

CW-S7 10GbE RJ45
N150, N305,N355
User' Manual

Illustrate

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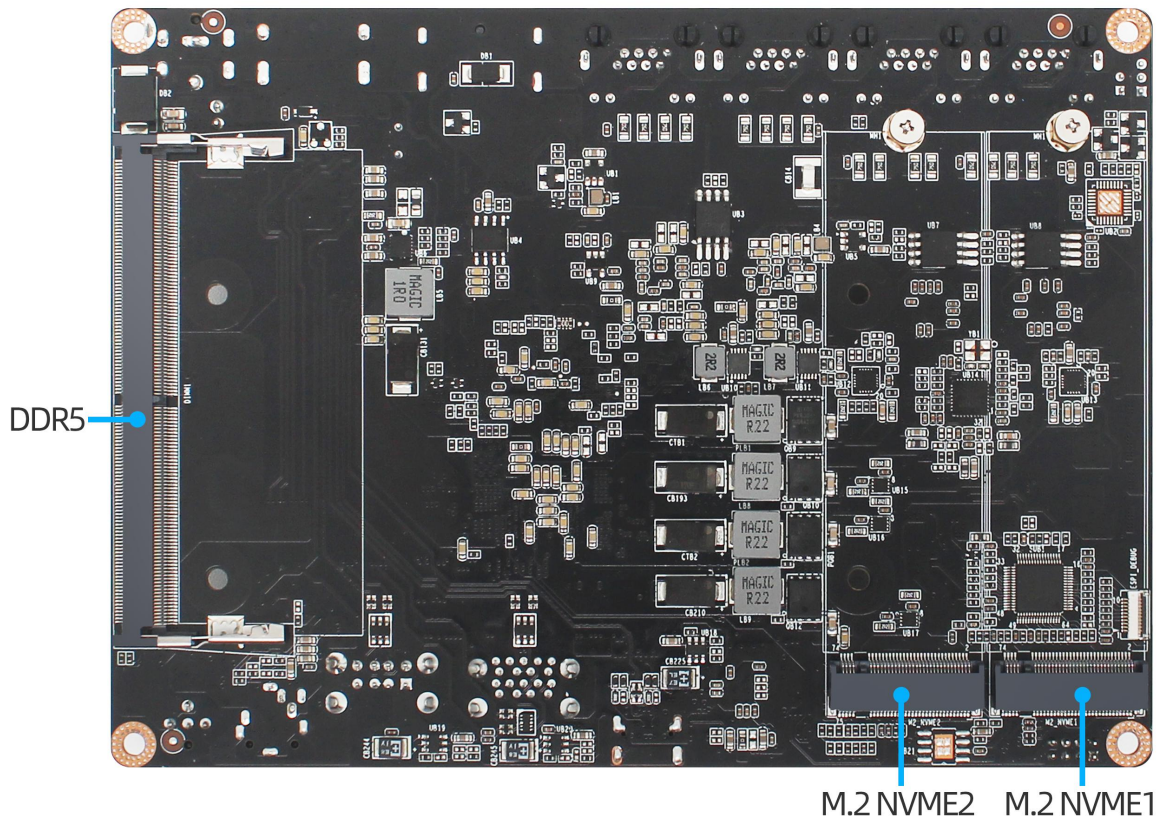
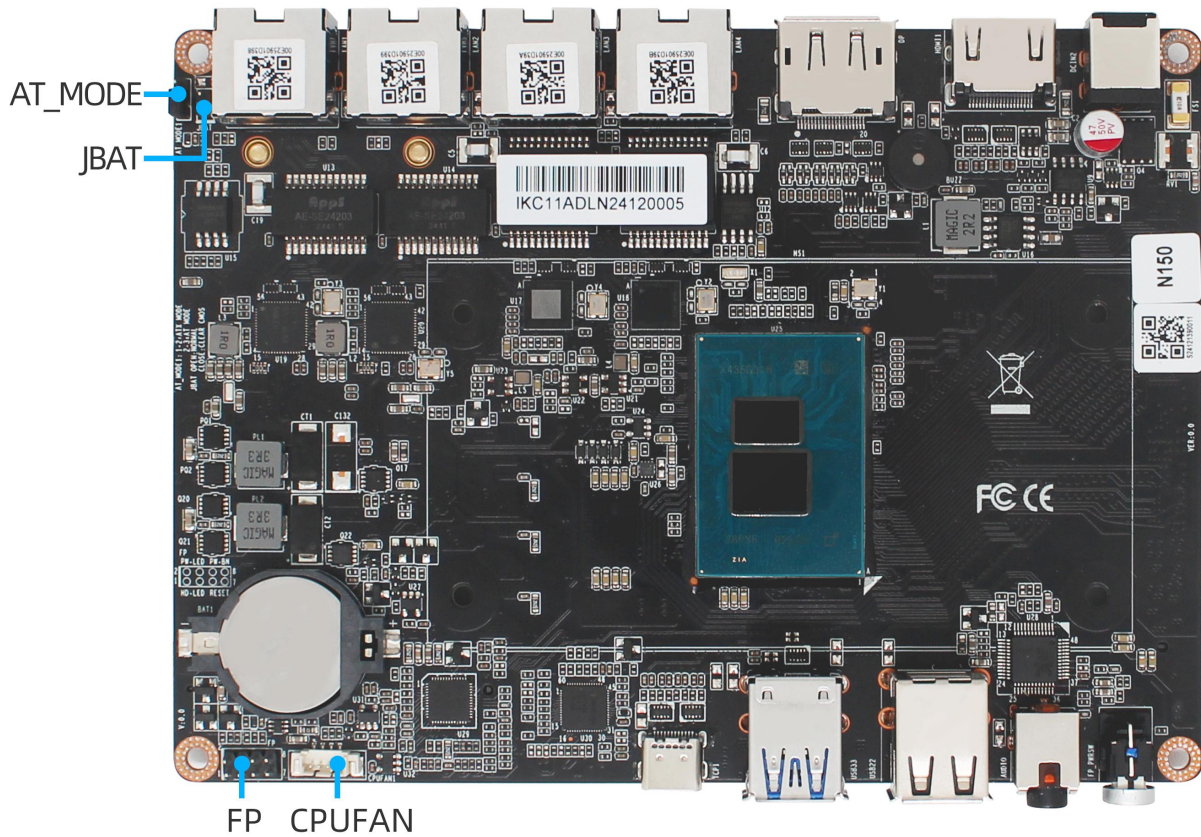
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Chapter 1 Product Introduction

1.1 Motherboard Specifications

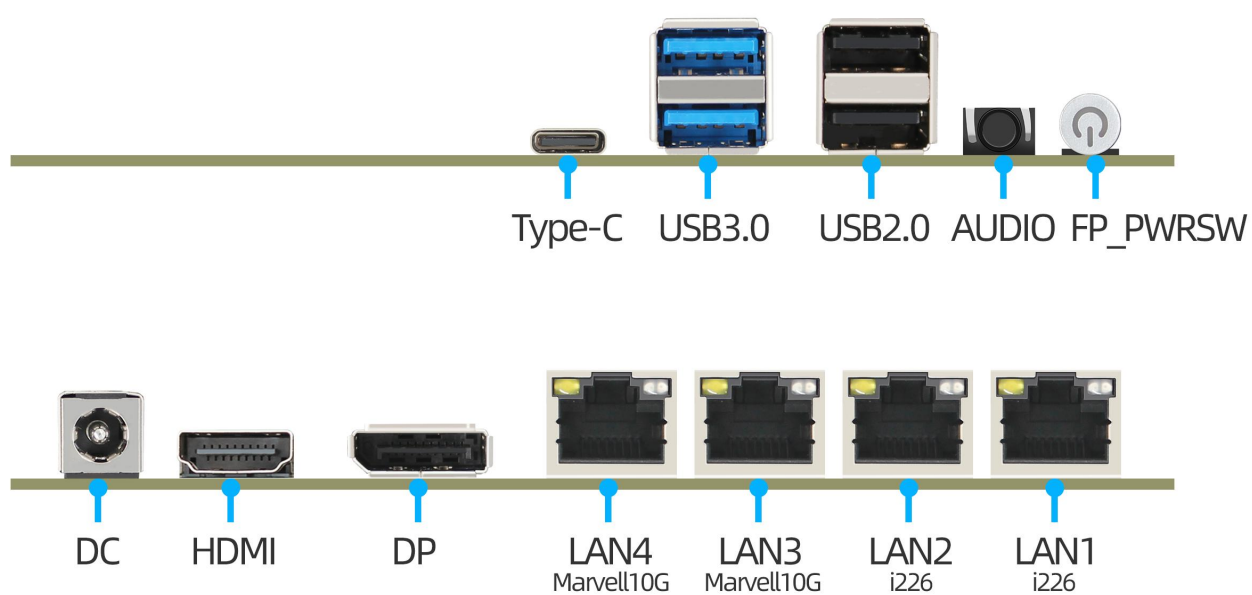
Processor/Chipset	Intel N150 N305 N355 processor
Memory	1*DDR5 4800MHz, SODIMM single-channel memory slot, maximum support 32GB
Network	2*Intel i226 network card 2*Marvell 10G network card, support network wake-up, PXE function
Display support	1*HDMI 1*DP, support synchronous or asynchronous display
Storage devices	2*M.2 NVME
I/O Interface	1*Type-C 2*USB3.0 2*USB2.0 1*AUDIO 1*FP_PWRSW 1*DC 12V DC input 1*HDMI 1*DP 4*LAN (2*i226+2*10G)
On-board I/O interface	1*FP 1*CPUFAN
Watchdog timer	0-255S, system reset
Power specifications	DC 12V input
Temperature	Storage temperature: 0°C -60°C Operating temperature: -0°C -60°C
Size	150mm*110mm

1.2. Motherboard Layout



Mainboard layout interface description		
1	AT_MODE	Incoming call auto-start jump pin
2	JBAT	Clear CMOS jumper
3	FP	switch
4	CPUFAN	CPU Fan Connector
5	DDR5	4800MHz single-channel memory slot, supports up to 32GB
6	2*M.2	Solid-state drive storage, supporting NVME protocol

1.3 I/O Interface



I/O Interface Description		
1	Type-c	Type-c interface, universal signal
2	USB3.0	2*USB3.0 interface
3	USB2.0	2*USB2.0 interface
4	AUDIO	Headset 2-in-1 audio interface
5	FP_PWRSW	Switch button
6	DC_IN	DC 12V DC input
7	HDMI	High Definition Display Interface
8	DP	High Definition Display Interface
9	4*LAN	2*i226 2.5G network port, 2*Marvell 10G network port

Chapter 2 Installation

Safety Note:

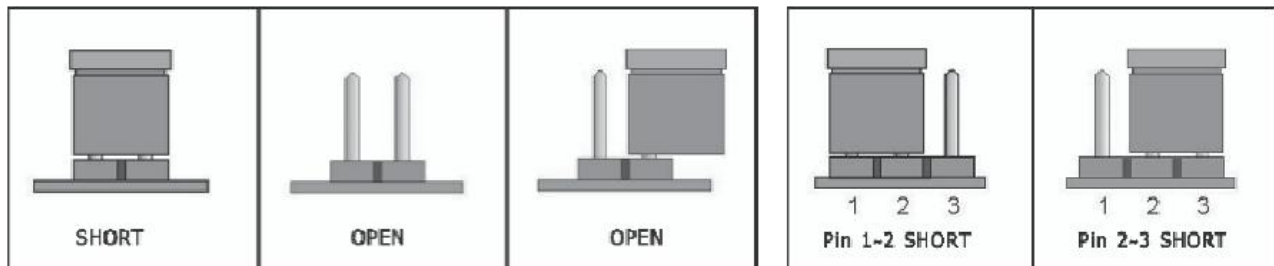
Before installation, please do not tear off the serial number and agent warranty sticker on the motherboard at will, otherwise it will affect the recognition standard of the product warranty period.

- Before installing or removing the motherboard and other hardware devices, be sure to turn off the power and unplug the power cord from the socket.
- When picking up the motherboard, try not to touch the metal wiring part to avoid short circuit.
- When picking up the motherboard, central processing unit (CPU) or memory stick, it is best to wear an anti-static wrist strap. If you don't have an anti-static wrist strap, make sure your hands are dry and touch metal objects first to eliminate static electricity.
- Before installing the motherboard, please place it on an anti-static mat or anti-static bag.
- When you unplug the plug from the motherboard power socket, make sure the power supply is turned off.
- Do not let the screws touch the circuits or parts on the motherboard to avoid damage or malfunction of the motherboard.
- Make sure there are no leftover screws or metal products on the motherboard or in the computer case.
- If you are not familiar with performing the installation, or if you encounter any technical problems using this product, please consult a professional technician.

2.1 Jumper Specifications

How to identify the jumper, pin 1 of the connector:

1. Observe the text mark next to the plug and socket, which will be indicated by "1" or bold lines, △, □ symbols;
2. Look at the pad on the back, the □ square pad is the 1st pin.



2-pin connector: Inserting a jumper cap across both pins will close (short-circuit).

3-pin connector: A jumper cap can be inserted across pins 1-2 or pins 2-3 to close (short-circuit).

2.2 Interface Definition

1. Switch jumper: FP

The motherboard provides a 2*4pin switch jumper (pin pitch: 2.00mm), the jumper definition is as follows:

Graphics	Pins	Definition	Pins	Definition
	1	HDDLED+	2	PWRLED+
	3	HDDLED-	4	PWRLED-
	5	RESETBTN#	6	PWRBTN#
	7	GND	8	GND

2.CPU fan jump pin: CPUFAN

The motherboard provides a 1*4pin CPU fan jumper (pitch: 2.00mm), the jumper definition is as follows:

Graphics	Pins	Definition	Pins	Definition
	1	GND	2	+12V
	3	DET	4	PWM

3. Clear CMOS jumper: JBAT

The motherboard provides a 1*2pin battery discharge jumper (pin pitch: 2.00mm), the jumper definition is as follows:

Pin number diagram	set up	JBAT
1 	1-2 Open Circuit	Normal working status
	1-2 Short Circuit	Clear CMOS contents and restore all BIOS settings to factory settings

4. Incoming call auto-start jump pin: AT_DOME

The motherboard provides a 1*3pin incoming call self-start jumper (pitch: 2.00mm), the jumper definition is as follows:

Pin number diagram	set up	AT_MODE
1 	1-2 Short Circuit	Disable the automatic call start function
	2-3 Short Circuit	Turn on the automatic call start function

Chapter 3 BIOS Operation Guide

3.1、BIOS Description

This motherboard uses AMI BIOS. BIOS stands for Basic Input Output System. It is stored in a ROM (Read-Only Memory) chip on the computer motherboard. When you turn on the computer, BIOS is the first program to run. It has the following main functions:

- A. Power On Self Test (POST) is used to check whether the computer is in good condition.
- B. Initialize and test some external devices and load and run your operating system.
- C. Provide the lowest and most basic control for your computer hardware.
- D. Manage your computer through SETUP in BIOS.

BIOS data is stored in a CMOSRO RAM chip on the motherboard, maintained by a 3.3V button battery. It contains important system information and a setup program for setting system parameters - the BIOS Setup program. When the system is running normally, the BIOS does not need to be modified. When the CMOS data is lost due to other reasons, the BIOS needs to be reset.

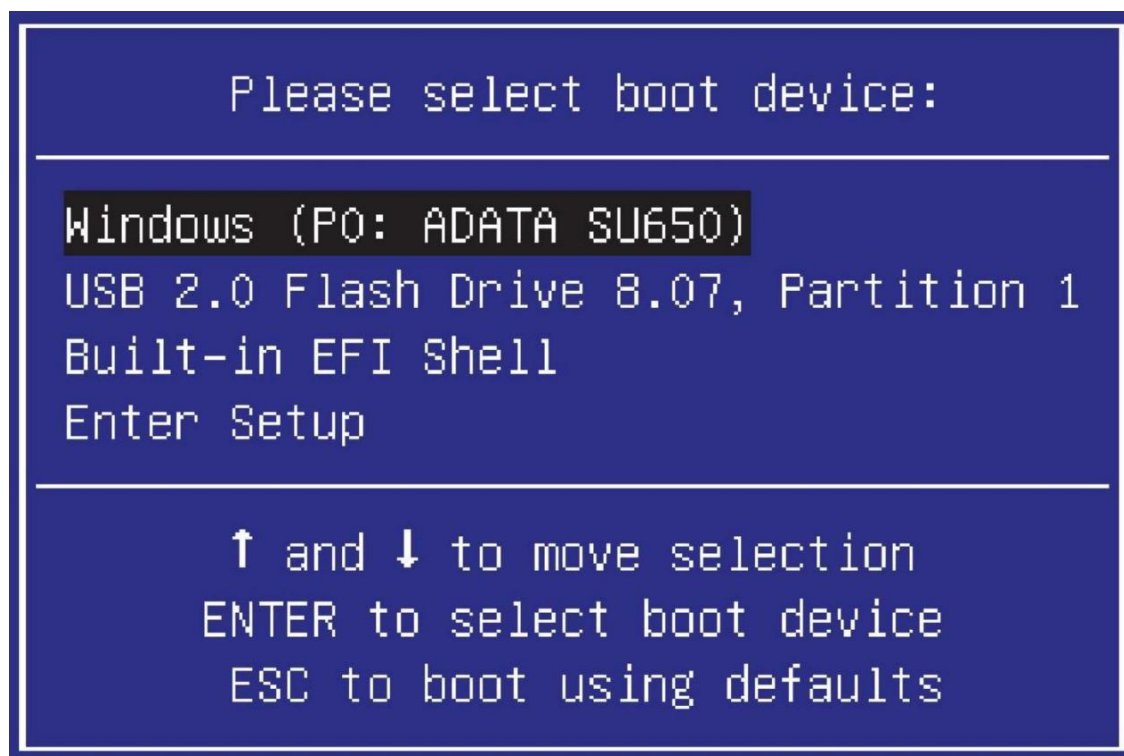
Note that improper BIOS settings will directly damage the computer's hardware and even burn the motherboard. It is recommended that those who are not familiar with it modify the settings carefully. Due to the continuous upgrade of the BIOS in the motherboard, the relevant BIOS information in this manual is for reference only, so the consistency of the BIOS information in this manual and the information in the actual BIOS of the motherboard is not guaranteed.

3.2. Enter the BIOS management page

When the motherboard is powered on or the system is restarted, the following prompt will appear on the display screen in the Post interface. Press DEL to enter BIOS Setup.



Or press F7 on the keyboard to pop up the quick start menu page. Select the Enter Setup option and press Enter to enter the BIOS management page.

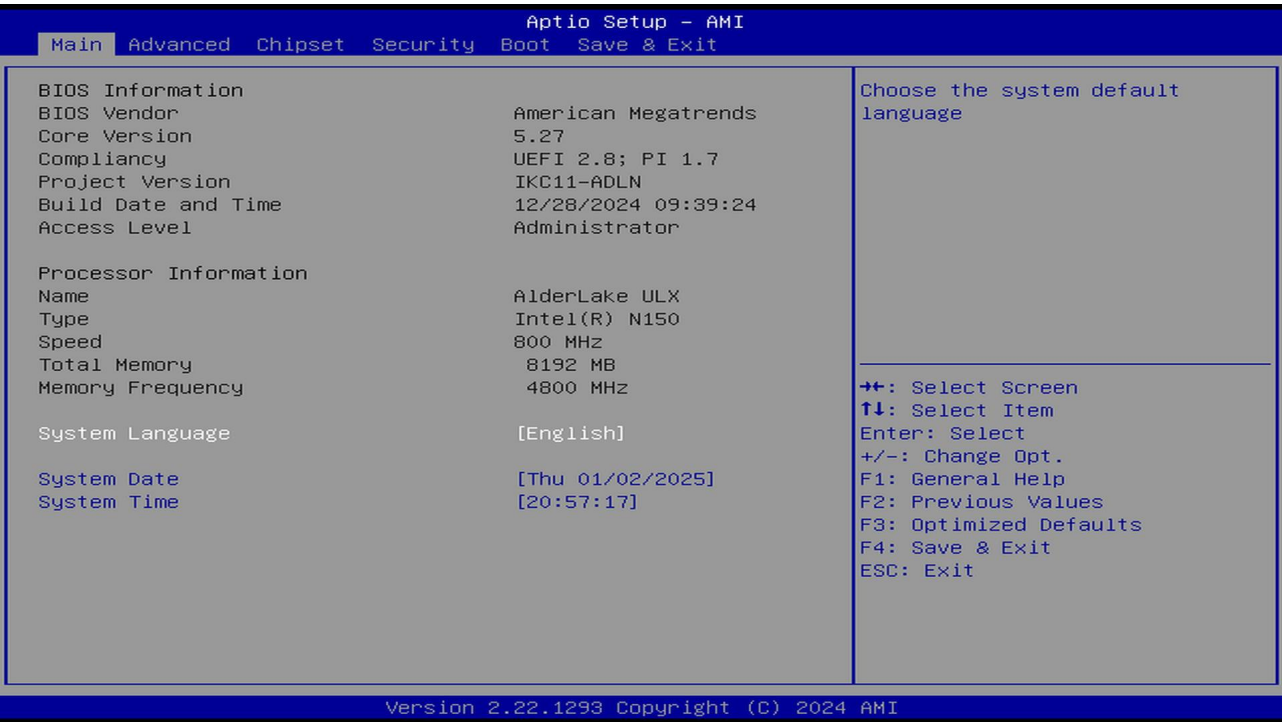


3.3、BIOS Management Page Introduction

You can use the up, down, left, and right keys to move through the options, press <Enter> to make a selection, and use Page Up and Page Down to change options. Press <F1> for help and <Esc> to exit. A detailed description is shown below.

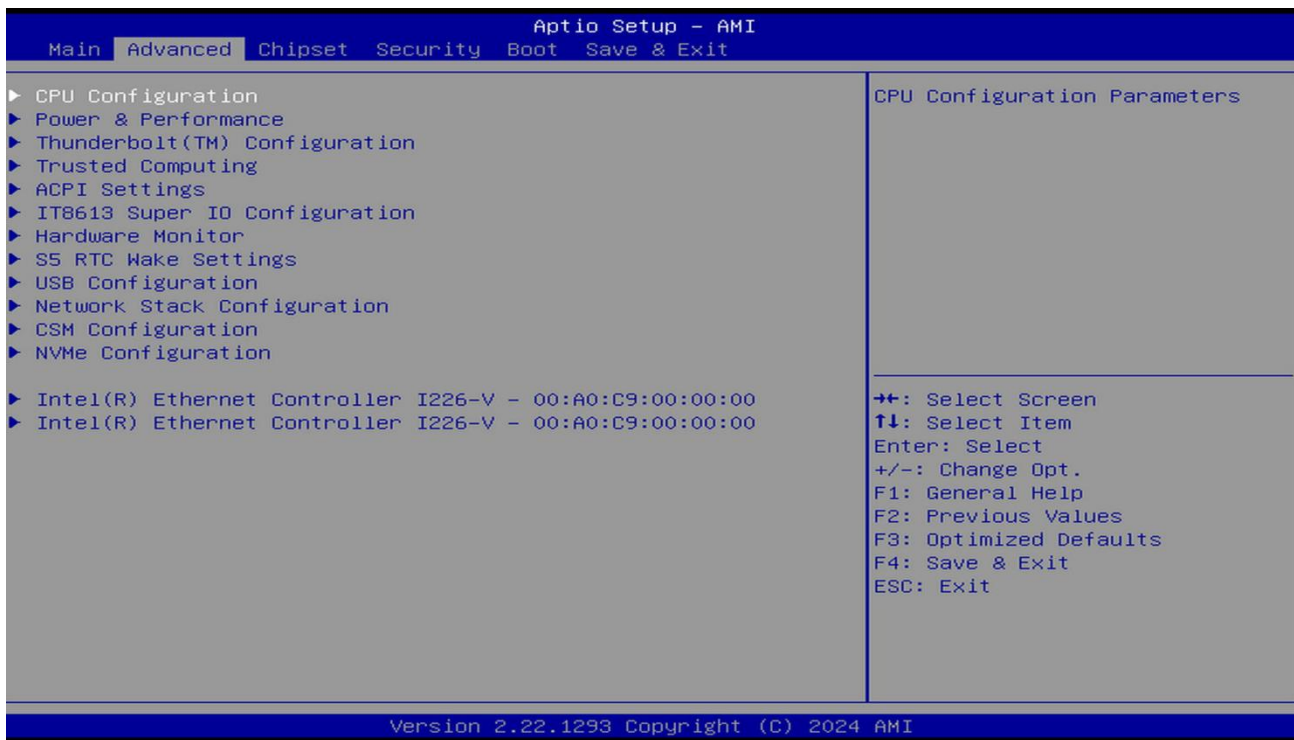
Control keys	Functional Description
← / →	Move the left and right arrows to select the screen
↑ / ↓	Move the up and down arrows to select up and down items
+ / -	Increase/decrease value or change selection
<Enter>	Select this option to enter the submenu
<ESC>	Return to the main screen, or end the CMOS SETUP program from the main screen
<F1>	Show related help
<F3>	Restore previous settings
<F2>	Load the optimized settings (BIOS defaults)
<F4>	Save the changed CMOS settings and reboot

3.3.1. Main menu information (Main)



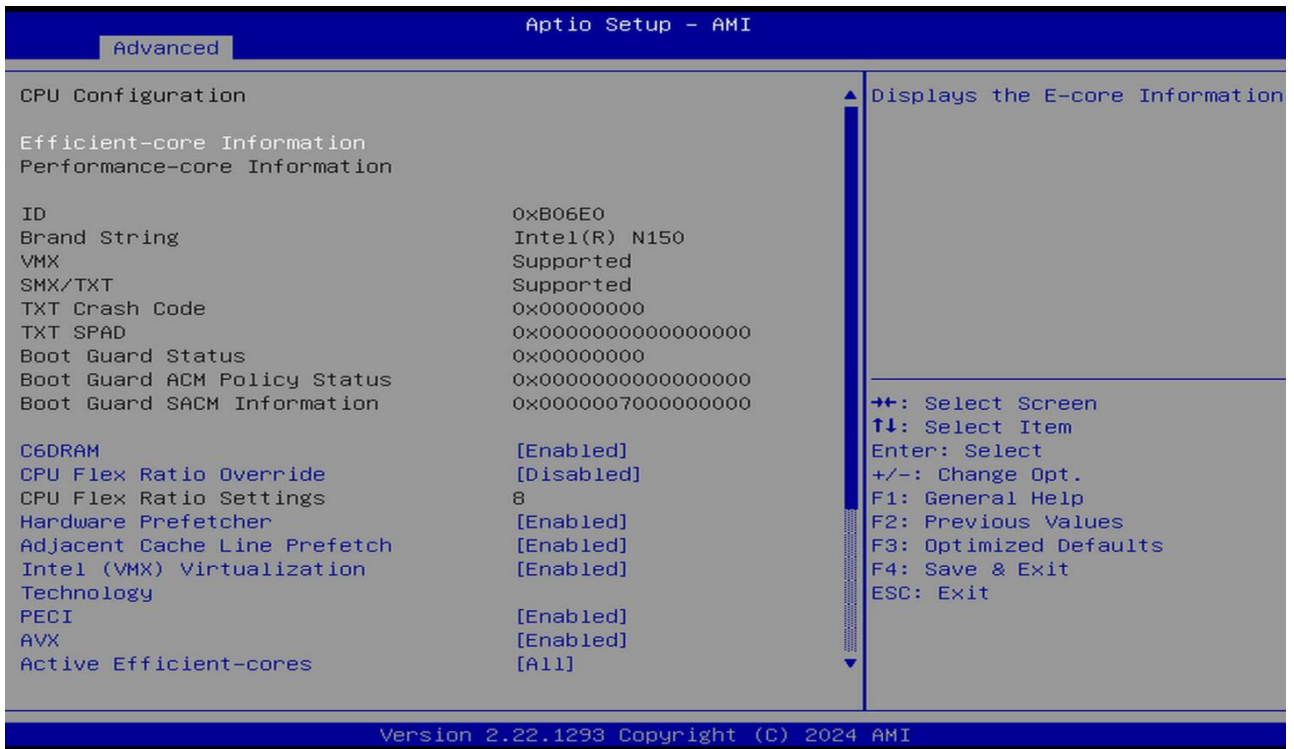
Parameter	Value	Comment
System Language	English	Set the language, default is English, only English mode.
System Date	Day MM/DD/YYYY	Set the date. .
System Time	HH:MM:SS	Setting the time .

3.3.2 Advanced BIOS function settings (Advanced)



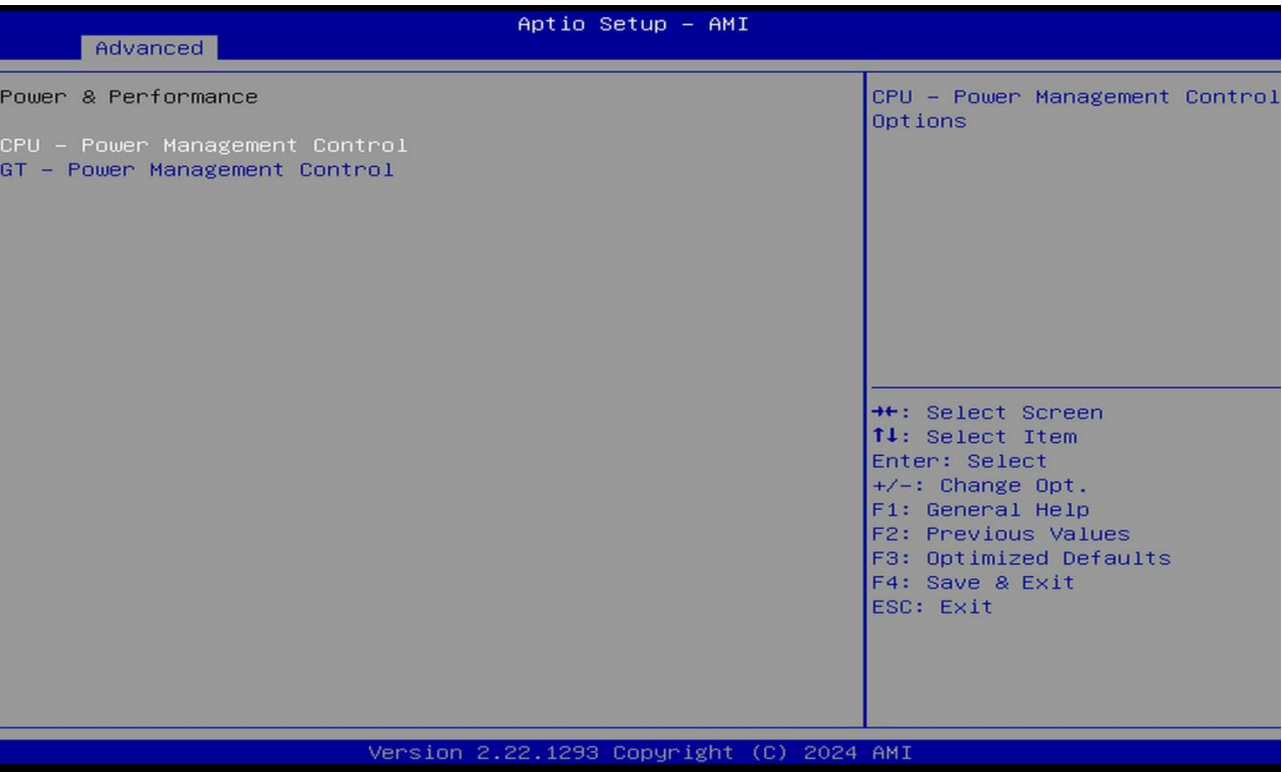
Parameter	Value	Comment
CPU Configuration	Submenu	CPU configuration.
Power & Performance	Submenu	Power and Performance Management
Thunderbolt(TM) Configuration	Submenu	Thunderbolt Configuration .
Trusted Computing	Submenu	Trusted Computing Setup .
ACPI Settings	Submenu	ACPI settings.
IT8613 Super IO Configuration,	Submenu	IO function management configuration
Hardware Monitor	Submenu	Fan Hardware Monitoring .
S5 RTC Wake Settings	Submenu	Scheduled power on setting
USB Configuration	Submenu	USB configuration.
Network Stack Configuration	Submenu	Network stack configuration menu . .
CSM Configuration	Submenu	CSM configuration.
NVME Configuration	Submenu	NVME configuration.

3.3.3、CPU Configuration



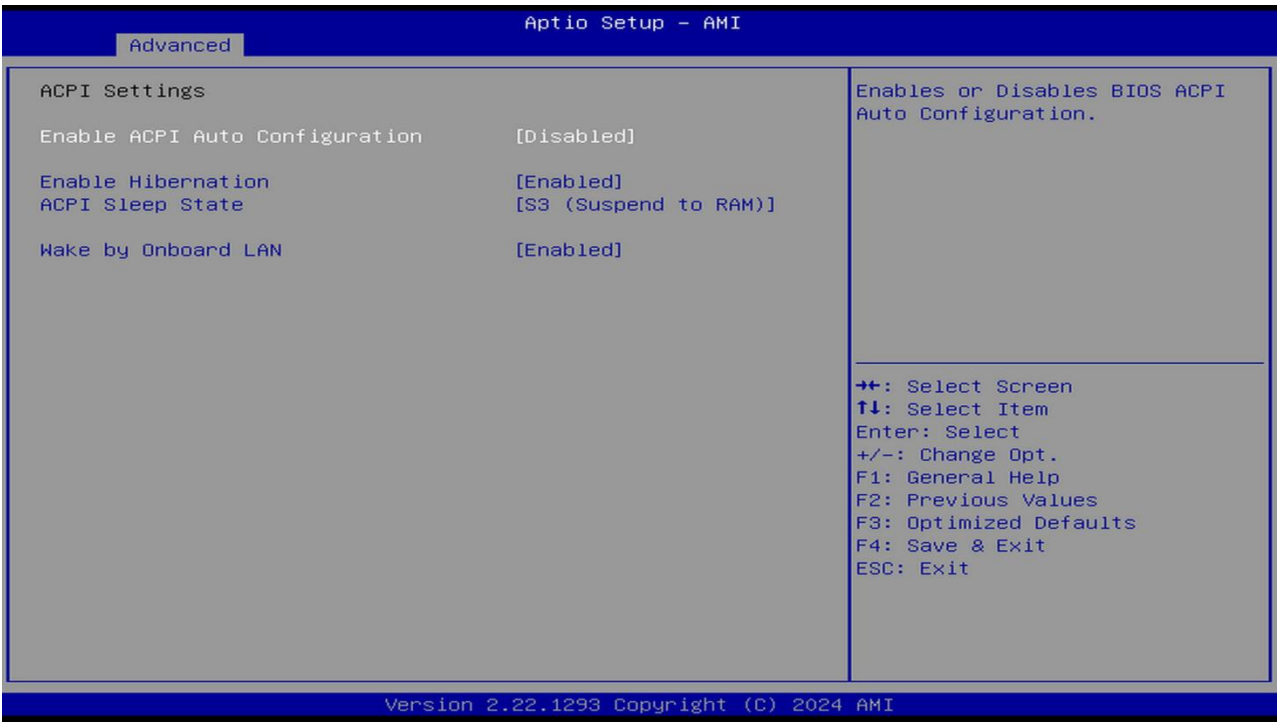
Parameter	Value	Comment
Intel (VMX) Virtualization	Submenu	Enable or disable virtualization .
Active Efficient-cores	Submenu	Number of active cores .

3.3.4 Power and Performance Management



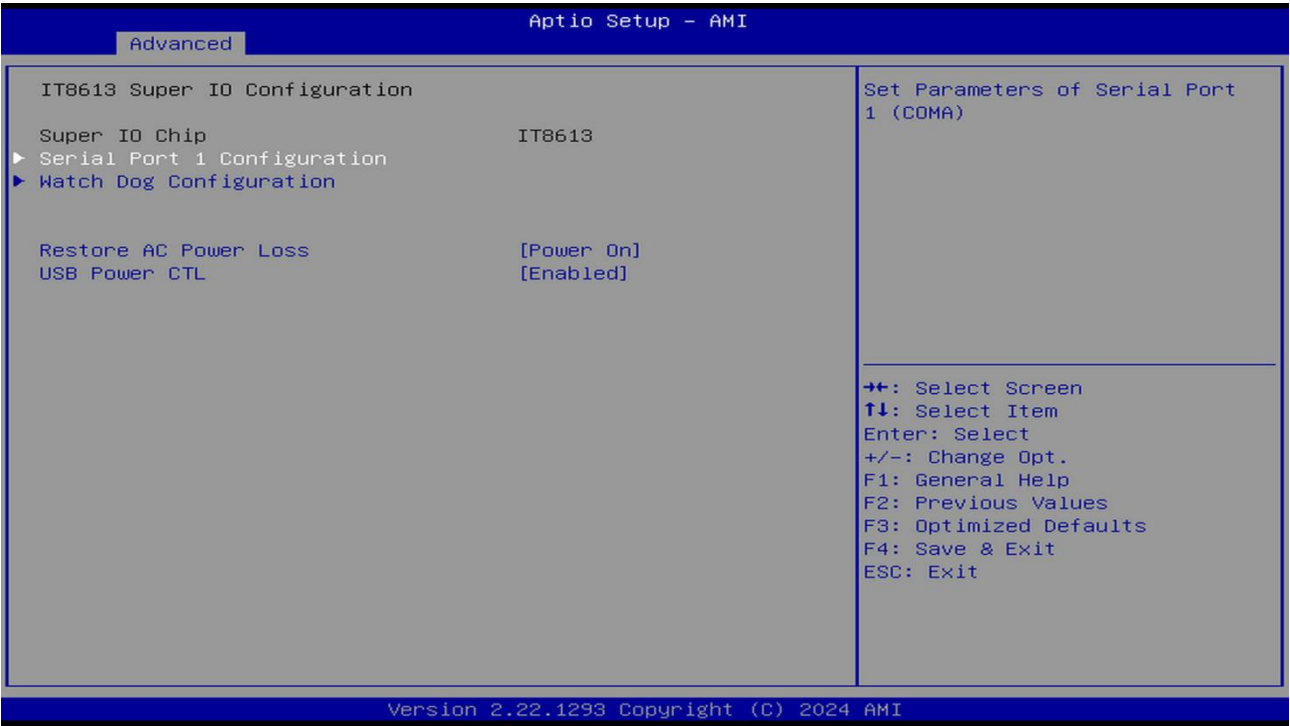
Parameter	Value	Comment
CPU - Power Management Control	Submenu	CPU – Power Management Control Settings
GT - Power Management Control	Submenu	GT – Power Management Control Settings

3.3.5 Power Management Settings (ACPI Settings)



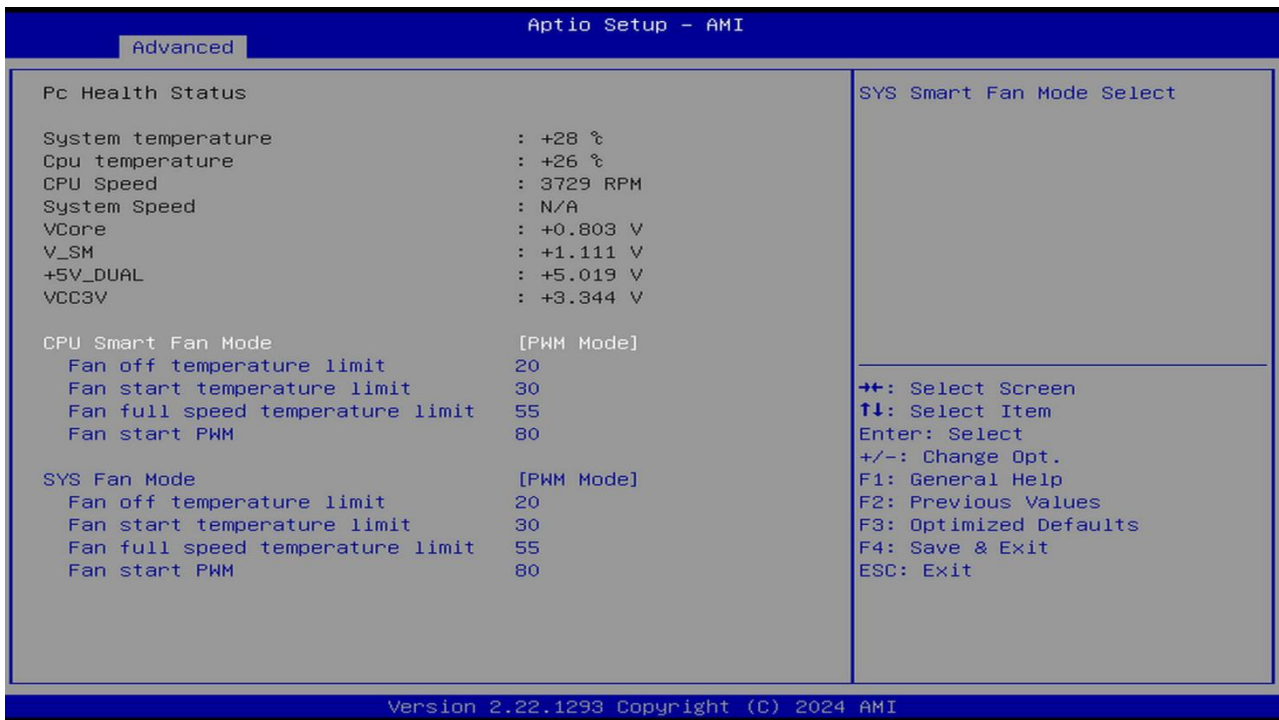
Parameter	Value	Comment
Enable ACPI Auto Configuration	Submenu	Enable or disable ACPI automatic configuration
Enable Hibernation	Submenu	Enable or disable the hibernation feature
ACPI Sleep state	Submenu	Enable or disable the sleep feature.
Wake By Onboard LAN	Submenu	Enable or disable Wake-on-LAN

3.3.6、 IO function management configuration (IT8613 Super IO Configuration)



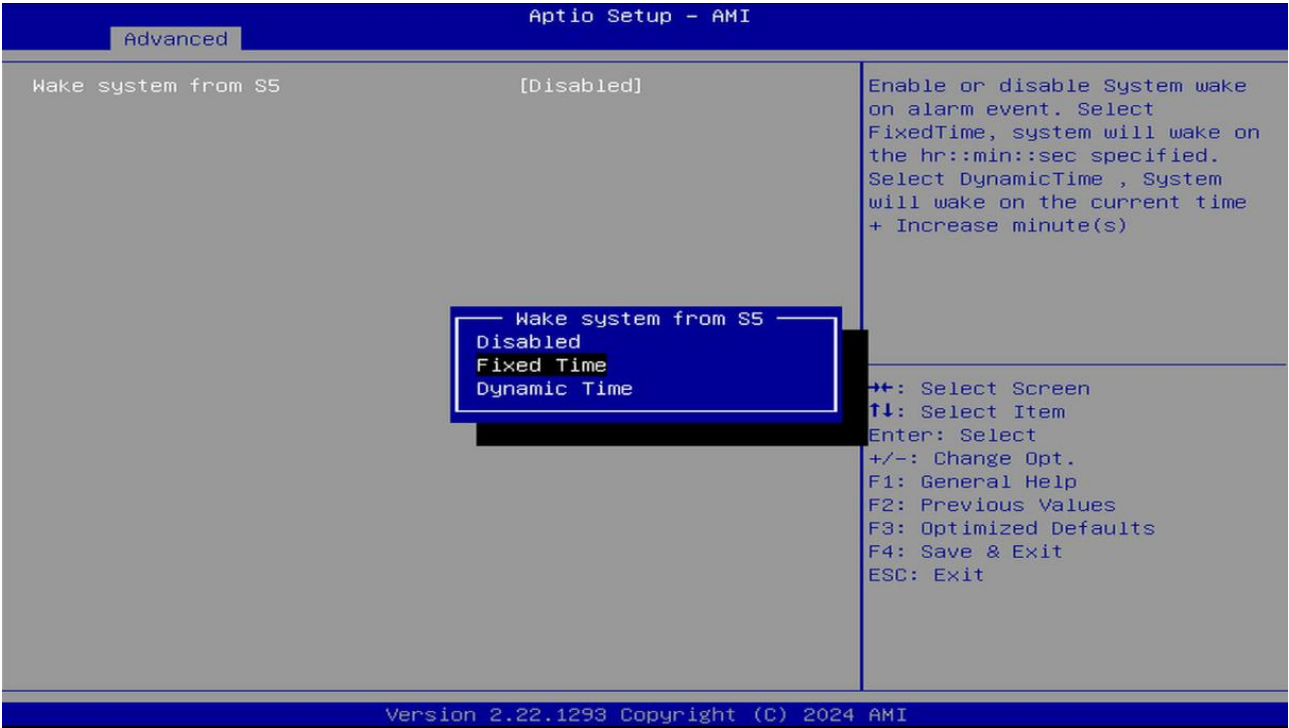
Parameter	Value	Comment
Serial Port 1 Configuration	Submenu	Serial port 1 configuration
Watch Dog Configuration	Submenu	Watchdog function setting
Restore AC Power Loss	Submenu	Incoming call power-on settings: [Power on] Incoming call power-on [Power off] Disable incoming call power-on [Last State] Keep the last power-off state
USB Power CTL	Submenu	Enable or disable USB VCC power supply

3.3.7 Hardware Monitor



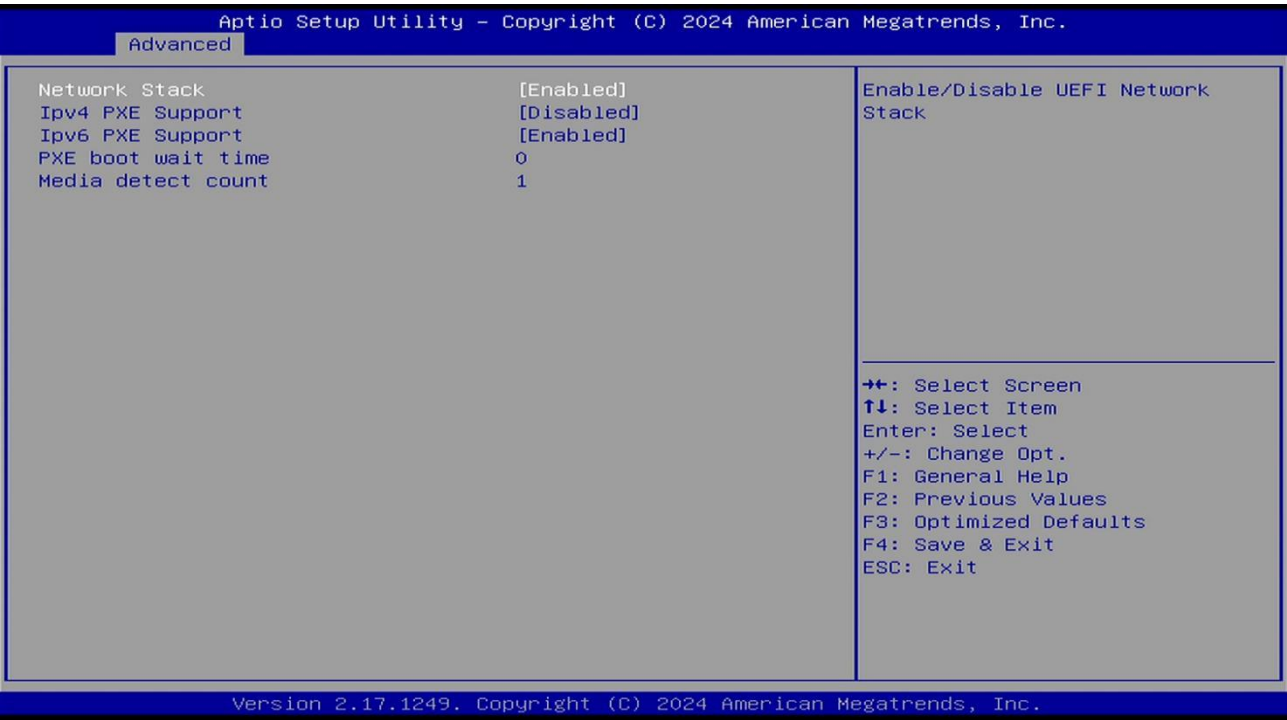
Parameter	Value	Comment
CPU Smart Fan Mode	Submenu	[Full Speed Mode] CPU fan full speed mode [PWM Mode] PWM temperature control mode [Turn off Mode] Turn off PWM temperature control mode
SYS Fan Mode	Submenu	[Full Speed Mode] System fan full speed mode [PWM Mode] PWM temperature control mode [Turn off Mode] Turn off PWM temperature control mode
PWM Mode	Submenu	Fan off temperature limit Fan stop temperature Fan start temperature limit Fan start temperature Fan full speed temperature limit Fan full speed temperature Fan start PWM Fan start PWM value, start speed value

3.3.8, Scheduled power-on settings (S5 RTCWake Settings)



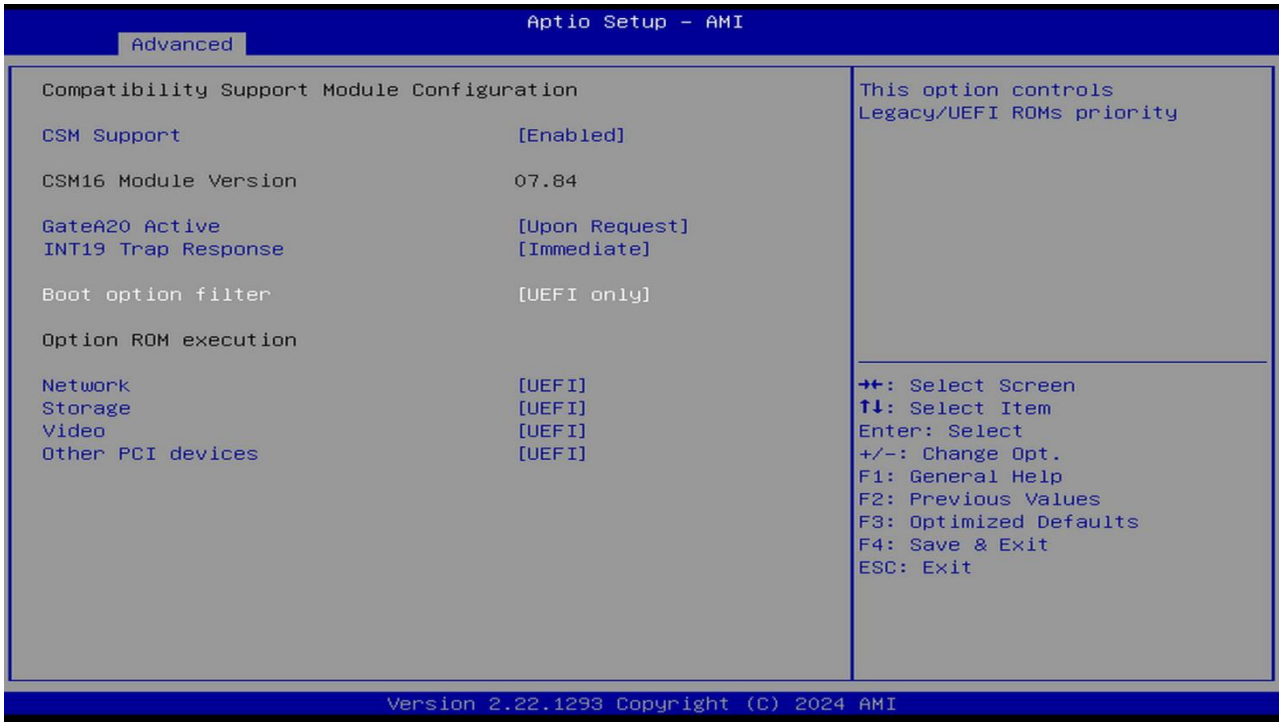
Parameter	Value	Comment
Wake system from S5	Disable	Turn off the timer switch
	Fixed Time	Set the scheduled power-on time Wake up hour setting Wake up minute setting Wake up second setting
	Dynamic Time	Wake system from S5 Set dynamic timer startup Wake up minute increase Set the number of minutes after entering S5 to start the system

3.3.9. Network Stack Configuration Tool



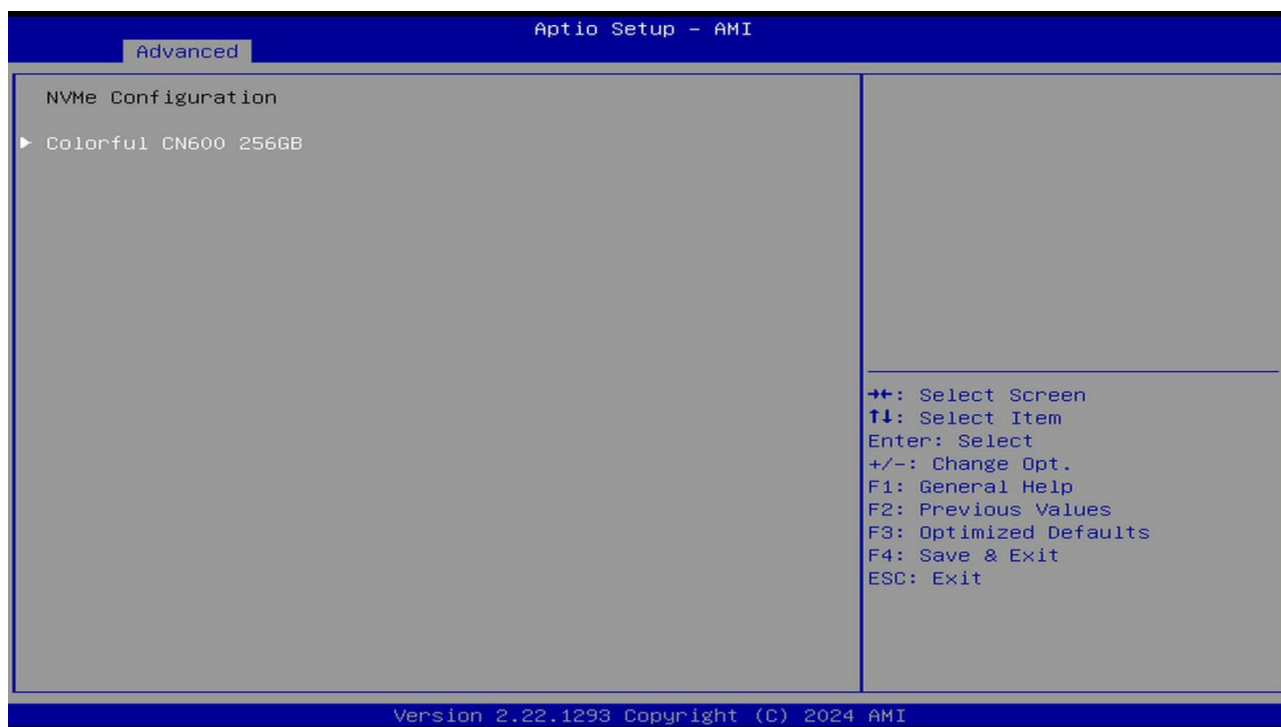
Parameter	Value	Comment
Network Stack	Enabled Disabled	Enable or disable UEFI Network Stack (PXE feature).
Ipv4 PXE Support	Enabled Disabled	Enable or disable Ipv4PXE boot support.
Ipv6 PXE Support	Enabled Disabled	Enable or disable IPV6 PXE boot support.
PXE boot wait time	0 ... 5(0 default)	PXE boot wait time.
Media detect count	1 ... 50(1 default)	Check device times.

3.3.10 CSM Configuration

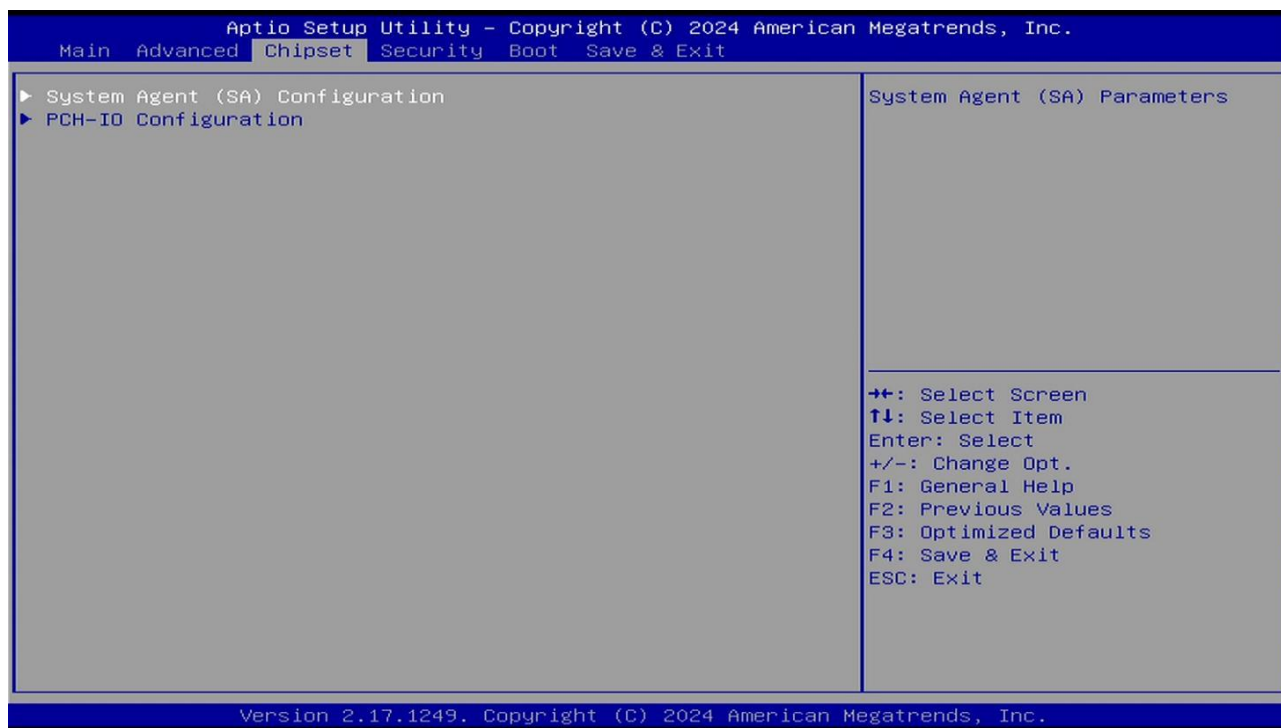


Parameter	Value	Comment
Boot option filter	UEFI only	UEFI mode
Network	Do not launch UEFI	Not Started UEFI Mode

3.3.11. NVMe Configuration (M.2 hard disk information view)

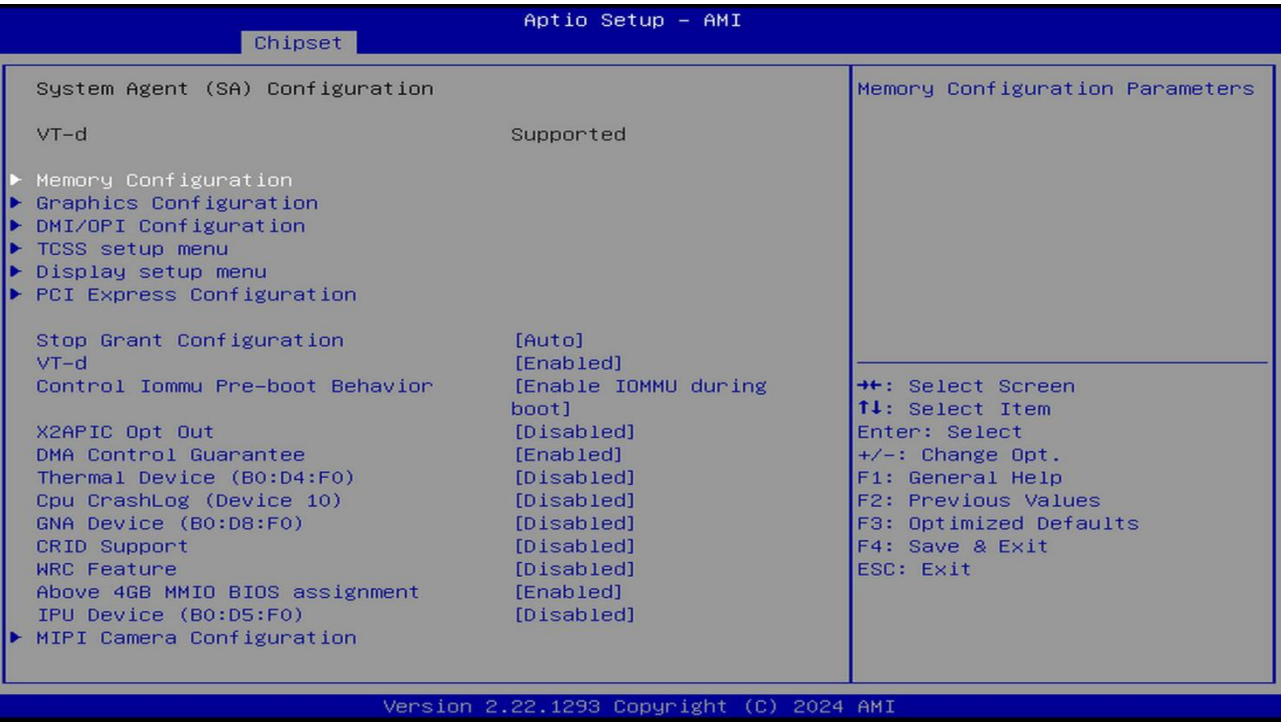


3.3.12 Chipset Setting Information (Chipset)

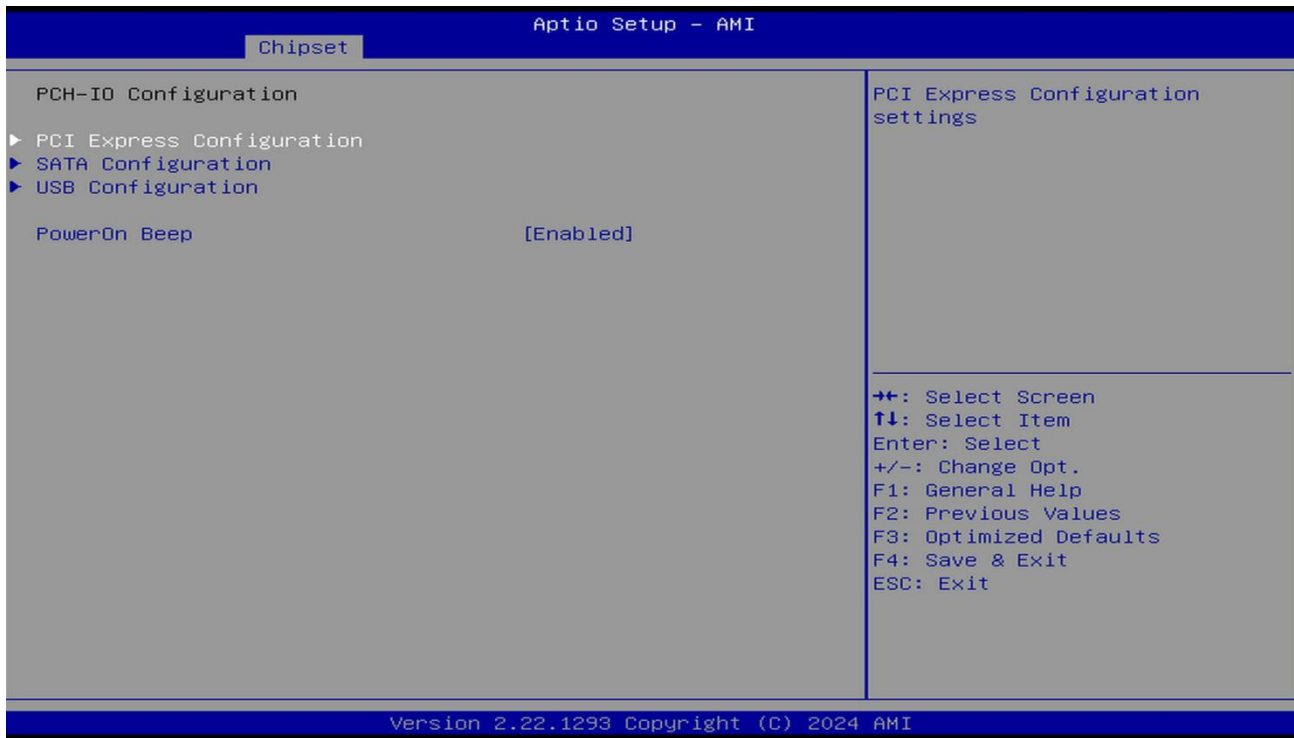


System Agent (SA) Configuration	Submenu	SystemAgent (SA) parameters (including Graphics, Audio, DMI, PEG, Memory).
PCH-IO Configuration	Submenu	Platform control bus parameter configuration.

3.3.13 System Agent SA Configuration

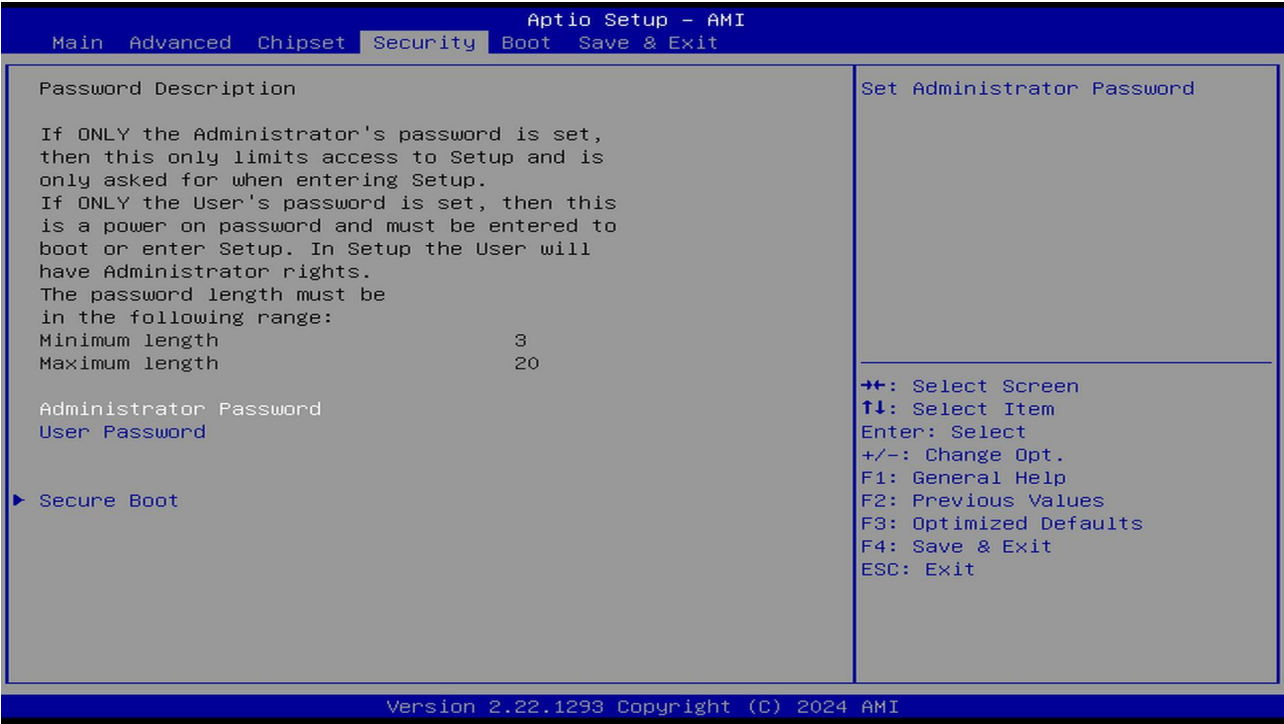


3.3.14 PCH-IO Configuration



PowerOn Beep	Submenu	Allow or prohibit the startup buzzer alarm.
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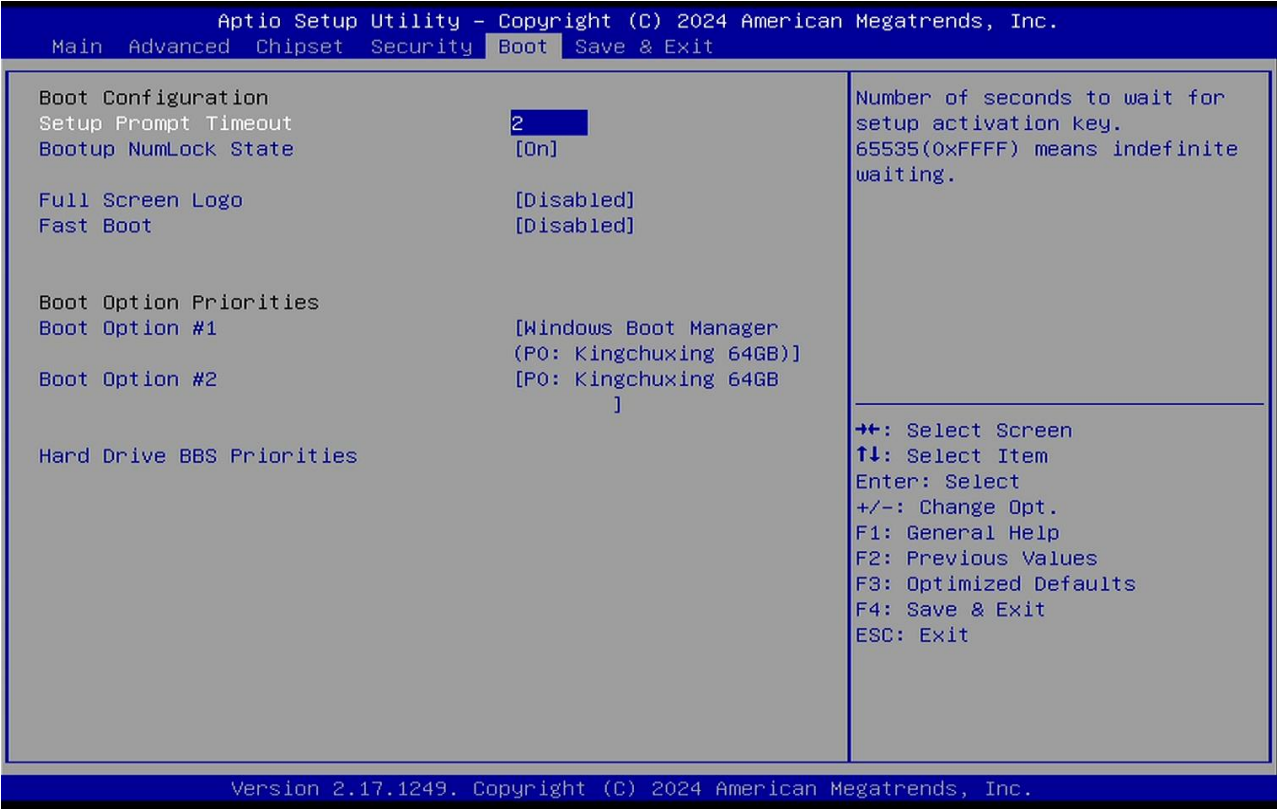
3.3.15 Security Settings



Parameter	Value	Comment
Administrator Password	Function Key	Press Enter to enter the administrator password setting.
User Password	Function Key	Press Enter to enter the user authority password setting.

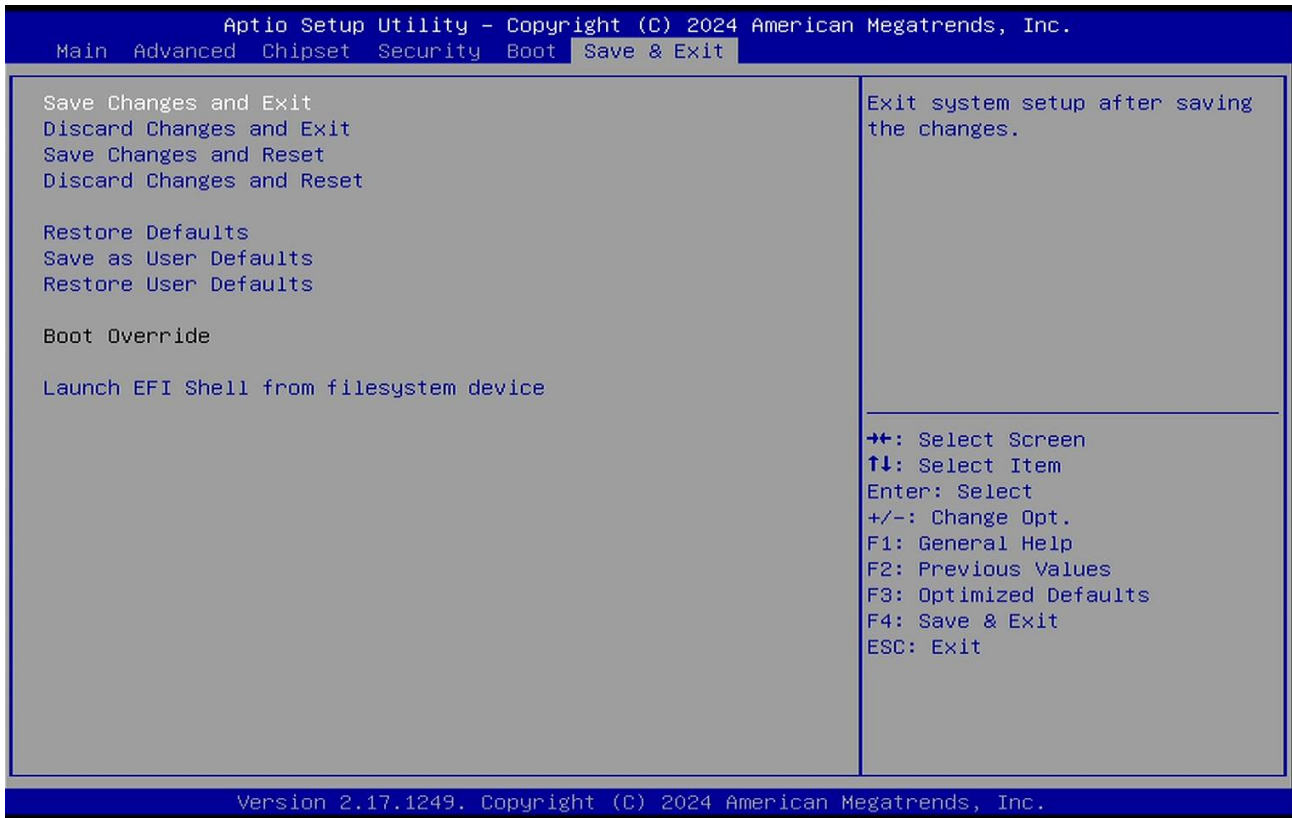
3.3.16 Boot settings

Start management page information



Parameter	Value	Comment
Administrator Password	Function Key	Press Enter to enter the administrator password setting.
User Password	Function Key	Press Enter to enter the user authority password setting.

3.3.17. Save & Exit



Parameter	Value	Comment
Save changes and Exit	Function Key	Save the current settings and exit the BIOS setup interface. The current settings will take effect.
Discard changes and Exit	Function Key	Do not save the current settings and exit the BIOS setup interface.
Save changes and Reset	Function Key	Save the current settings and restart the computer to make them effective.
Discard changes and Reset	Function Key	Do not save the current settings and restart the computer to make the current settings effective.
Restore Defaults	Function Key	Load the factory default settings as the current settings, which need to be saved and exited to take effect.
Save as User Defaults	Function Key	The current settings are saved as User Defaults.
Restore User Defaults	Function Key	Load user defaults as current settings, need to be saved to take effect.