Generic BIOS Setup Utility User Guide

For the Altra Platform

January 2024

Revision: 1.00

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Revision History

Revision Number	Description	Revision Date
1.00	• Initial Release	January 2024

1.0 Introduction

This document provides the information of BIOS setup utility page, operation and firmware update for ASRock Rack Altra platform mainboard.

These information and snapshots may vary due to product design changes and bug fixes.

2.0 BIOS Setup Utility Operation

The BIOS setup utility that allows user to configure and view current system settings and information for the system platform devices.

2.1 Setup Page Layout

The BIOS setup utility page is consisted by multiple functional areas. Each area on the screen which has dedicated functionality. The following table and figure are lists and describes each functional area.

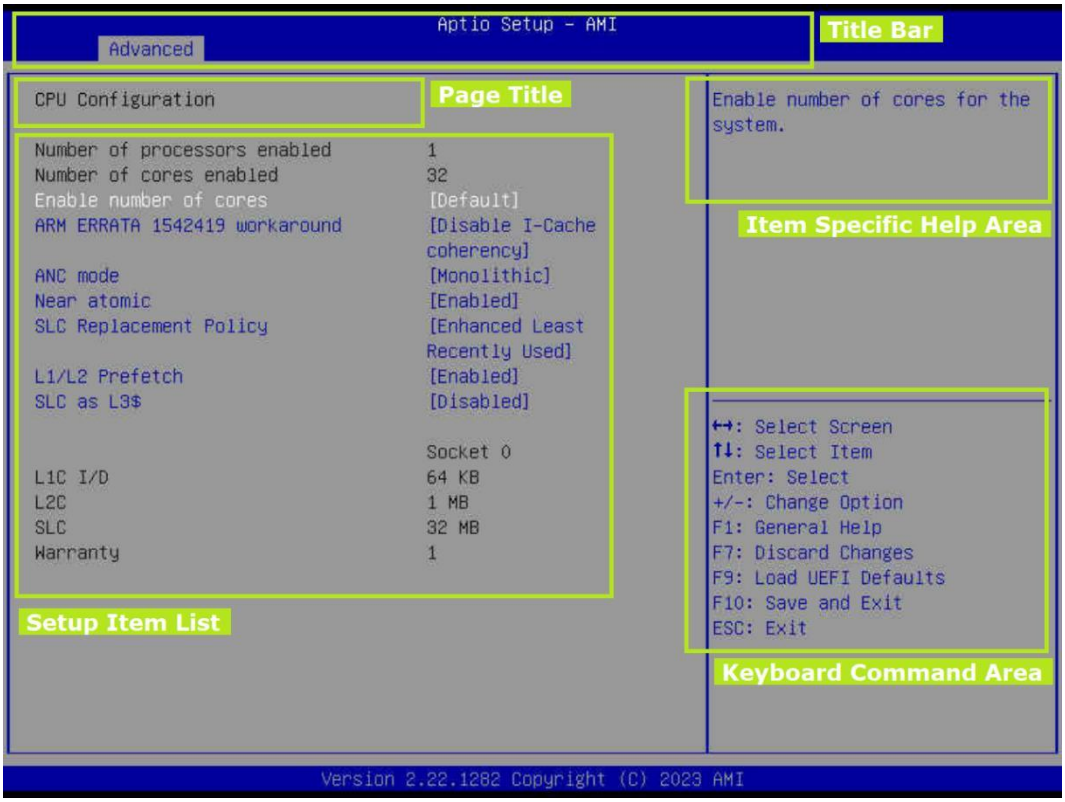

Figure 1. BIOS Setup Utility Layout

Table 1. BIOS Setup Utility Layout

Functional Area	Description
Title Bar	The Title Bar is at the top of the screen and displays "feature tabs" with the titles of the top-level pages or screens that can be selected. User can use the left or right arrow key moves from page to page by the tabs.
Page Title	The Page Title is used to identifying the specific page that user is viewing.
Setup Item List	The Setup Item List is a set of control instance and informational items.
Item Specific Help Area	The Item Specific Help Area that is used to displays the help text for selected setup item. The help text information may contain usage and meaning of the selected item, effects of options, allowable values, etc.
Keyboard Command Area	The Keyboard Command Area that displays help for keyboard special keys and navigation keys.

2.2 Entering BIOS Setup Utility

To enter the BIOS setup utility using a keyboard, press the **<F2>** or **<Del>** key during the system POST time when the POST logo screen is displayed.

The following instructional message is displayed on the POST logo screen:

```
Press <Tab> to Switch Screen
Press <F2> or <DEL> to run UEFI Setup
Press <F11> for Boot Menu
Press <F6> for Instance Flash
```

The Main Menu in initially displayed while the BIOS setup utility has been entered.

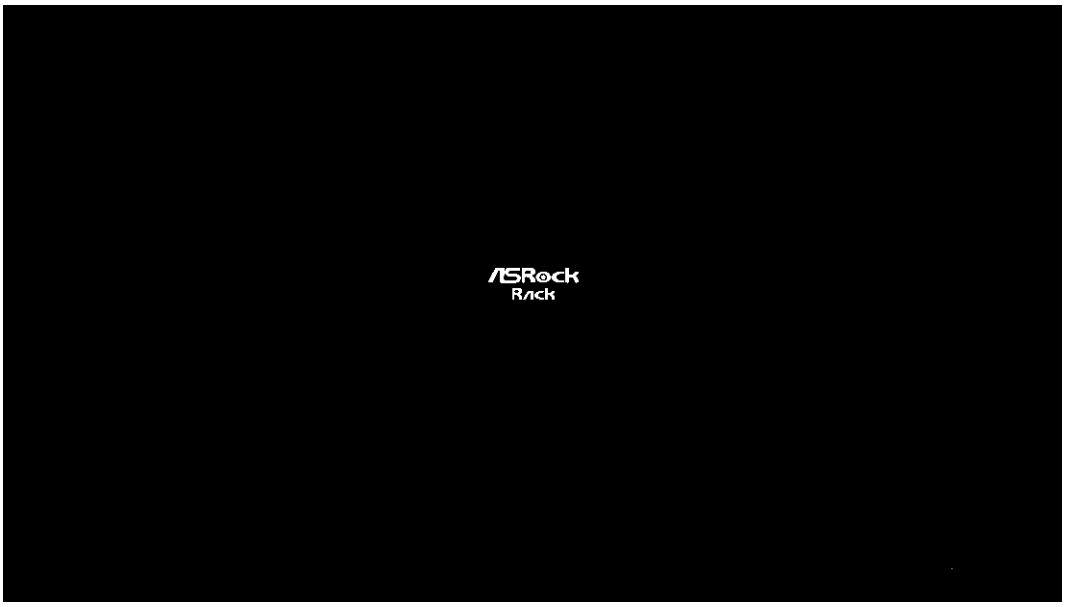

Figure 2. POST Logo Screen

2.3 Exit BIOS Setup Utility

The supported ways to exit BIOS setup utility as following:

- Press the **<Esc>** key to invoke the D*iscard any changes to exit setup* function from any setup page.
- Press the **<F10>** key to invoke the *Save configuration changes and exit setup* function from any setup page.
- From the **Exit** page, select the following options to exit the BIOS setup utility.
  - Save Changes and Exit
  - Discard Changes and Exit

2.4 BIOS Setup Utility Navigation Keyboard Commands

The keyboard command area provides the list of commands that used to navigate through the BIOS setup utility. The information is shown all the time.

Table 2. BIOS Setup Keyboard Command Information

Key	Option	Description
<Enter>	Execute Command/ Select	Press the **<Enter>** key to activate the submenus when the selected feature is a submenu, or to display a pick list if selected option has a value field, or select a subfield for multi-valued feature like time and date.
<Esc>	Exit	Press the **<Esc>** key to backing out of any field. When the **<Esc>** key is pressed in any submenu, the parent menu is re-entered. When the **<Esc>** key is pressed while selecting feature of a menu or editing any field, the parent is re-entered.
<↑>	Select Item	Press the **<↑>** key to select the previous value in the pick list or the previous option in a menu. The selected item must then be activated by pressing the **<Enter>** key.
<↓>	Select Item	Press the **<↓>** key to select the next value in the pick list or the next option in a menu. The selected item must then be activated by pressing the **<Enter>** key.
<+>	Change Value	Press the **<->** key to change the of current menu item to the next value.
<->	Change Value	Press the **<->** key to change the of current menu item to the previous value.
<F1>	General Help	Press the **<F1>** key to invoke the General Help popup window.
<F7>	Discard Changes	Press the **<F7>** key to discards the changed value.
<F9>	Load BIOS Defaults	Press the **<F9>** key to load the BIOS factory default settings value.
<F10>	Save and Exit	Press the **<F10>** key to invoke the *Save configuration changes and exit setup* feature.
<F12>	Snapshot the Screen	Press the **<F12>** key to take a snapshot of current screen and save the photo the USB storage device.
<PgUP>	Previous Page	Press the **<PgUP>** key to navigate to previous page.
<PgDN>	Next Page	Press the **<PgDN>** key to navigate to next page.
<Home>	Navigate to Top of Screen	Press the **<Home>** key to navigate to the top of the screen.
<End>	Navigate to Bottom of Screen	Press the **<End>** key to navigate to the bottom of the screen.
<Tab>	Select Field	Press the **<Tab>** key to move between fields. For example, **<Tab>** can be used to move for months to days in the System Date item in the main menu.

2.5 Updating BIOS/SCP Firmware through BIOS Setup Utility

The BIOS setup utility provides a tool named Instant Flash, which allows user to upgrade the system BIOS/SCP firmware through the BIOS setup utility.

The instructions as the following:

1. Extracts the updated BIOS image (*.slim* file and *.ROM* file) into an USB storage device root folder, then plugging the USB storage device into the USB port on the mainboard.

   Note: *The USB storage device must be formatted in FAT32/16/12 format.*

2. Click the Instant Flash tool from **Advanced** -> **Instant Flash**.

3. The Instant Flash will popups a window and ask user *Do you want to update ATF + UEFI?.* Select the **Yes** and press the **<Enter>** key to next step.

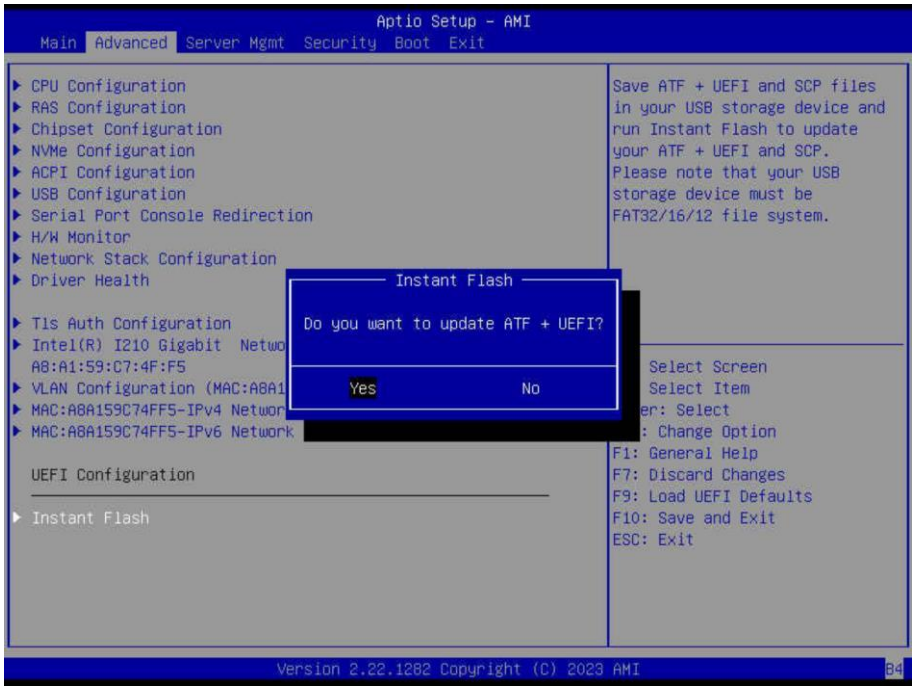

Figure 3. Instant Flash Popup Window

4. Select the updated BIOS image to upgrade the system BIOS firmware.

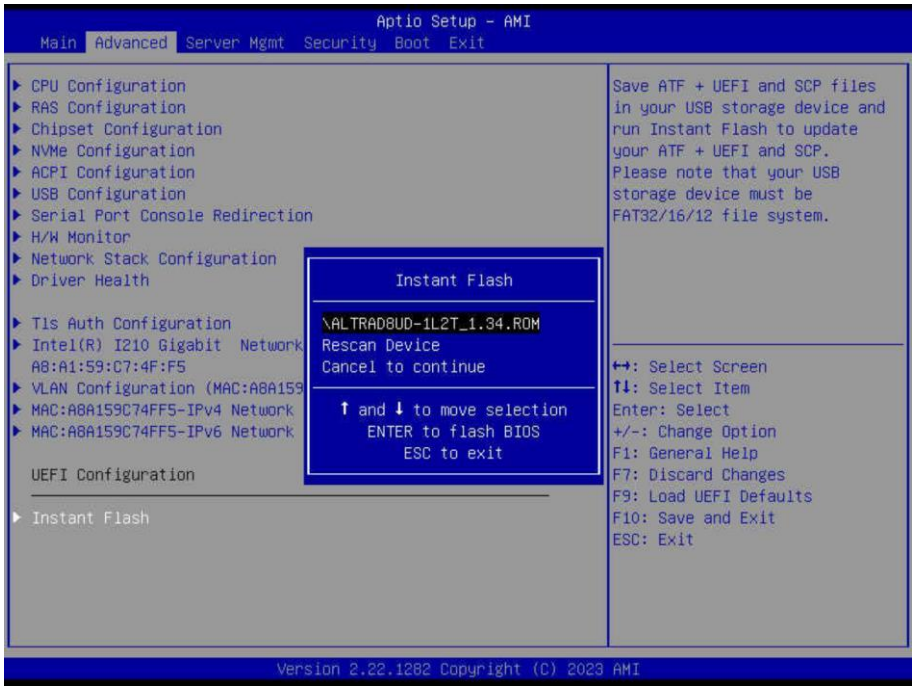

Figure 4. Select the Updated BIOS Image

5. After select the updated BIOS image and press **<Enter>** key to start the flash BIOS firmware, wait a moment for the update process to complete.

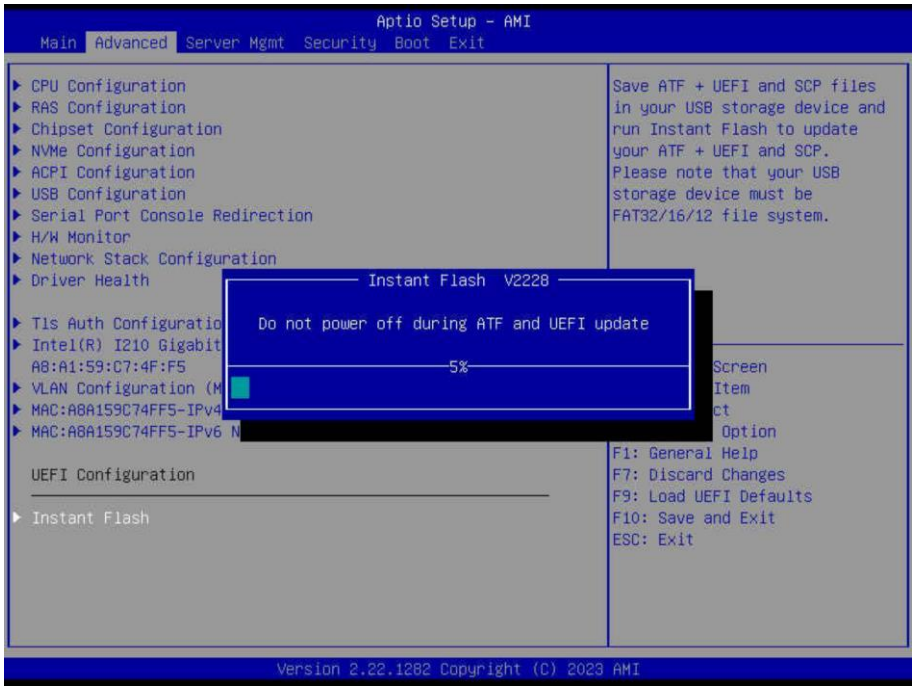

Figure 5. Instant Flash Start the Flash Process

6. Once the flash process done, press **<Enter>** key to continue next step.

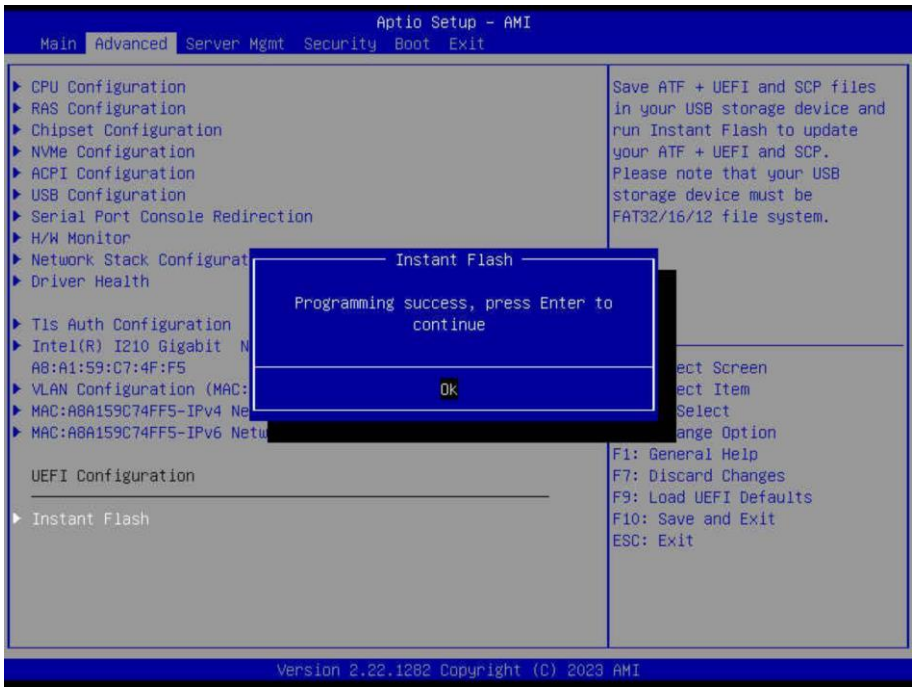

Figure 6. Instant Flash Programming Success

7. Instant Flash popup a window and ask user *Do you want to update SCP?*. Select the **Yes** and press the **<Enter>** key to next step.

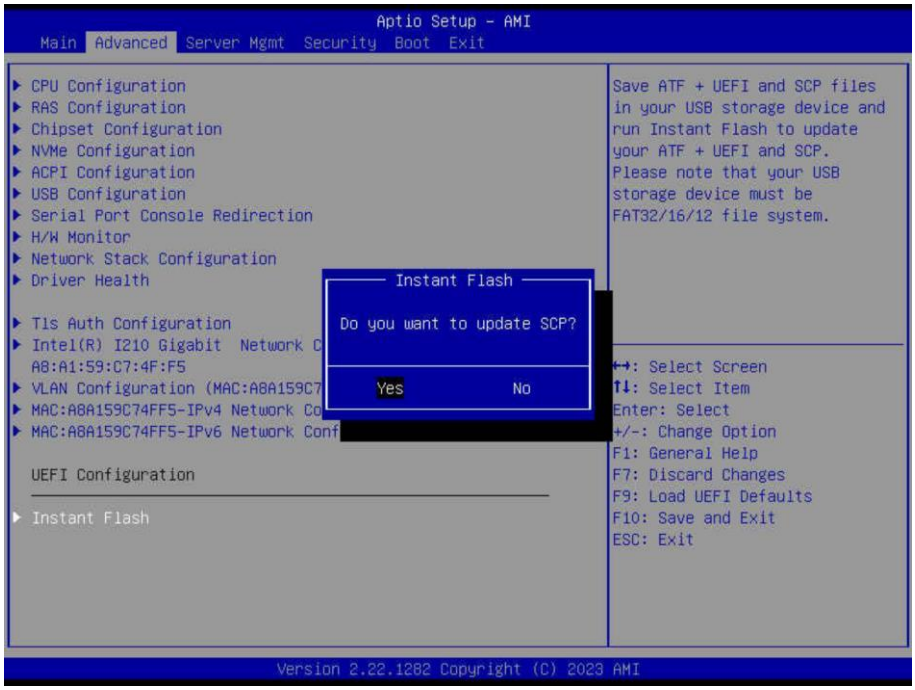

Figure 7. Instant Flash Popup Window

8. Select the updated SCP image to upgrade the system SCP firmware.

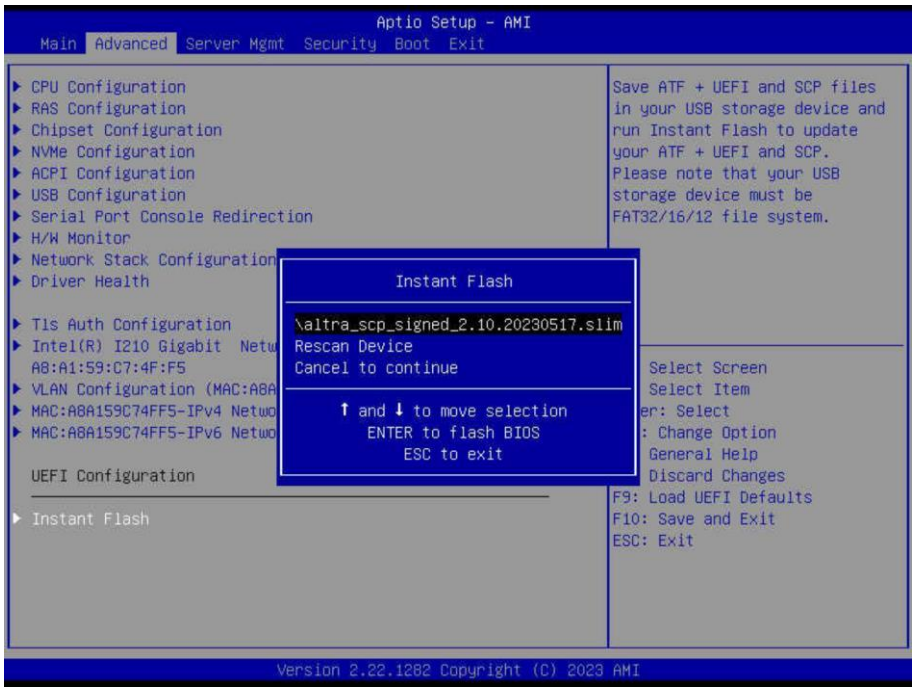

Figure 8. Select the Updated SCP Image

9. After select the updated SCP image and press **<Enter>** key to start the flash SCP firmware, wait a moment for the update process to complete.

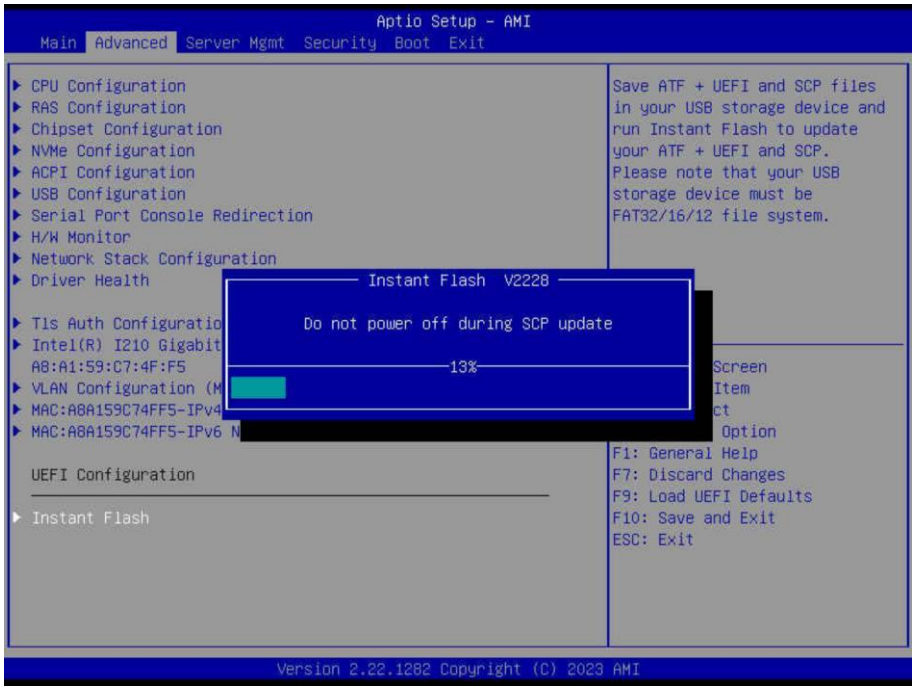

Figure 9. Instant Flash Start the Flash Process

10. Once the flash process done, press **<Enter>** key to continue next step.

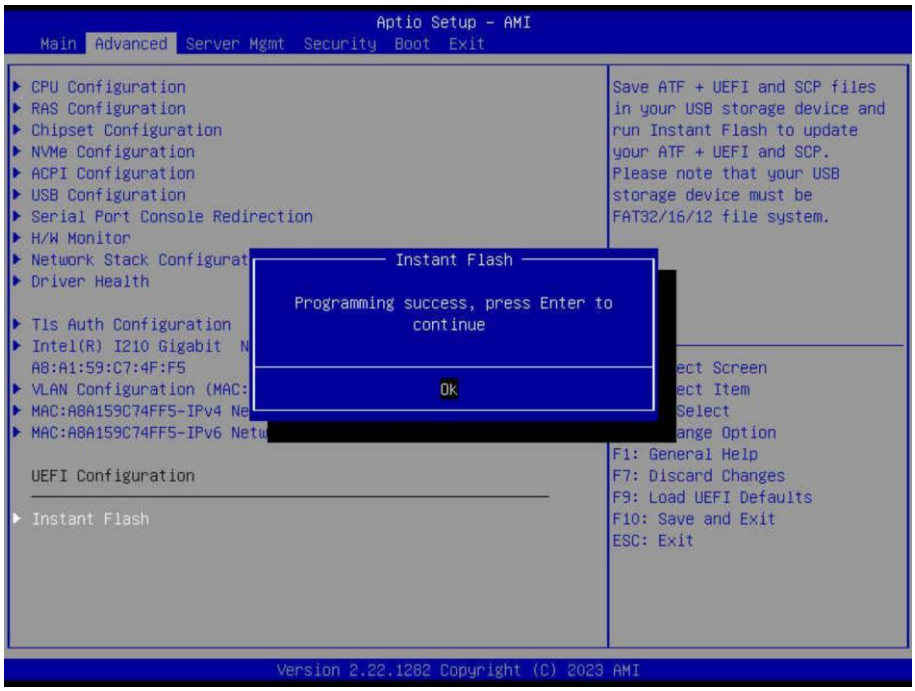

Figure 10. Instant Flash Programming Success

11. Select the **OK** and press **<Enter>** key to reboot the system to completed the BIOS upgrade process.

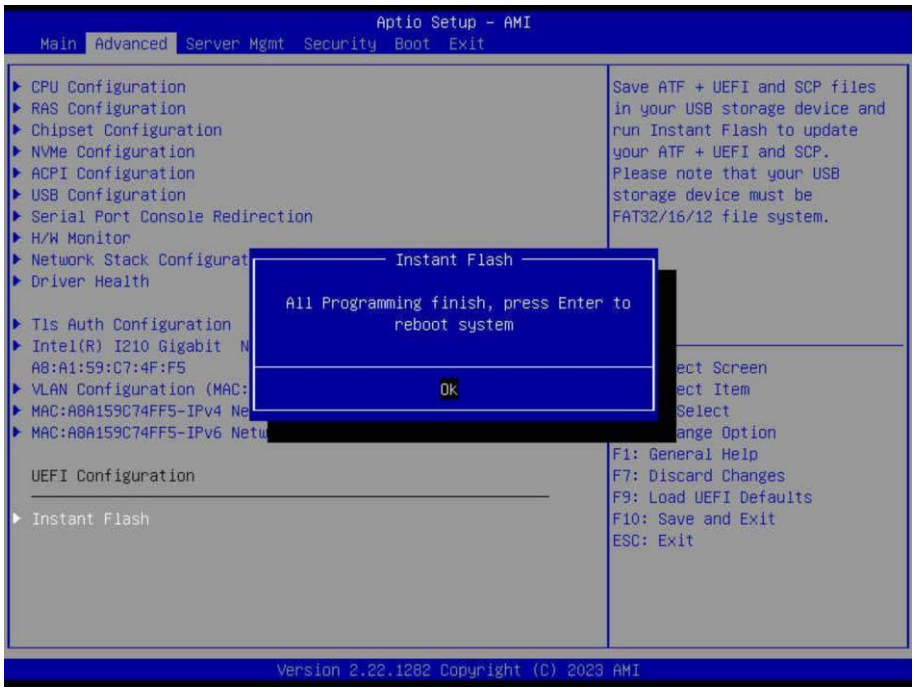

Figure 11. Reboot the System

3.0 BIOS Setup Utility Menus

This chapter provides the menu information available within the BIOS setup utility for the configuration of the platform.

The menu layout of BIOS setup utility as below:

```
BIOS Setup Utility
        |-- Main
        |-- Advanced
        |-- Server Mgmt
        |-- Security
        |-- Boot
        |-- Exit
```

3.1 Main Menu

The Main menu is the first screen that appears when entering the BIOS setup utility.

Main menu provides BIOS information, Product Information, Processor Information, Memory Information and Time & Date settings.

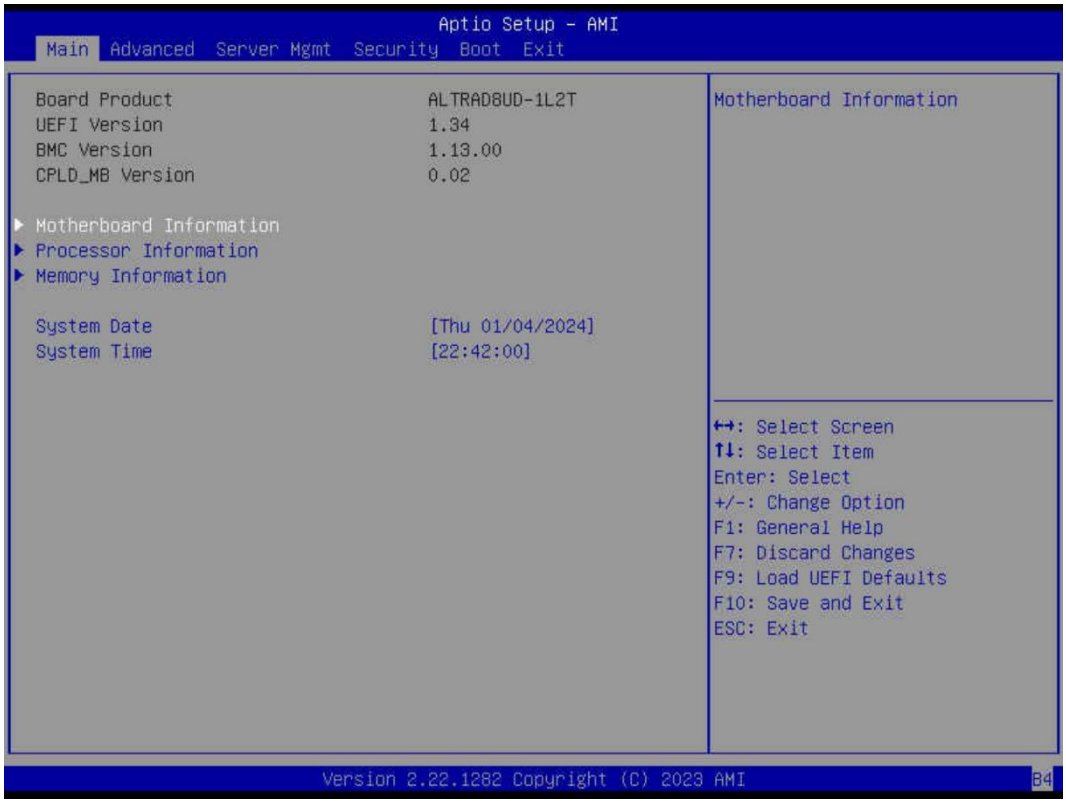

Figure 12. BIOS Setup Utility Main Menu

Table 3. Main Menu Options

Item	Valid Option	Description
Board Product	<Product Name>	Product name.
UEFI Version	<Version Number>	System BIOS firmware version
BMC Version	<Version Number>	System BMC firmware version.
CPLD_MB Version	<Version Number>	Mainboard CPLD firmware version.
Motherboard	Submenu	Displays motherboard related information.
Processor Information	Submenu	Displays processor related information.
Memory Information	Submenu	Displays memory related information.
System Date	<Month><Day><Year>	Set the day. Use the Tab to switch between Data elements. Default Range: Year: 2005–2099 Months: 1–12 Days: Dependent on month Range of Years may vary.
System Time	<Hour><Minute><Second>	Set the time. Use the Tab to switch between Data elements.

3.1.1 Motherboard Information

This page provides motherboard information includes product name, BIOS information and platform information.

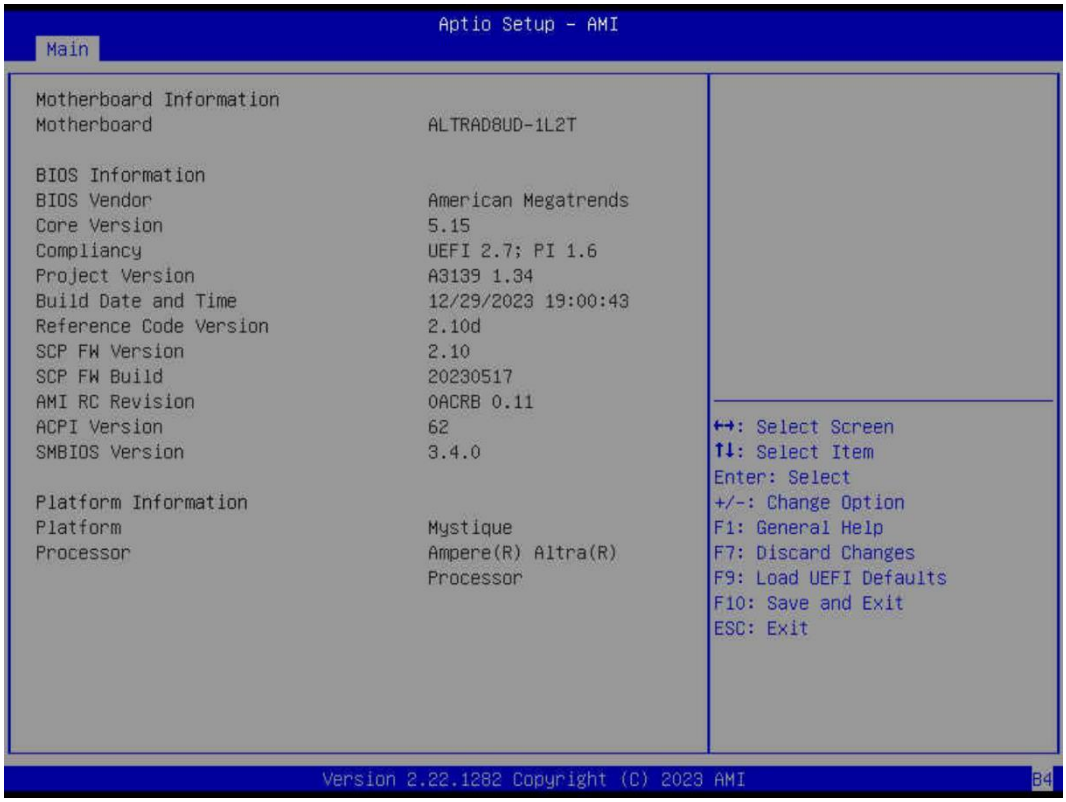

Figure 13. Motherboard Information

Table 4. Motherboard Information Options

Item	Valid Option	Description
Motherboard Information	---	---
Motherboard	<Board Name>	Displays motherboard name.
BIOS Information	---	---
BIOS Vendor	<BIOS Vendor Name>	Displays BIOS vendor name.
Core Version	<BIOS Core Version>	Displays BIOS core version.
Compliancy	UEFI <Version Number>; PI <Version Number>	Displays the compliance version of UEFI and UEFI PI.
Project Version	<Project ID> <Project Version>	Displays the
Build Date and Time	<Date> <Time>	Displays the build date and time of current firmware.
Reference Code Version	<Version Number>	Displays the version number of BIOS reference code.
SCP FW Version	<Version Number>	Displays the SCP firmware version.
SCP FW Build	<Date>	Displays the build date of SCP firmware.
AMI RC Revision	<Version Number>	Displays the reference code revision of BIOS vendor.
ACPI Version	<Version Number>	Displays the supported ACPI version.
SMBIOS Version	<Version Number>	Displays the supported SMBIOS version.
Platform Information	---	---
Platform	<Platform Name>	Displays the platform name of chipset vendor.
Processor	<Processor Name>	Displays the processor name.

3.1.2 Processor Information

This page provides the processor information includes SKU information, speed, cache and capabilities.

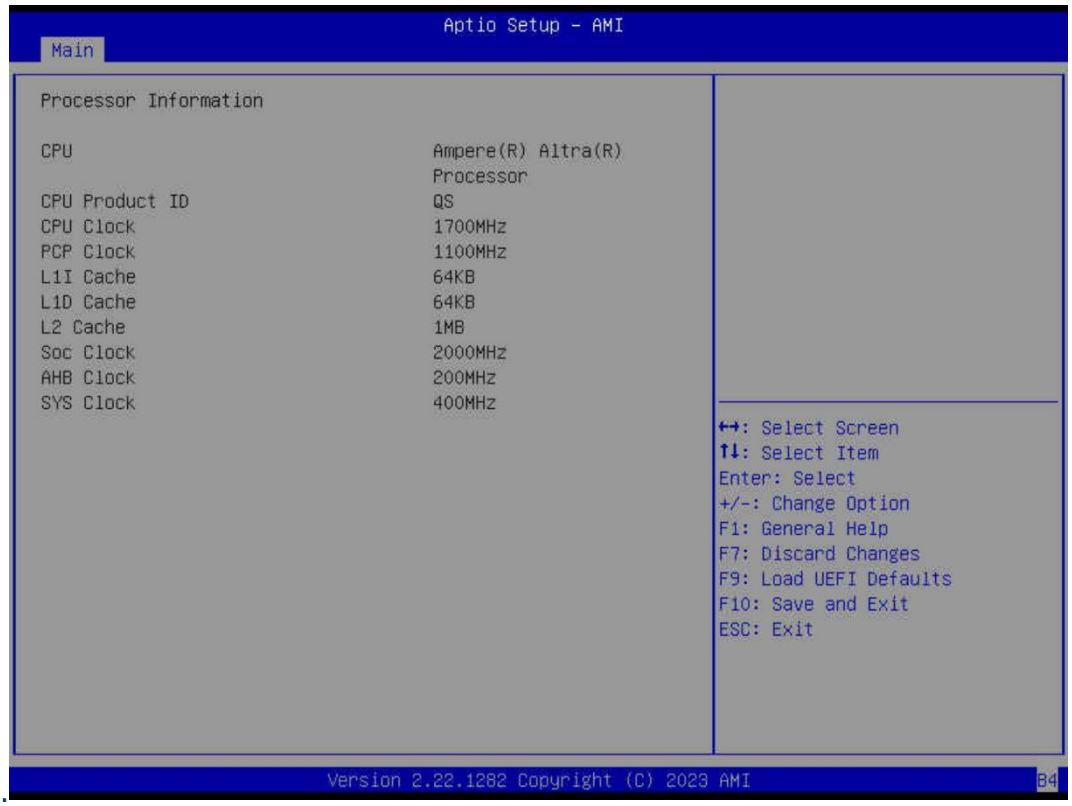

Figure 14. Processor Information

Table 5. Processor Information Options

Item	Valid Option	Description
Processor Information	**---**	**---**
CPU	<CPU Name>	Displays the CPU name.
CPU Product ID	<CPU ID>	Indicates the CPU whether QS or Non-QS stepping.
CPU Clock	<Clock Speed>	Displays the CPU clock speed.
PCP Clock	<Clock Speed>	Displays the PCP clock speed.
L1I Cache	<Memory Size>	Displays the L1I cache size.
L1D Cache	<Memory Size>	Displays the L1D cache size.
L2 Cache	<Memory Size>	Displays the L2 cache size.
Soc Clock	<Clock Speed>	Displays the Soc clock speed.
AHB Clock	<Clock Speed>	Displays the AHB clock speed.
SYS Clock	<Clock Speed>	Displays the SYS clock speed.

3.1.3 Memory Information

This page provides the memory DIMM module information includes total installed memory size, memory channel usage, memory DIMM module size, speed and type.

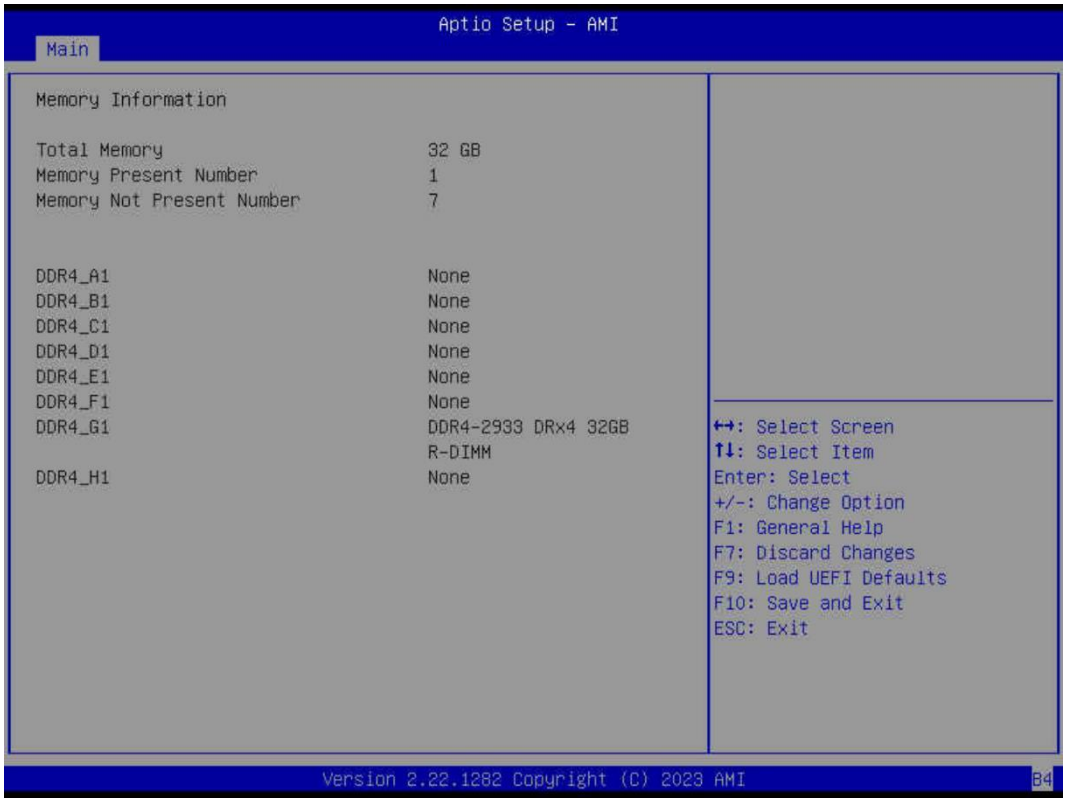

Figure 15. Memory Information

Table 6. Memory Information Options

Item	Valid Option	Description
Memory Information	---	---
Total Memory	<Memory Size>	Displays the total installed memory size.
Memory Present Number	<Number>	Displays the total installed Memory DIMM number.
Memory Not Present Number	<Number>	Displays the total non-installed Memory DIMM number.
DDR4_A1	<DIMM Information>	Displays the installed Memory DIMM information.
DDR4_B1	<DIMM Information>	Displays the installed Memory DIMM information.
DDR4_C1	<DIMM Information>	Displays the installed Memory DIMM information.
DDR4_D1	<DIMM Information>	Displays the installed Memory DIMM information.
DDR4_E1	<DIMM Information>	Displays the installed Memory DIMM information.
DDR4_F1	<DIMM Information>	Displays the installed Memory DIMM information.
DDR4_G1	<DIMM Information>	Displays the installed Memory DIMM information.
DDR4_H1	<DIMM Information>	Displays the installed Memory DIMM information.

3.2 Advanced Menu

Advanced Menu provides an entry point to configure various feature set of advanced options.

Configuration actions are performed on the selected feature set screen and not directly on the Advanced Menu.

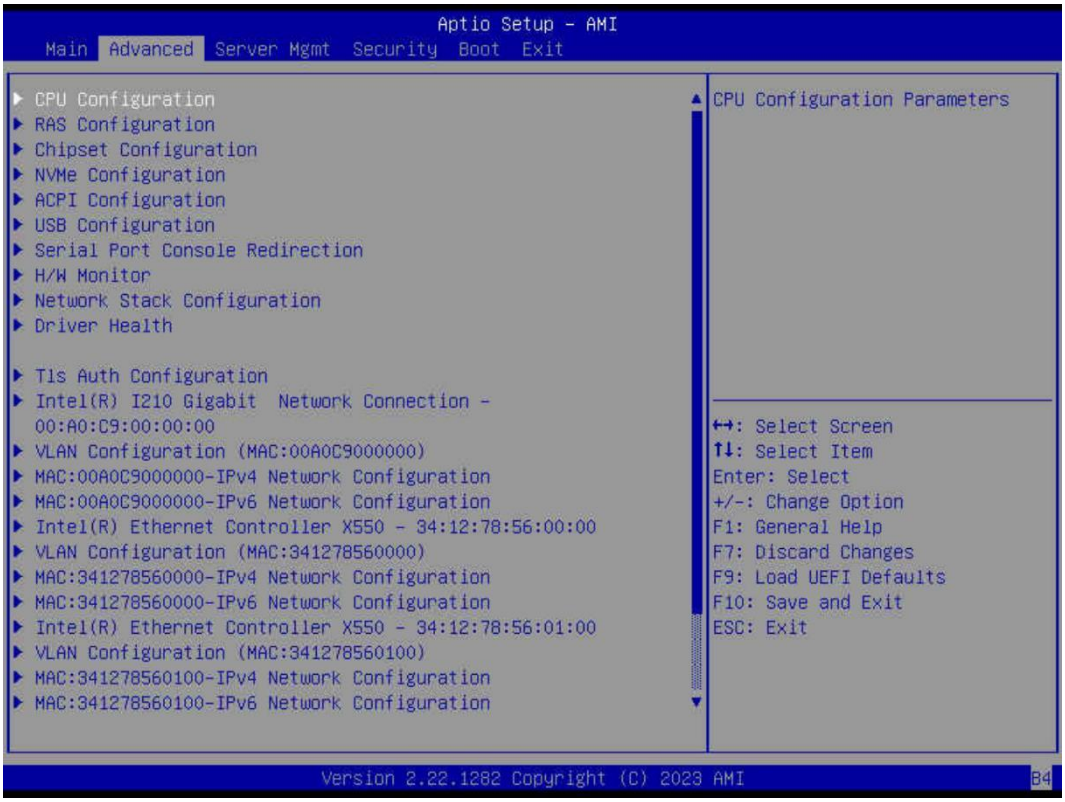

Figure 16. Advanced Menu Options

Table 7. Advanced Menu Options

Item	Valid Option	Description
CPU Configuration	<Submenu>	CPU Configuration Parameters.
RAS Configuration	<Submenu>	RAS Configuration.
Chipset Configuration	<Submenu>	Configure Chipset Settings.
NVMe Configuration	<Submenu>	NVMe Device Options Settings.
ACPI Configuration	<Submenu>	Configure ACPI Settings.
USB Configuration	<Submenu>	USB Configuration Parameters.
Serial Port Console Redirection	<Submenu>	Serial Port Console Redirection.
H/W Monitor	<Submenu>	Monitor Hardware Status.
Network Stack Configuration	<Submenu>	Network Stack Settings.
Driver Health	<Submenu>	Provides Health Status for Drivers/Controllers
Tls Auth Configuration	<Submenu>	Press <Enter> to select Tls Auto Configuration.
Intel I210 Gigabit Network Connection – {mac address}	<Submenu>	Configuration Gigabit Ethernet device parameters. *1
Intel Ethernet Controller X550 – {mac address}	<Submenu>	Configuration 10 Gigabit Ethernet device parameters. *1
VLAN Configuration (MAC:{mac address})	<Submenu>	VLAN Configuration.

Item	Valid Option	Description
MAC: {mac address} IPv4 Network Configuration	<Submenu>	Configuration network parameters. *1
MAC: {mac address} IPv6 Network Configuration	<Submenu>	Configuration network parameters. *1
Instant Flash	<Submenu>	Save ATF + UEFI and SCP files in your USB storage device and run Instant Flash to update your ATF + UEFI and SCP. Please note that your USB storage device must be FAT32/16/12 file system.

Note:

**1: This option will vary depending on the configuration of difference SKUs.*

3.2.1 CPU Configuration

CPU Configuration provides various options for users to configure the CPU-related settings.

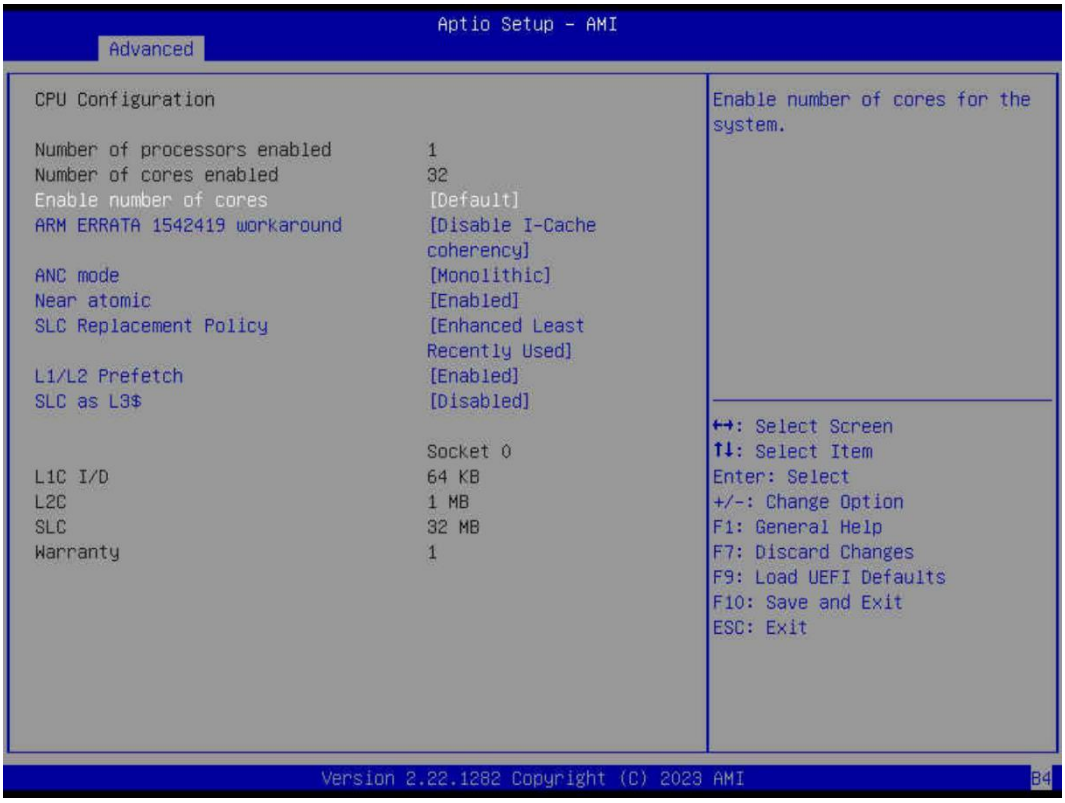

Figure 17. CPU Configuration

Table 8. CPU Configuration Options

Item	Valid Option	Description
CPU Configuration	**---**	**---**
Number of processors enabled	<Value>	
Number of cores enabled	<Value>	
Enable number of cores	• **Default** • 2 • 4 • 6 • 8 • 10 • 12 … • 124 • 126 • 128	Enable number of cores for the system. *1
ARM ERRATA 1542419 workaround	• **Disable I-Cache coherency** • Software solution	Provides 3 options: Disable workaround, Disable I-Cache coherency, Trap each IC IVAU to EL3
ANC mode	• **Monolithic** • Hemisphere • Quadrant	Provides 3 modes: Monolithic, Hemisphere, Quadrant. System with Monolithic mode has single NUMA partition per socket. System with Hemisphere has 2 NUMA partitions per socket. System with Quandrant has 4 NUMA partitions per socket.

Item	Valid Option	Description
Near atomic	● Disabled ● **Enabled**	Enable/disable cacheable atomic instruction executed near in CPU.
SLC Replacement Policy	● **Enhanced Least Recently Used** ● Linear-Feedback Shift Register	Select Replacement Policy for SLC.
L1/L2 Prefetch	● Disabled ● **Enabled**	Enable/disable L1/L2 Prefetch for each core.
SLC as L3$	● **Disabled** ● Enabled	This option enables / disables PPTT to indicate SLC as L3$. This is limited to only 1P Monolithic mode.
---	<CPU Socket Number>	Indicates the CPU socket number.
L1C I/O	<Memory Size>	Indicates the technical specifications for the installed processor.
L2C	<Memory Size>	Indicates the technical specifications for the installed processor.
SLC	<Memory Size>	Indicates the technical specifications for the installed processor.
Warranty	<Value>	Indicates the technical specifications for the installed processor.

***Note**:*

**1: The number of options will vary depending on the installed CPU.*

3.2.2 RAS Configuration

RAS Configuration provides various options for users to configure the system RAS feature settings.

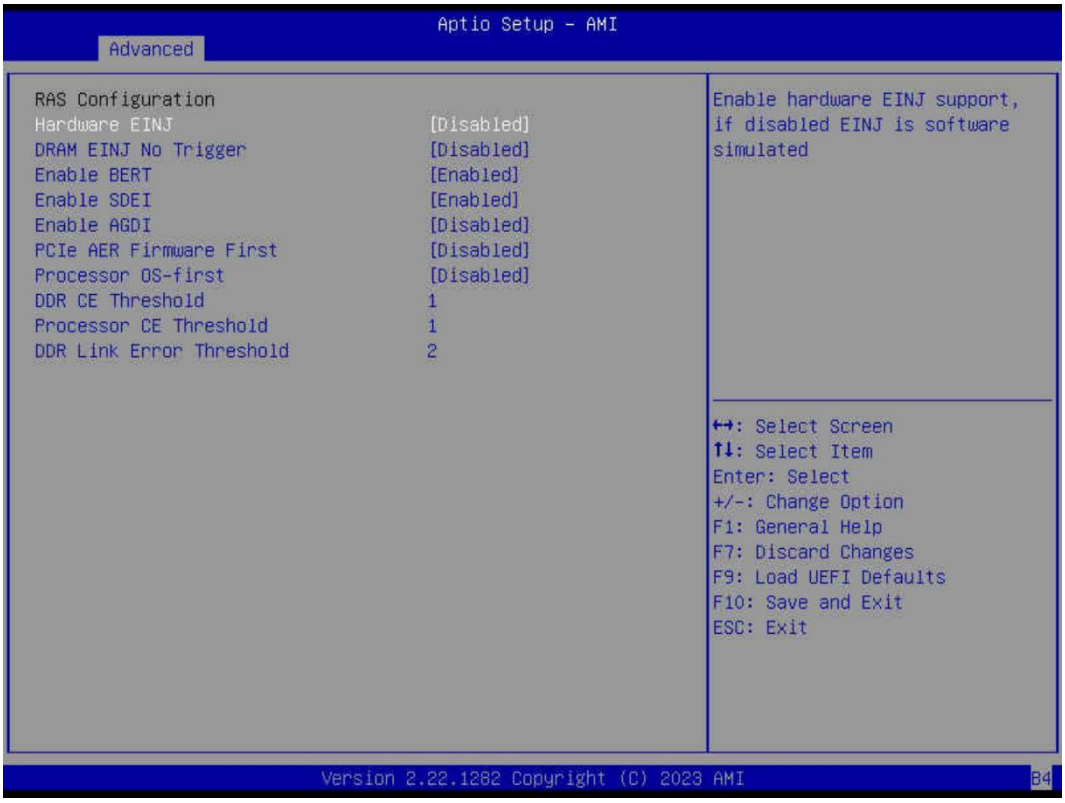

Figure 18. RAS Configuration

Table 9. RAS Configuration Options

Item	Valid Option	Description
RAS Configuration	---	---
Hardware EINJ	● **Disabled** ● Enabled	Enable hardware EINJ support, if disabled EINJ is software simulated.
DRAM EING No Trigger	● **Disabled** ● Enabled	Avoid triggering DRAM errors with Hardware EINJ. If enabled, DRAM Hardware EINJ requests will only flip bits at the desired DRAM address and not force the hardware to immediately detect those bit flips
Enable BERT	● Disabled ● **Enabled**	Enable Boot Error Record Table, if disabled BERT will not be populated.
Enable SDEI	● Disabled ● **Enabled**	Enable Software Delegated Exception Interface for NMI support.
Enable AGDI	● **Disabled** ● Enabled	Enable Arm Generic Diagnostic Dump and Reset Device Interface support. This requires SDEI to also be enabled.
PCIe AER Firmware First	● **Disabled** ● Enabled	Enable firmware to detect PCIe AER, if disabled OS detects AER.
Processor OS-first	● **Disabled** ● Enabled	Enable OS-first handling of processor errors through the AEST ACPI table.
DDR CE Threshold	<Value>	Number of DDR CEs to occur before using interrupt based notification to the OS rather than allowing the OS to poll for CEs.
Processor CE Threshold	<Value>	Number of processor CEs to occur before using interrupt based notification to the OS rather than allowing the OS to poll for CEs.
DDR Link Error	<Value>	Number of DDR link errors before considering it

Item	Valid Option	Description
Threshold		fatal severity.

3.2.3 Chipset Configuration

Chipset Configuration provides various options for users to configure the chipset-related settings.

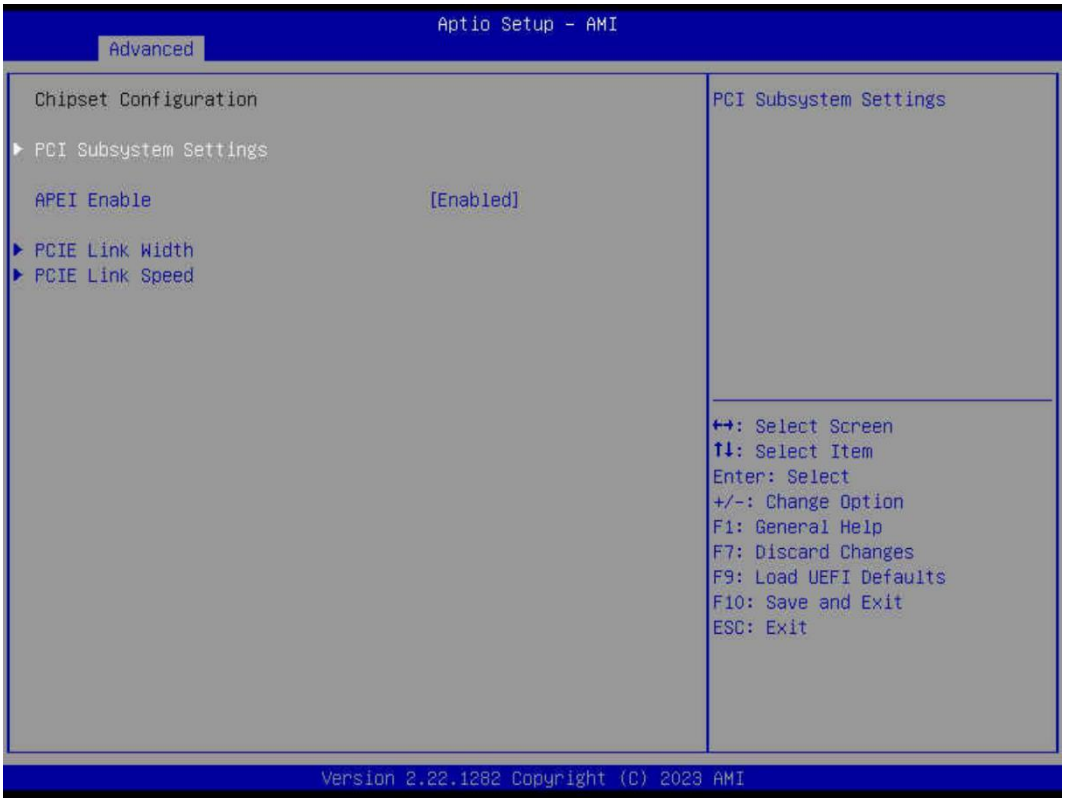

Figure 19. Chipset Configuration

Table 10. Chipset Configuration Options

Item	Valid Option	Description
Chipset Configuration	**---**	**---**
PCI Subsystem Settings	<Submenu>	PCI Subsystem Settings
APEI Enable	• Disabled • **Enabled**	Enable/Disable ACPI Platform Error Interface support
PCIE Link Width	<Submenu>	PCIE Link Width
PCIE Link Speed	<Submenu>	PCIE Link Speed

Table 11. PCI Subsystem Settings Options

Item	Valid Option	Description
AMI PCI Driver Version	<Version Number>	PCI driver version.
PCI Settings Common for all Devices	---	---
Re-Size Bar Support	• **Disabled** • Enabled	If system has Resizable BAR capable PCIe Devices, this option Enables or Disables Resizable BAR Support.
SR-IOV Support	• **Disabled** • Enabled	If system has SR-IOV capable PCIe Devices, this option Enables or Disables Single Root IO Virtualization Support.

Table 12. PCIE Link Width Options

Item	Valid Option				Description
PCIE Link Width	---				---
SLIM2/SLIM1 Link Width	● **Auto** ● x16		● x8x8 ● x4x4x4x4		Select PCIE Link Width Auto – x4x4x4x4
SLIM4/SLIM3 Link Width	● **Auto** ● x16		● x8x8 ● x4x4x4x4		Select PCIE Link Width Auto – x4x4x4x4
PCIE4 Link Width	● **Auto** ● x16		● x8x8 ● x4x4x4x4		Select PCIE Link Width Auto – x16
PCIE5 Link Width	● **Auto** ● x16		● x8x8 ● x4x4x4x4		Select PCIE Link Width Auto – x16
PCIE7/PCIE6 Link Width	● **Auto** ● x16		● x8x8 ● x4x4x4x4		Select PCIE Link Width Altra CPU : Auto – x8x8 Altra Max CPU : Auto – x16

Table 13. PCIE Link Speed Options

Item	Valid Option				Description
PCIE Link Speed	---				---
SLIM1-1 Link Speed	● **Auto** ● Gen1 ● Gen2		● Gen3 ● Gen4		Select PCIE Link Speed Auto – Gen4
SLIM1-2 Link Speed	● **Auto** ● Gen1 ● Gen2		● Gen3 ● Gen4		Select PCIE Link Speed Auto – Gen4
SLIM2-1 Link Speed	● **Auto** ● Gen1 ● Gen2		● Gen3 ● Gen4		Select PCIE Link Speed Auto – Gen4
SLIM2-2 Link Speed	● **Auto** ● Gen1 ● Gen2		● Gen3 ● Gen4		Select PCIE Link Speed Auto – Gen4
SLIM3-1 Link Speed	● **Auto** ● Gen1 ● Gen2		● Gen3 ● Gen4		Select PCIE Link Speed Auto – Gen4
SLIM3-2 Link Speed	● **Auto** ● Gen1 ● Gen2		● Gen3 ● Gen4		Select PCIE Link Speed Auto – Gen4
SLIM4-1 Link Speed	● **Auto** ● Gen1 ● Gen2		● Gen3 ● Gen4		Select PCIE Link Speed Auto – Gen4
SLIM4-2 Link Speed	● **Auto** ● Gen1 ● Gen2		● Gen3 ● Gen4		Select PCIE Link Speed Auto – Gen4
OCU1 Link Speed	● **Auto** ● Gen1 ● Gen2		● Gen3 ● Gen4		Select PCIE Link Speed Auto – Gen4
OCU2 Link Speed	● **Auto** ● Gen1 ● Gen2		● Gen3 ● Gen4		Select PCIE Link Speed Auto – Gen4
M2_1 Link Speed	● **Auto** ● Gen1 ● Gen2		● Gen3 ● Gen4		Select PCIE Link Speed Auto – Gen4
M2_2 Link Speed	● **Auto** ● Gen1 ● Gen2		● Gen3 ● Gen4		Select PCIE Link Speed Auto – Gen4
PCIE4 Link Speed	● **Auto** ● Gen1 ● Gen2		● Gen3 ● Gen4		Select PCIE Link Speed Auto – Gen4
PCIE5 Link Speed	● **Auto** ● Gen1 ● Gen2		● Gen3 ● Gen4		Select PCIE Link Speed Auto – Gen4
PCIE7/PCIE6 Link Speed	● **Auto** ● Gen1 ● Gen2		● Gen3 ● Gen4		Select PCIE Link Speed Auto – Gen4

3.2.4 NVMe Configuration

NVMe Configuration provides various options for users to configure the NVMe-related settings.

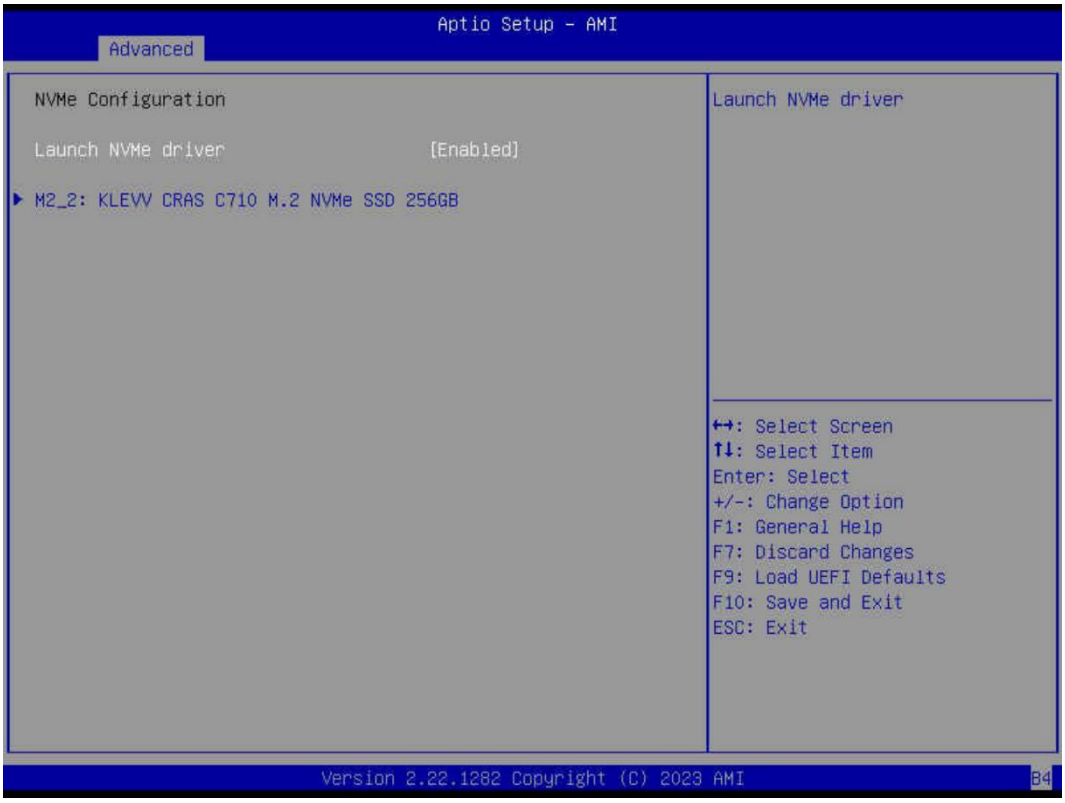

Figure 20. NVMe Configuration

Table 14. NVMe Configuration Options

Item	Valid Option	Description
NVMe Configuration	**---**	**---**
Launch NVMe driver	● **Disabled** ● Enabled	Launch NVMe driver
M2_N	<Submenu>	---

Table 15. M2_N Configuration Options

Item	Valid Option	Description
Seg:Bus:Dev:Func	<Seg>:<Bus>:<Dev>:<Func>	PCI bus information
Model Number	<Model Infomation>	Indicates the information of this device.
Total Size	<Capacity Size>	Indicates the capacity size of this device.
Vendor ID	<VendorID>	Indicates the vendor ID of this device.
Device ID	<DevieID>	Indicates the device ID of this device.
Namespace: 1	Size: < Capacity Size>	Indicates namespace ID and capacity size of this device.

3.2.5 ACPI Configuration

ACPI Configuration provides various options for users to configure the ACPI-related settings.

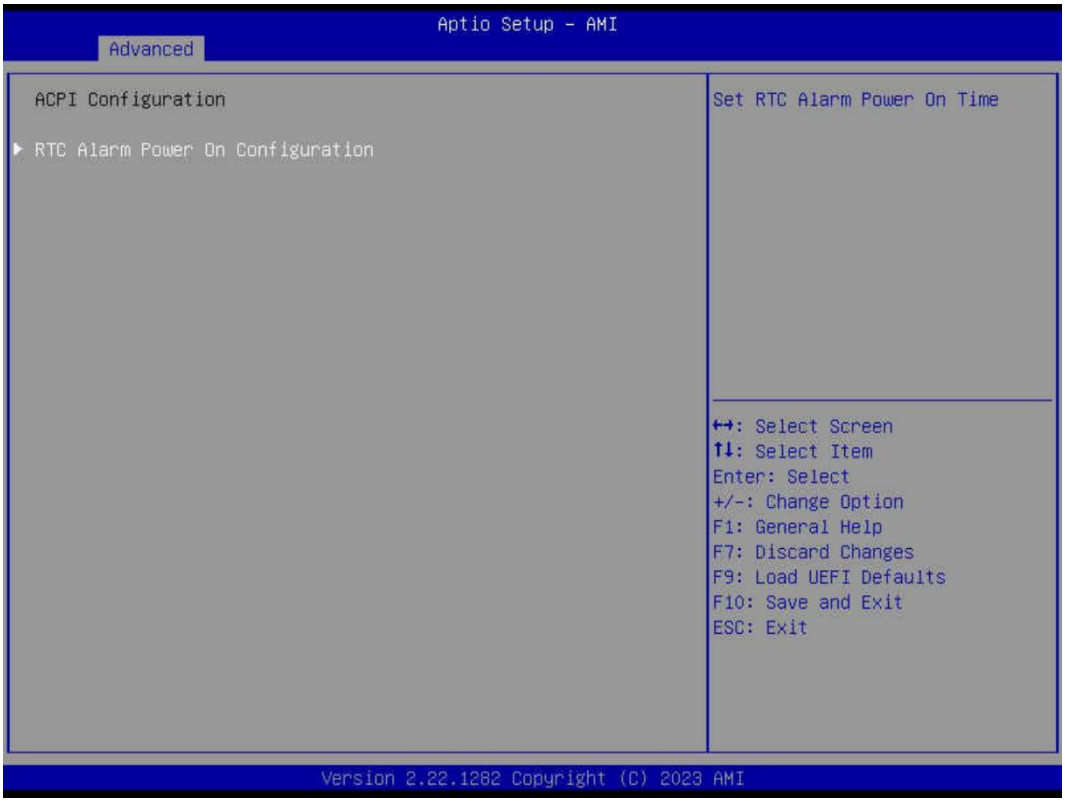

Figure 21. ACPI Configuration

Table 16. ACPI Configuration Options

Item	Valid Option	Description
ACPI Configuration	**---**	**---**
RTC Alarm Power On Configuration	<Submenu>	Set RTC Alarm Power On Time

Table 17. RTC Alarm Power-On Configuration Options

Item	Valid Option	Description
RTC Alarm Power On Configuration	**---**	**---**
RTC Alarm Power On	● **Disabled** ● Enabled	Allow the system to be waked up by the real time clock alarm.
RTC Alarm Date	● **Every Day** ● 1 ● 2 ● 3 … ● 29 ● 30 ● 31	Set Date of RTC power on feature.
RTC Alarm Hour	● **0** ● 1 ● 2 … ● 22 ● 23	Set Hour of RTC power on feature.

Item	Valid Option	Description
RTC Alarm Minute	● **0** ● 1 ● 2 … ● 58 ● 59	Set Minute of RTC power on feature.
RTC Alarm Second	● **0** ● 1 ● 2 … ● 58 ● 59	Set Second of RTC power on feature.

3.2.6 USB Configuration

USB Configuration provides various options for users to configure the USB-related settings.

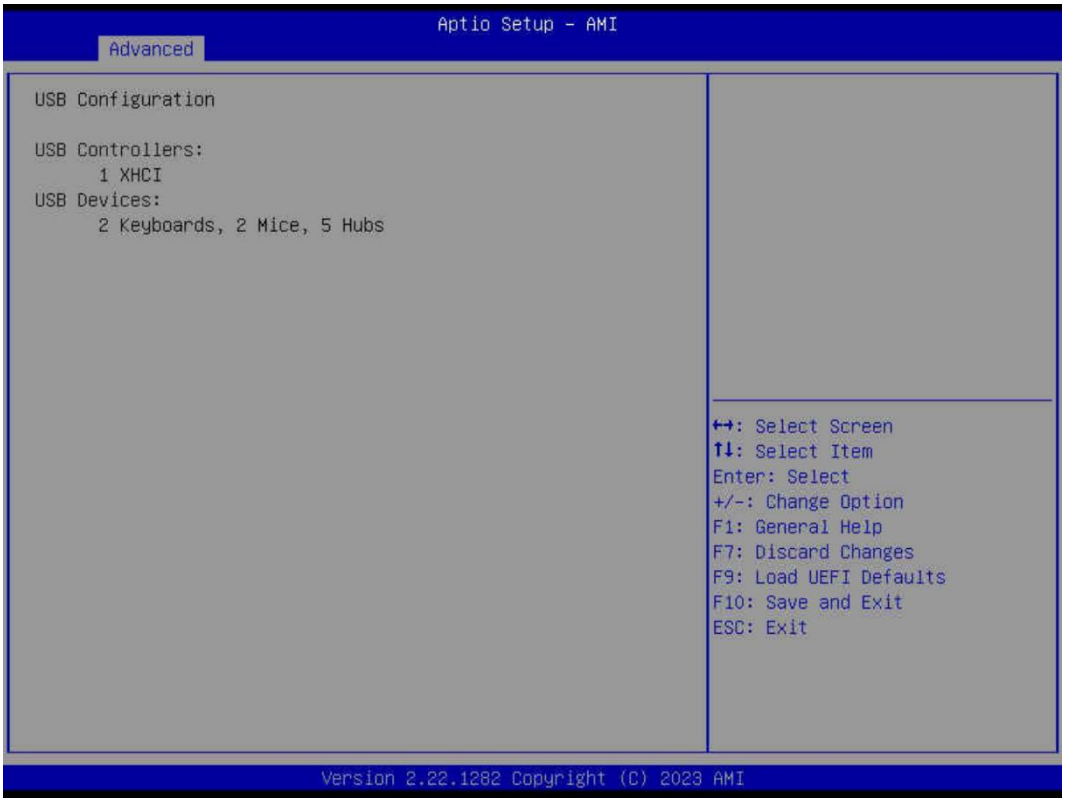

Figure 22. USB Configuration

Table 18. USB Configuration Options

Item	Valid Option	Description
USB Configuration	**---**	**---**
USB Controllers	---	Indicates the number of USB controller.
USB Devices	**---**	Indicates the number of USB device.

3.2.7 Serial Port Console Redirection

Serial Port Console Redirection provides various options for users to configure the console redirection settings.

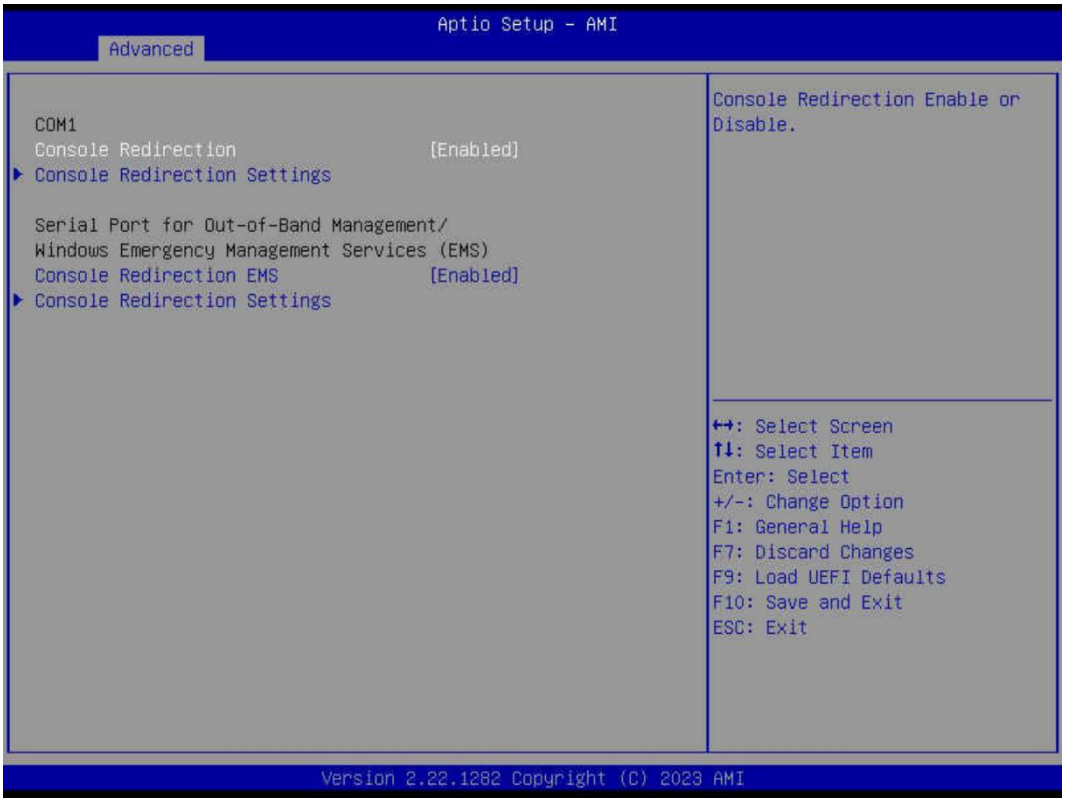

Figure 23. Serial Port Console Redirection

Table 19. Serial Port Console Redirection Options

Item	Valid Option	Description
COM1	**---**	**---**
Console Redirection	● Disabled ● **Enabled**	Console Redirection Enable or Disable.
Console Redirection Settings	<Submenu>	The settings specify how the host computer and the remote computer (which the user is using) will exchange data. Both computers should have the same or compatible settings.
Serial Port for Out-of-Band Management/ Windows Emergency Management Services (EMS)	**---**	---
Console Redirection EMS	● Disabled ● **Enabled**	Console Redirection Enable or Disable.
Console Redirection Settings	<Submenu>	The settings specify how the host computer and the remote computer (which the user is using) will exchange data. Both computers should have the same or compatible settings.

Table 20. Serial Port Console Redirection COM1 Options

Item	Valid Option	Description
COM1	**---**	**---**

Item	Valid Option	Description
Console Redirection Settings	---	---
Terminal Type	● VT100 ● **VT100+** ● VT-UTF8 ● ANSI	Terminal Type for Redirection Via AMI Debugger. Emulation: ANSI: Extended ASCII char set. VT100: ASCII char set. VT100+: Extends VT100 to support color, function keys, etc. VT-UTF8: Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.
Bits per second	● 9600 ● 19200 ● 38400 ● 57600 ● **115200**	Selects serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.
Data Bits	● 7 ● **8**	Data Bits
Parity	● **None** ● Even ● Odd ● Mark ● Space	A parity bit can be sent with the data bits to detect some transmission errors. Even: parity bit is 0 if the num of 1's in the data bits is even. Odd: parity bit is 0 if num of 1's in the data bits is odd. Mark: parity bit is always 1. Space: Parity bit is always 0. Mark and Space Parity do not allow for error detection. They can be used as an additional data bit.
Stop Bits	● **1** ● 2	Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning). The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit.
Flow Control	● **None** ● Hardware RTS/CTS	Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a 'stop' signal can be sent to stop the data flow. Once the buffers are empty, a 'start' signal can be sent to re-start the flow. Hardware flow control uses two wires to send start/stop signals.
VT-UTF8 Combo Key Support	● Disabled ● **Enabled**	Enable VT-UTF8 Combination Key Support for ANSI/VT100 terminals.
Recorder Mode	● **Disabled** ● Enabled	With this mode enabled only text will be sent. This is to capture Terminal data.
Resolution 100x31	● **Disabled** ● Enabled	Enables or disables extended terminal resolution
Putty KeyPad	● **VT100** ● LINUX ● XTERMR6 ● SCO ● ESCN ● VT400	Select FunctionKey and KeyPad on Putty.

Table 21. Serial Port Console Redirection EMS Options

Item	Valid Option	Description
Out-of-Band Mgmt Port	COM1	
Terminal Type EMS	● VT100 ● VT100+ ● **VT-UTF8** ● ANSI	T-UTF8 is the preferred terminal type for out-of-band management. The next best choice is VT100+ and then VT100. See above, in Console Redirection Settings page, for more Help with Terminal Type/Emulation.
Bits per second EMS	● 9600 ● 19200 ● 57600 ● **115200**	Selects serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.
Flow Control EMS	● **None** ● Hardware RTS/CTS ● Software Xon/Xoff	Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a 'stop' signal can be sent to stop the data flow. Once the buffers are empty, a 'start' signal can be sent to re-start the flow. Hardware flow control uses two wires to send start/stop signals.
Data Bits EMS	8	Data Bits
Parity EMS	None	A parity bit can be sent with the data bits to

Item	Valid Option	Description
		detect some transmission errors. Even: parity bit is 0 if the num of 1's in the data bits is even. Odd: parity bit is 0 if num of 1's in the data bits is odd. Mark: parity bit is always 1. Space: Parity bit is always 0. Mark and Space Parity do not allow for error detection. They can be used as an additional data bit.
Stop Bits EMS	1	Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning). The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit.

3.2.8 H/W Monitor

H/W Monitor provides the sensor information for users to viewing/monitoring system status.

Note: *The listed sensors may vary due to difference SKUs.*

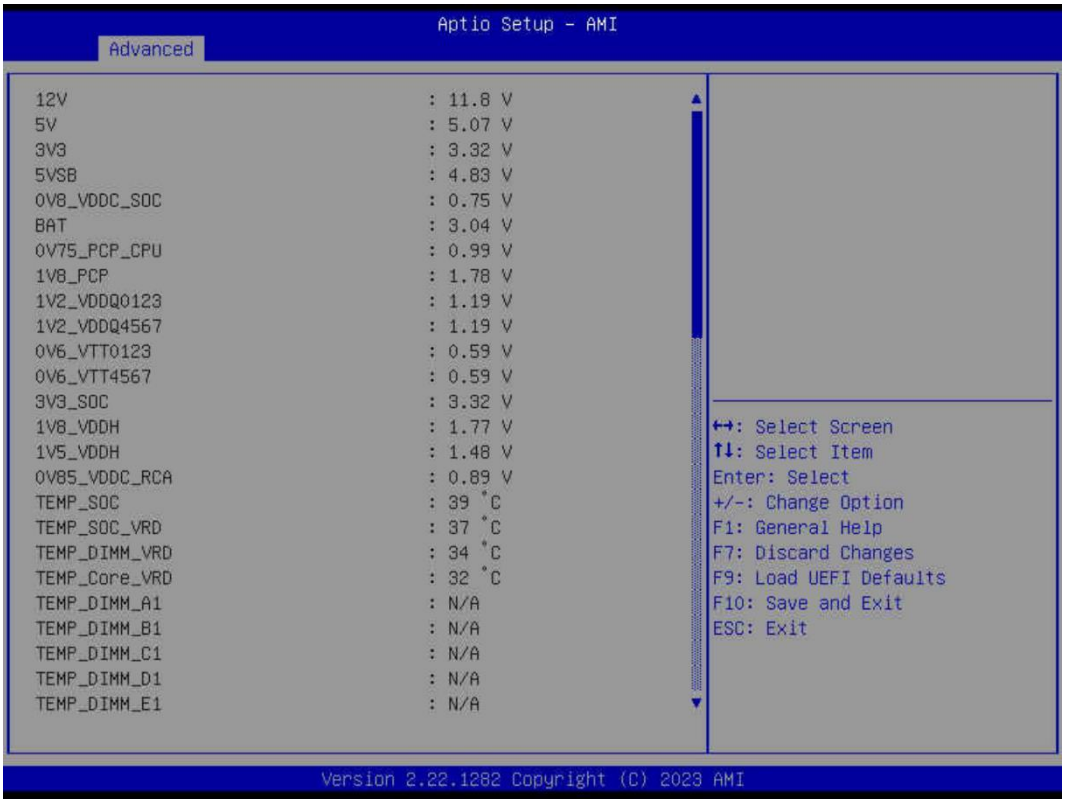

Figure 24. H/W Monitor

Table 22. H/W Monitor Options

Item	Valid Option	Description
12V	<Voltage>	Indicates the reading of 12V sensor.
5V	<Voltage>	Indicates the reading of 5V sensor.
3V3	<Voltage>	Indicates the reading of 3V3 sensor.
5VSB	<Voltage>	Indicates the reading of 5VSB sensor.
0V8_VDDC_SOC	<Voltage>	Indicates the reading of 0V8_VDDC_SOC sensor.
BAT	<Voltage>	Indicates the reading of BAT sensor.
0V75_PCP_CPU	<Voltage>	Indicates the reading of 0V75_PCP_CPU sensor.
1V8_PCP	<Voltage>	Indicates the reading of 1V8_PCP sensor.
1V2_VDDQ0123	<Voltage>	Indicates the reading of 1V2_VDDQ0123 sensor.
1V2_VDDQ4567	<Voltage>	Indicates the reading of 1V2_VDDQ4567 sensor.
0V6_VTT0123	<Voltage>	Indicates the reading of 0V6_VTT0123 sensor.
0V6_VTT4567	<Voltage>	Indicates the reading of 0V6_VTT4567 sensor.
3V3_SOC	<Voltage>	Indicates the reading of 3V3_SOC sensor.
1V8_VDDH	<Voltage>	Indicates the reading of 1V8_VDDH sensor.
1V5_VDDH	<Voltage>	Indicates the reading of 1V5_VDDH sensor.
0V85_VDDC_RCA	<Voltage>	Indicates the reading of 0V85_VDDC_RCA sensor.
TEMP_SOC	<Degrees Celsius>	Indicates the reading of TEMP_SOC sensor.
TEMP_DIMM_VRD	<Degrees Celsius>	Indicates the reading of TEMP_DIMM_VRD sensor.
TEMP_Core_VRD	<Degrees Celsius>	Indicates the reading of TEMP_Core_VRD sensor.
TEMP_DIMM_A1	<Degrees Celsius>	Indicates the reading of TEMP_DIMM_A1 sensor.
TEMP_DIMM_B1	<Degrees Celsius>	Indicates the reading of TEMP_DIMM_B1 sensor.
TEMP_DIMM_C1	<Degrees Celsius>	Indicates the reading of TEMP_DIMM_C1sensor.

Item	Valid Option	Description
TEMP_DIMM_D1	<Degrees Celsius>	Indicates the reading of TEMP_DIMM_D1 sensor.
TEMP_DIMM_E1	<Degrees Celsius>	Indicates the reading of TEMP_DIMM_E1 sensor.
TEMP_DIMM_F1	<Degrees Celsius>	Indicates the reading of TEMP_DIMM_F1 sensor.
TEMP_DIMM_G1	<Degrees Celsius>	Indicates the reading of TEMP_DIMM_G1 sensor.
TEMP_DIMM_H1	<Degrees Celsius>	Indicates the reading of TEMP_DIMM_H1 sensor.
TEMP_RCA_VR	<Degrees Celsius>	Indicates the reading of TEMP_RCA_VR sensor.
TEMP_X550	<Degrees Celsius>	Indicates the reading of TEMP_X550 sensor.
TEMP_CARD_SIDE	<Degrees Celsius>	Indicates the reading of TEMP_CARD_SIDE sensor.
TEMP_VR	<Degrees Celsius>	Indicates the reading of TEMP_VR sensor.
TEMP_TR1	<Degrees Celsius>	Indicates the reading of TEMP_TR1 sensor.
TEMP_MB	<Degrees Celsius>	Indicates the reading of TEMP_MB sensor.
TEMP_M2_1	<Degrees Celsius>	Indicates the reading of TEMP_M2_1 sensor.
TEMP_M2_2	<Degrees Celsius>	Indicates the reading of TEMP_M2_2 sensor.
FAN1	<Revolution Per Minute>	Indicates the reading of FAN1 sensor.
FAN2	<Revolution Per Minute>	Indicates the reading of FAN2 sensor.
FAN3	<Revolution Per Minute>	Indicates the reading of FAN3 sensor.
FAN4	<Revolution Per Minute>	Indicates the reading of FAN4 sensor.
FAN5	<Revolution Per Minute>	Indicates the reading of FAN5 sensor.
FAN1_1	<Revolution Per Minute>	Indicates the reading of FAN1_1 sensor.
FAN2_1	<Revolution Per Minute>	Indicates the reading of FAN2_1 sensor.
FAN3_1	<Revolution Per Minute>	Indicates the reading of FAN3_1 sensor.
FAN4_1	<Revolution Per Minute>	Indicates the reading of FAN4_1 sensor.
FAN5_1	<Revolution Per Minute>	Indicates the reading of FAN5_1 sensor.
PWR_Core_VRD	<Watt>	Indicates the reading of PWR_Core_VRD sensor.
PWR_SOC_VRD	<Watt>	Indicates the reading of PWR_SOC_VRD sensor.
PWR_DIMM_VR1	<Watt>	Indicates the reading of PWR_DIMM_VR1 sensor.
PWR_DIMM_VR2	<Watt>	Indicates the reading of PWR_DIMM_VR2 sensor.
PWR_RCA_VR	<Watt>	Indicates the reading of PWR_RCA_VR sensor.
PSU1_VINPUT	<Watt>	Indicates the reading of PSU1_VINPUT sensor.
PSU2_VINPUT	<Watt>	Indicates the reading of PSU2_VINPUT sensor.
PSU1_IOUTPUT	<Watt>	Indicates the reading of PSU1_IOUTPUT sensor.
PSU2_IOUTPUT	<Watt>	Indicates the reading of PSU2_IOUTPUT sensor.
PSU1_PINPUT	<Watt>	Indicates the reading of PSU1_PINPUT sensor.
PSU2_PINPUT	<Watt>	Indicates the reading of PSU2_PINPUT sensor.
PSU1_POUTPUT	<Watt>	Indicates the reading of PSU1_POUTPUT sensor.
PSU2_POUTPUT	<Watt>	Indicates the reading of PSU2_POUTPUT sensor.
PSU1_TEMP	<Degrees Celsius>	Indicates the reading of PSU1_TEMP sensor.
PSU2_TEMP	<Degrees Celsius>	Indicates the reading of PSU2_TEMP sensor.
PSU1_FAN	<Revolution Per Minute>	Indicates the reading of PSU1_FAN sensor.
PSU2_FAN	<Revolution Per Minute>	Indicates the reading of PSU2_FAN sensor.

3.2.9 Network Stack Configuration

Network Stack provides various options for users to configure the network-related settings.

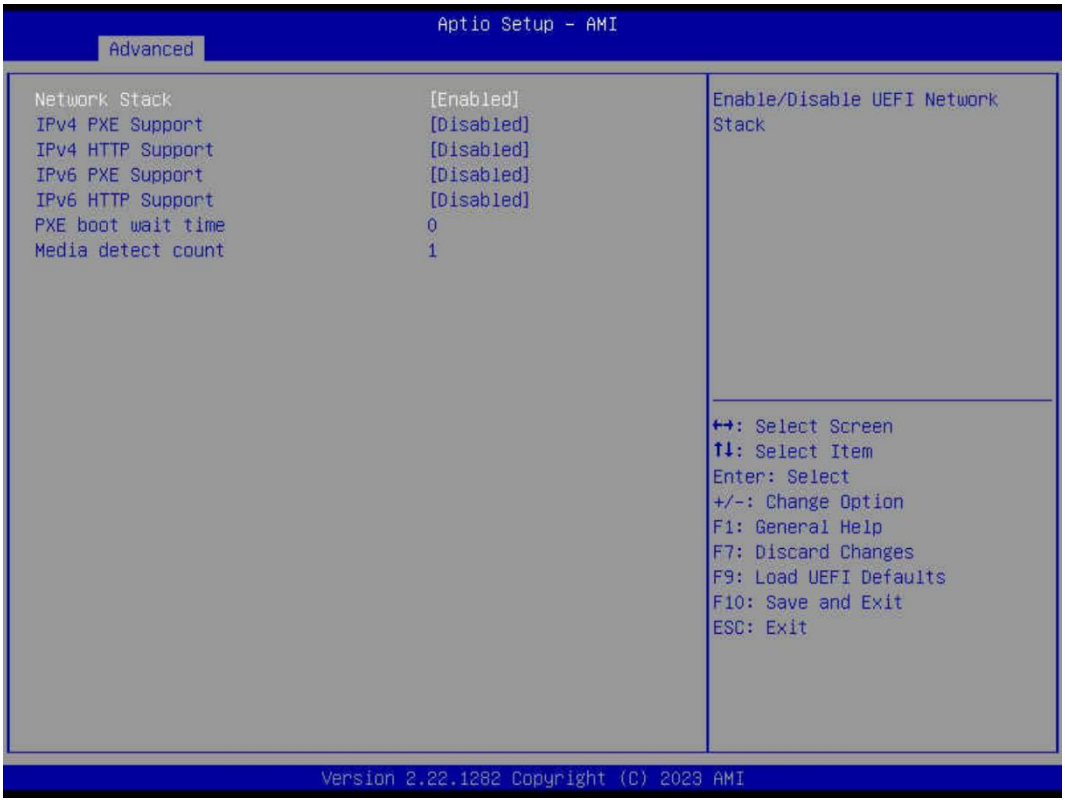

Figure 25. Network Stack Configuration

Table 23. Network Stack Configuration Options

Item	Valid Option	Description
Network Stack	● Disabled ● **Enabled**	Enable/Disable UEFI Network Stack.
IPv4 PXE Support	● **Disabled** ● Enabled	Enable/Disable IPv4 PXE boot support. If disabled, IPv4 PXE boot support will not be available.
IPv4 HTTP Support	● **Disabled** ● Enabled	Enable/Disable IPv4 HTTP boot support. If disabled, IPv4 HTTP boot support will not be available.
IPv6 PXE Support	● **Disabled** ● Enabled	Enable/Disable IPv6 PXE boot support. If disabled, IPv6 PXE boot support will not be available.
IPv6 HTTP Support	● **Disabled** ● Enabled	Enable/Disable IPv6 HTTP boot support. If disabled, IPv6 HTTP boot support will not be available.
PXE boot wait time	<Value>	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	<Value>	Number of times the presence of media will be checked. Use either +/- or numeric keys to set the value.

3.2.10 Driver Health

Driver Health provides health status for the Drivers/Controllers.

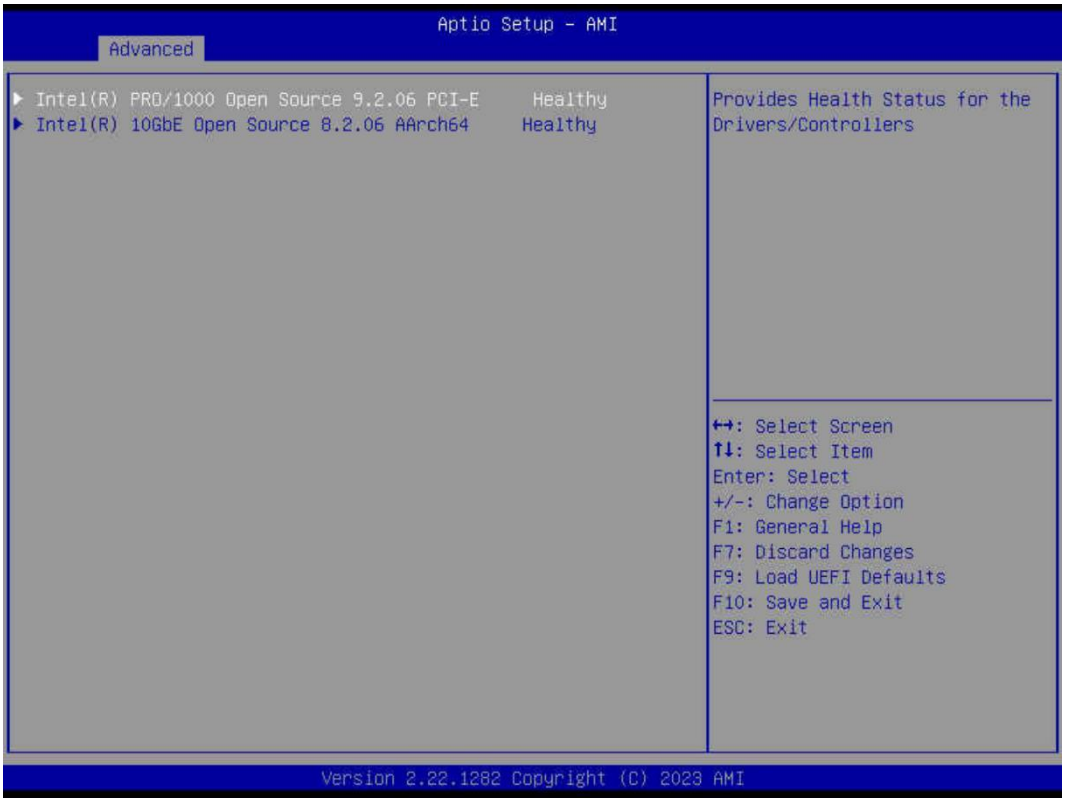

Figure 26. Driver Health Configuration

Table 24. Driver Health Options

Item	Valid Option	Description
Intel PRO/1000 Open Source {version} PCI-E	<Submenu>	Provides Health Status for the Drivers/Controllers.
Intel 10Gbe Open Source {version} AARCH64	<Submenu>	Provides Health Status for the Drivers/Controllers.

Table 25. Intel PRO/1000 Options

Item	Valid Option	Description
Controller {Number} Child {Number}	<Status>	Indicates health status of this device.
Intel I210 Gigabit Network Connection	<Status>	Indicates health status of this device.

Table 26. Intel 10Gbe Options

Item	Valid Option	Description
Intel Ethernet Controller X550	<Status>	Indicates health status of this device.
Intel Ethernet Controller X550	<Status>	Indicates health status of this device.
Intel Ethernet Controller X550	<Status>	Indicates health status of this device.
Intel Ethernet Controller X550	<Status>	Indicates health status of this device.

3.2.11 Tls Auth Configuration

Tls Auth Configuration provides various options for users to configure the TLS authentication.

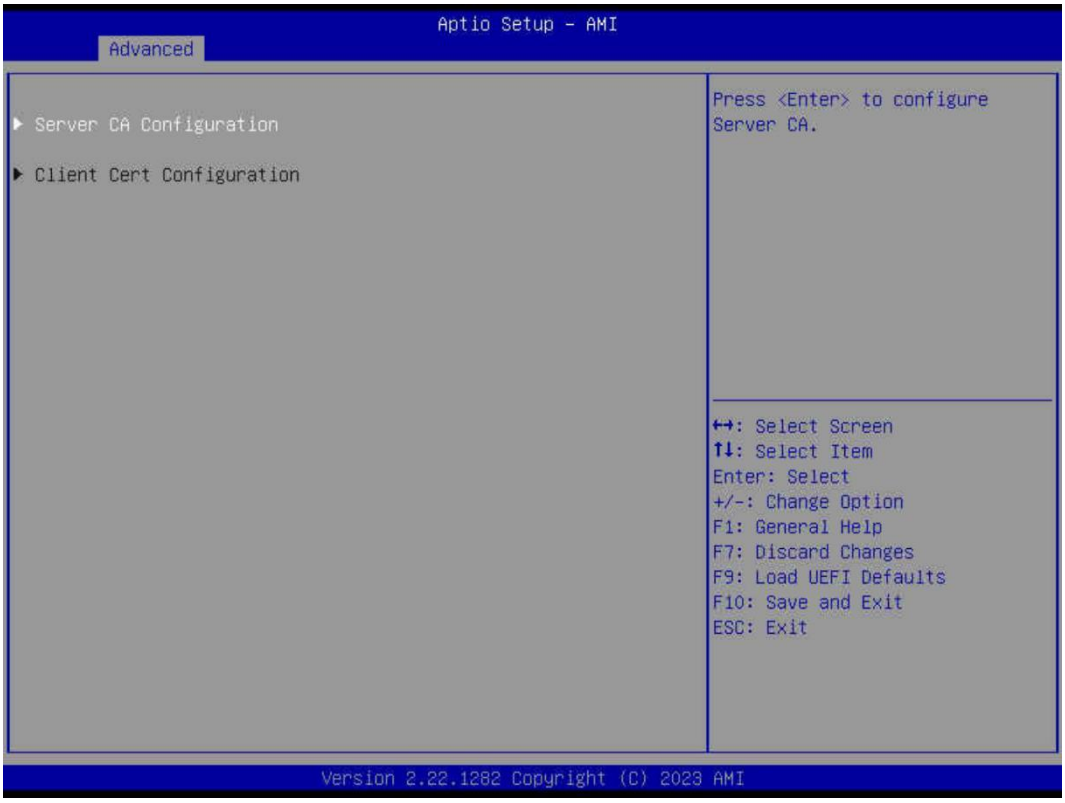

Figure 27. Tls Auth Configuration

Table 27. Tls Auth Configuration Options

Item	Valid Option	Description
Server CA Configuration	<Submenu>	Press <Enter> to configure Server CA.
Client Cert Configuration	<Submenu>	Client cert configuration is unsupported currently.

Table 28. Server CA Configuration Options

Item	Valid Option	Description
Enroll Cert	<Submenu>	Press <Enter> to enroll cert.
Delete Cert	<Submenu>	Press <Enter> to delete cert.

Table 29. Enroll Cert Options

Item	Valid Option	Description
Enroll Cert Using File	---	Enroll Cert Using File
Cert GUID	---	Input digit character in 11111111-2222-3333-4444-1234567890ab format.
Commit Changes and Exit	---	Commit Changes and Exit.
Discard Changes and Exit	---	Discard Changes and Exit.

Table 30. Delete Cert Options

Item	Valid Option	Description
{GUID}	● Disabled ● Enabled	GUID for CERT. *1

Note:

**1: Select the Enabled option to delete the CERT.*

3.2.12 Intel I210 Gigabit Network Connection – {mac address}

This page provides the access point for users to configure the settings of onboard Intel I210 network controller.

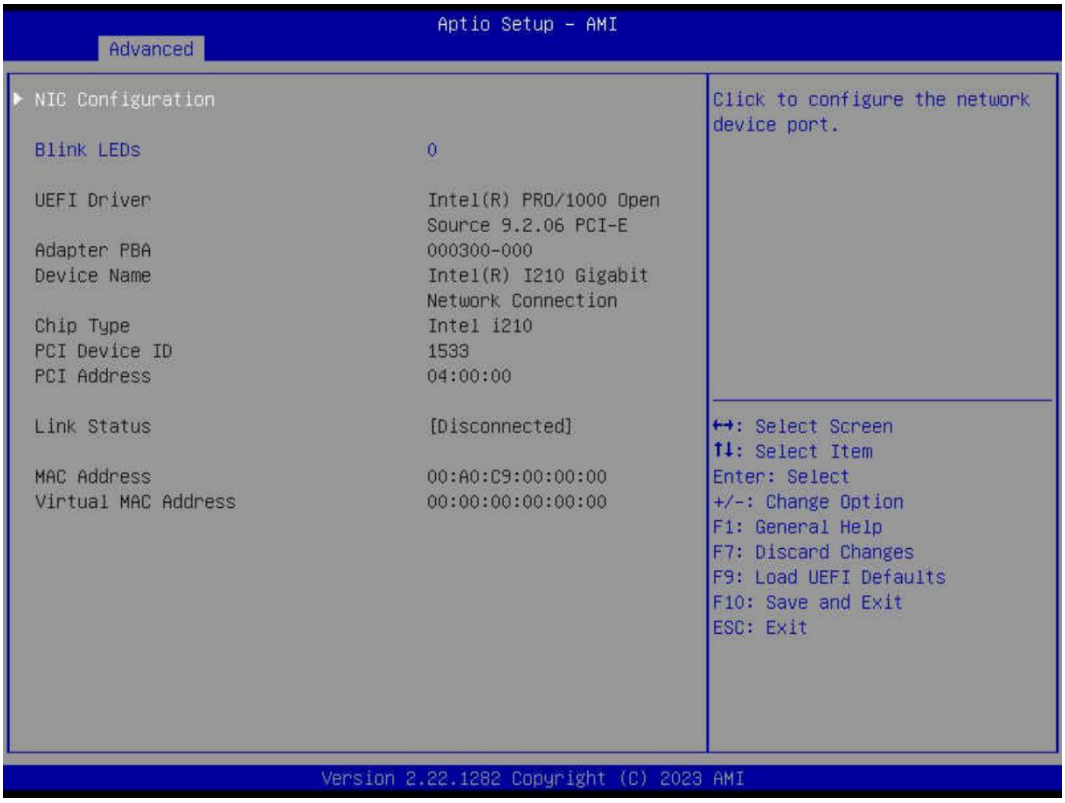

Figure 28. Intel I210 Gigabit Network Connection

Table 31. Intel I210 Gigabit Network Connection Options

Item	Valid Option	Description
NIC Configuration	<Submenu>	Click to configure the network device port.
Blink LEDs	<value>	Blink LEDs for a duration up to 5 seconds.
UEFI Driver	<Version Number>	UEFI driver name and version number.
Adapter PBA	<Number>	A Printed Board Assembly (PBA) number is a unique code used to identify a printed board assembly.
Device Name	<String>	Official product name of this device.
Chip Type	<String>	Network controller part number.
PCI Device ID	<DeviceID>	PCI Device ID of this device.
PCI Address	<Bus>:<Dev>:<Func>	PCI device location.
Link Status	<Status>	Link Status.
MAC Address	<MAC Address>	Factory default MAC address of Ethernet port.
Virtual MAC Address	<MAC Address>	Programmatically assignable MAC address for the partition.

Table 32. I210 NIC Configuration Options

Item	Valid Option	Description
Link Speed	• **Auto Negotiated** • 10 Mbps Half • 10 Mbps Full • 100 Mbps Half • 100 Mbps Full	Specifies the port speed used for the selected boot protocol.
Wake On LAN	• Disabled • **Enabled**	Enables power on of the system via LAN. Note that configuring Wake on LAN in the operating

Item	Valid Option	Description
		system does not change the value of this setting, but does override the behavior of Wake on LAN in OS controlled power states.

3.2.13 Intel Ethernet Controller X550 – {mac address}

This page provides the access point for users to configure the settings of onboard Intel X550 network controller.

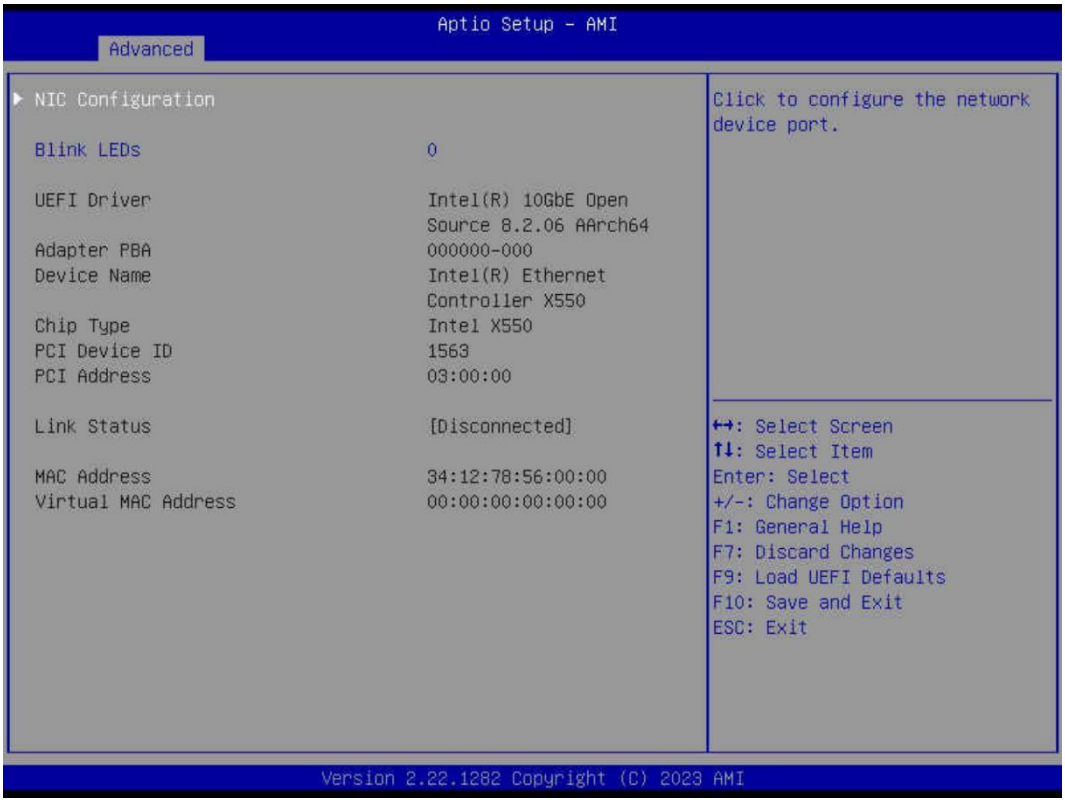

Figure 29. Intel Ethernet Controller X550

Table 33. Intel Ethernet Controller X550 Options

Item	Valid Option	Description
NIC Configuration	<Submenu>	Click to configure the network device port.
Blink LEDs	<value>	Blink LEDs for a duration up to 5 seconds.
UEFI Driver	<Version Number>	UEFI driver name and version number.
Adapter PBA	<Number>	A Printed Board Assembly (PBA) number is a unique code used to identify a printed board assembly.
Device Name	<String>	Official product name of this device.
Chip Type	<String>	Network controller part number.
PCI Device ID	<DeviceID>	PCI Device ID of this device.
PCI Address	<Bus>:<Dev>:<Func>	PCI device location.
Link Status	<Status>	Link Status.
MAC Address	<MAC Address>	Factory default MAC address of Ethernet port.
Virtual MAC Address	<MAC Address>	Programmatically assignable MAC address for the partition.

Table 34. X550 NIC Configuration Options

Item	Valid Option	Description
Link Speed	• **Auto Negotiated**	Specifies the port speed used for the selected boot protocol.
Wake On LAN	• Disabled • **Enabled**	Enables power on of the system via LAN. Note that configuring Wake on LAN in the operating system does not change the value of this setting, but does override the behavior of Wake on LAN in OS controlled power states.

3.2.14 VLAN Configuration (MAC:{mac address})

VLAN Configuration provides various option for user to configure the VLAN-related settings.

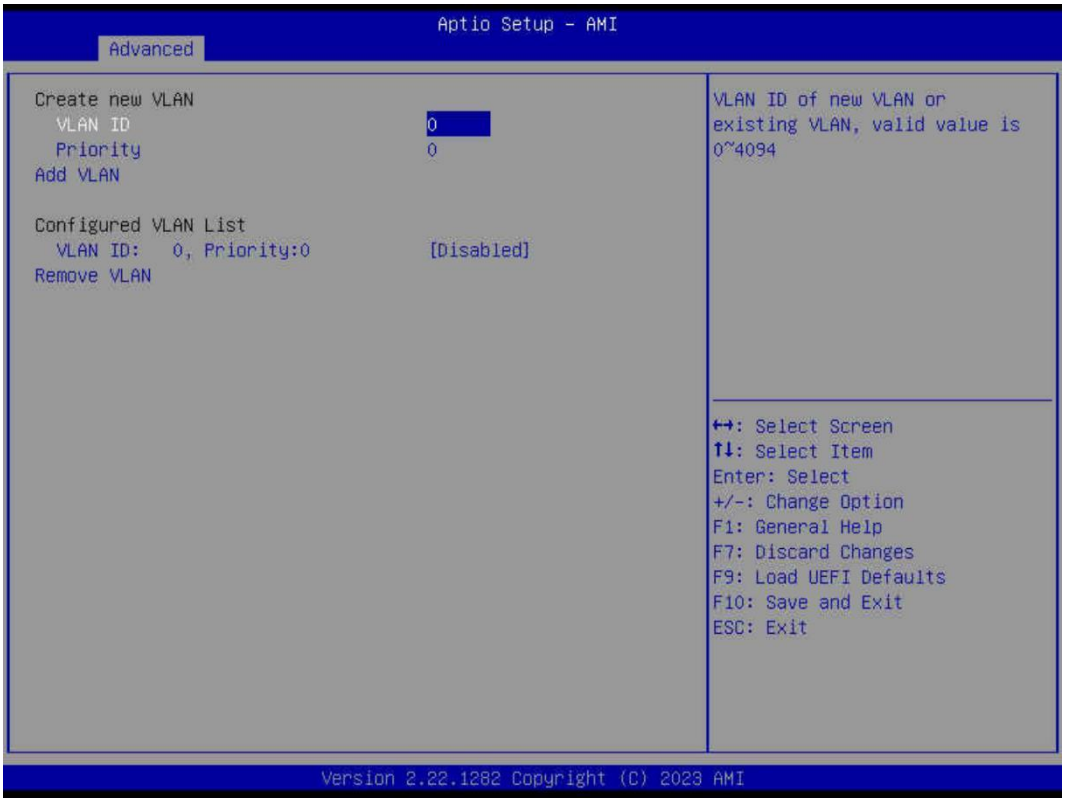

Figure 30. VLAN Configuration

Table 35. VLAN Configuration Options

Item	Valid Option	Description
Enter Configuration Menu	<Submenu>	Press ENTER to enter configuration menu for VLAN configuration.

Table 36. VLAN Configuration Submenu Options

Item	Valid Option	Description
Create new VLAN	**---**	**---**
VLAN ID	<Value>	VLAN ID of new VLAN or existing VLAN, valid value is 0~4094.
Priority	<Value>	802.1Q Priority, valid value is 0~7.
Add VLAN		Create a new VALN or update existing VLAN.
Configured VLAN List	**---**	**---**
VLAN ID: {value}, Priority: {value}	● **Disabled** ● Enabled	Select for remove
Remove VLAN	---	Remove selected VLANs. Select the Enabled option on the removed VLAN target, and press <Enter> on the Remove VLAN item to remove the selected VLAN ID.

3.2.15 MAC: {mac address} IPv4 Network Configuration

IPv4 Network Configuration provides various option for users to configure IPv4 network settings.

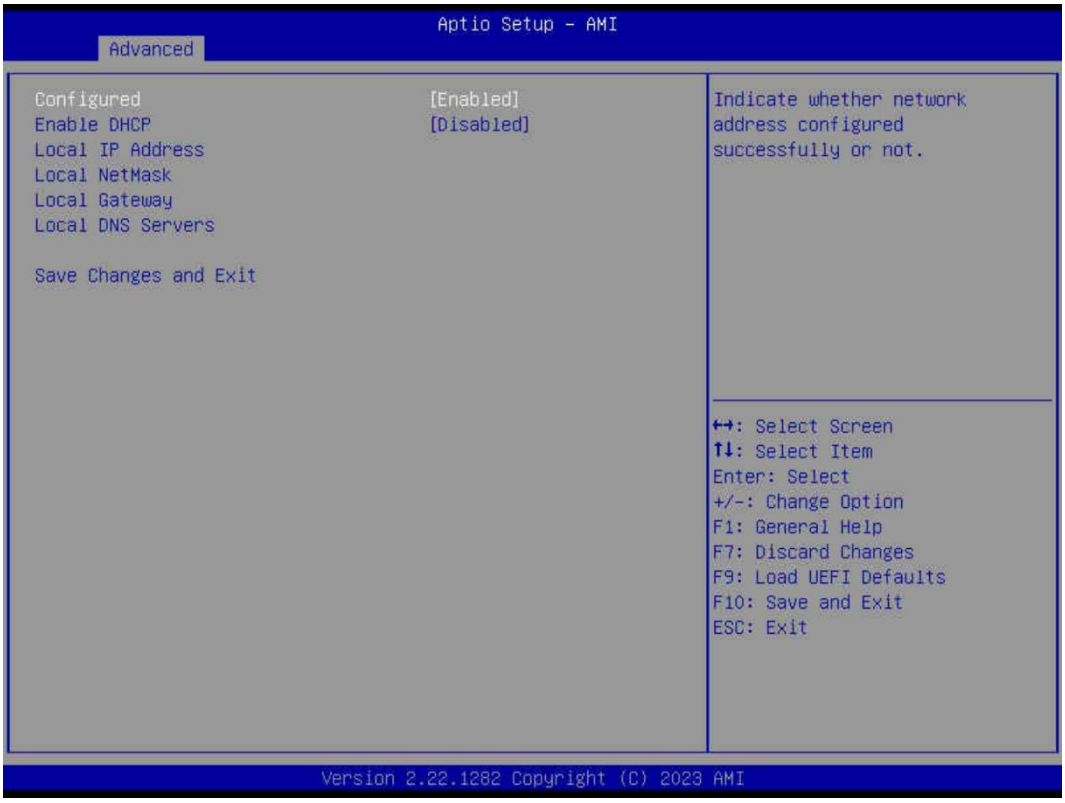

Figure 31. IPv4 Network Configuration

Table 37. IPv4 Network Configuration Options

Item	Valid Option	Description
Configured	● **Disabled** ● Enabled	Indicate whether network address configured successfully or not.
Enable DHCP	● **Disabled** ● Enabled	
Local IP Address	<IP Address>	Enter IP address in dotted-decimal notation. Example: 192.168.10.12
Local NetMask	<NetMask Value>	Enter NetMask in dotted-decimal notation. Example: 255.255.255.0
Local Gateway	<IP Address>	Enter Gateway in dotted-decimal notation. Example: 192.168.10.1
Local DNS Servers	<IP Address>	Enter DNS Servers in dotted-decimal notation. Example: 192.168.10.8 192.168.10.9
Save Changes and Exit	---	Save Changes and Exit.

3.2.16 MAC: {mac address} IPv6 Network Configuration

IPv6 Network Configuration provides various option for users to configure IPv6 network settings.

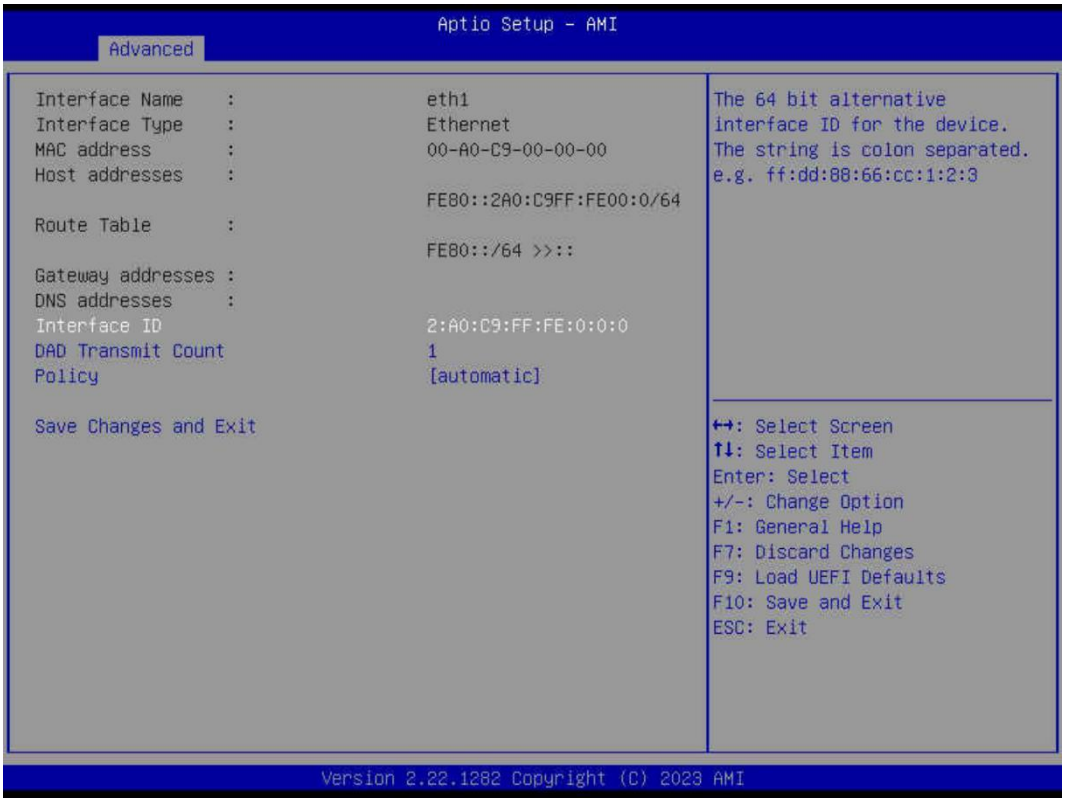

Figure 32. IPv6 Network Configuration

Table 38. IPv6 Network Configuration Options

Item	Valid Option	Description
Interface Name	<String>	The name of the interface.
Interface Type	<String>	The interface type of the network interface, defined in RFC1700.
MAC address	<MAC Address>	The hardware address of the network interface.
Host addresses	<IP Address>	The address list which contain the local IPv6 addresses and the corresponding prefix length information.
Route Table	<IP Address>	The route table of the IPv6 network stack runs on this interface.
Gateway addresses	<IP Address>	Current gateway IPv6 addresses.
DNS addresses	<IP Address>	Current DNS server list.
Interface ID	<ID Number>	The 64 bit alternative interface ID for the device. The string is colon separated. e.g. ff:dd:88:66:cc:1:2:3.
DAD Transmit Count	<Value>	The number of consecutive Neighbor Solicitation messages sent while performing Duplicate Address Detection on a tentative address. A value of zero indicates that Duplicate Address Detection is not performed.
Policy		automatic or manual
Advanced Configuration	<Submenu>	Configure the interface manually. IP address, gateway address, and DNS server address can be configured.
Save Changes and Exit	---	Save Changes for interface ID, DAD transmit count, policy, and data in advanced configuration.

Table 39. Advanced Configuration Options

Item	Valid Option	Description
New IPv6 address	---	Manual IP address can only be configured under manual policy. Separate the IP address with blank space to configure more than one address. e.g. 2002::1/64 2002::2/64.
New Gateway addresses	---	Gateway IP address can only be configured under manual policy. e.g. 2002::3. Separate the IP address with blank space to configure more than one address.
New DNS addresses	---	DNS addresses can only be configured under manual policy. e.g. 2002::4. Separate the IP address with blank space to configure more than one address.
Commit Changes and Exit	---	Commit Changes and Exit.
Discard Changes and Exit	---	Discard Changes and Exit.

3.2.17 Instant Flash

Instant Flash provides the built-in EFI tool for users to upgrade system firmware in the BIOS setup utility environment.

Please refer to the section *Updating BIOS/SCP Firmware through BIOS Setup Utility* for the detailed of system BIOS update process.

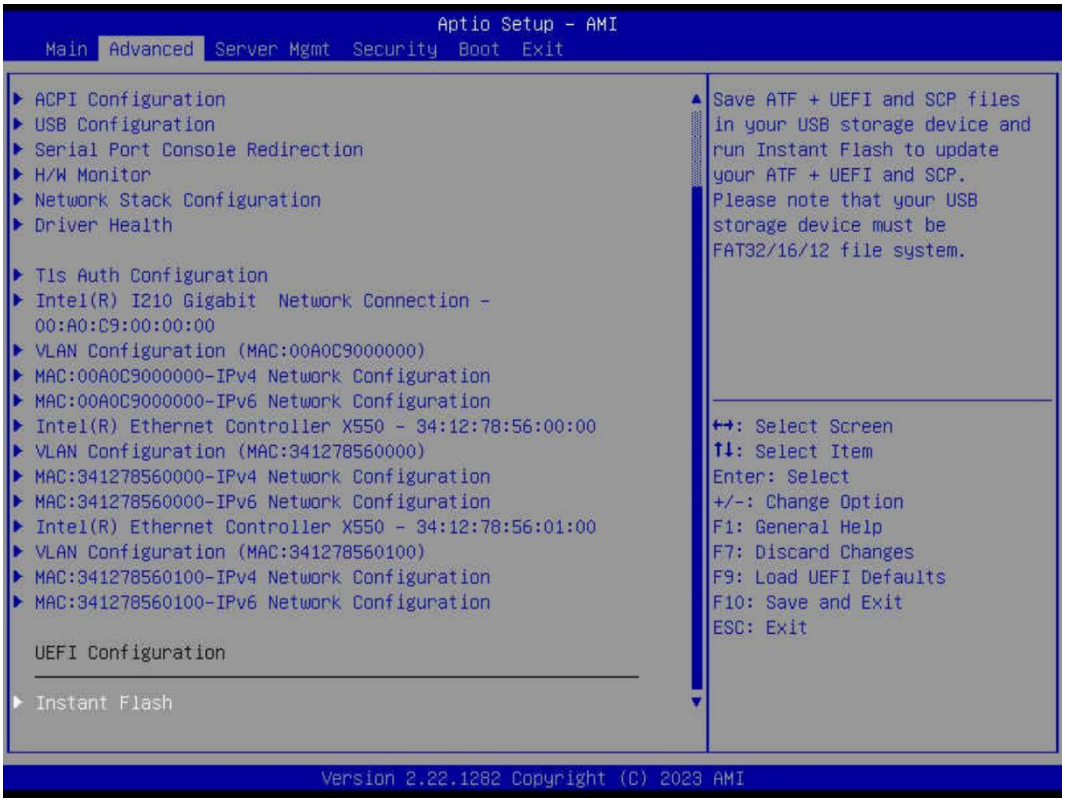

Figure 33. Instant Flash Tool

3.3 Server Mgmt Menu

Server Mgmt menu provides various options for users to configure the Baseboard Management Controller (BMC) related settings.

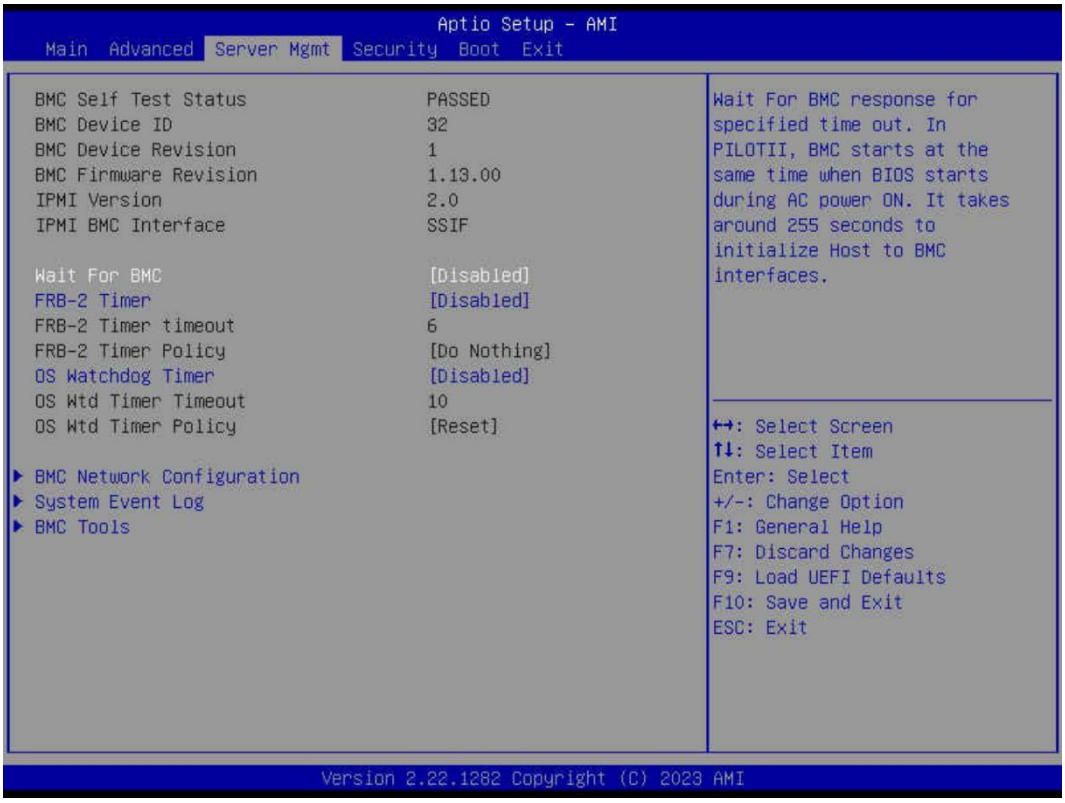

Figure 34. Server Mgmt Menu

Table 40. Server Mgmt Options

Item	Valid Option	Description
BMC Self Test Status	<Status>	Indicates the status of BMC self test.
BMC Device ID	<ID Number>	Indicates the BMC device ID.
BMC Device Revision	<Revision Number>	Indicates the BMC device revision.
BMC Firmware Revision	<Firmware Revision Number>	Indicates current running BMC firmware version.
IPMI Version	<IPMI Version Number>	Indicates the BMC firmware supported IPMI Specification version.
IPMI BMC Interface	<Interface Type>	Type of Interface to communicate BMC from HOST
Wait For BMC	● **Disabled** ● Enabled	Wait For BMC response for specified time out. In PILOTII, BMC starts at the same time when BIOS starts during AC power ON. It takes around 30 seconds to initialize Host to BMC interfaces.
FRB-2 Timer	● **Disabled** ● Enabled	Enable or Disable FRB-2 timer (POST timer).
FRB-2 Timer timeout	<Value>	Enter value Between 1 to 30 min for FRB-2 Timer Expiration.
FRB-2 Timer Policy	● **Do Nothing** ● Reset ● Power Down ● Power Cycle	Configure how the system should respond if the FRB-2 Timer expires. Not available if FRB-2 Timer is disabled.
OS Watchdog Timer	● Disabled ● Enabled	If enabled, starts a BIOS timer which can only be shut off by Management Software after the OS loads. Helps determine that the OS successfully loaded or follows the OS Boot Watchdog Timer policy.

Item	Valid Option	Description
OS Wtd Timer Timeout	<Value>	Enter the value Between 1 to 30 min for OS Boot Watchdog Timer Expiration. Not available if OS Boot Watchdog Timer is disabled.
OS Wtd Timer Policy	• Do Nothing • **Reset** • Power Down • Power Cycle • NMI	Configure how the system should respond if the OS Boot Watchdog Timer expires. Not available if OS Boot Watchdog Timer is disabled.
BMC Network Configuration	<Submenu>	Configure BMC network parameters.
System Event Log	<Submenu>	Press <Enter> to change the SEL event log configuration.
BMC Tools	<Submenu>	BMC Tools.

3.3.1 BMC Network Configuration

BMC Network Configuration provides various options for users to configure BMC network related settings through BIOS setup utility.

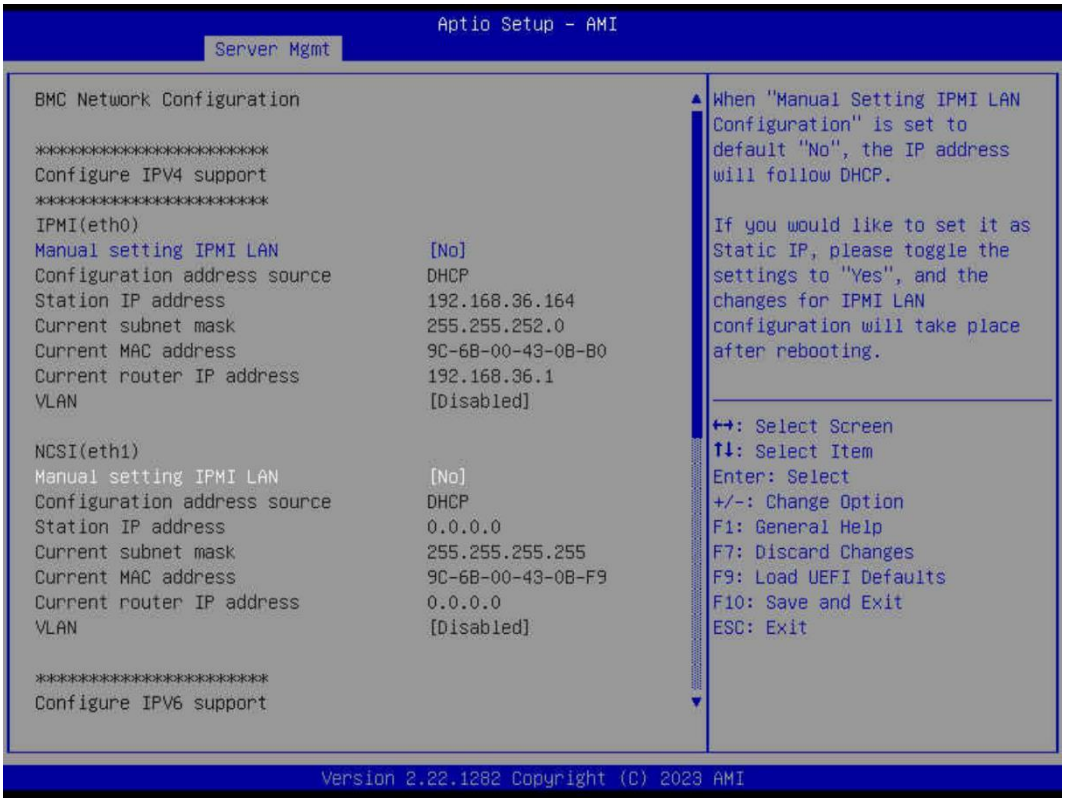

Figure 35. BMC Network Configuration

Table 41. BMC Network Configuration Options

Item	Valid Option	Description
BMC network configuration	**---**	**---**
Configure IPv4 support	---	---
IPMI(eth0)	---	Indicates the network interface.
Manual setting IPMI LAN	● Yes ● **No**	When "Manual Setting IPMI LAN Configuration" is set to default "No", the IP address will follow DHCP. If you would like to set it as Static IP, please toggle the settings to "Yes", and the changes for IPMI LAN configuration will take place after rebooting.
Configuration address source	● Static ● **DHCP**	Static/DHCP IP address.
Station IP address	<IP Address>	Static IP Address. 0.0.0.0 – 255.255.255.255
Current subnet mask	<Mask Value>	Subnet mask. 0.0.0.0 – 255.255.255.255
Current MAC address	<MAC Address>	MAC address.
Current router IP address	<IP Address>	Router IP address 0.0.0.0 – 255.255.255.255
VLAN	● **Disabled** ● Enabled	Enabled/Disabled Virtual Local Area Network.
NCSI(eth1)	---	Indicates the network interface.
Manual setting IPMI	● Yes	When "Manual Setting IPMI LAN Configuration" is

Item	Valid Option	Description
LAN	● **No**	set to default "No", the IP address will follow DHCP. If you would like to set it as Static IP, please toggle the settings to "Yes", and the changes for IPMI LAN configuration will take place after rebooting.
Configuration address source	● Static ● **DHCP**	Static/DHCP IP address.
Station IP address	<IP Address>	Static IP Address. 0.0.0.0 – 255.255.255.255
Current subnet mask	<Mask Value>	Subnet mask. 0.0.0.0 – 255.255.255.255
Current MAC address	<MAC Address>	MAC address.
Current router IP address	<IP Address>	Router IP address 0.0.0.0 – 255.255.255.255
VLAN	● **Disabled** ● Enabled	Enabled/Disabled Virtual Local Area Network.
Configure IPv6 support	---	---
IPMI(eth0)	---	Indicates the network interface.
IPV6 Support	● Disabled ● **Enabled**	Enable or Disable LAN IPV6 Support
Manual setting IPMI LAN(IPv6)	● **No Change** ● Static ● DHCP	Select to configure LAN channel parameters statically or dynamically (by BIOS or BMC). Unspecified option will not modify any BMC network parameters during BIOS phase
Configuration Address source	<IP Address>	Current IPv6 LAN Configuration statically or dynamically by BMC). Unspecified for not Configured address space
Station IPV6 address	<IPv6 Address>	Static IP Address
Prefix Length	<Prefix Length Value>	The prefix-length in IPv6 is the equivalent of the subnet mask in IPv4.
IPV6 Router IP Address	<IPv6 Address>	Indicates the IP address of IPv6 router.
IPV6 address status	<Status>	Status of station IPV6 address to BMC.
IPV6 DHCP Algorithm	< DHCP Algorithm >	Providing the DHCP method used like DHCPv6 or StateLess Address Auto Configuration (SLAAC).
NCSI(eth1)	---	Indicates the network interface.
IPV6 Support	● Disabled ● **Enabled**	Enable or Disable LAN IPV6 Support
Manual setting IPMI LAN(IPv6)	● **No Change** ● Static ● DHCP	Select to configure LAN channel parameters statically or dynamically (by BIOS or BMC). Unspecified option will not modify any BMC network parameters during BIOS phase
Configuration Address source	<IP Address>	Current IPv6 LAN Configuration statically or dynamically by BMC). Unspecified for not Configured address space
Station IPV6 address	<IPv6 Address>	Static IP Address
Prefix Length	<Prefix Length Value>	The prefix-length in IPv6 is the equivalent of the subnet mask in IPv4.
IPV6 Router IP Address	<IPv6 Address>	Indicates the IP address of IPv6 router.
IPV6 address status	<Status>	Status of station IPV6 address to BMC.
IPV6 DHCP Algorithm	< DHCP Algorithm >	Providing the DHCP method used like DHCPv6 or StateLess Address Auto Configuration (SLAAC).

3.3.2 System Event Log

System Event Log provides various options for users to configure the system event log settings.

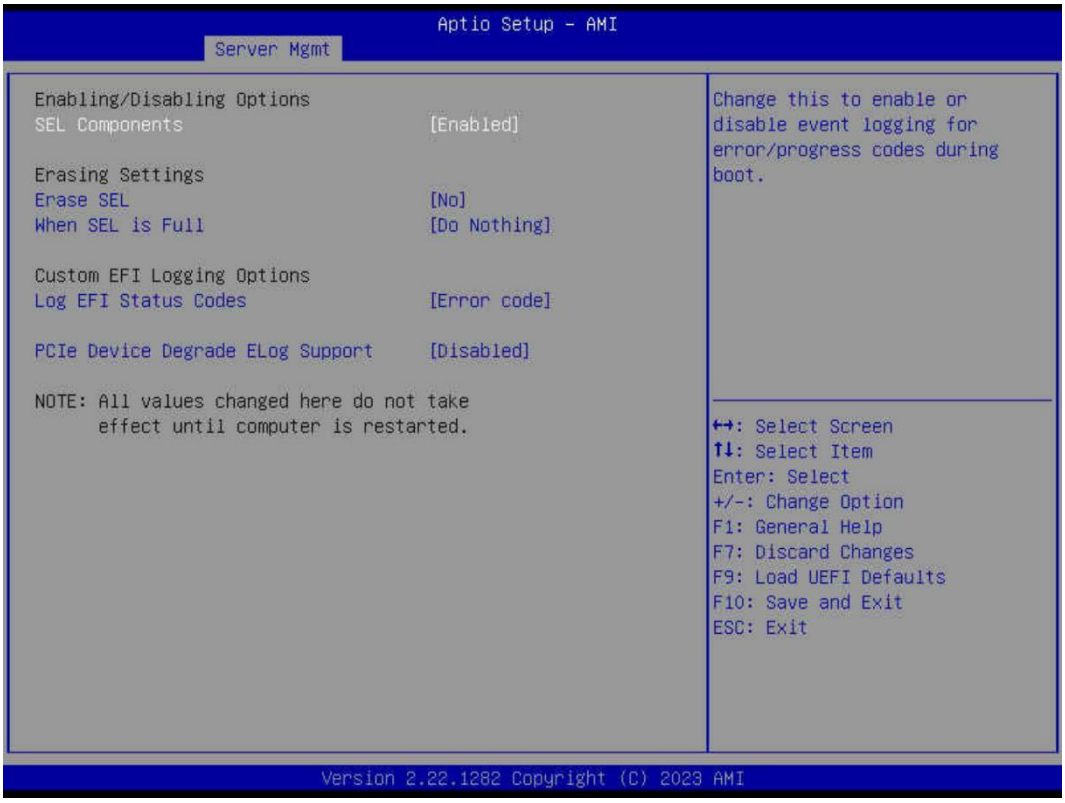

Figure 36. System Event Log

Table 42. System Event Log Options

Item	Valid Option	Description
Enabling/Disabling Options	---	---
SEL Components	● Disabled ● **Enabled**	Change this to enable or disable event logging for error/progress codes during boot.
Erasing Settings	---	---
Erase SEL	● **No** ● Yes, On next reset ● Yes, On every reset	Choose options for erasing SEL.
When SEL is Full	● **Do Nothing** ● Erase Immediately	Choose options for reactions to a full SEL.
Custom EFI Logging Options	---	---
Log EFI Status Codes	● Disabled ● Both ● **Error code** ● Progress code	Disable the logging of EFI Status Codes or log only error code or only progress code or both.
PCIe Device Degrade ELog Support	● **Disabled** ● Enabled	nable/Disable PCIe Device Degrade Error Logging Support.

3.3.3 BMC Tools

This page provides an option of Intel(R) Platform Trust Technology for user to enabled or disabled this feature.

Figure 37. BMC Tools

Table 43. BMC Tools Options

Item	Valid Option	Description
BMC Tools	**---**	**---**
Restore AC Power Loss	• Power Off • Last State • Power ON • **No change**	Select the power state after a power failure. If [Power Off] is selected, the power will remain off when the power recovers. If [Power On] is selected, the system will start to boot up when the power recovers.
Restore AC Power Current State	<String>	Indicates current settings of restore AC power loss state.
Load BMC Default Settings	---	Load BMC Default Settings.

3.4 Security Menu

Security Menu provides various options for users to configure the security-related settings.

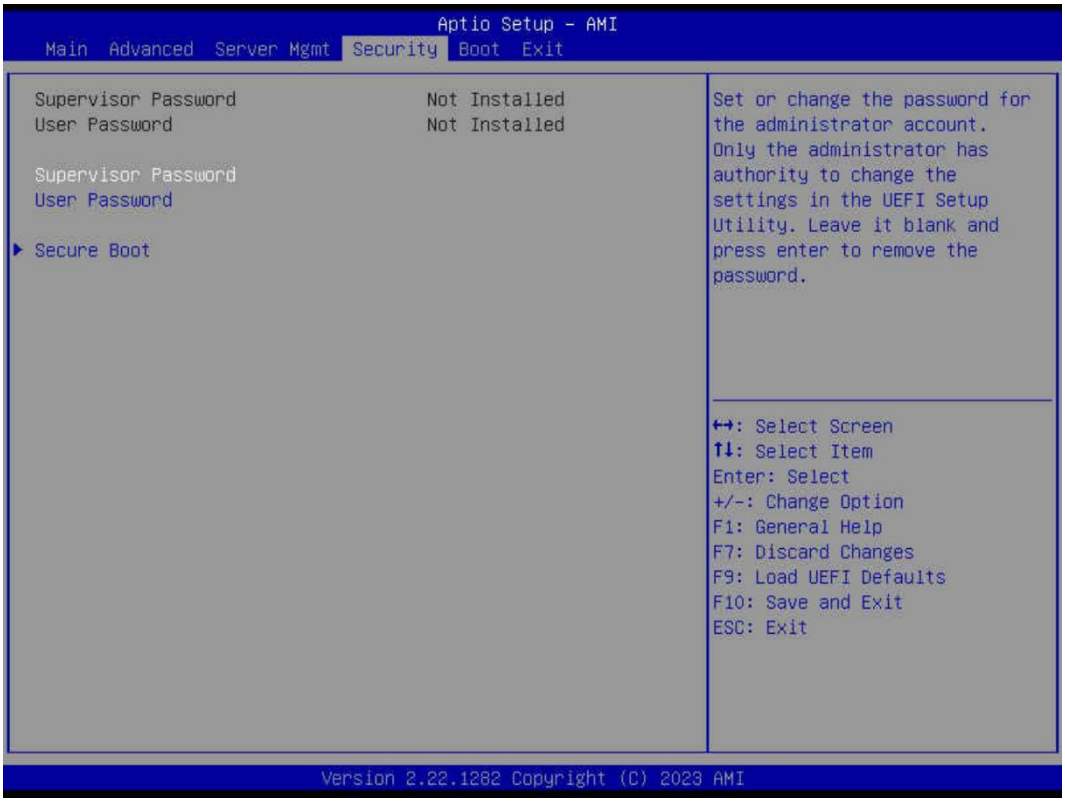

Figure 38. Security Menu

Table 44. Security Menu Options

Item	Valid Option	Description
Supervisor Password	<Status>	Indicates the current password setting status of administrator account.
User Password	<Status>	Indicates the current password setting status of user account.
Supervisor Password	---	Set or change the password for the administrator account. Only the administrator has authority to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.
User Password	---	Set or change the password for the user account. Users are unable to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.
Secure Boot	<Submenu>	Secure Boot configuration.

Table 45. Secure Boot Options

Item	Valid Option	Description
System Mode State	<Mode State>	---
Secure Boot	• **Disabled** • Enabled	Enable to support Windows Server 2012 R2 or later versions Secure Boot.
Secure Boot Mode	• Standard • **Custom**	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.

Item	Valid Option	Description
Key Management	<Submenu>	Enables expert users to modify Secure Boot Policy variables without full authentication.

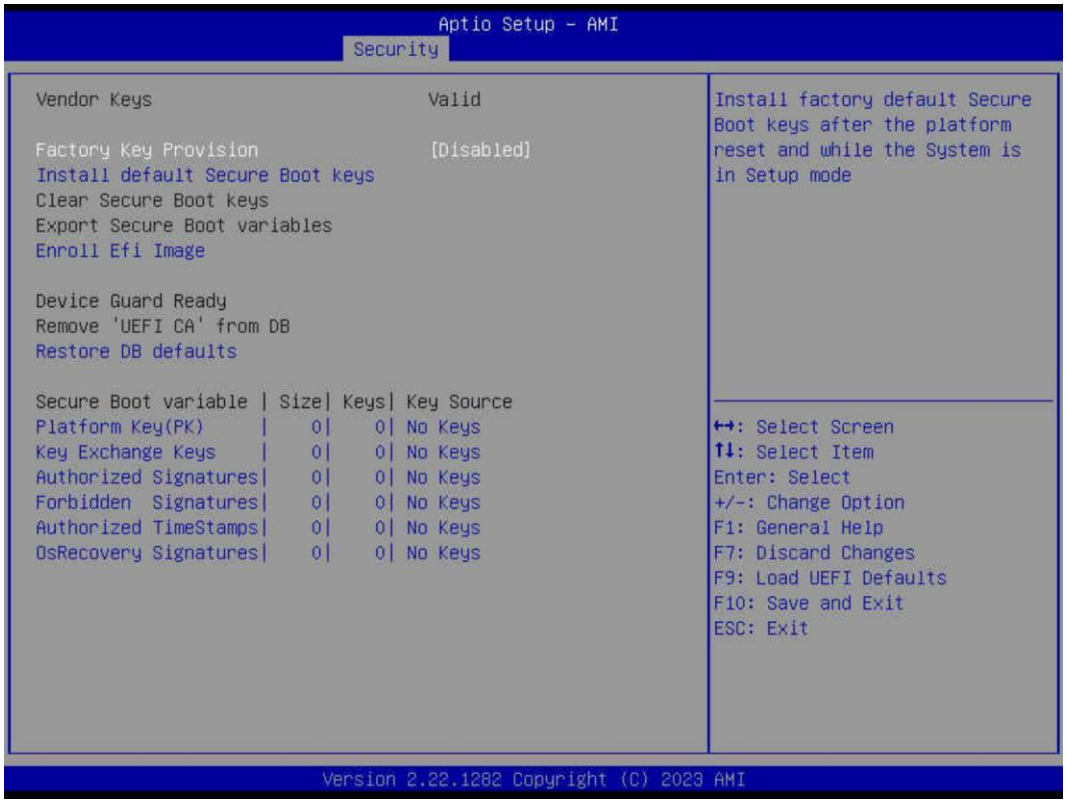

Figure 39. Key Management

Table 46. Key Management Options

Item	Valid Option	Description
Vendor Keys	<Status>	Indicated the mode of vendor keys.
Factory Key Provision	● **Disabled** ● Enabled	Install factory default Secure Boot keys after the platform reset and while the System is in Setup mode.
Install default Secure Boot keys	---	Please install default secure boot keys if it's the first time you use secure boot.
Clear Secure Boot keys	---	Force System to Setup Mode - clear all Secure Boot Variables. Change takes effect after reboot.
Export Secure Boot variables	---	Export Secure Boot variables.
Enroll Efi Image	---	Allow the image to run in Secure Boot mode. Enroll SHA256 Hash certificate of a PE image into Authorized Signature Database (db)
Device Guard Ready	---	---
Remove 'UEFI CA' from DB	---	Device Guard ready system must not list 'Microsoft UEFI CA' Certificate in Authorized Signature database (db)
Restore DB defaults	---	Restore DB variable to factory defaults
Platform Key(PK)	● Details ● Export ● Update ● Delete	Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256)

Item	Valid Option	Description
		Key Source: Factory,External,Mixed
Key Exchange Keys	● Details ● Export ● Update ● Append ● Delete	Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Factory,External,Mixed
Authorized Signatures	● Details ● Export ● Update ● Append ● Delete	Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Factory,External,Mixed
Forbidden Signatures	● Details ● Export ● Update ● Append ● Delete	Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Factory,External,Mixed
Authorized TimeStamps	● Update ● Append	Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Factory,External,Mixed
OsRecovery Signatures	● Update ● Append	Enroll Factory Defaults or load certificates from a file: 1.Public Key Certificate: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHAXXX 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Factory,External,Mixed

3.5 Boot Menu

Boot Menu contains all bootable media options during POST and allows users to configure the boot order in which boot devices are to be tried.

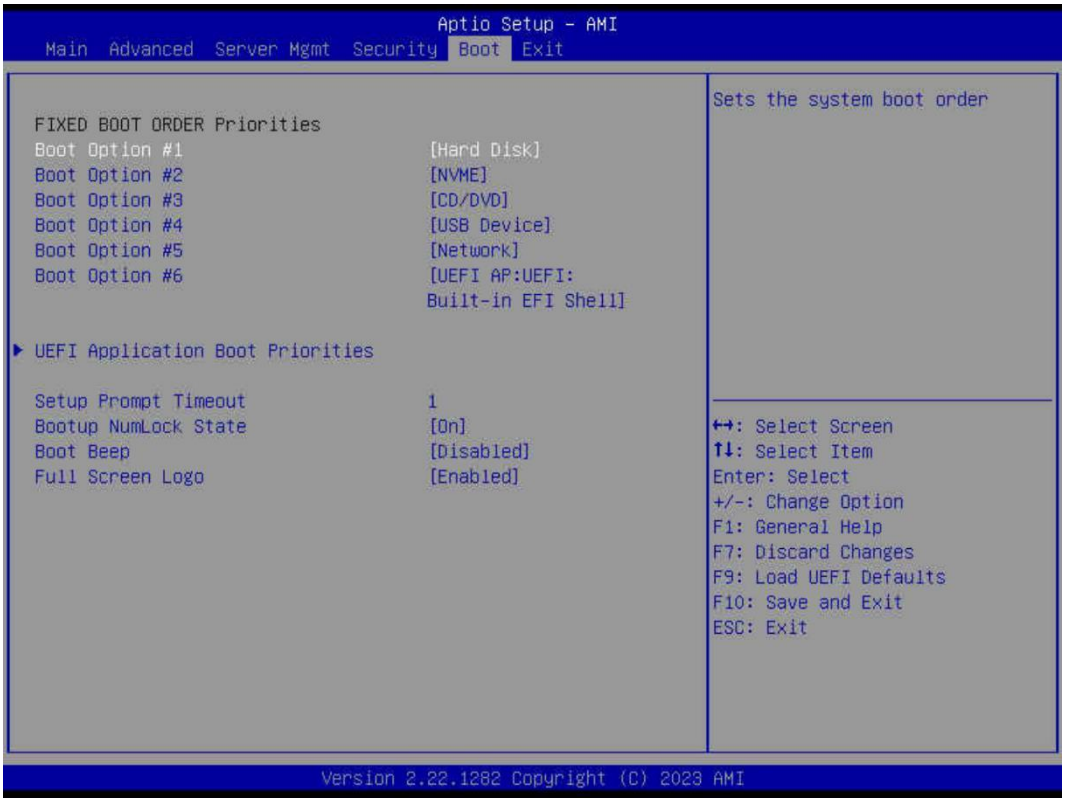

Figure 40. Boot Menu

Table 47. Boot Menu Options

Item	Valid Option	Description
FIXED BOOT ORDER Priorities	**---**	**---**
Boot Option #1	<Boot Option>	Set the system boot order.
Boot Option #2	<Boot Option>	Set the system boot order.
Boot Option #3	<Boot Option>	Set the system boot order.
Boot Option #4	<Boot Option>	Set the system boot order.
Boot Option #5	<Boot Option>	Set the system boot order.
Boot Option #6	<Boot Option>	Set the system boot order.
UEFI Application Boot Priorities	<Submenu>	Specifies the Boot Device Priority sequence from available UEFI Application.
Setup prompt Timeout	<Value>	Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
Bootup NumLock State	● **On** ● Off	Select the keyboard NumLock state.
Boot Beep	● **Disabled** ● Enabled	Select whether the Boot Beep should be turned on or off when the system boots up. Please note that a buzzer is needed.
Full Screen Logo	● Disabled ● **Enabled**	Enable to display the boot logo or disable to show normal POST messages.

Table 48. UEFI Application Boot Priorities Options

Item	Valid Option	Description
Boot Option #1	● **<Boot Option>** ● Disabled	Specifies the Boot Device Priority sequence from available UEFI Application.

3.6 Exit Menu

Exit Menu provides various option for users to choose whether save or discard the settings changes made on other setup menu or page and restore the BIOS settings to default value.

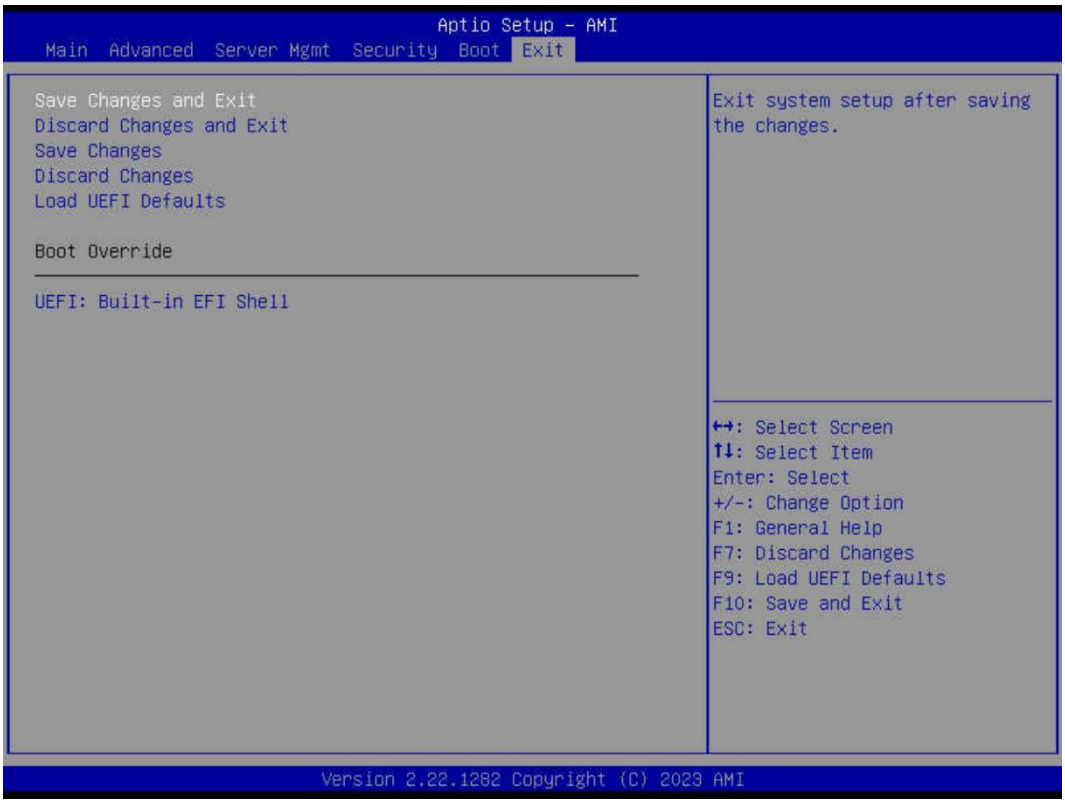

Figure 41. Exit Menu

Table 49. Exit Menu Options

Item	Valid Option	Description
Save Changes and Exit	---	Exit system setup after saving the changes.
Discard Changes and Reset	---	Exit system setup without saving any changes.
Save Changes	---	Save Changes done so far to any of the setup options.
Discard Changes	---	Discard Changes done so far to any of the setup options.
Load UEFI Defaults	---	Load UEFI Default values for all the setup questions. F9 key can be used for this operation.
Boot Override	---	---
<Boot Option>	---	Select the option and press **<Enter>** to boot to this device immediately.