

N601 User Manual



Statement

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Safety Notice

- Read the user manual carefully before setting up the Giada product.
- Disconnect the power cord before installing the internal components
- Most electronic components are sensitive to static electrical charge, please wear a wrist-grounding strap when installing the internal components.
- Don't disconnect the power cord when the system is running to avoid damage to the sensitive components caused by instantaneous surge voltage.

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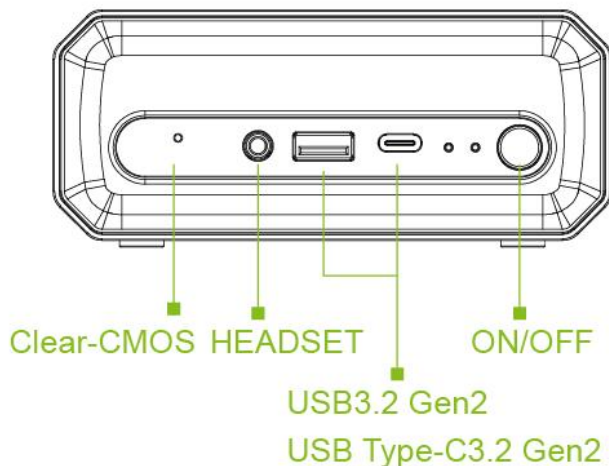
1. Product Introduction

Based on Intel® Meteor Lake platform, Giada N601 built with smart fan design, It supports DDR5 memory and features with Thunderbolt 4 and 1.4GHz AI Boost NPU. It can also support Wi-Fi 7. With one DP and one HDMI displays output, it can support up to 8K 60Hz display. The player is designed for AI tasks such as image/video editing, creative projects, and team collaboration

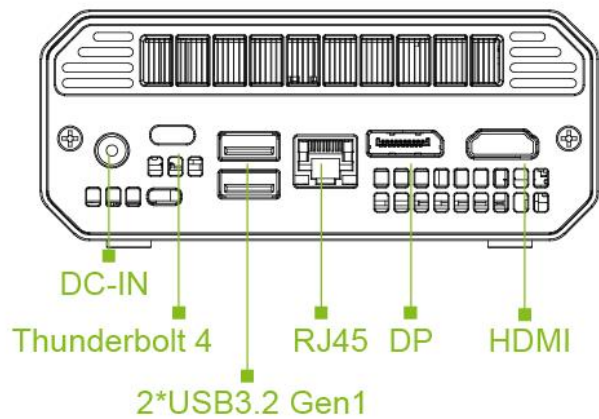
2. Interface Description and Hardware Specifications

2.1 Interface Description

Front I/O Port



Rear I/O Port



2.2 Hardware Specifications

N601		N601-125H50N0G-GIA	N601-155H50N0G-GIA
Processor	CPU	Intel® Core™ Ultra 5 processor 125H	Intel® Core™ Ultra 7 processor 155H
	Frequency	4.50 GHz	4.80 GHz
	Processing Units	14 Cores / 16 Cores	
	Chipset	SOC	
Memory	Type	DDR5-5600 MHz	
	Socket	2 x SO-DIMM	
	Max Capacity	Up to 96 GB	
Graphics	GPU	Intel® Arc™ graphics	
	Graphic Engine	DirectX 12.2, OpenGL 4.6, OpenCL 3.0, H.264 /H.265 /AV1 Hardware Encode / Decode, VP9 Bitstream & Decoding	
	Display Interface	1 x HDMI (Max.4096 x 2304 @60Hz) 1 x DP1.4 (Max.7680 x 4320 @60Hz)	
Network	Controller	1 x Intel i226-V Gigabit Ethernet	
	Interface	1 x 2.5GbE RJ45	
	Wi-Fi/BT	1 x E-Key M.2(2230) for Wi-Fi/BT, Support Wi-Fi 6, Wi-Fi 6E (CNVi), Wi-Fi 7	
	Mobile Network	NA	
I/O Interface	USB	1 x USB Type-C3.2 Gen2, 1 x USB3.2 Gen 2, 2 x USB 3.2 Gen 1, 1 x Thunderbolt 4	
	Serial Port	NA	
	Audio	1 x 2-in-1 Headset (MIC-IN & AUDIO-OUT)	
	Button	1 x Power on, 1 x CLR-CMOS	
	Antenna	2 x Internal Wi-Fi Antenna	
Storage	M.2 (2280)	Socket 1: 1 x M-Key M.2 (2280) PCIe5.0 X4 for SSD Socket 2: 1 x M-Key M.2 (2280) PCIe4.0 X4 for SSD	
JAHC	JAHC	Watchdog Timer / Auto Power On / RTC	
Operation System	OS	Windows 11 (64bit) /Linux Ubuntu (64bit)	
Power	Power Type	DC-IN	
	Input Voltage	19 V/6.32 A	
Mechanical	Construction	Metal, Grey. I/O Panel, Plastic	
	Cooling System	Smart fan, active cooling	
	Dimension (W x D x H)	126mm x 117.5mm x 52mm (5.74" x 4.94" x 2.04")	
	TPM	Optional: TPM2.0	
Environment	Operating Temperature	0°C ~45°C (32°F~113°F) @0.7m/s Air Flow	
	Relative Humidity	95% @ 40°C (non-condensing)	

Certification	CE, FCC Class B, UKCA
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3. Accessories Installation Steps

⚠ For safety reasons, please ensure that the power cord is disconnected before opening the case.

How to open the cover and fan baffle

Unscrew the two screws on the bottom of device and pull out the case.

Unscrew the four screws on the fan baffle and remove the fan baffle.

2 x SO-DIMM DDR5-5600 MHz for Memory

1 x M-Key M.2 (2280) PCIe5.0 X4 for SSD

1 x M-Key M.2 (2280) PCIe4.0 X4 for SSD

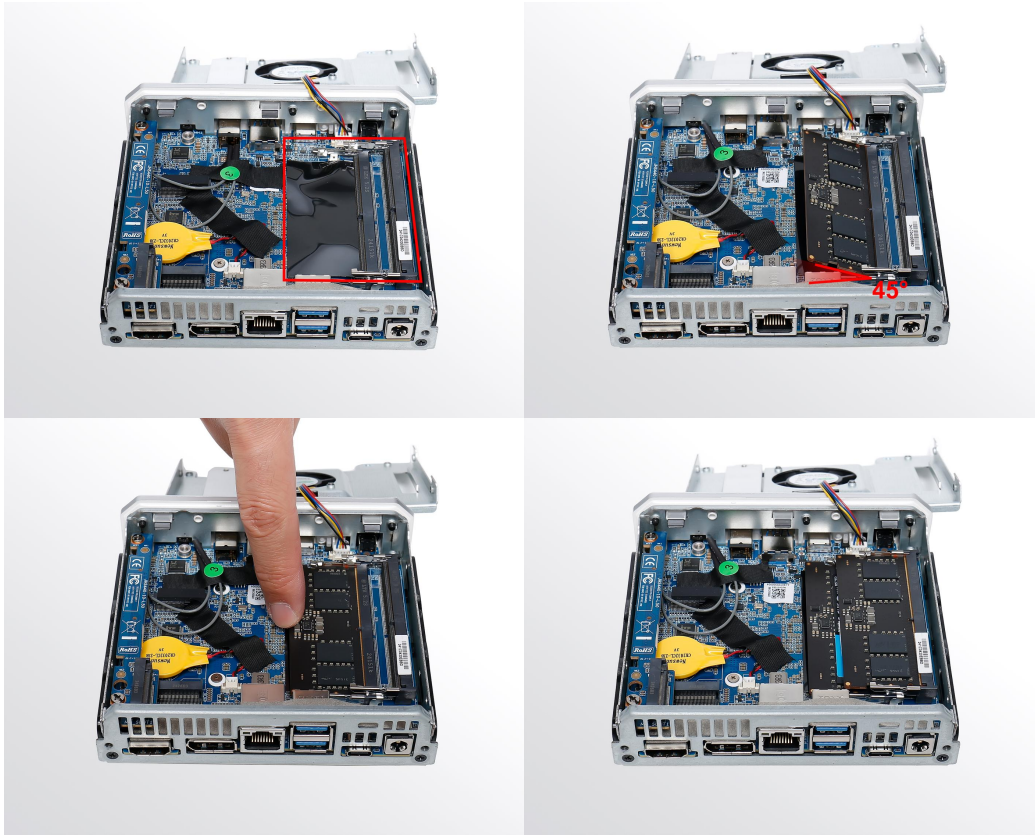
1 x E-Key M.2(2230) for Wi-Fi/BT



3.1 Memory Installation

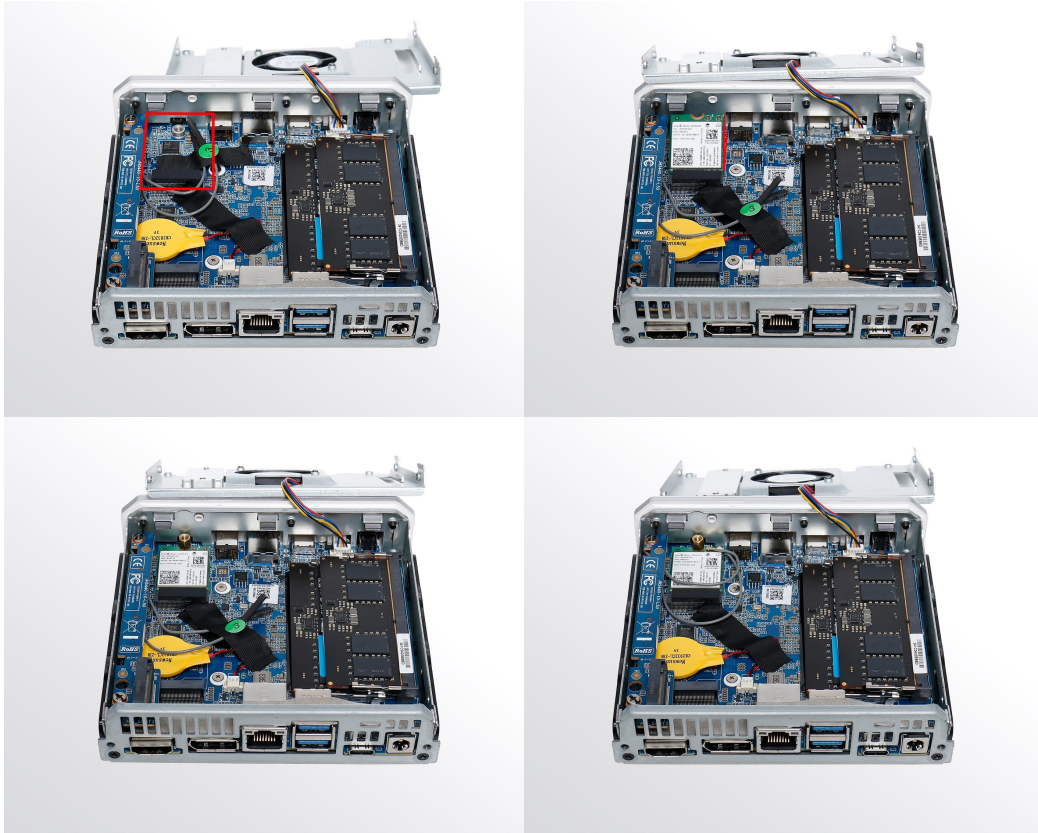
▲ This product only supports DDR5 SO-DIMM memory modules.

1. Locate the SO-DIMM slot on the board.
2. Gently insert the module into the slot at a 45-degree angle.
3. Carefully push down the memory module until it snaps into the locking mechanism.



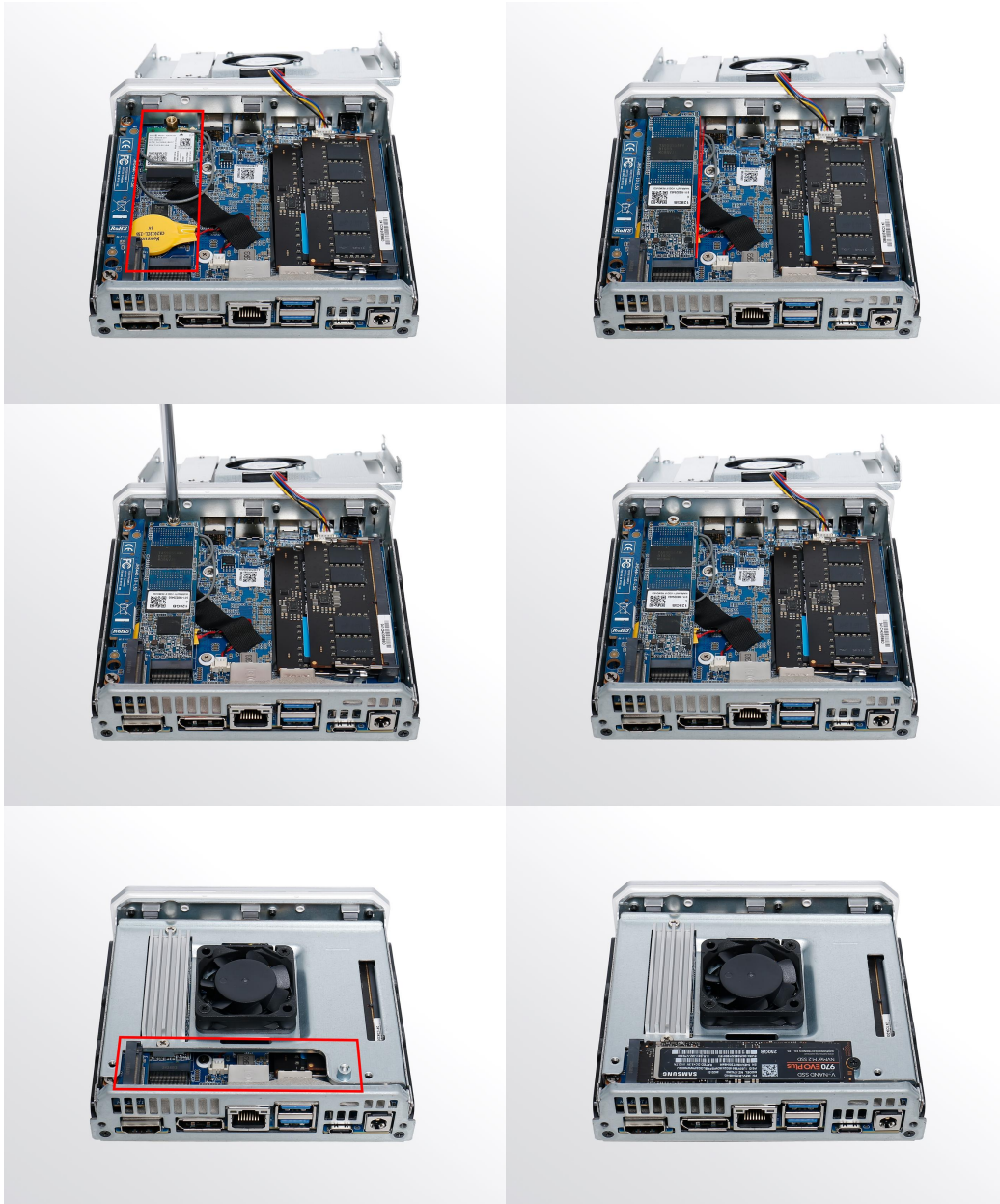
3.2 WIFI (M.2) Installation

1. Plug the WIFI module into the appropriate slot.
2. Secure the module to the carrier by tightening up the Hexagonal spacer column screw.
3. Connect the two cables to WIFI module and install the antennas.



3.3 SSD (M.2) Installation

1. Plug the SSD (M.2 PCIE signal) into the appropriate slot.
2. Secure the module to the carrier by tightening up the screw.
3. Install the fan baffle, Plug the SSD (M.2 PCIE signal) into the second appropriate slot.
4. Secure the module to the carrier by tightening up the screw.



4. BIOS Setup

Notice:

The descriptions relating to BIOS setup in this Manual is for reference only when the BIOS version of the product might be upgraded. Giada provides no guarantee that all the contents in this Manual are consistent with the information you acquired.

BIOS is a basic I/O control program saved in the Flash Memory. Bridging the motherboard and the operation system, BIOS is used for managing the setup of the related parameters between them.

When the computer is activated, the system is first controlled by the BIOS program. Firstly, a self-detection called POST is performed to check all hard devices and confirm the parameters of the synchronous hardware.

Once all detections are completed, BIOS will hand over the controlling to the operation system (OS). As BIOS serves as the only channel that connects the hardware and software, whether your computer can run stably and work in optimized state will hinge on how to properly set the parameters in BIOS. Therefore, the correct setup of BIOS plays a key role for stably running the system and optimizing its performance.

The CMOS Setup will save the set parameters in the built-in CMOS SRAM on the motherboard. When the power is shut off, the lithium battery on the motherboard will provide continuously power to CMOS SRAM.

The BIOS setup program will allow you to configure the following items:

1. HD drive and peripheral devices
2. Video display type and display items
3. Password protection
4. Power management characteristics

A. State of BIOS Setup

When the computer is started up, BIOS will run the self-detection (Post) program. This program includes series of diagnosis fixed in BIOS. When this program is executed, the following information will appear if any error is found:

Press [F1] to Run General help

Press [F2] to Load previous values and continue

To enter BIOS, you can press F2 to load the default values and enter the system, you can press DEL to enter the BIOS interface if no error is found. If the indicative information disappears before you operate, you can shut off the computer and turn it on again, or you can press the RESET key on the product case. To restart your computer, you can also simultaneously press < Ctrl > + < Alt > + < Delete >.

B. Function Keys definitions

Hot Key	Description
↑	(Up key) Move to the previous item
↓	(Down key) Move to the next item
←	(Left key) Move to the left item
→	(Right key) Move to the right item
ESC	Exit the current interface
Page Up	Change the setup state, or add the values
Page Down	Change the setup state, or deduct the values
F1	Display the information of the current function Keys definitions.
F9	Load the optimized values
F10	Save the settings and exit the CMOS SETUP

C. Auxiliary information on Main interface

When the system enters the main interface of Setup, the major selected contents will be displayed at the lower part of the interface with the change of the options.

When you set the value for each column, you can view the preset value of the column and the values that can be set if you press F2, for example, the BIOS default values or CMOS Setup values.

To exit the interface for auxiliary information, press [ESC].

1) Main menu

When the system enters the CMOS Setup menu, you can see the main menu on the upper part of the screen, as shown in Figure 1.

In this main menu, you can use the left and right direction keys to select the setup items.

Once the item is selected, the lower part of the computer screen will show the details of setting.

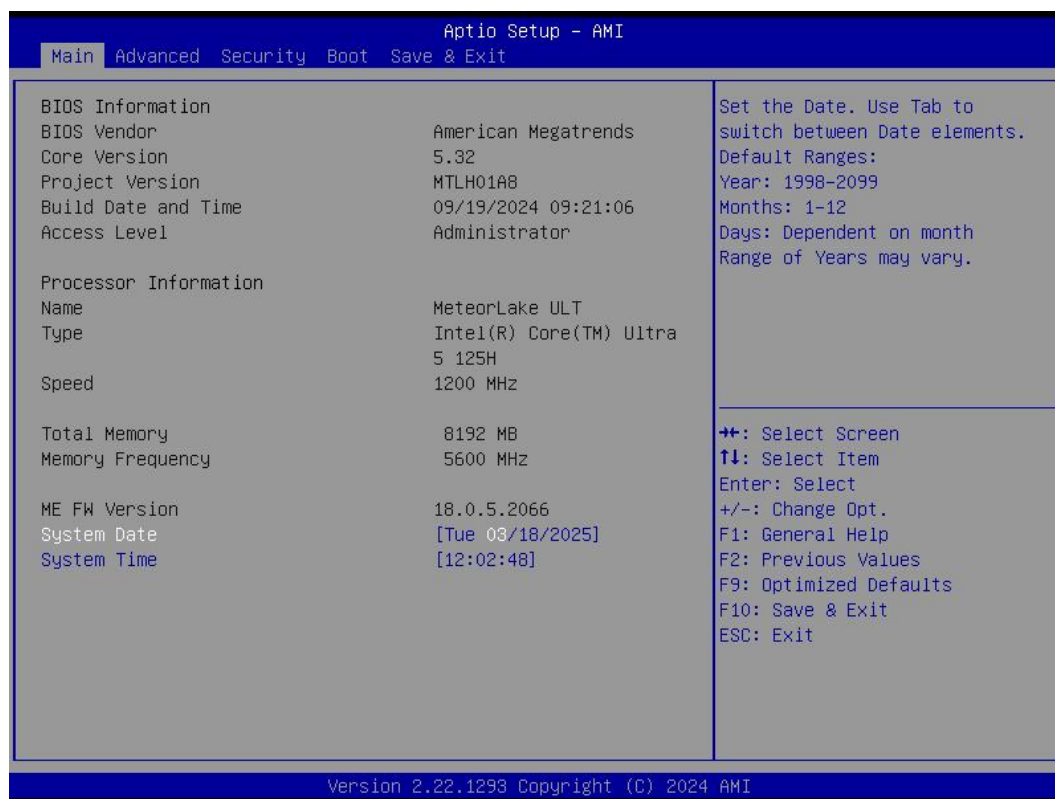


Fig 1

1) Main (standard CMOS setup)

This item is used for setting the date and time.

2) Advanced (advanced BIOS setup)

This item is used for setting the advanced functions provided by BIOS, such as specifications of PCIe facilities, CPU, HDD, etc.

3) Security (set the administrator/user password)

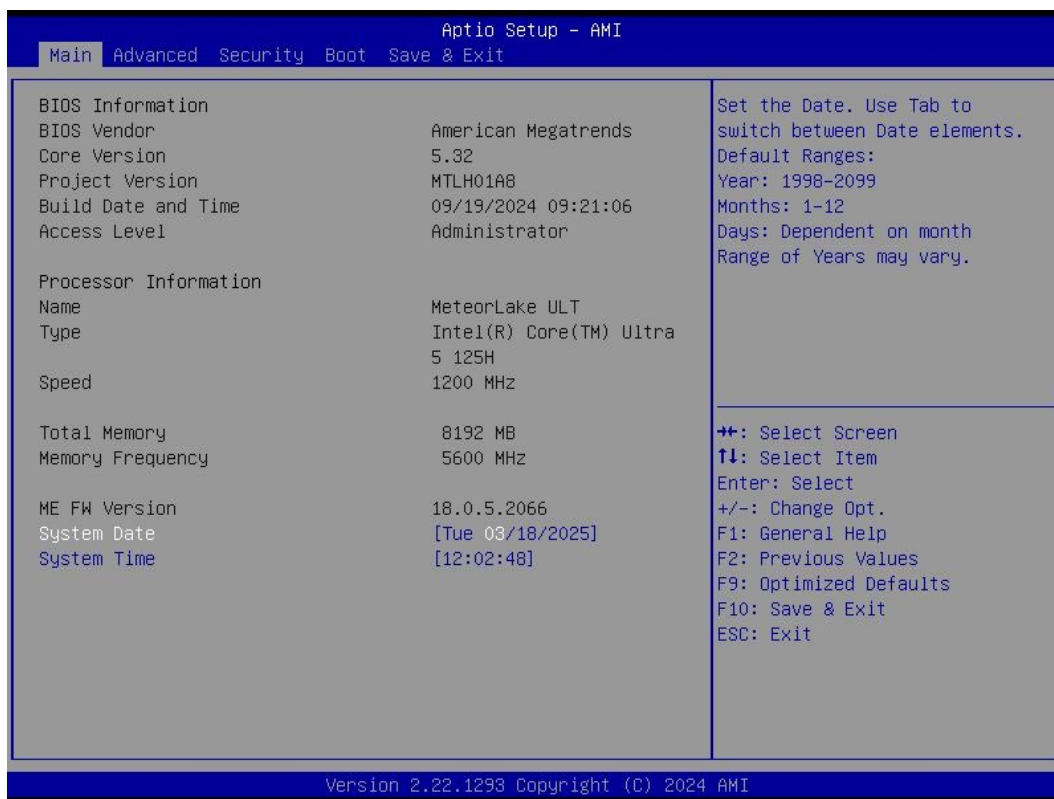
4) Boot (startup configuration characteristics)

5) Save & Exit (option of exit)

This item includes load optimal defaults / load failsafe defaults value / discard changes / discard changes and exit.

6) MEBx

4.1 Main (Standard CMOS setting)



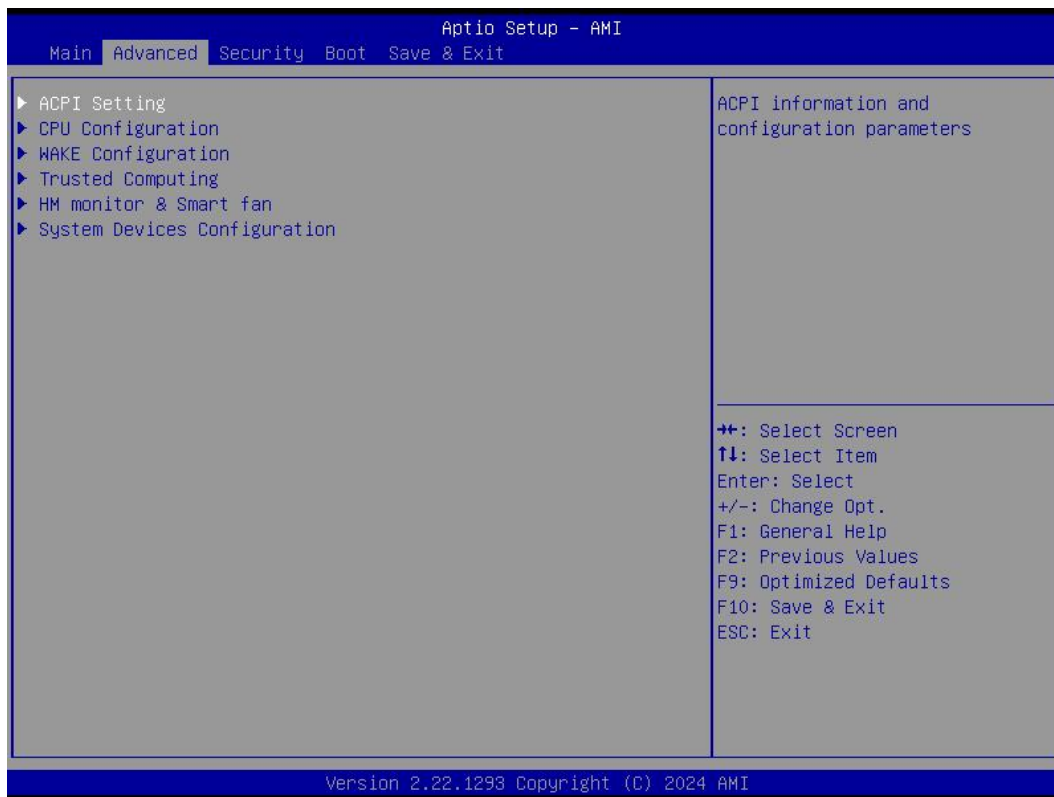
1) System time (hh:mm:ss)

Use this item to set the time for the computer, with the format as “HH / MM / SS”.

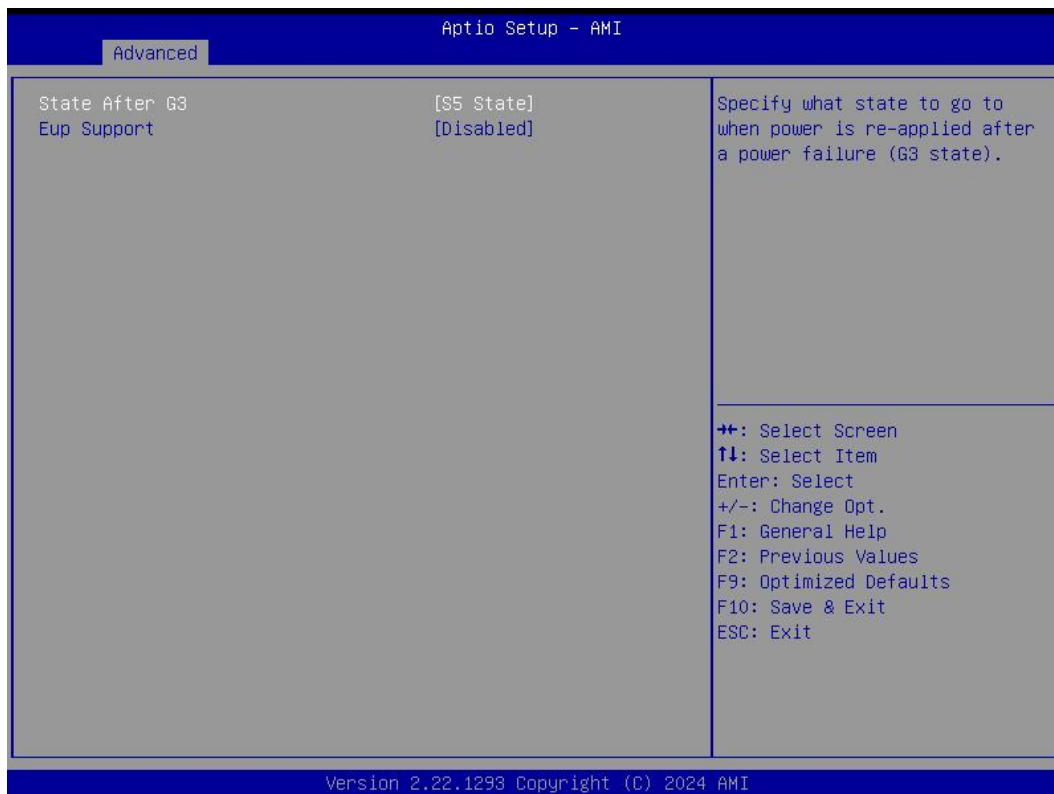
2) System date (mm:dd:yy)

Use this item to set the date for the computer, with the format as “week, MM / DD / YY”.

4.2 Advanced (Advanced BIOS setup)

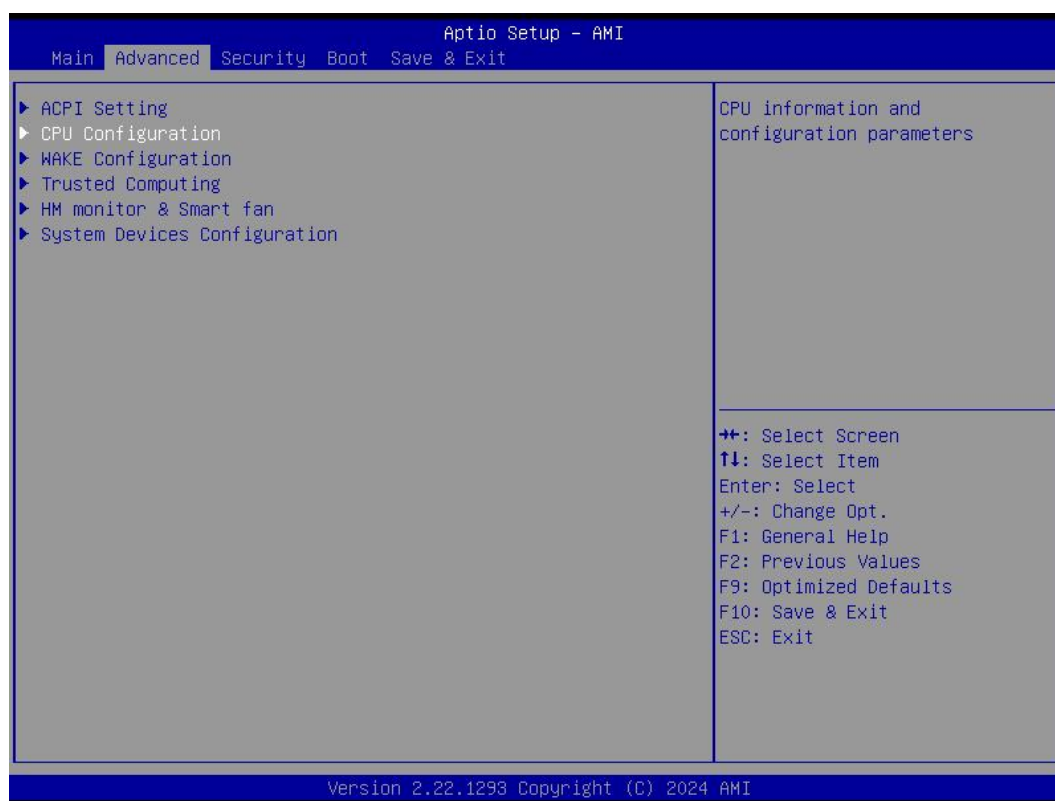


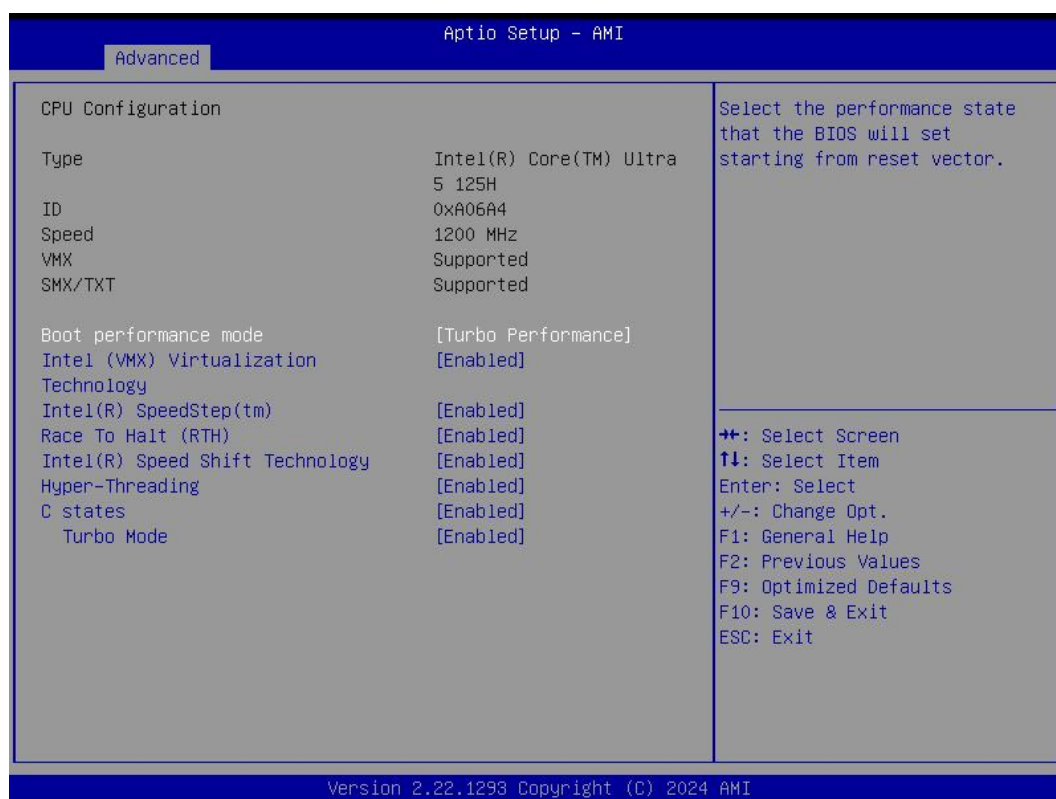
4.2.1 ACPI Setting



ACPI Options	Description
State After G3	● State After G3 means after restore power supply. ● S5 State (Default): If set it as S5 State, it means the system will remain shutdown state ● S0 State: If set it as S0 State, it means the system will be power on automatically.
Eup Support	After enabling EuP, the system will automatically disable Sleep Mode, Auto Power Resume, Wake-on-LAN and Power Scheduling in order to comply with Eup 2.0. So it is the most power saving state ● Disabled: The EUP function is disable by default. ● Enabled.
EUP function	The EUP function is disable by default.

4.2.2 CPU Configuration

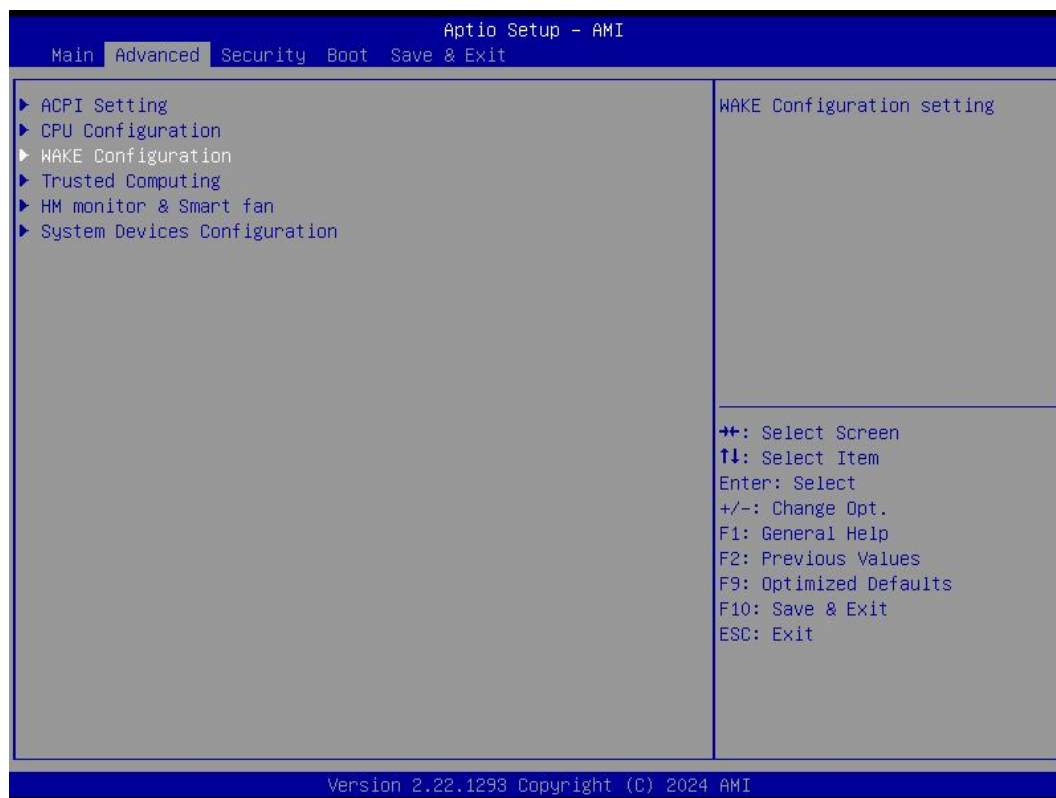




The menu	Description
CPU Configuration	
Boot performance mode	● Max Non-Turbo Performance: the best performance. ● Max Battery. ● Turbo performance.
Intel (VMX) Virtualization Technology	Intel Virtualization Technology is enabled by default. User can enable and disable the Intel Virtualization Technology function.
Intel (R) Speed Step (tm)	Intel (R) Speed Step Technology dynamically increases the processor's frequency as needed by taking advantage of thermal and power headroom to give you a burst of speed when you need it, or increased energy efficiency. The option is enabled by default. You can disable the function if it's necessary.
Race To Halt (RTH)	The Race To Halt (RTH) function is enable by default. It can adjust the CPU base frequency work in C-state. Optional: C-state.
Intel (R) Speed Shift Technology	Intel speed shift function is enabled by default. Intel® Speed Shift Technology uses hardware-controlled P-states to deliver dramatically quicker responsiveness with single-threaded, transient (short duration) workloads, such as web browsing, by allowing the processor to more quickly select its best operating frequency and voltage for optimal performance and power efficiency.
C states	The C-State function is disabled by default.

The menu	Description
Turbo Mode	● Disabled. ● Enabled.

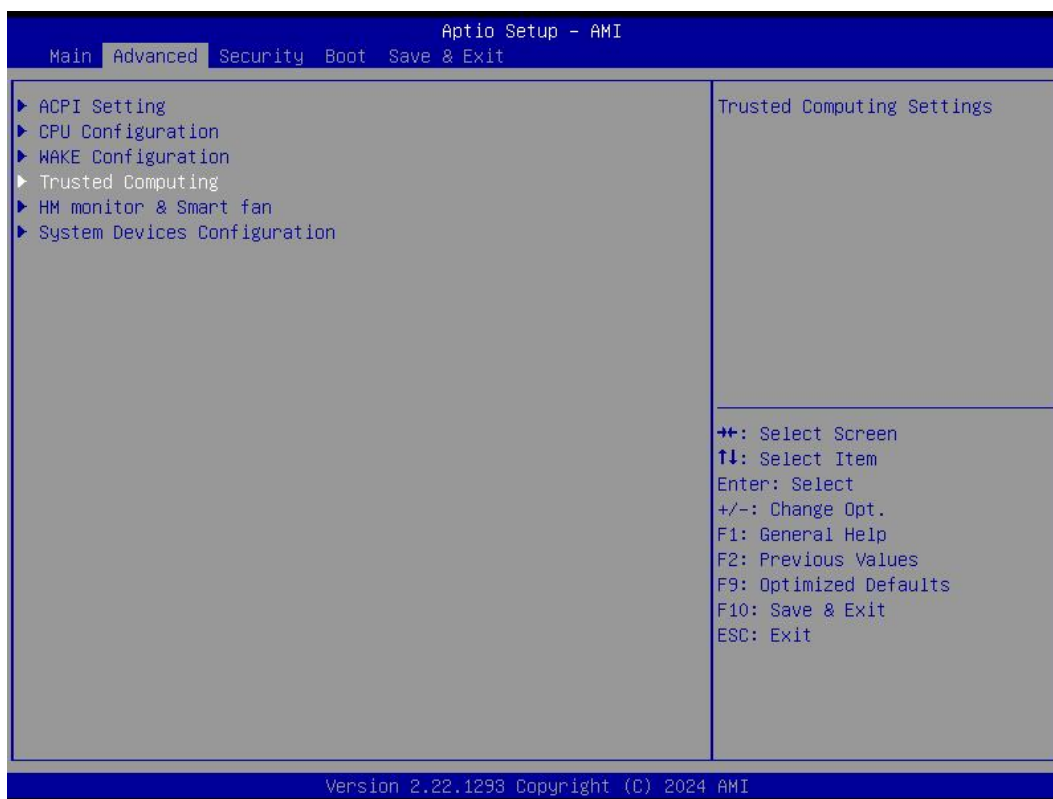
4.2.3 Wake Configuration





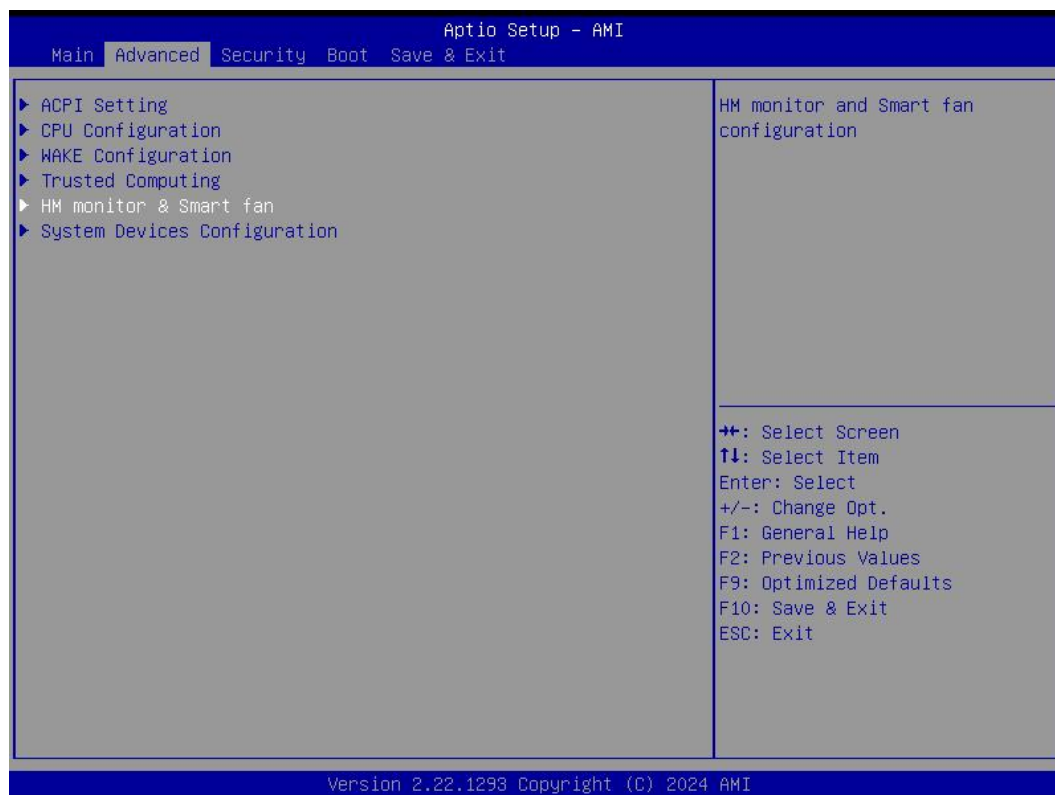
WAKE Configuration Options	Description
WAKE Configuration	
Wake Up On RLT LAN	Wake On LAN Function. ● Disabled: The WOL is disabled by default. ● Enabled.
USBC and USBA Wake Capability	● Enabled/Disabled Wake Up by USB KB/Mouse from S3 and S4 Status.
Wake system from S5	● Disabled: By default, the functions is disabled. ● Fixed Time: You can use the fixed Time menu to modify the wake time. ● Dynamic Time: You can set multithreaded to wake system from S5 after enabling Dynamic Time.

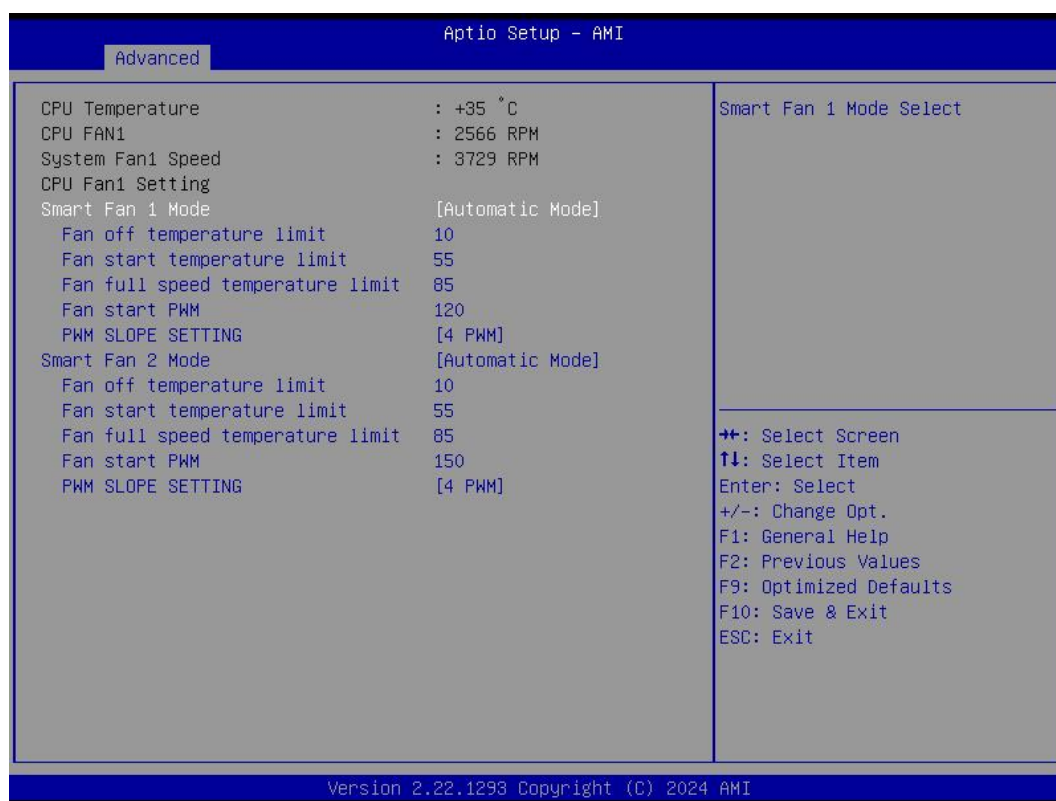
4.2.4 Trusted Computing



TPM20 Device Found	Description
Firmware Version	TPM FW version is 600.18
Vendor	The vendor is INTC
Security Device Support	- Disabled - Enabled. This item is enabled by default.
SHA256 PCR Bank	- Disabled. This item is Enabled by default - Enabled.
SHA384 PCR Bank	- Disabled This item is Disabled by default. - Enabled.
SM3_256 PCR Bank	- Disabled This item is Disabled by default. - Enabled.
Pending operation	It includes None and TPM Clear function.
Platform Hierarchy	Disable or Enable the Platform Hierarchy.
Storage Hierarchy	Disable or Enable the Storage Hierarchy.
Endorsement Hierarchy	Disable or Enable the Endorsement Hierarchy.
Physical Presence Spec Version	You can choose 1.2 or 1.3. The version is 1.3 by default.
TPM 20 Interface Type	TPM2.0 Interface Type is CRB by default.
Device Select	You can select TPM1.2 or TPM2.0 or Auto. Auto is set up by default.

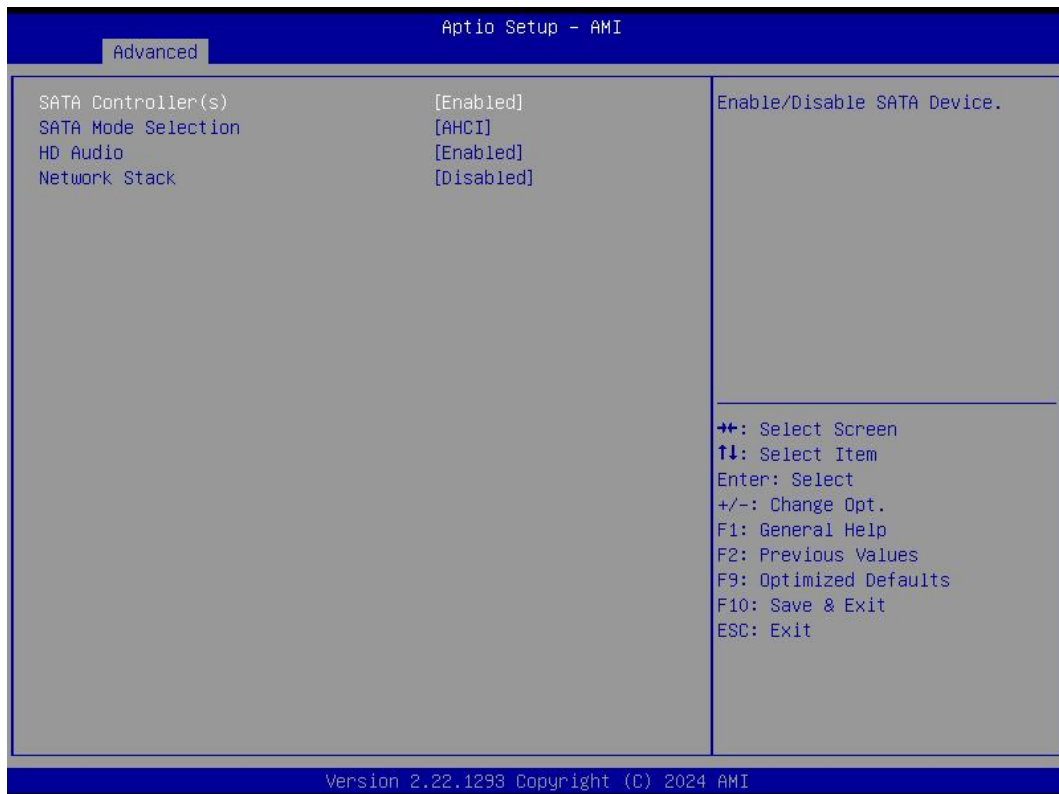
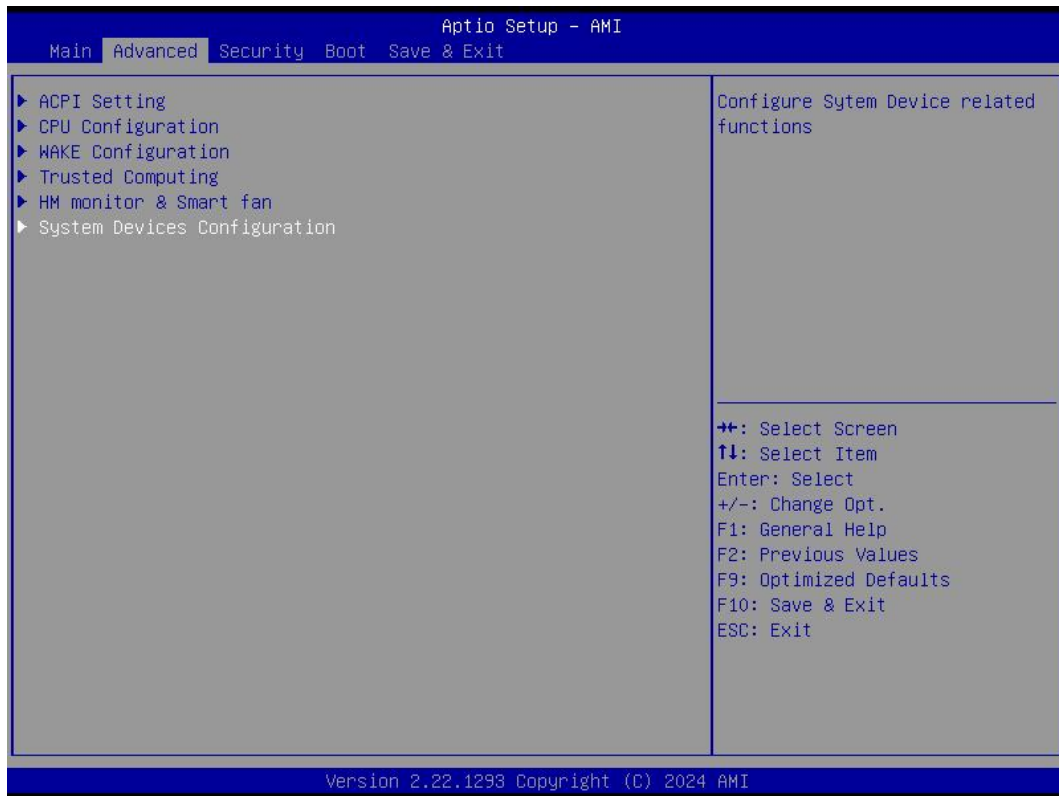
4.2.5 HW Monitor & Smart fan





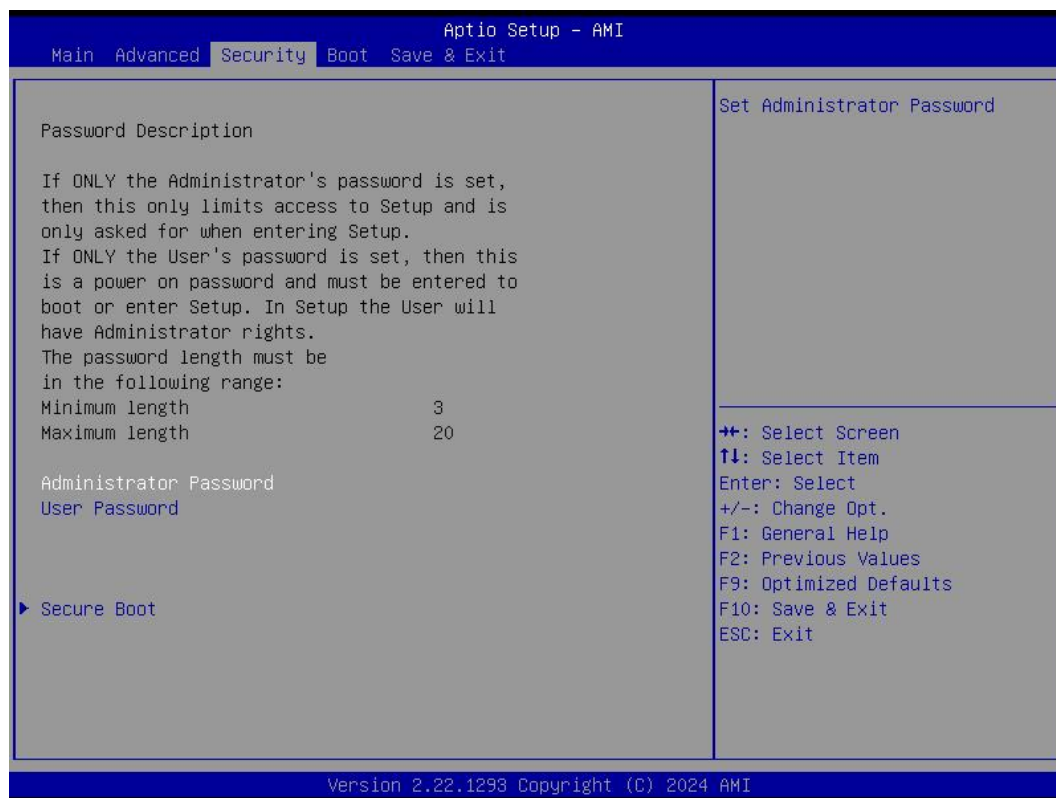
Pc Health Menu	Description
Pc Health Status	
Smart Fan Mode	It includes "Automatic mode" and "software mode". - Automatic mode. Automatic mode is enabled by default. - Software mode.
Fan off temperature limit	FAN will stop work If temperature is lower than the Fan off temperature limit value.
Fan start temperature limit	If the temperature is higher than fan off temperature limit, FAN will start work.
Fan Full Speed Temp limit	If the temperature is higher than the FAN Full Speed temp limit value, the FAN will work at full speed.
Fan start PWM	If the temperature is higher than the FAN start PWM value, the FAN will start work.
PWM slope setting	0.125 PWM 0.25 PWM 0.5 PWM 1 PWM 2 PWM 4 PWM 8 PWM 15.875 PWM

4.2.6 System Devices Configuration



Menu	Description
SATA Controller(s)	The SATA controller is enabled by default. ● Enabled ● Disabled.
SATA Mode Selection	● Determines how SATA controller(s) operate.
HD Audio	● Control Detection of the HD-Audio device. ● HAD will be unconditionally disabled when disabled. ● HAD will be unconditionally Enabled when Enabled.
Network Stack	The Network Stack is disabled by default. ● Enabled ● Disabled.

4.3 Security Setup (set the administrator/user password)



If this function is selected, the following information will appear:

Enter New Password hhhhhh

Then enter a password which is no more than eight characters and press <Enter>. BIOS will require

to enter the password again.

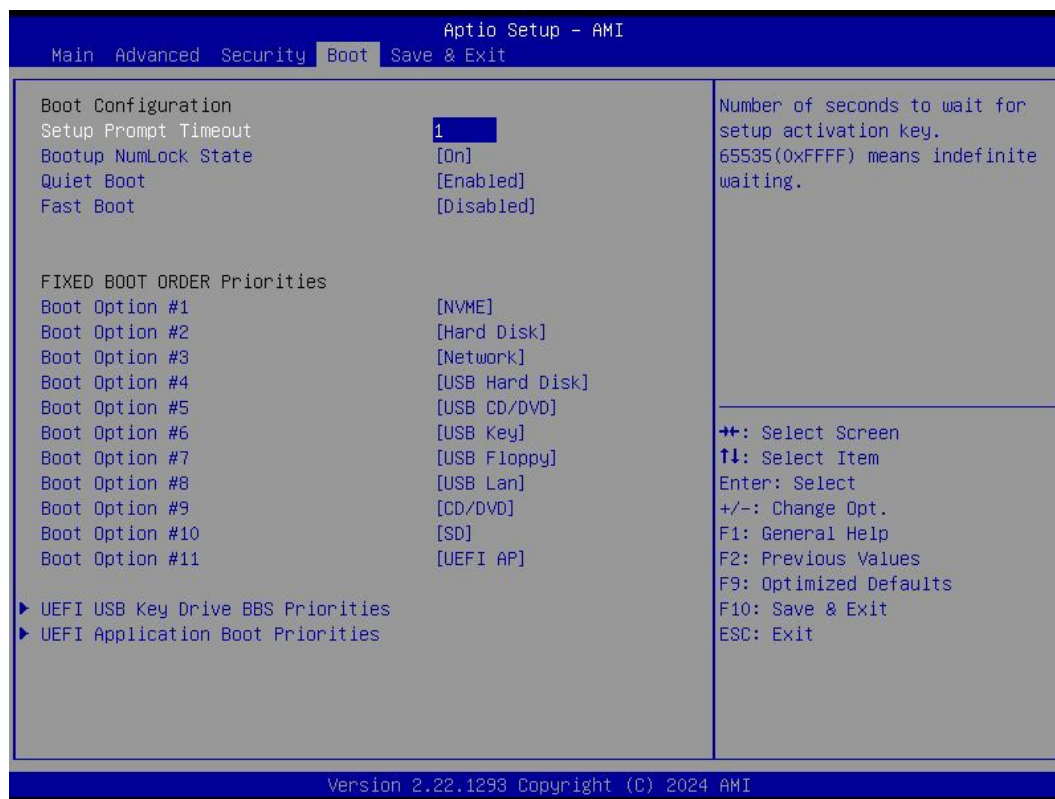
Once you enter it again, BIOS will save the set password. Once the password item is enabled, you will be required to enter the password every time before the system entering to the setup program of BIOS. The user can set this item through the Security Option in advanced BIOS properties. If the Security Option is set as System, the password will be required to be entered before both the system guides and entering to the setup program of BIOS. If it is set as Setup, the password will be required to be entered only before the system entering to the setup program of BIOS.

To delete the password, press <Enter> in the popped-up window that requires to enter the password. Then information for confirmation will appear on the screen to allow you decide whether the password will be disabled. Once the password is disabled, you can enter the setup program directly without password when the system is restarted.

Boot Sector Virus Protection. This item is used for setting the alarm function in case of virus attack in IDE disk sector. If this item is set as Enable and some program writes information in the sector, BIOS will display alarm information on the screen and buzz.

Security Item	Description
System Mode Configuration	
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 includes Standard and Custom mode. In Custom mode,Secure Boot Policy variables can be configured by a physically present user without full authentication.

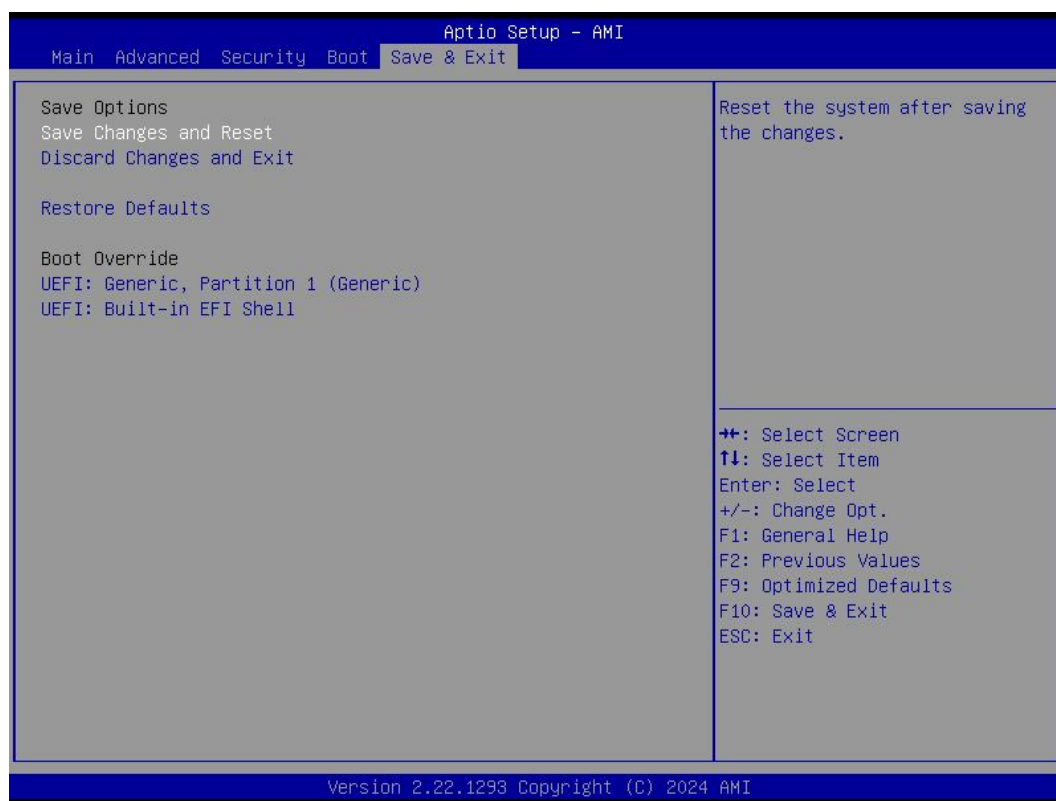
4.4. Boot Menu



Boot Item	Description
Boot Configuration	
Setup Prompt Timeout	This item is used to set the waiting time of entering the operation system. During the BIOS post, if user doesn't press the keyboard, it won't respond unless you reboot the BIOS. The Setup Prompt Timeout is 3s by default. You can set the time as you want.
Boot up Num Lock State	Options are OFF and ON. In other words, this item can be used to set the state of Num Lock after entering the system. It can be set according to user's needs and doesn't affect the performance of the computer.
Quiet Boot	If this item is set as Enabled, the system can be started within five seconds and some detection items will be ignored. The options are [Disabled] and [Enabled].
FIXED BOOT ORDER Priorities	
Boot Option #1	The first boot device. If BIOS doesn't detect the first boot device, it will check the second boot device.
Boot Option #2	The second boot device.
Boot Option #3	The third boot device.
Boot Option #4	The fourth boot device.
Boot Option #5	The fifth boot device.
Boot Option #6	The sixth boot device.

Boot Item	Description
Boot Option #7	The seventh boot device.
UEFI USB Drive BBS Priorities	You can set and management UEFI USB device after enabling this option.
UEFI Application Boot Priorities	You can set and management UEFI hard disk after enabling this option.

4.5 Save&Exit



Save Exit Item	Description
Save Options	
Save Changes and Reset	Save all changes and exit
Discard Changes and Reset	Give up the settings and exit.
Restore Defaults	Recover it to default.
Boot Override	Whole Boot devices



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