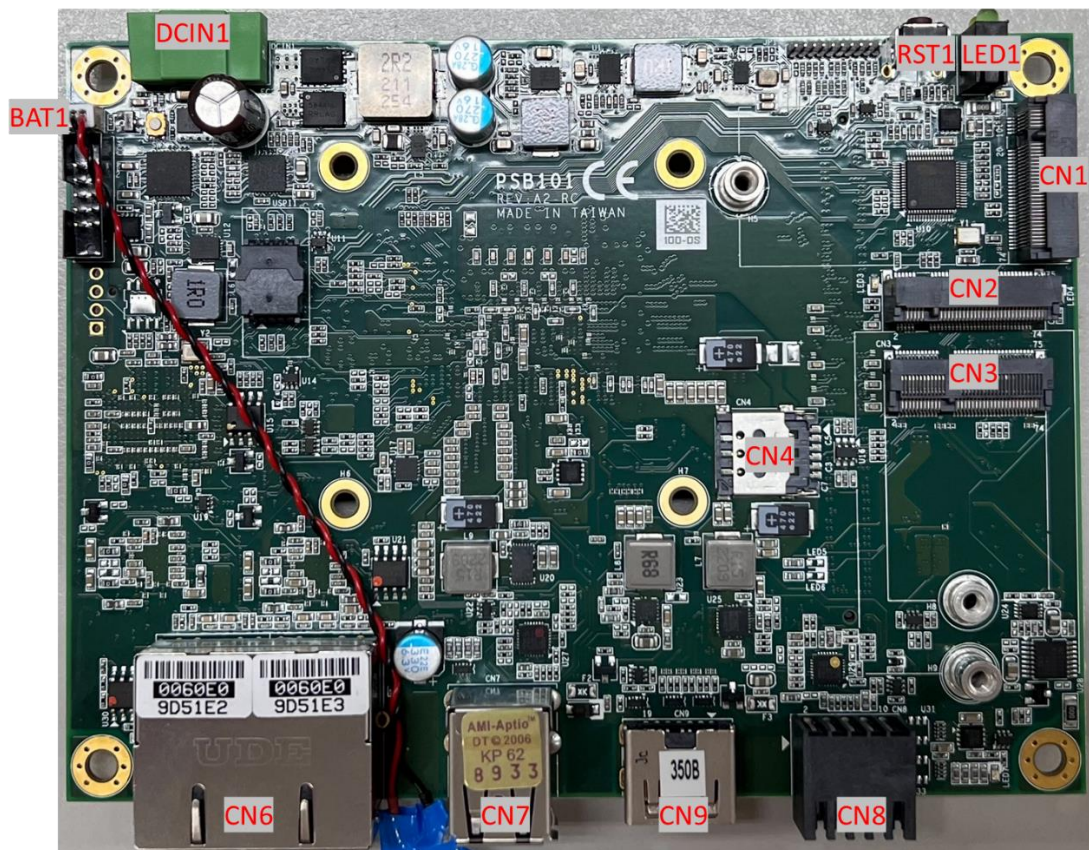


SECTION 3 SETTINGS & CONNECTORS

Proper settings configure the **RSC101** to meet your application purpose. We are here with listing a summary table of all default settings for onboard devices, respectively.

3.1 Connectors Location

Top View



Note: We strongly recommended that you should not modify any unmentioned jumper setting without Axiomtek FAE's instruction. Any modification without instruction might cause damage to the system.

3.2 Connectors

Connectors connect the board with other parts of the system. Loose or improper connection might cause problems. Make sure all connectors are properly and firmly connected. Here is a summary table shows you all connectors and button on the **RSC101** Series.

External Connectors / Buttons	PCB Location	Section
M.2 2242 Key B (For SATA SSD)	CN1	3.2.1
M.2 3052 Key B (For 5G Module)	CN2	3.2.2
M.2 2230 Key E (For WIFI/BT Module)	CN3	3.2.3
NANO SIM Socket (for SIM Card)	CN4	3.2.4
Dual LAN Connector	CN6	3.2.5
Dual USB2.0/ USB3.0 Port Connector	CN7	3.2.6
8-CH DI/DO Connector	CN8	3.2.7
HDMI Connector	CN9	3.2.8
Reset Button	RST1	3.2.9
Battery Connector	BAT1	3.2.10
DC Power Jack Connector	DCIN1	3.2.11
Power and Storage LED Indicator	LED1	3.2.12

3.2.1 M.2 2242 Key B Connector (CN1)

The CN1 is a M.2 2242 Key B connector. It is suggested to install the M.2 storage module via SATA with 22mm x 42mm (width x length).

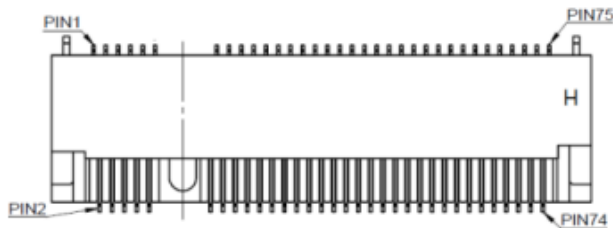
Pi n	Signal	Pi n	Signal
1	CONFIG_3	2	+V3.3S
3	GND	4	+V3.3S
5	GND	6	NC
7	NC	8	NC
9	NC	10	LED
11	GND	12	Key B
13	Key B	14	
15		16	
17		18	
19		20	NC
21	CONFIG_0	22	NC
23	NC	24	NC
25	NC	26	NC
27	GND	28	NC
29	NC	30	NC
31	NC	32	NC
33	GND	34	NC
35	NC	36	NC
37	NC	38	DEVSLP0
39	GND	40	NC
41	SATA_RX0_P	42	NC
43	SATA_RX0_N	44	NC
45	GND	46	NC
47	SATA_TX0_N	48	NC
49	SATA_TX0_P	50	PERST#
51	GND	52	NC
53	NC	54	PEWAKE#
55	NC	56	NC
57	GND	58	NC
59	NC	60	NC
61	NC	62	NC
63	NC	64	NC
65	NC	66	NC
67	PLTRST(+1.8 V)	68	NC
69	CONFIG_1	70	+V3.3S
71	GND	72	+V3.3S
73	GND	74	+V3.3S
75	CONFIG_2		



3.2.2 M.2 3052 Key B Connector (CN2)

The CN2 is a M.2 3052 Key B connector. It is suggested to install the M.2 5G module with 30mm x 52mm (width x length).

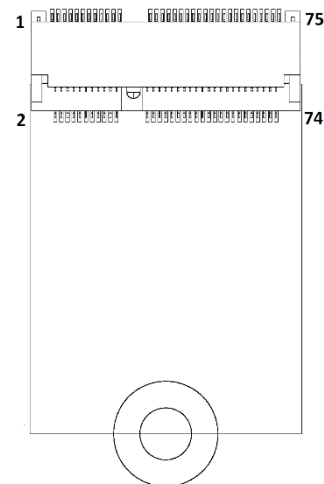
Pi n	Signal	Pi n	Signal
1	CONFIG_3	2	+V3.3S
3	GND	4	+V3.3S
5	GND	6	M2_PWR_ON
7	USB_DP9	8	M2_W_DISABLE1
9	USB_DN9	10	LED
11	GND	12	Key B
13	Key B	14	
15		16	
17		18	
19		20	NC
21	CONFIG_0	22	NC
23	M2_WAKE	24	NC
25	NC	26	NC
27	GND	28	NC
29	SSRX1-	30	M2_SIM_REST
31	SSRX1+	32	M2_SIM_CLK
33	GND	34	M2_SIM_DATA
35	SSTX1-	36	M2_SIM_PWR
37	SSTX1+	38	DEVSLP0
39	GND	40	NC
41	NC	42	NC
43	NC	44	NC
45	GND	46	NC
47	NC	48	NC
49	NC	50	PERST#
51	GND	52	CLK_REQ_KEYB_N
53	CK_100M_DN	54	PCIE_WAKE_N
55	CK_100M_DN	56	NC
57	GND	58	NC
59	NC	60	NC
61	NC	62	NC
63	NC	64	NC
65	NC	66	NC
67	PLTRST(+1.8V)	68	M_2_B_SUSCLK
69	CONFIG_1	70	+V3.3S
71	GND	72	+V3.3S
73	GND	74	+V3.3S
75	CONFIG_2		



3.2.3 M.2 2230 Key E Connector (CN3)

The CN3 is a M.2 2230 Key E connector. It is suggested to install the M.2 Wireless/Bluetooth module via PCIe x1 with 22mm x 30mm (width x length).

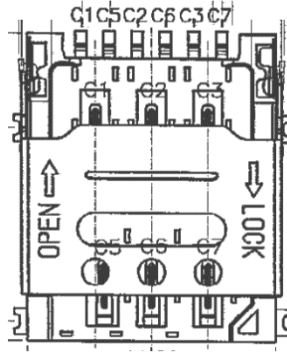
Pin	Signal	Pin	Signal
1	GND	2	+3.3V_SBY
3	USB_DP7	4	+3.3V_SBY
5	USB_DM7	6	NC
7	GND	8	NC
9	NC	10	NC
11	NC	12	NC
13	NC	14	NC
15	NC	16	NC
17	NC	18	GND
19	NC	20	NC
21	NC	22	NC
23	NC	24	Key E
25	Key E	26	
27		28	
29		30	
31		32	
33		GND	34
35	PCIE_TX4_P	36	NC
37	PCIE_TX4_N	38	NC
39	GND	40	NC
41	PCIE_RX4_P	42	NC
43	PCIE_RX4_N	44	NC
45	GND	46	NC
47	PCIE_CLKP	48	NC
49	PCIE_CLKN	50	SUSCLK
51	GND	52	PERST#
53	CLK_REQ	54	W_DISABLE2#
55	PEWAKE0#	56	W_DISABLE1#
57	GND	58	NC
59	NC	60	NC
61	NC	62	NC
63	GND	64	NC
65	NC	66	NC
67	NC	68	NC
69	GND	70	NC
71	NC	72	+3.3V_SBY
73	NC	74	+3.3V_SBY
75	GND		



3.2.4 NANO SIM Socket (CN4)

The SIM Card slot is a standard 6-pin connector used with a NANO SIM Card. In order to work properly, the SIM Card must be used together with 5G module inserted to CN2.

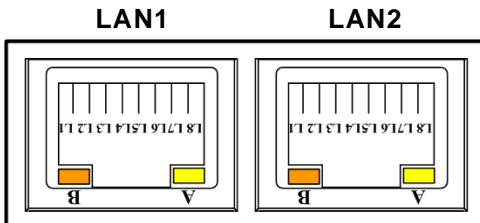
Pin	Signal
C1	SIM_PWR
C5	GND
C2	SIM_REST
C6	SIM_VPP
C3	SIM_CLK
C7	SIM_DATA



3.2.5 Dual LAN Connector (CN6)

The board has two RJ-45 connectors: LAN1 and LAN2. Ethernet connection can be established by plugging one end of the Ethernet cable into this RJ-45 connector.

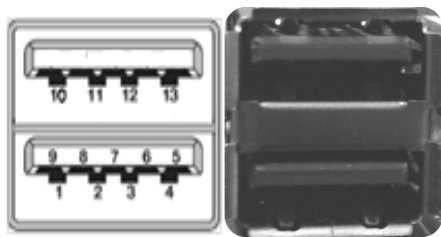
Pin	1000 Base-T	100/10 Base-T	Description
L1	BI_DA+	TX+	Bidirectional or Transmit Data+
L2	BI_DA-	TX-	Bidirectional or Transmit Data-
L3	BI_DB+	RX+	Bidirectional or Receive Data+
L4	BI_DC+	N.C.	Bidirectional or Not Connected
L5	BI_DC-	N.C.	Bidirectional or Not Connected
L6	BI_DB-	RX-	Bidirectional or Receive Data-
L7	BI_DD+	N.C.	Bidirectional or Not Connected
L8	BI_DD-	N.C.	Bidirectional or Not Connected
A	Active Link LED (Yellow) Off: No link Blinking: Data activity detected		
B	Speed LED 1000: Orange 100/10: Green/ OFF		



3.2.6 USB 2.0/ USB 3.0 Port Connector (CN7)

The Universal Serial Bus connectors are compliant with USB 3.2 Gen1 and USB 2.0, ideal for installing. USB peripherals such as scanners, cameras, USB devices, etc.

Pin	Signal	Pin	Signal
1	USB VCC (+5V level)	8	SSTX0-
2	USB_Data0-	9	SSTX0+
3	USB_Data0+	10	USB VCC (+5V level)
4	GND	11	USB #1_D-
5	SSRX0-	12	USB #1_D+
6	SSRX0+	13	GND
7	GND		



3.2.7 8-CH DI/DO Connector (CN8)

The RSC101 is equipped with a programmable 8-channel digital I/O connector that meets requirements for the system customary automation control.

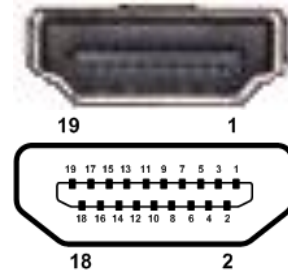
Pin	Signal	Pin	Signal
1	+V5S	2	GND
3	DIO0	4	DIO4
5	DIO1	6	DIO5
7	DIO2	8	DIO6
9	DIO3	10	DIO7



3.2.8 HDMI Connector (CN9)

The HDMI (High-Definition Multimedia Interface) is a compact digital interface which is capable of transmitting high-definition video and high-resolution audio over a single cable.

Pin	Signal	Pin	Signal
1	HDMI OUT_DATA2+	2	GND
3	HDMI OUT_DATA2-	4	HDMI OUT_DATA1+
5	GND	6	HDMI OUT_DATA1-
7	HDMI OUT_DATA0+	8	GND
9	HDMI OUT_DATA0-	10	HDMI OUT_Clock+
11	GND	12	HDMI OUT_Clock-
13	N.C.	14	N.C.
15	HDMI OUT_SCL	16	HDMI OUT_SDA
17	GND	18	+5V
19	HDMI_HTPLG		



3.2.9 Reset Button (RST1)

The Reset button can allow users to reset RSC101 system.

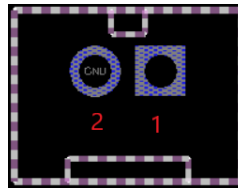
Functions	Descriptions
On	Reset system
Off	Keep system status



3.2.10 Battery Connector (BAT1)

RSC101 includes RTC battery providing power for the internal clock/calendar and for maintaining system configuration settings.

Pin	Signal	Pin	Signal
1	+BAT_3V	2	GND



3.2.11 DC Power Jack Connector (DCIN1)

Steady and sufficient power can be supplied to all components by connecting the power connector.

Pin	Signal
1	12-24V
2	GND



3.2.12 Power and Storage LED Indicator (LED1)

The Yellow LED is linked to Solid-state Drive (SSD) activity signal. LED flashes every time SSD is accessed. The power LED (Green) lights up and will remain steady while the system is powered on.

LED Color	Description
Yellow	Solid-state drive activity
Green	Power on/off



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Section 4

AMI BIOS Setup Utility

The AMI UEFI BIOS provides users with a built-in setup program to modify basic system configuration. All configured parameters are stored in a flash chip to save the setup information whenever the power is turned off. This section provides users with detailed description about how to set up basic system configuration through the AMI BIOS setup utility.

4.1 Starting

To enter the setup screens, follow the steps below:

1. Turn on the computer and press the key immediately.
2. After you press the key, the main BIOS setup menu displays. You can access the other setup screens from the main BIOS setup menu, such as the Advanced and Chipset menus.



Note

If your computer cannot boot after making and saving system changes with BIOS setup, you can restore BIOS optimal defaults by setting SW1 (see section 2.3.2).

It is strongly recommended that you should avoid changing the chipset's defaults. Both AMI and your system manufacturer have carefully set up these defaults that provide the best performance and reliability.

4.2 Navigation Keys

The BIOS setup/utility uses a key-based navigation system called hot keys. Most of the BIOS setup utility hot keys can be used at any time during the setup navigation process. These keys include <F1>, <F2>, <Enter>, <ESC>, <Arrow> keys, and so on.



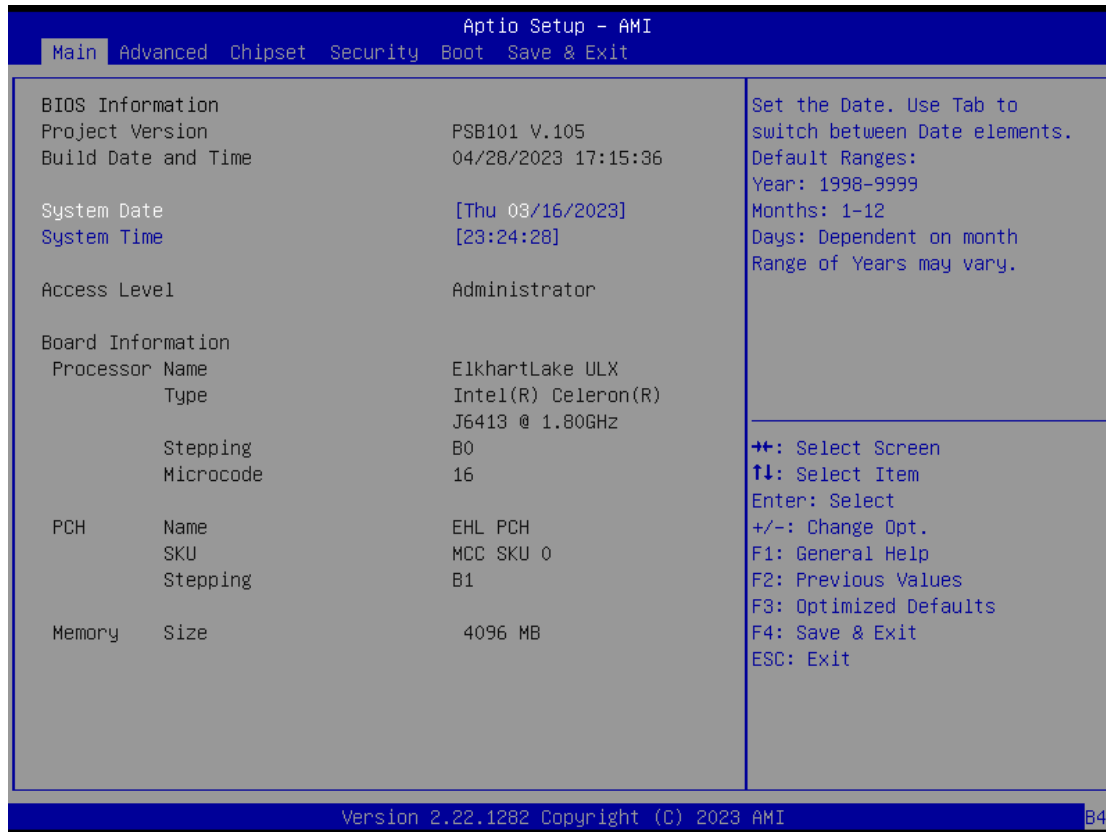
Note

Some of the navigation keys differ from one screen to another.

Hot Keys	Description
→← Left/Right	The Left and Right <Arrow> keys allow you to select a setup screen.
↑↓ Up/Down	The Up and Down <Arrow> keys allow you to select a setup screen or sub-screen.
Enter	The <Enter> key allows you to display or change the setup option listed for a particular setup item. The <Enter> key can also allow you to display the setup sub- screens.
+– Plus/Minus	The Plus and Minus <Arrow> keys allow you to change the field value of a particular setup item.
Tab	The <Tab> key allows you to select setup fields.
F1	The <F1> key allows you to display the General Help screen.
F2	The <F2> key allows you to Load Previous Values.
F3	The <F3> key allows you to Load Optimized Defaults.
F4	The <F4> key allows you to save any changes you have made and exit Setup. Press the <F4> key to save your changes.
Esc	The <Esc> key allows you to discard any changes you have made and exit the Setup. Press the <Esc> key to exit the setup without saving your changes.

4.3 Main Menu

When you first enter the setup utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab. System Time/Date can be set up as described below. The Main BIOS setup screen is shown below.



- BIOS and Firmware Information**
 Display BIOS and firmware information.
- System Date/Time**
 Use this option to change the system time and date. Highlight System Time or System Date using the <Arrow> keys. Enter new values through the keyboard. Press the <Tab> key or the <Arrow> keys to move between fields. The date must be entered in MM/DD/YY format. The time is entered in HH:MM:SS format.
- Access Level**
 Display the access level of current user.

4.4 Advanced Menu

The Advanced menu also allows users to set configuration of the CPU and other system devices. You can select any of the items in the left frame of the screen to go to the sub menus:

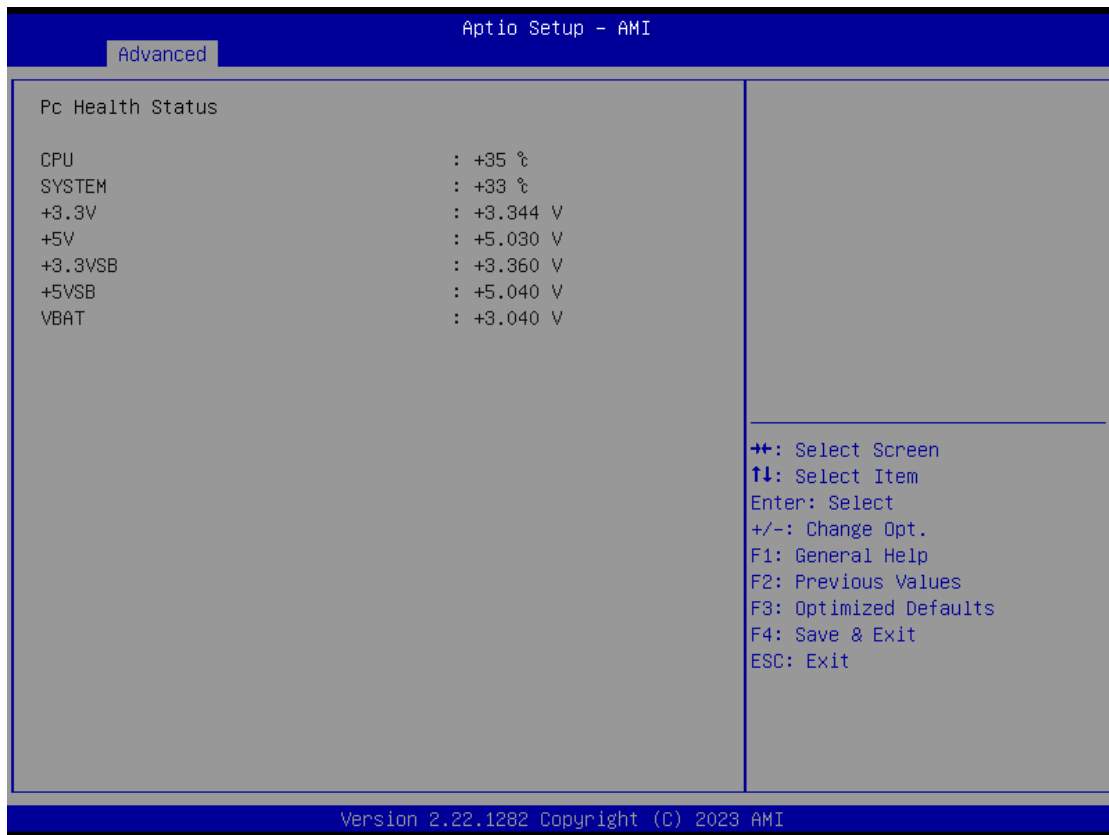
- ▶ Hardware Monitor
- ▶ CPU Configuration
- ▶ Storage Configuration
- ▶ USB Configuration

For items marked with “▶”, please press <Enter> for more options.



- **Hardware Monitor**

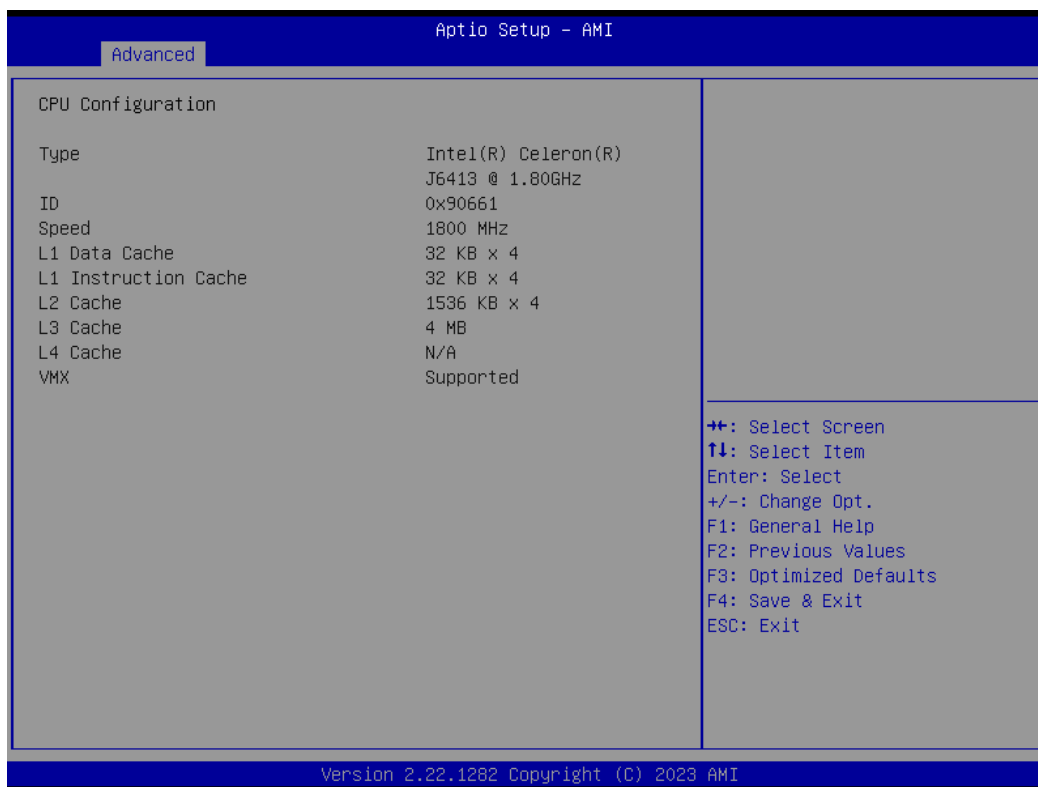
This screen displays hardware health status.



This screen displays the temperature of system and CPU, and system voltages (+5V, +3.3VSB, +5VSB, VBAT).

- **CPU Configuration**

This screen shows the CPU Configuration.



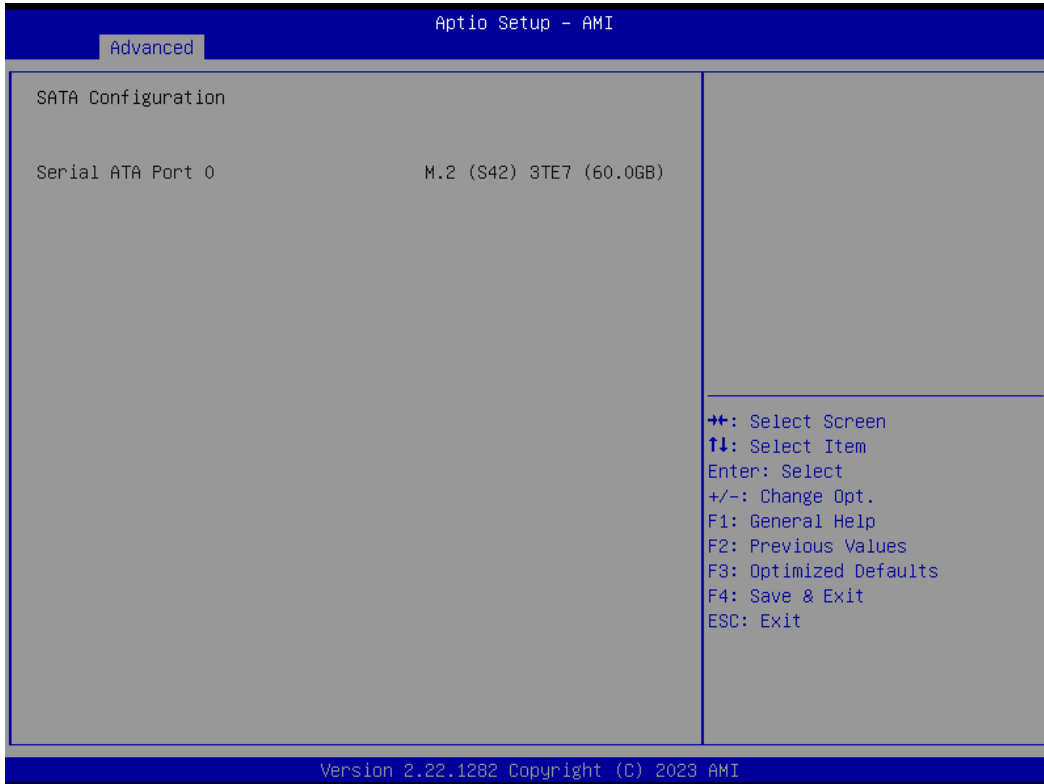
- **Storage Configuration**

During system boot up, the BIOS automatically detects the presence of SATA devices. In the SATA Configuration menu, you can see all hardware currently installed in SATA ports.



SATA Configuration

Select to open SATA device setting sub-screen.



USB Configuration



USB Devices

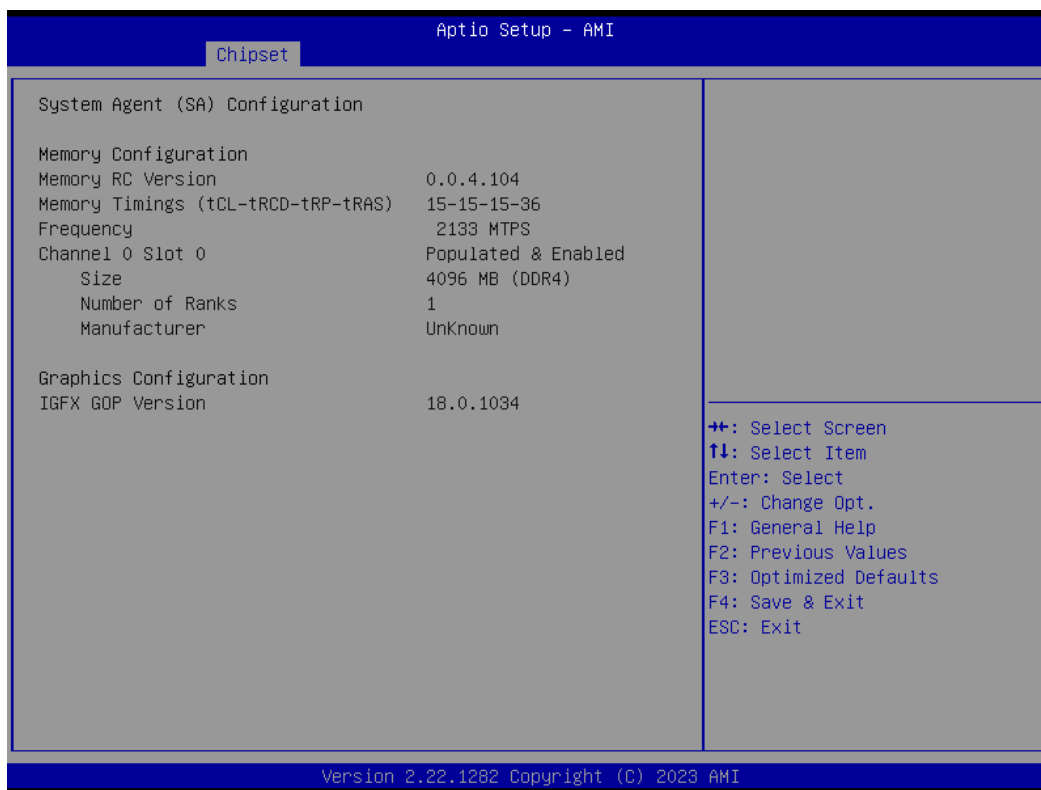
Display all detected USB devices.

4.5 Chipset Menu

The Chipset menu allows users to change the advanced chipset settings.

- **System Agent (SA) Configuration**

This screen allows users to configure System Agent (SA) parameters.



4.6 Security Menu

The Security menu allows users to change the security settings for the system.



- **Administrator Password.**
Set administrator password.
- **User Password**
Set user password.

- **Secure Boot**



Secure Boot feature is Active if Secure Boot is Enabled, Platform Key (PK) is enrolled and the System is in User mode. The mode change requires platform reset.

Secure Boot Mode

Secure Boot mode options : Standard or Custom. In Custom mode, Secure Boot Policy variables can be configured by a physically present user without full authentication.

Restore Factory Keys

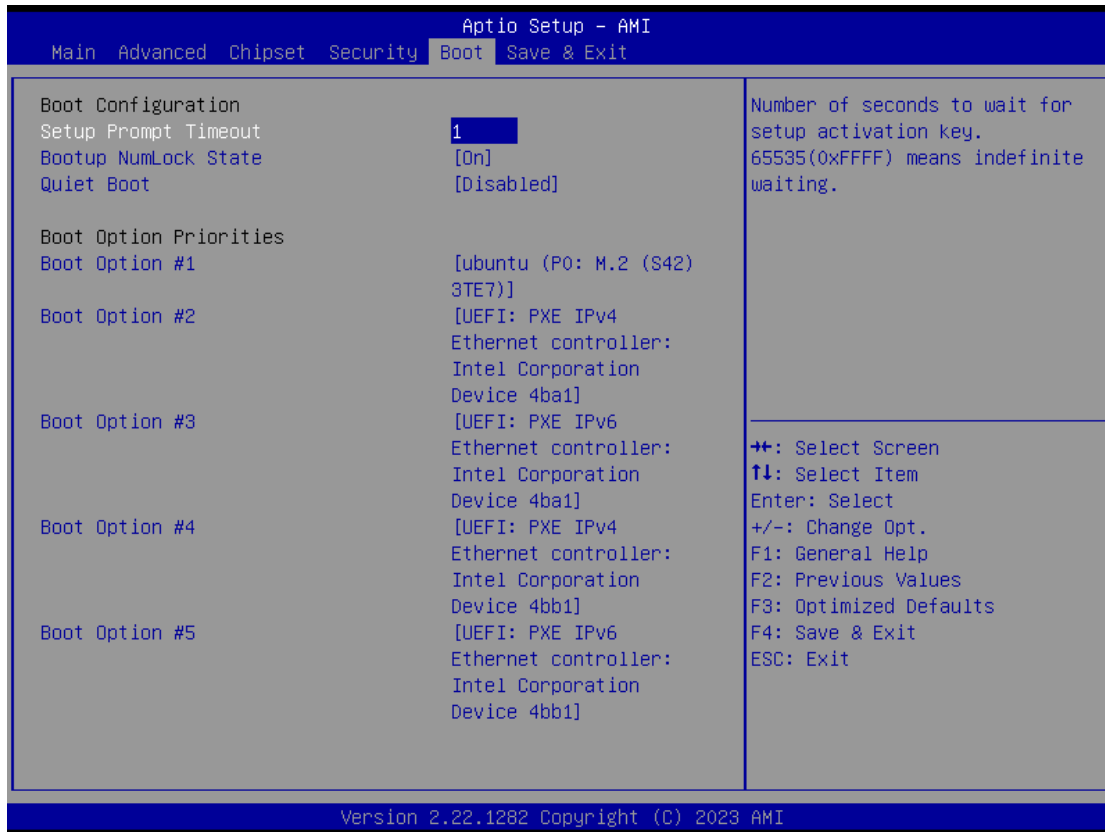
Force the system into User Mode. Install factory default Secure Boot key databases.

Key Management

Enables expert users to modify Secure Boot Policy variables without full authentication.

4.7 Boot Menu

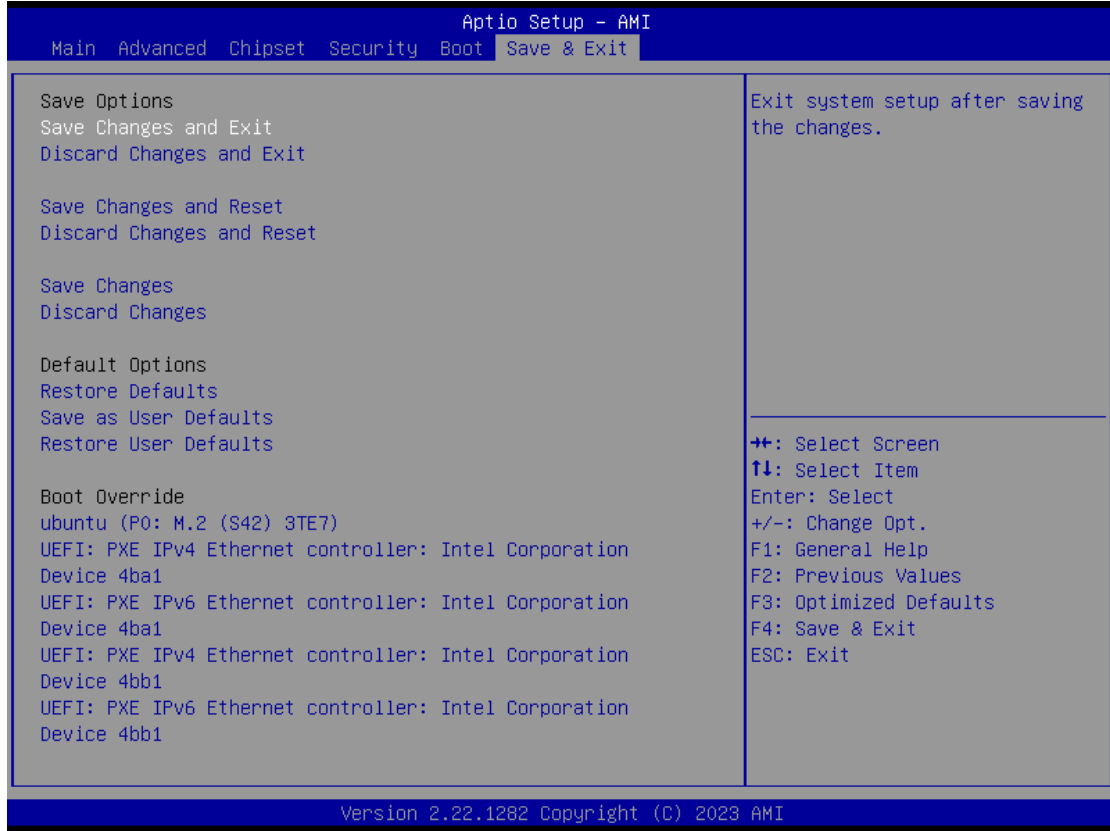
The Boot menu allows users to change boot options of the system.



- Setup Prompt Timeout**
 Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
- Bootup NumLock State**
 Use this item to select the power-on state for the keyboard NumLock.
- Quiet Boot**
 Select to display either POST output messages or a splash screen during boot-up.
- Network Stack**
 Enable or disable UEFI Network stack.
- Boot Option Priorities**
 These are settings for boot priority. Specify the boot device priority sequence from the available devices.

4.8 Save & Exit Menu

The Save & Exit menu allows users to load your system configuration with optimal or fail-safe default values.



- Save Changes and Exit**
When you have completed the system configuration changes, select this option to leave Setup and return to Main Menu. Select Save Changes and Exit from the Save & Exit menu and press <Enter>. Select Yes to save changes and exit.
- Discard Changes and Exit**
Select this option to quit Setup without making any permanent changes to the system configuration and return to Main Menu. Select Discard Changes and Exit from the Save & Exit menu and press <Enter>. Select Yes to discard changes and exit.
- Save Changes and Reset**
When you have completed the system configuration changes, select this option to leave Setup and reboot the computer so the new system configuration parameters can take effect. Select Save Changes and Reset from the Save & Exit menu and press <Enter>. Select Yes to save changes and reset.
- Discard Changes and Reset**
Select this option to quit Setup without making any permanent changes to the system configuration and reboot the computer. Select Discard Changes and Reset from the Save & Exit menu and press <Enter>. Select Yes to discard changes and reset.
- Save Changes**
When you have completed the system configuration changes, select this option to save changes. Select Save Changes from the Save & Exit menu and press <Enter>. Select Yes to save changes.

- **Discard Changes**
Select this option to quit Setup without making any permanent changes to the system configuration. Select Discard Changes from the Save & Exit menu and press <Enter>. Select Yes to discard changes.
- **Restore Defaults**
It automatically sets all Setup options to a complete set of default settings when you select this option. Select Restore Defaults from the Save & Exit menu and press <Enter>.
- **Save as User Defaults**
Select this option to save system configuration changes done so far as User Defaults. Select Save as User Defaults from the Save & Exit menu and press <Enter>.
- **Restore User Defaults**
It automatically sets all Setup options to a complete set of User Defaults when you select this option. Select Restore User Defaults from the Save & Exit menu and press <Enter>.
- **Boot Override**
Select a drive to immediately boot that device regardless of the current boot order.

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SECTION 5 BSP FLASH METHOD

This chapter provides users with a detailed description of how to flash BSP for RSC101, the user could follow the below instruction to install or reinstall BSP by themselves.

5.1 Prerequisites

An RSC101 Device

Two USB 2.0 or 3.0 flash drive (USB 3.0 flash drive is recommended)

An USB keyboard and a mouse

A monitor with an HDMI interface

A HDMI cable

5.2 Flash Method

Please use the following instructions to flash the BSP to the RSC101.

5.2.1 Download RSC101 Image

You can verify the integrity of the download using the associated md5sum command on most Linux distributions. Copy this image to one of your USB 2.0 or 3.0 flash drives.

- ※ Please download the image from Axiomtek official website. If you cannot find the image from Axiomtek official website, please contact Axiomtek distributors, sales or FAE immediately.

5.2.2 Create the Ubuntu Live USB Disk

Download and Created an Ubuntu 20.04 LTS Live USB disk on another USB 2.0 or 3.0 flash drive by following the live USB Ubuntu Desktop tutorial for Ubuntu, Windows, or macOS. (Ubuntu 20.04 LTS or Latest Ubuntu LTS)

- [Ubuntu](#)

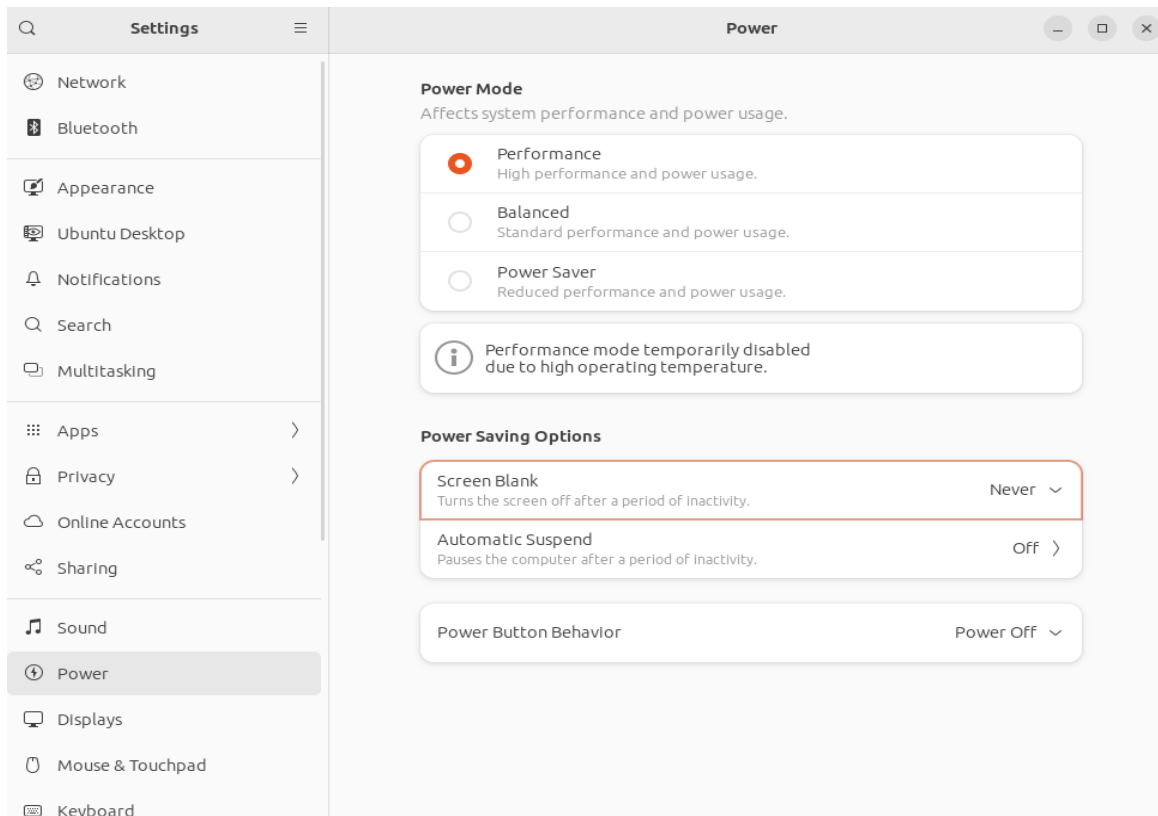
5.2.3 Install Axiomtek-RSC101 Image

Setp 1 Setup your machine

- a. Connect your USB hub, keyboard, mouse, monitor to the board.
- b. Insert Ubuntu Live USB disk to the board.

Setp 2 Boot the system from the Ubuntu Live USB disk

- a. Make sure the device is configured to boot from the USB flash drive and start the device.
- b. Select “Try Ubuntu without installing”.
- c. Set “Performance” at [Power Mode],
→ [Setting] -> [Power] -> [Power Mode].
- d. Set “Never” at [Screen Blank]
→ [Setting] -> [Power] -> [Power Mode].



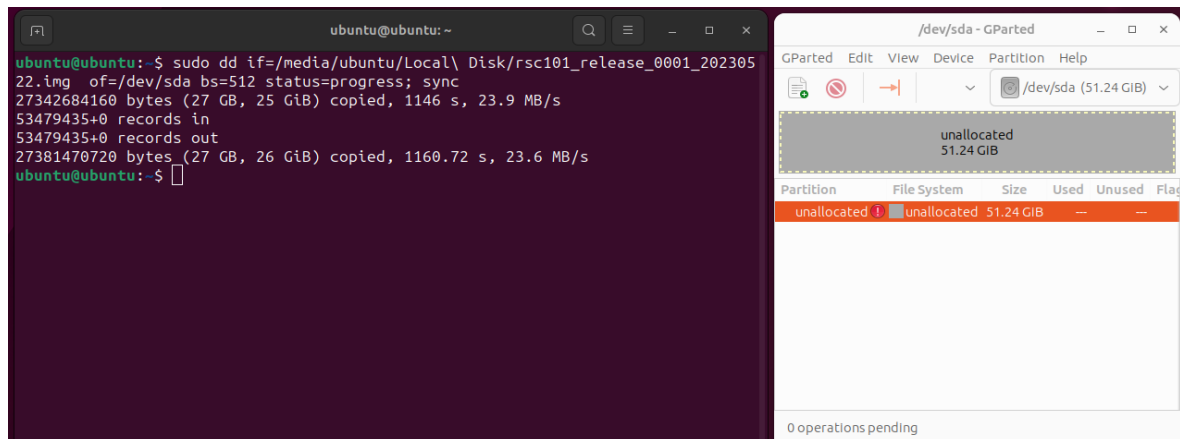
Step 3 Flash Ubuntu Desktop to your machine

- a. Once the Ubuntu session has started, insert the second USB flash drive containing the RSC101 image file.
- b. Open a terminal and use the following command to find out the target disk device to install the RSC101 image to:

```
sudo fdisk -l
```

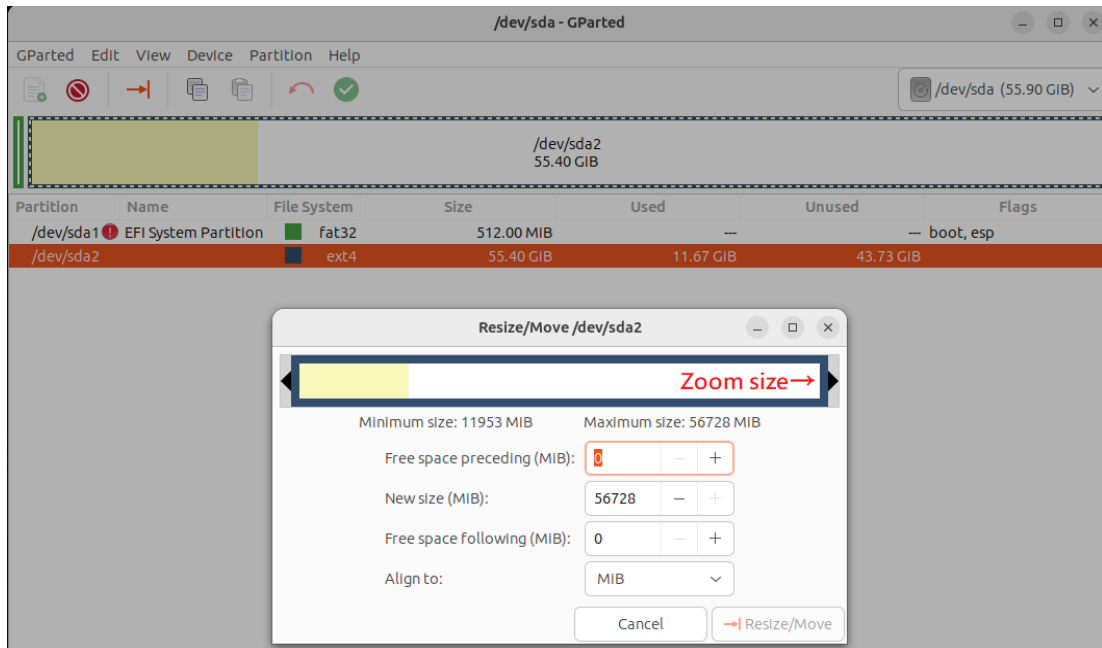
- c. Run the following command, where <disk label> is the label of the second USB flash drive:

```
“sudo dd if=<Source Image> of=/dev/<target device> bs=512  
status=progress; sync”
```



5.3 Resize Storage

Step 1 You can use **GParted** to change second partition size. (Ex: “/dev/sda2”)



Step 2 Press [Apply All Operations]



Step 3 Reboot the system and remove the flash drives when prompted. It will then boot from the internal memory where Desktop of System has been flashed.