ASB100-PI800

Palm-Sized & Fanless Box PC with IBASE PI800 PICO ITX board

User Manual

Version 1.0
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Disclaimer

IBASE reserves the right to make changes and improvements to the products described in this document without prior notice. Every effort has been made to ensure the information in the document is correct; however, IBASE does not guarantee this document is error-free. IBASE assumes no liability for incidental or consequential damages resulting from misapplication or inability to use the product or the information contained herein, nor for any infringements of rights of third parties, which may result from its use.

Trademarks

All the trademarks, registrations, and brands mentioned herein are used for identification purposes only and may be trademarks and/or registered trademarks of their respective owners.

Compliance

CE

This product has passed CE tests for environmental specifications and limits. This product is in accordance with the directives of the European Union (EU). If users modify and/or install other devices in this equipment, the CE conformity declaration may no longer apply.

FC

This product has been tested and found to comply with the limits for a Class B device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications.

WEEE

This product must not be disposed of as normal household waste, in accordance with the EU directive for Waste Electrical and Electronic Equipment (WEEE – 2012/19/EU). Instead, it should be disposed of by returning it to a municipal recycling collection point. Check local regulations for disposal of electronic products.

Green IBASE

This product is compliant with the current RoHS 2 restrictions and prohibits use of the following substances in concentrations exceeding 0.1% by weight (1000 ppm) except for cadmium, limited to 0.01% by weight (100 ppm).

- Hexavalent chromium: 1,000 ppm
- Polybrominated biphenyls (PBBs): 1,000 ppm
- Polybrominated diphenyl ethers (PBDEs): 1,000 ppm
- Cadmium: 100 ppm
- Mercury: 1,000 ppm
- Lead: 1,000 ppm
- Bis(2-ethylhexyl) phthalate (DEHP): 1,000 ppm
- Butyl benzyl phthalate (BBP): 1,000 ppm
- Dibutyl phthalate (DBP): 1,000 ppm
- Diisobutyl phthalate (DIBP): 1,000 ppm

Important Safety Information

Carefully read the precautions before using the device.

Environmental conditions:

- Place the device horizontally on a stable and solid surface in case the device may fall, causing serious damage.
- Leave plenty of space around the device and do not block the openings for ventilation. Never drop or insert any objects of any kind into the ventilation openings.
- Slots and openings on the chassis are for ventilation. Do not block or cover these openings. Never insert objects of any kind into the ventilation openings.

Care for your IBASE products:

- Before cleaning the device, turn it off and unplug all cables, including the power cord, to prevent electrical current from flowing.
- Use neutral cleaning agents or diluted alcohol to clean the device chassis with a cloth. Then wipe the chassis with a dry cloth.
- Vacuum the dust with a computer vacuum cleaner to prevent the air vent or slots from being clogged.

WARNING

Attention during use:

- Do not use this product near water.
- Do not spill water or any other liquids on your device.
- Do not place heavy objects on the top of the device.
- Operate this device from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your distributor or local power company.
- Do not walk on the power cord or allow anything to rest on it.
- If you use an extension cord, make sure that the total ampere rating of the product plugged into the extension cord does not exceed its limits.

Avoid Disassembly

Users are not advised to disassemble, repair or make any modification to the device. Disassembly, modification, or any attempt at repair could generate hazards and cause damage to the device, even bodily injury or property damage, and will void any warranty.

CAUTION

Danger of explosion if the internal lithium-ion battery is replaced with an incorrect type. Replace only with the same or an equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Warranty Policy

- **IBASE standard products:**

  24-month (2-year) warranty from the date of shipment. If the date of shipment cannot be ascertained, the product serial numbers can be used to determine the approximate shipping date.

- **3rd-party parts:**

  12-month (1-year) warranty from delivery for the 3rd-party parts that are not manufactured by IBASE, such as CPU, memory, SSD/HDD, power adapter, panel and touchscreen.

* *Products that fail due to misuse, accident, improper installation or unauthorized repair shall be treated as out of warranty and customers shall be billed for repair and shipping charges.*

Technical Support & Services

1. Visit the IBASE website at www.ibase.com.tw to find the latest information about the product.
2. If you need any further assistance from your distributor or sales representative, prepare the following information of your product and elaborate upon the problem.
   - Product model name
   - Product serial number
   - Detailed description of the problem
   - The error messages in text or in screenshots if there is any
   - The arrangement of the peripherals
   - Software in use (such as OS and application software, including the version numbers)
3. If repair service is required, you can download the RMA form at the website of IBASE. Fill out the form and contact your distributor or sales representative.

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Chapter 1
General Information

The information provided in this chapter includes:

- Features
- Packing List
- Specifications
- Product View
- Dimensions

1.1 Introduction

The ASB100-PI800 is a compact, fanless embedded system based on the IBASE PI800F-7433RE PICO-ITX motherboard, powered by the Intel® Atom® x7433RE processor with Intel® UHD Graphics. It supports one DDR5-4800 SO-DIMM slot (up to 16GB) and provides M.2-2242 (M-Key) and M.2-2230 (E-Key) expansion for storage and wireless connectivity. The system offers USB 3.2, dual 2.5GbE LAN, HDMI and DisplayPort outputs, and two COM ports, along with power and reset buttons and LED indicators. Designed with a fanless thermal solution, wall-mount support, and 12V DC input, the ASB100-PI800 is suitable for reliable operation in industrial environments.

1.2 Features

- Fanless system with IBASE PI800 PICO ITX board
- Onboard Intel® Atom™ x7433RE SoC (TDP 9W)
- Supports 2x M.2 sockets (2230 E-key and 2242 M-key)
- 1x DDR5 SO-DIMM, up to 16GB
- 4x USB 3.2, 2x 2.5 GbE, 2x COM (RS232/422/485)
- Supports HDMI, DisplayPort
- 12V DC-in power input
- Supports Wall mount, TPM (2.0)

1.3 Packing List

Your product package should include the items listed below.

- ASB100-PI800M Fanless box PC with PI800-7433RE, Onboard Intel® Atom® x7433RE CPU, 2x COM & 4 x USB 3.2, w/o memory/ SSD

1.4 Optional Accessory

- 50W (12V@4.17A) power adaptor

The user's manual can be downloaded from the IBASE website.

1.5 Specifications

Product Name	**ASB100-PI800 [with PI800]**
Motherboard	IBASE PICO-ITX PI800F-7433RE
CPU Type	Intel® Atom® x7433RE Processor
Graphics	Intel® UHD Graphics
Memory	Intel® Atom ™ x7000RE series integrated memory controller 1 x DDR**5 4800** (1.1V), up to 16GB
Storage	1 x M.2-2242 (M-Key)
Front Panel I/O	- 2 x USB 3.2 ports - 1 x DisplayPort + 1x HDMI - 2 x 2.5G LAN+ USB 3.2
Rear Panel I/O	- 2 x Antenna holes - 2 x COM ports - 1 x DC-jack - 1 x SSD LED for green color, 1 x PWR LED for red color - 1 x RST Button, 1 x ON/OFF Button
Power Adaptor	Optional: 12V/50W w/ lock
Expansion Slots	M.2 2230 (E-key) / M.2 2242 (M-key)
Mounting	Wall mount
Dimensions	133mm x 102.2mm x 51.5mm [W x D x H]
Thermal solution	Fanless
Certification	CE / FCC Class B / LVD
Regulation	RoHS 2.0
Environment	
Operating Temperature	-20°C~+50°C (-4°F~122°F) [with airflow, CPU @85% performance]
Storage Temperature	-20°C~80°C (-4°F~176°F)
Relative Humidity	5%~90%@45°C (non-condensing)
Vibration	Operating: 1 Grms / 3~500Hz
Shock	Operating: 20G / 11ms Non-operating: 40G / 11ms

All specifications are subject to change without prior notice.

1.6 Product View

Front and Rear View

Front Panel External I/O	• 4x USB 3.2 • 1x HDMI • 1x DisplayPort • 2x 2.5 GbE

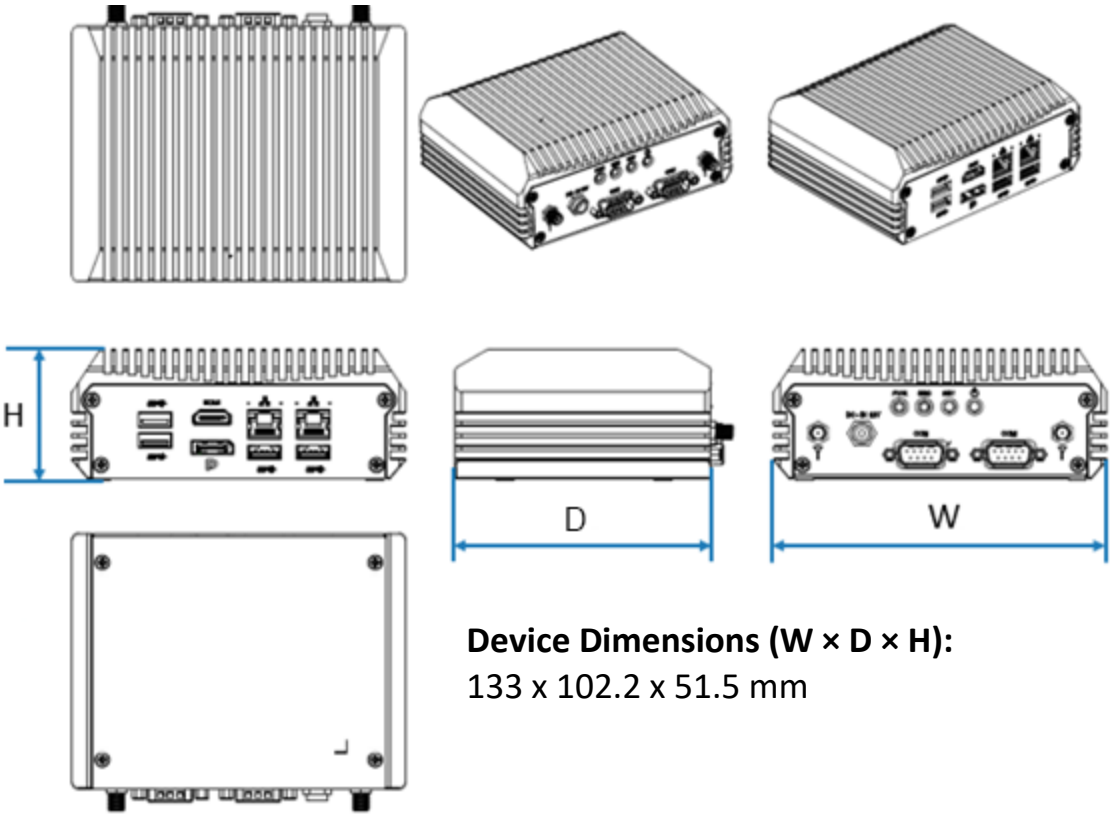
Rear Panel External I/O	• 1x DC-jack • 2x Antenna holes • 2x COM ports (RS232/422/485) • 1x Storage LED (green) • 1x Power LED (red) • 1x Reset Button • 1x ON/OFF Button

Oblique View

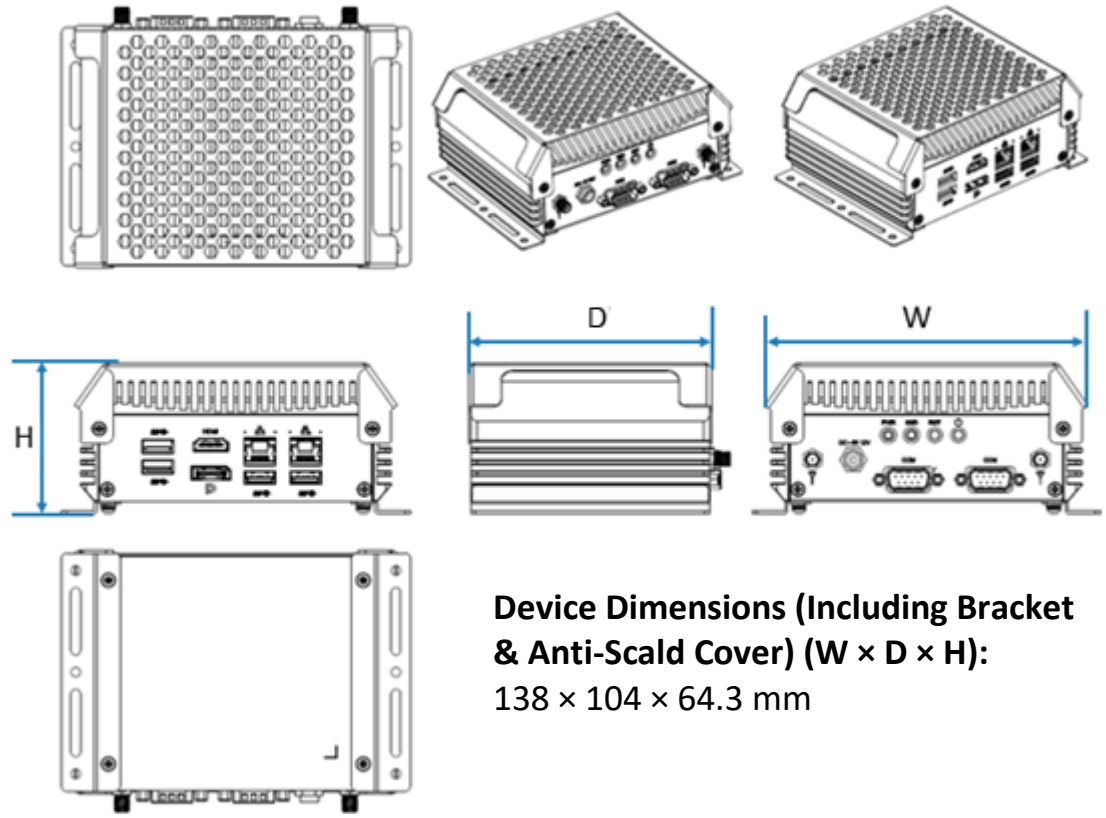
Original System

System installed with Anti-Scald cover

1.7 Dimensions



Device Dimensions (W × D × H):
133 x 102.2 x 51.5 mm



Device Dimensions (Including Bracket & Anti-Scald Cover) (W × D × H):
138 × 104 × 64.3 mm

Chapter 2
Hardware Configuration

The information provided in this chapter includes disassembly procedure and antenna installation.

2.1 Installation

The ASB100-PI800 Fanless System is designed with a modular mechanical structure that allows users to access internal components—such as memory modules, M.2 storage and wireless expansion cards, and onboard headers—after removing the external chassis plates. This chapter provides a detailed step-by-step disassembly and reassembly procedure to safely expose the IBASE PI800F PICO-ITX motherboard and its associated sockets.

The following instructions must be performed only by qualified personnel. **Always disconnect the system from its power source** before carrying out any installation or service work.

After completing the disassembly steps outlined in this chapter, users will be able to access internal sockets and headers on the PI800F motherboard, including:

• DDR5 SO-DIMM slot (for system memory)

• M.2 slots — M-Key 2242 (SATA/PCIe) and E-Key 2230 (PCIe/USB for WiFi/BT)

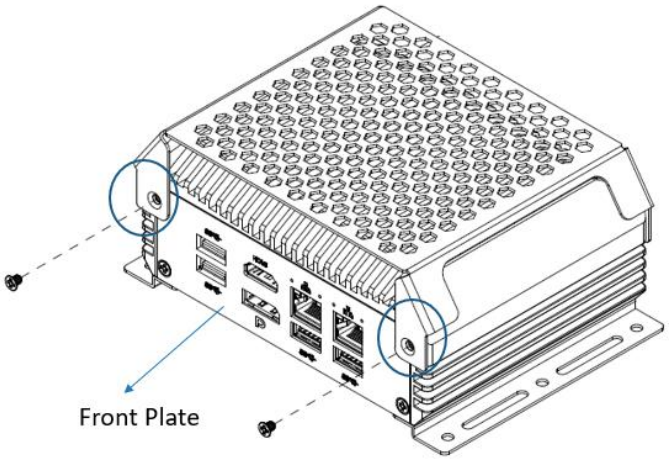
2.1.1 System Disassembly Procedure

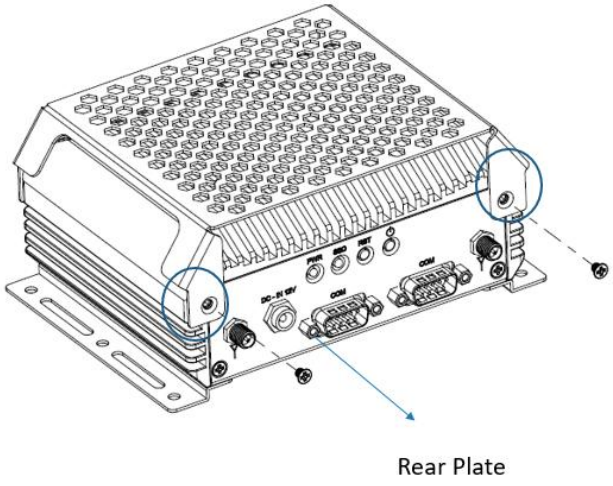
Follow the sequence below to safely remove each chassis component and gain access to the mainboard.

Disassembly sequence — remove screws in this order (ASB100-PI800)

Step 1 — Remove the Anti-Scald cover

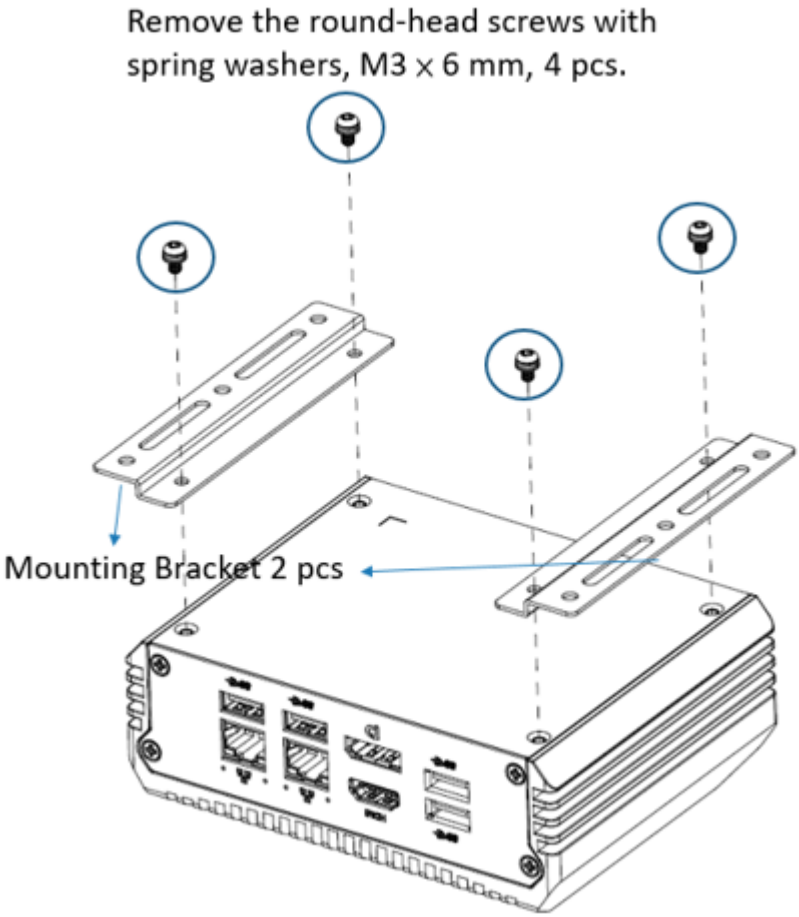
- Remove **4 pcs**: **Black countersunk screws M3×4mm, 110°** (these clamp the *Front Plate & Rear Plate* upper side).
- Lift off the Anti-Scald cover.





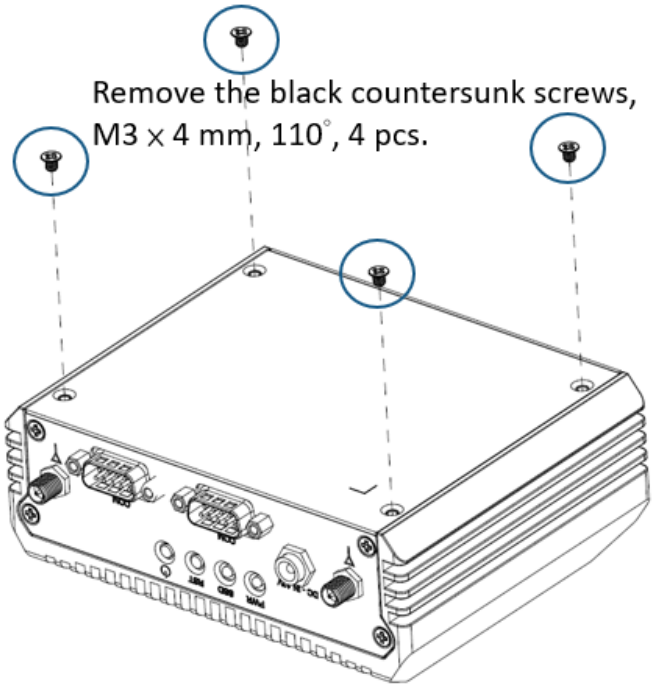
Step 2 — Remove the Mounting Brackets (2 side brackets)

- Remove **4 pcs total**: **Round-head screws w/ spring washer M3×6mm,** (2 screws per bracket, 2 brackets).
- Remove both mounting brackets.

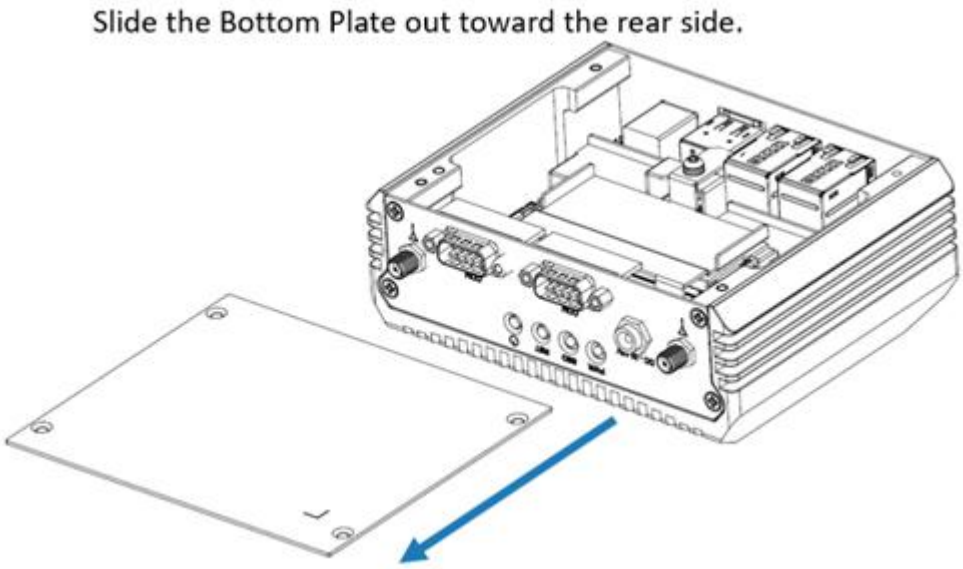


Step 3 — Remove the Bottom Plate

- Remove **4 pcs**: **Black countersunk screws M3×4mm, 110°**.

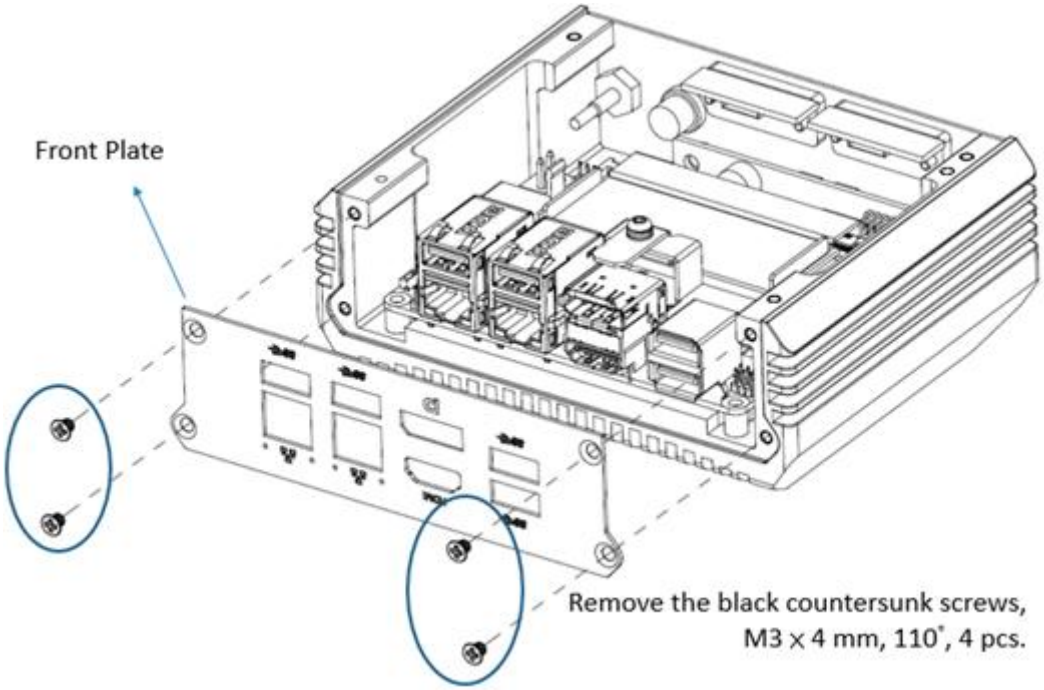


- **Slide/pull the Bottom Plate out toward the rear side** (as indicated).



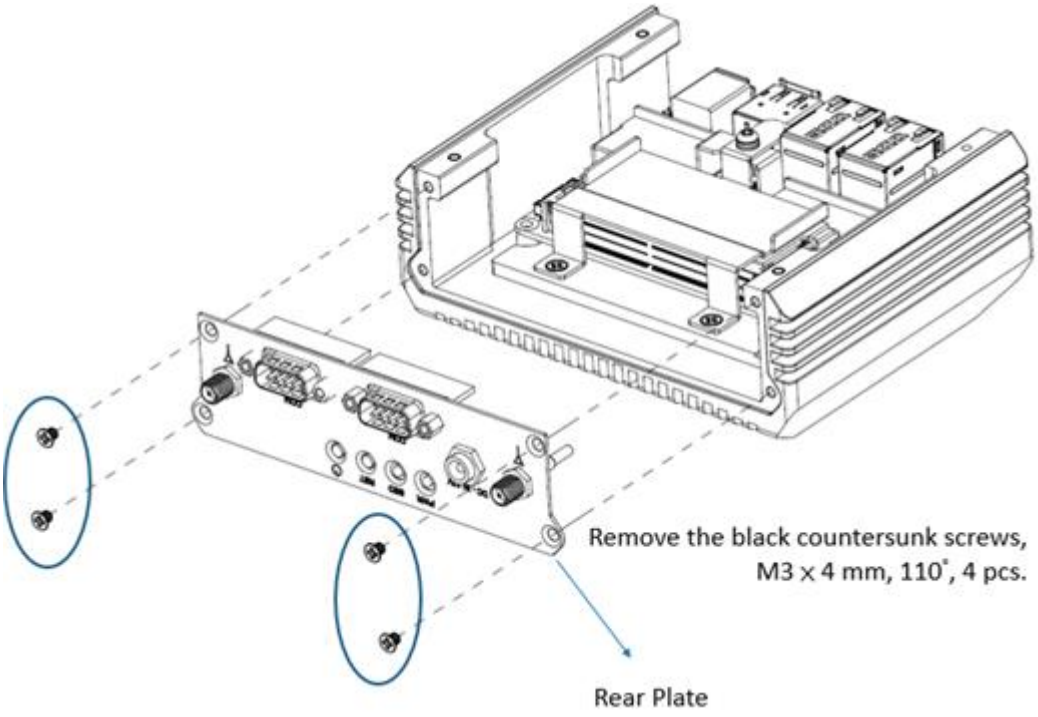
Step 4 — Remove the Front Plate

- Remove **4 pcs**: **Black countersunk screws M3×4mm, 110°**.
- Remove the Front Plate.



Step 5 — Remove the Rear Plate

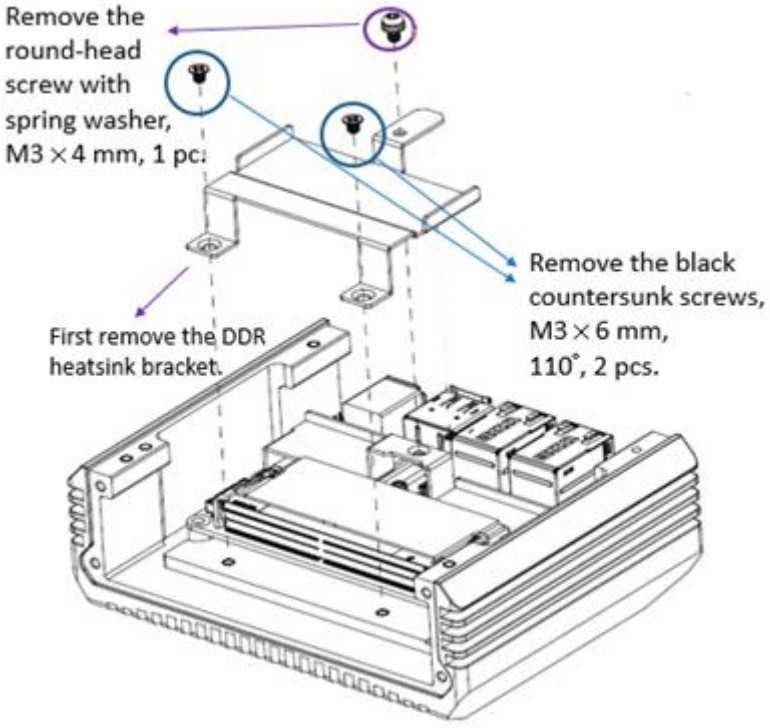
- Remove **4 pcs**: **Black countersunk screws M3×4mm, 110°**.
- Remove the Rear Plate.

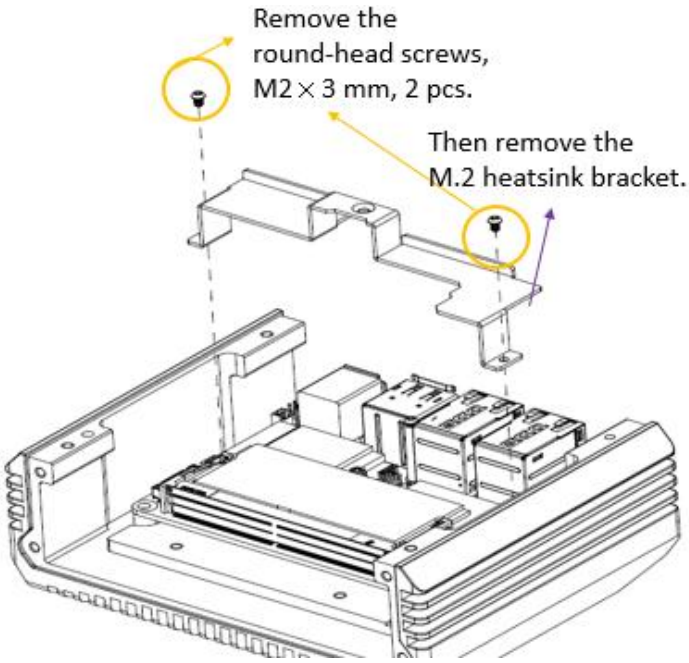


Step 6 — Remove heatsink bracket(s) to access board area (DDR first, then M.2)

3.1 Per ASB procedure:

- Remove **2 pcs**: **Black countersunk screws M3×6mm, 110°**
- Remove **1 pc**: **Round-head screw w/ spring washer M3×4mm**
- Remove **2 pcs**: **Round-head screws M2×3mm**
- **Order:** "First remove DDR heatsink bracket, then remove M.2 heatsink bracket."

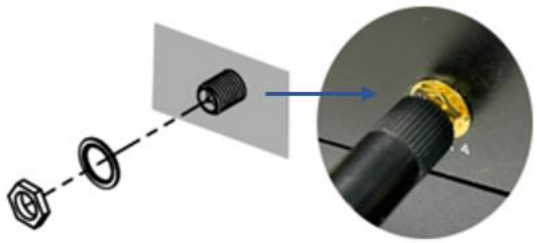




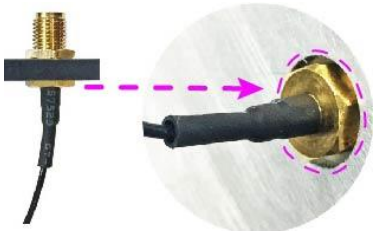
2.1.2 Antenna Installation

Thread the antenna extension cable through the antenna connectors in the system. Fasten the antenna as shown below and apply adhesive to the edge of the hex nut to prevent the extension cable from falling off.

1. Thread and fasten the hex nut and the washer. Then install the antenna.



2. Apply adhesive around here.



Info: The diameter of the nut is around 6.35 mm (0.25”-36UNC).

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Chapter 3
Drivers Installation

This chapter introduces installation of the following drivers:

- Intel® Chipset Software Installation Utility
- VGA Driver Installation
- Intel® Management Engine Drivers Installation
- Intel(R) Serial IO Drivers Installation
- LAN Driver Installation

3.1 Introduction

This section describes the installation procedures for software and drivers.

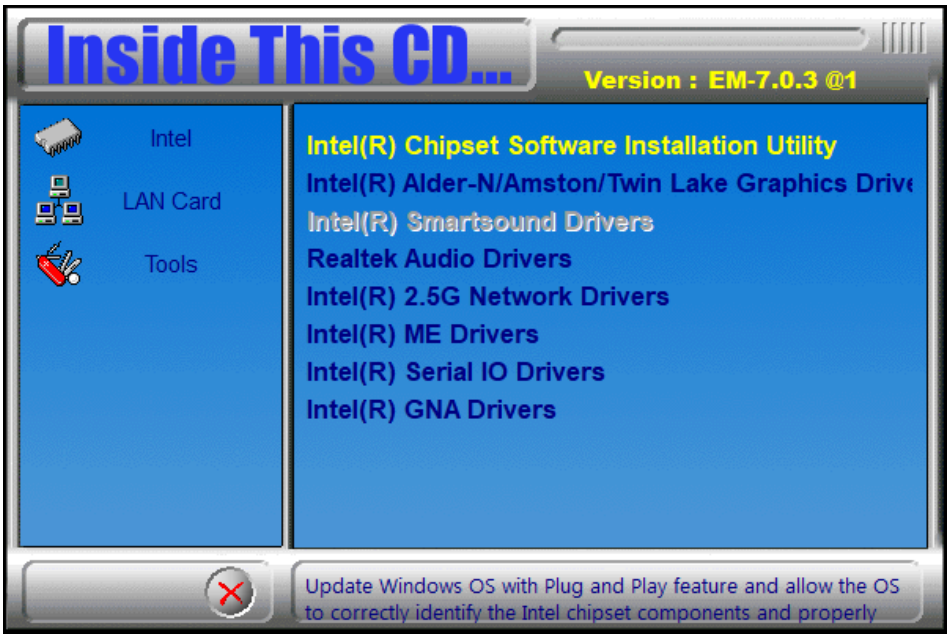
Note: After installing your Windows operating system, you must install the Intel® Chipset Software Installation Utility first before proceeding with the drivers installation.

3.2 Intel® Chipset Software Installation Utility

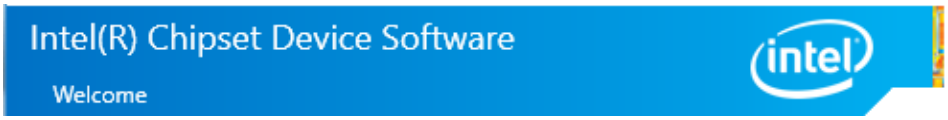
The Intel® Chipset drivers should be installed first before the software drivers to install INF files for Plug & Play function for Intel chipset components. Follow the instructions below to complete the installation.

1. Go to the download page of the product. Copy the compressed drivers file to your computer. Double click the file to decompress it. Run “CDGuide” to go to the main drivers page as shown below. Run the drivers disk. Click **Intel** on the left pane and then **Intel(R) Alder-N/Amston/Twin Lake Chipset Drivers** on the right pane.

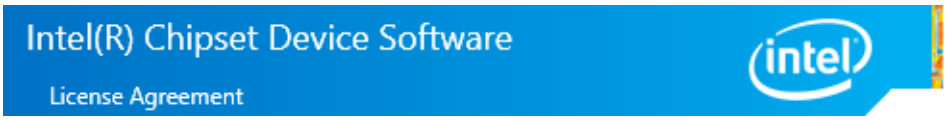
2. Click **Intel(R) Chipset Software Installation Utility**.



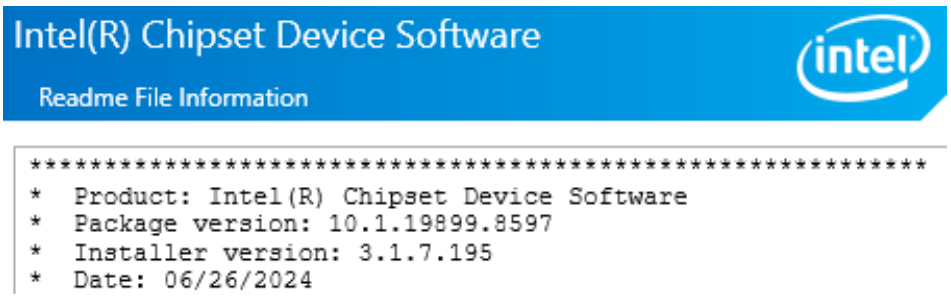
3. When the *Welcome* screen to the Intel® Chipset Device Software appears, click **Next** to continue.



4. Accept the software license agreement and proceed with the installation process.



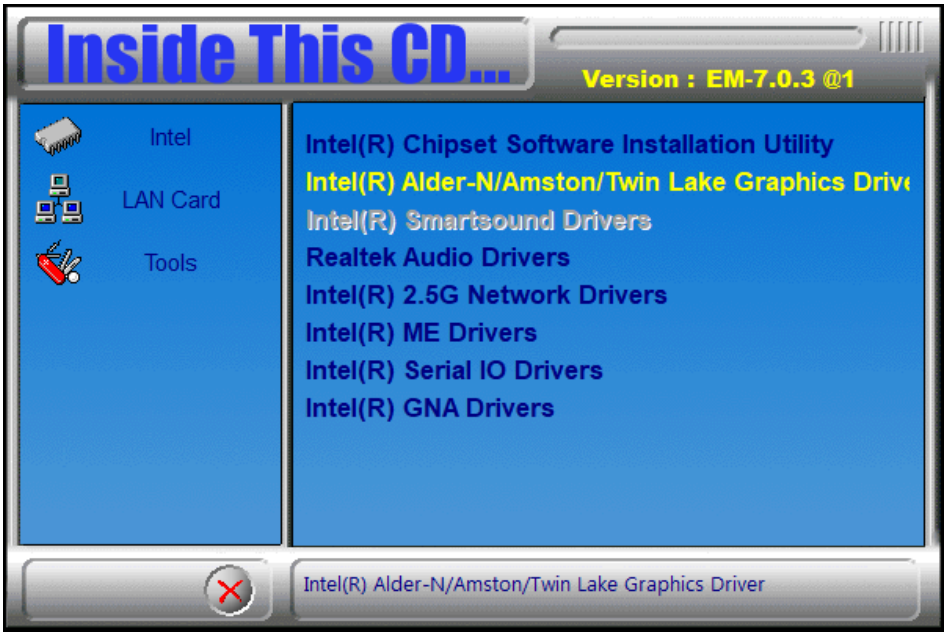
5. On the *Readme File Information* screen, click **Install**.



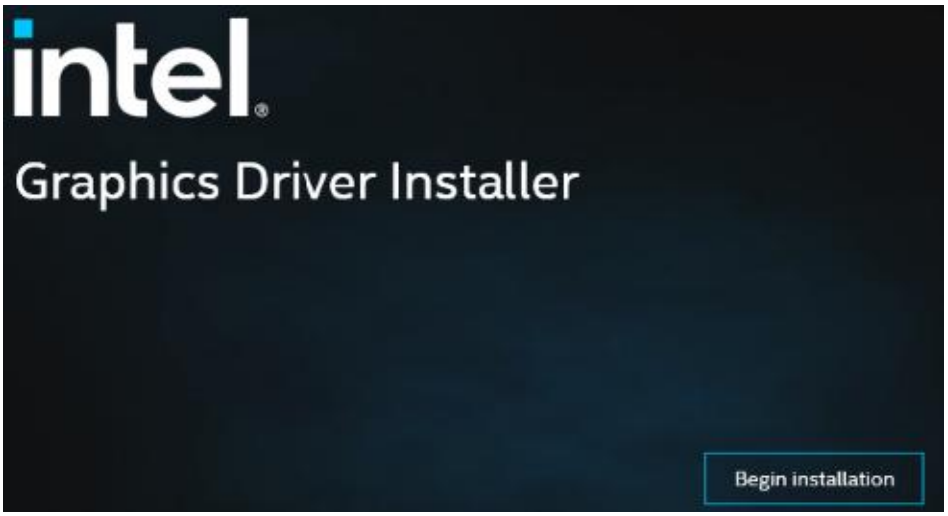
6. Click **Finish** to complete the setup process.

3.3 VGA Driver Installation

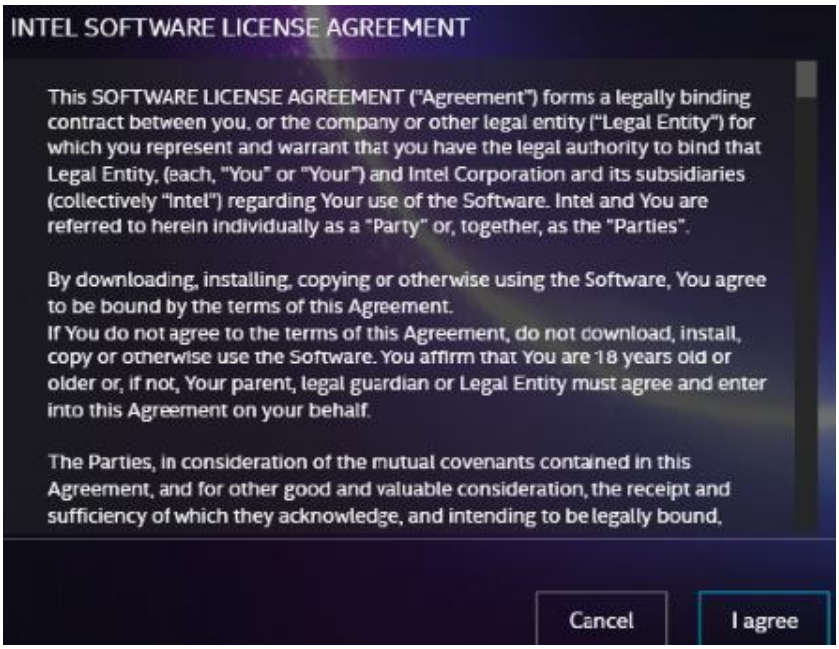
1. Click **Intel** on the left pane and then **Intel(R) Alder-N/Amston/Twin Lake Chipset Drivers** on the right pane.
2. Click **Intel(R) Alder-N/Amston/Twin Graphics Driver**.



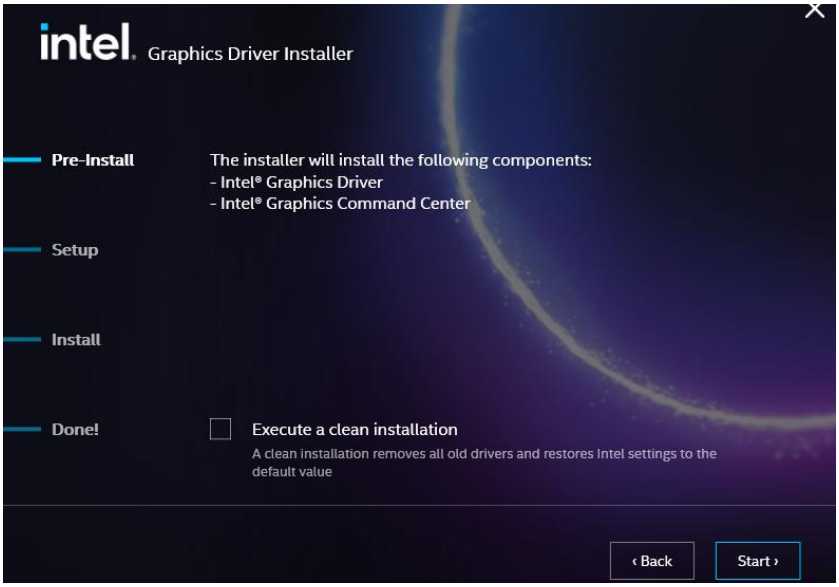
3. Click **Begin installation**.



4. Click **I agree** to accept the license agreement.

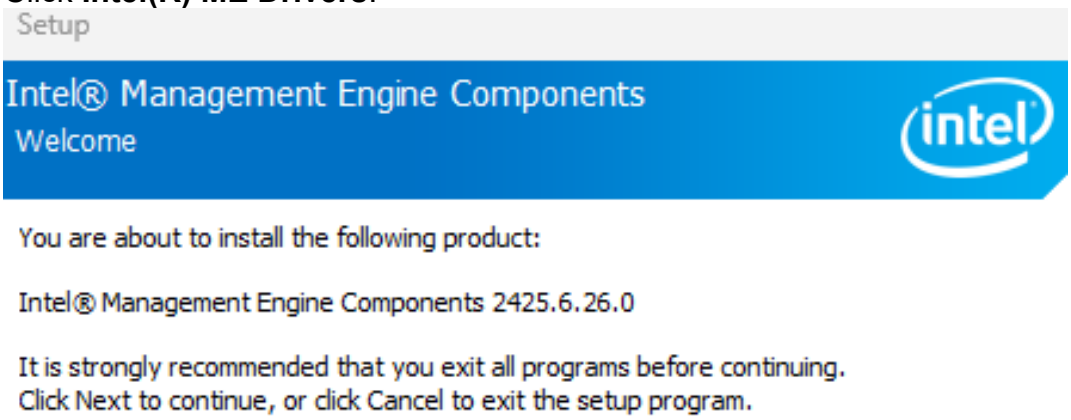


5. On the next screen, click **Start and** then click **Finish** when installation has been completed.

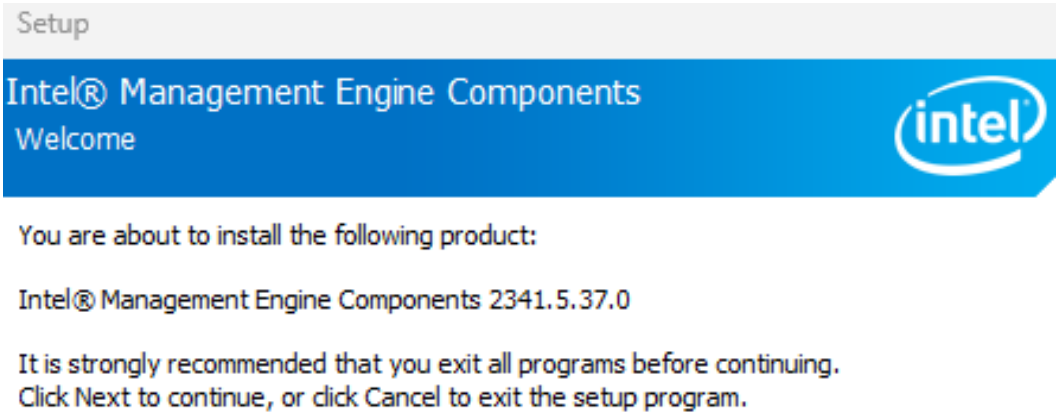


3.4 Intel® Management Engine Drivers Installation

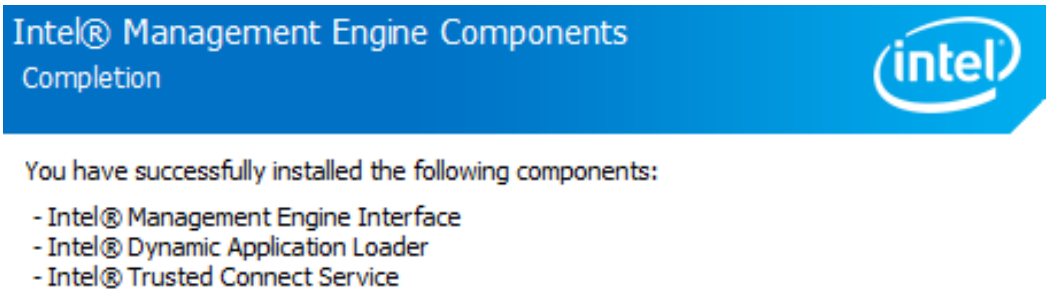
1. Click **Intel** on the left pane and then **Intel(R) Alder-N/Amston/Twin Lake Chipset Drivers** on the right pane.
2. Click **Intel(R) ME Drivers**.



3. When the *Welcome* screen appears, click **Next**.



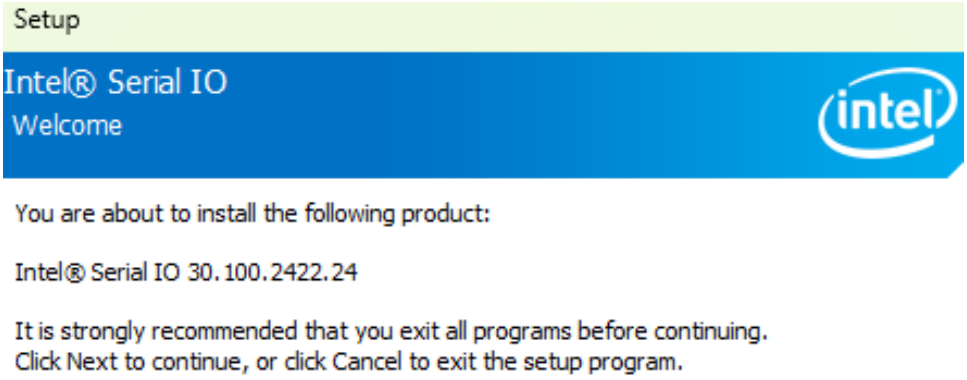
4. Accept the license agreement and click **Next**.
5. Cick **Next** to install to the default folder, or click Change to choose another destination folder
6. After Intel Management Engine Components have been successfully installed, click **Finish**.



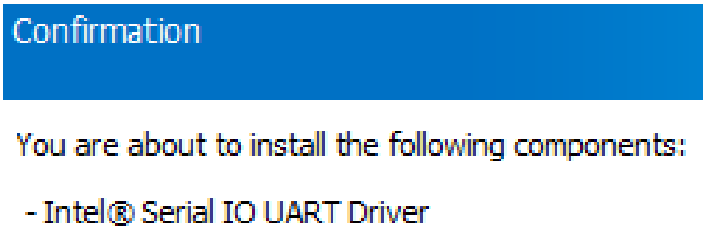
3.5 Intel(R) Serial IO Drivers Installation

1. Click **Intel** on the left pane and then **Intel(R) Alder-N/Amston/Twin Lake Chipset Drivers** on the right pane.
2. Click **Intel(R) Serial IO Drivers Installation**.

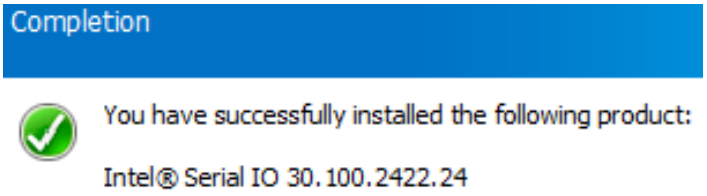
3. In the Welcome screen, click **Next**.



4. In the next screen, accept the license agreement and click **Next**.
5. In the Readme File Information screen, click **Next**.
6. In the Confirmation screen, click **Next**.



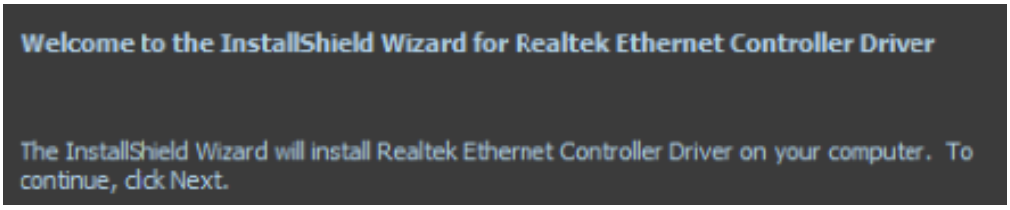
7. When installation has been completed, click **Finish**.



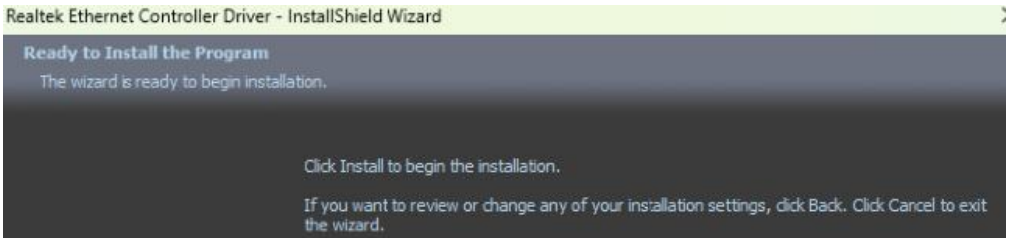
3.6 LAN Driver Installation

1. Click **LAN Card** on the left pane and then **Realtek LAN Controller Drivers**. Click **Realtek RTL8125BG 2.5G LAN Drivers** .

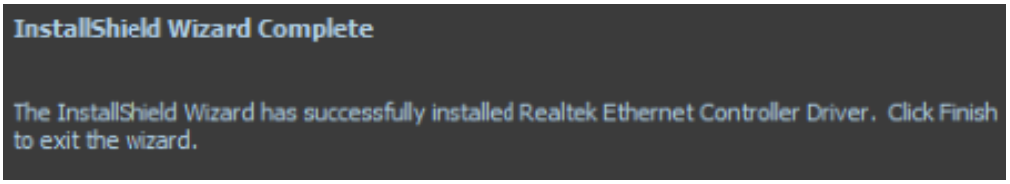
2. When the Welcome screen appears, click **Next**.



3. When the Ready to Install the Program screen appears, click **Install**.



4. When InstallShield Wizard has completed the installation. click **Finish**.



Chapter 4
BIOS Setup

4.1 Introduction

The BIOS (Basic Input/Output System) installed in the ROM of your computer system provides critical low-level support for standard devices such as disk drives, and serial ports. It also provides password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

4.2 BIOS Setup

The BIOS provides a Setup utility program for specifying the system configurations and settings. The BIOS ROM of the system stores the Setup utility. When you turn on the computer, the BIOS is immediately activated. Press the <Del> key immediately to enter the Setup utility. If you are a little bit late pressing the <Del> key, POST (Power On Self Test) will continue with its test routines, thus preventing you from invoking the Setup.

If you still need to enter Setup, restart the system by pressing the ”Reset” button or simultaneously pressing the <Ctrl>, <Alt> and <Delete> keys. You can also restart by turning the system Off and back On again.

The following message will appear on the screen:

```
Press <DEL> to Enter Setup
```

In general, press the arrow keys to highlight items, <Enter> to select, the <PgUp> and <PgDn> keys to change entries, <F1> for help, and <Esc> to quit.

When you enter the BIOS Setup utility, the *Main Menu* screen will appear on the screen. The Main Menu allows you to select from various setup functions and exit choices.

Warning: It is strongly recommended that you avoid making any changes to the chipset defaults.

These defaults have been carefully chosen by both AMI and your system manufacturer to provide the absolute maximum performance and reliability. Changing the defaults could make the system unstable and crash in some cases.

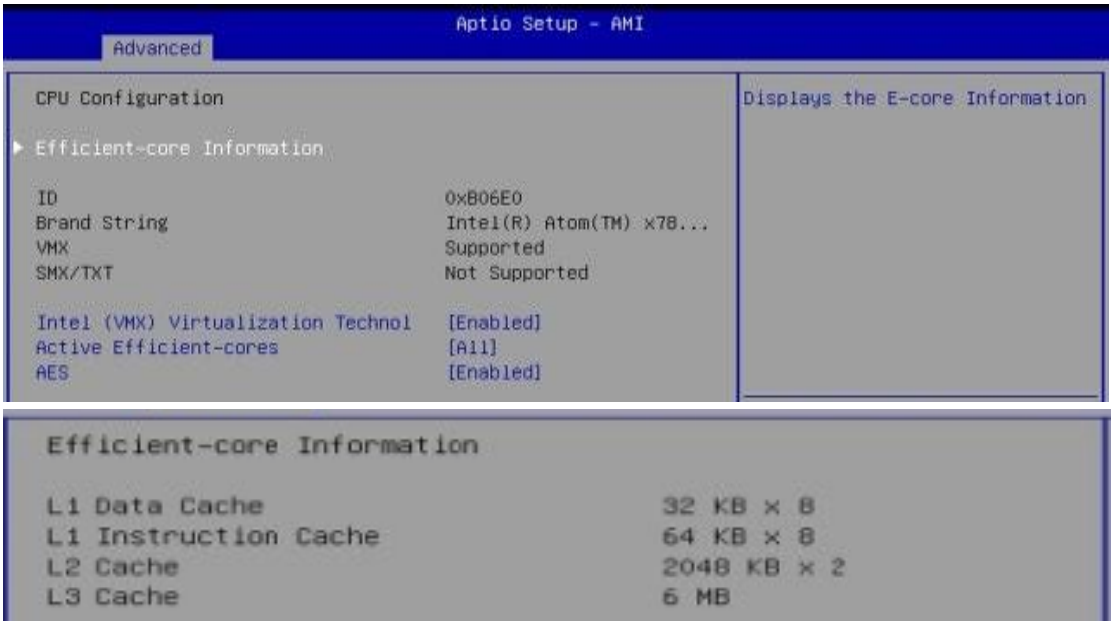
4.3 Main Settings

BIOS Setting	Description
System Date	Sets the date. Use the <Tab> key to switch between the date elements.
System Time	Set the time. Use the <Tab> key to switch between the time elements.

4.4 Advanced Settings

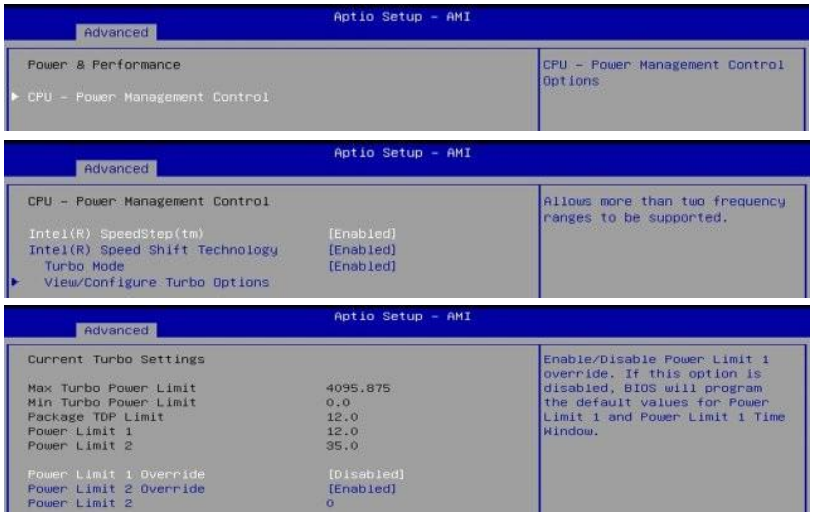
This section allows you to configure system features according to your preference.

4.4.1 CPU Configuration



BIOS Setting	Description
Efficient-core Information	Displays the E-core Information.
Intel (VMX) Virtualization Technology	When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.
Active Efficient-cores	Number of E-cores to enable in each processor package. Note: Number of cores and E-cores are looked at together. When both are (o,o), Pcode will enable all cores.
AES	Enable/Disable AES (Advanced Encryption Standard)

4.4.2 Power & Performance



BIOS Setting	Description
CPU – Power Management Control	CPU – Power Management Control Options
Intel Speedstep	Allows more than two frequency ranges to be supported
Intel Speed Shift Technology	Enable/Disable Intel Speed Shift Technology support. Enabling will expose the CPPC v2 interface to allow for hardware controlled P-states.
Turbo Mode	Enable/Disable processor Turbo Mode (requires EMTTM enabled too). Auto means enabled.
Power Limit 1 Override	Enable/Disable Power Limit 1 override. If this option is disabled, BIOS will program the default values for Power Limit 1 and Power Limit 1 Time Window.
Power Limit 2 Override	Enable/Disable Power Limit 2 override. If this option is disabled, BIOS will program the default values for Power Limit 2.
Power Limit 2	Power Limit 2 value in Milli Watts. BIOS will round to the nearest 1/8W when programming. If the value is 0, BIOS will program this value as 1.25+Processor Base Power (TDP). For 12.50W, enter 12500. Processor applies control policies such that the package power does not exceed this limit.

4.4.3 PCH-FW Configuration

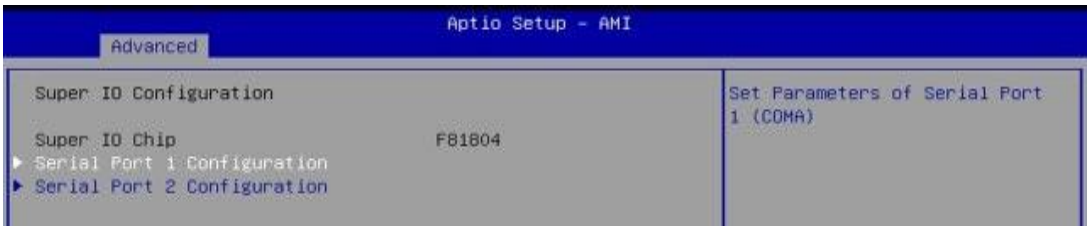
4.4.4 Trusted Computing

BIOS Setting	Description
Security Device Support	Enables / Disables BIOS support for security device. OS will not show security device. TCG EFI protocol and INT1A interface will not be available.
SHA256 PCR Bank	Options: Enabled / Disabled
SHA384 PCR Bank	Options: Enabled / Disabled
Pending operation	Schedule an operation for the security device. Note: Your computer will reboot during restart in order to change state of security device.
Platform Hierarchy	Enables / Disables platform hierarchy.
Storage Hierarchy	Enables / Disables storage hierarchy.
Endorsement Hierarchy	Enables / Disables endorsement hierarchy.
Physical Presence Spec Version	Select to tell O.S. to support PPI Spec Version 1.2 or 1.3. Note some HCK tests might not support 1.3.
Device Select	TPM 1.2 will restrict support to TPM 1.2 devices. TPM 2.0 will restrict support to TPM 2.0 devices. Auto will support both with the default set to TPM 2.0 devices if not found, TPM 1.2 devices will be enumerated.

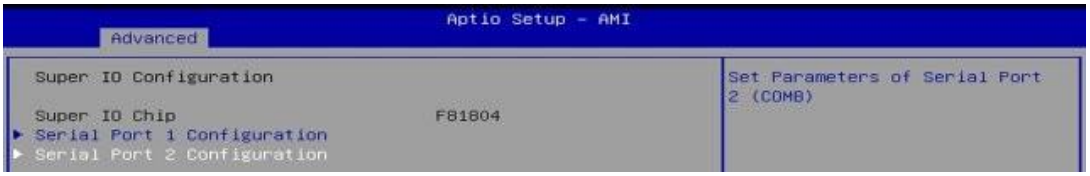
4.4.5 ACPI Settings

BIOS Setting	Description
Enable Hibernation	Enables / Disables the system ability to hibernate (OS/S4 Sleep State). This option may be not effective with some OS.
ACPI Sleep State	Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.

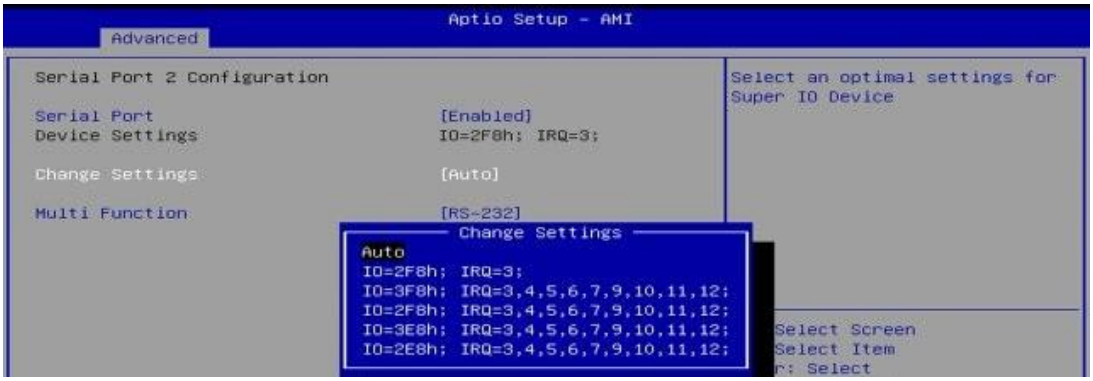
4.4.7 Super IO Configuration



BIOS Setting	Description
Serial Port 1/2 Configuration	Sets parameters of Serial Port 1/2

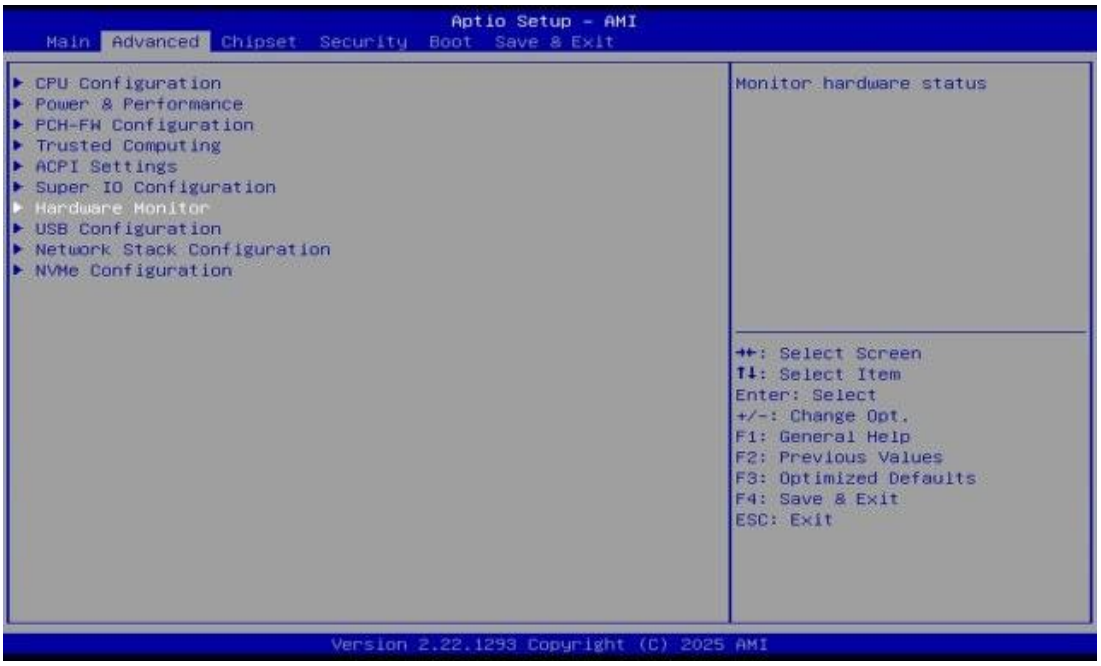



Aptio Setup – AMI
Advanced
Serial Port 2 Configuration
Serial Port [Enabled]
Device Settings IO=2F8h; IRQ=3;
Change Settings [Auto]
Multi Function [RS-232]
Enable or Disable Serial Port (COM)


Aptio Setup – AMI
Advanced
Serial Port 2 Configuration
Serial Port [Enabled]
Device Settings IO=2F8h; IRQ=3;
Change Settings [Auto]
Multi Function [RS-232]
Change Settings
Auto
IO=2F8h; IRQ=3;
IO=3F8h; IRQ=3,4,5,6,7,9,10,11,12;
IO=2F8h; IRQ=3,4,5,6,7,9,10,11,12;
IO=3E8h; IRQ=3,4,5,6,7,9,10,11,12;
IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12;
Select an optimal settings for Super IO Device
Select Screen
Select Item


Aptio Setup – AMI
Advanced
Serial Port 2 Configuration
Serial Port [Enabled]
Device Settings IO=2F8h; IRQ=3;
Change Settings [Auto]
Multi Function [RS-232]
Multi Function
RS-232
RS-485
RS-422
There is a risk of permanent damage to electronic equipment if RS232 equipment is connected to RS422/485 equipment.
↔: Select Screen
↕: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.22.1293 Copyright (C) 2025 AMI

4.4.8 Hardware Monitor

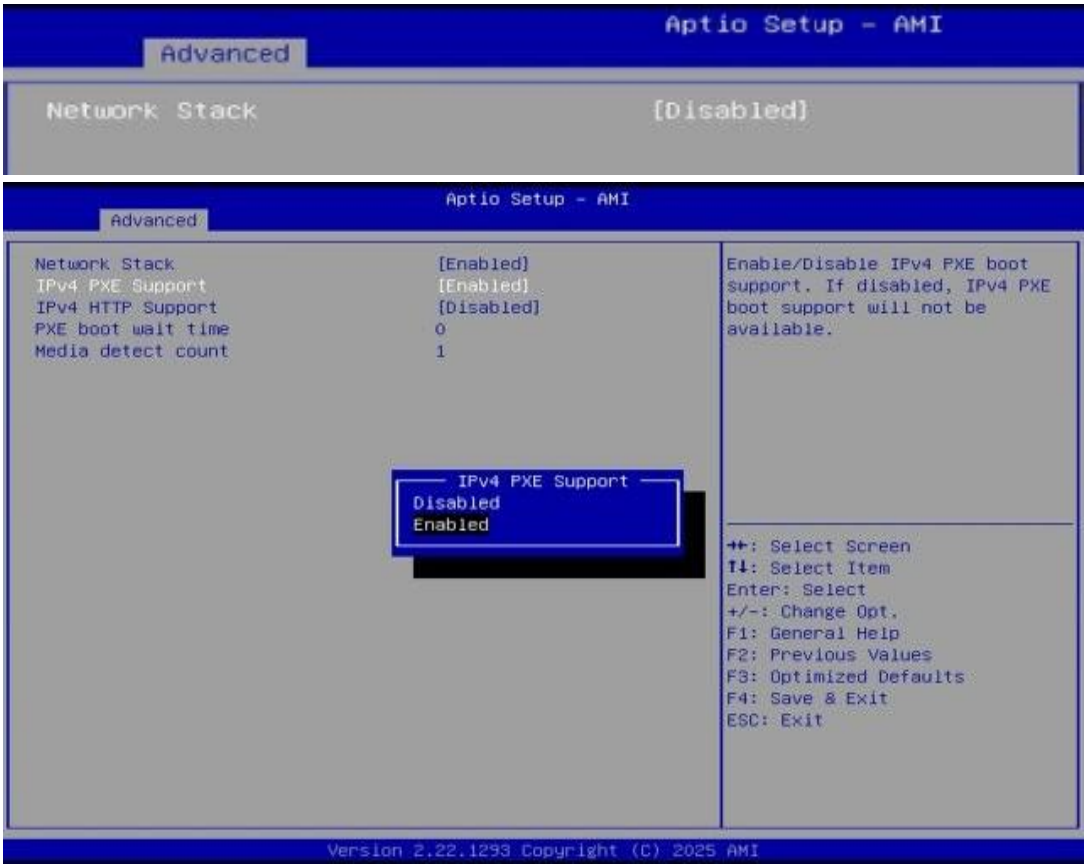


BIOS Setting	Description
Temperatures / Voltages	These fields are the parameters of the hardware monitoring function feature of the motherboard. The values are read-only values as monitored by the system and show the PC health status.

4.4.9 USB Configuration

BIOS Setting	Description
Legacy USB Support	• **Enabled** enables Legacy USB support. • **Auto** disables legacy support if there is no USB device connected. • **Disabled** keeps USB devices available only for EFI applications.
XHCI Hand-off	This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.
USB Mass Storage Driver Support	Enables / Disables the support for USB mass storage driver.
USB Transfer time-out	The time-out value (1 / 5 10 / 20 secs) for Control, Bulk, and Interrupt transfers.
Device reset time-out	USB mass storage device Start Unit command time-out (10/20/30/40 sec).
Device power-up delay	Max.time the device will take before it properly reports itself to the Host Controller. '**Auto**' uses default value: for a Root port it is 100ms, for a Hub port the delay is taken from Hub descriptor.

4.4.10 Network Stack Configuration

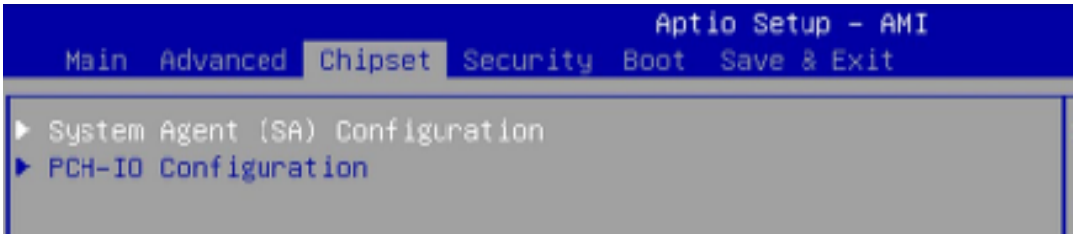


BIOS Setting	Description
Network Stack	Enable/Disable UEFI Network Stack
IPv4 PXE Support	Enable/Disable IPv4 PXE boot support. If disabled, IPv4 PXE boot support will not be available.
IPv4 HTTP Support	Enable/Disable IPv4 HTTP boot support. If disabled, IPv4 HTTP boot support will not be available.
PXE boot wait time	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	Number of times the presence of media will be checked. Use either +/- or numeric keys to set the value.

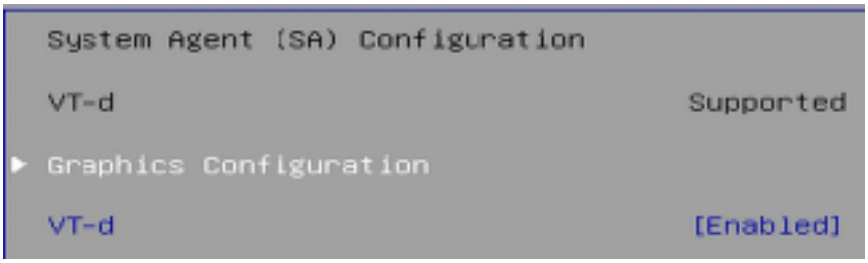
4.4.11 NVME Configuration

4.5 Chipset Settings

4.5.1 System Agent (SA) Configuration



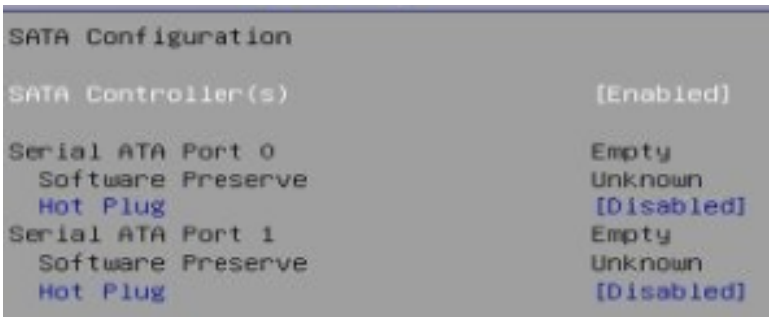
4.5.1.1. Graphics Configuration:

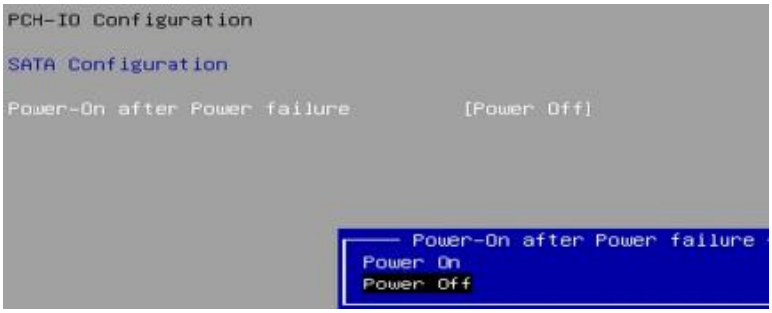


BIOS Setting	Description
Graphics Turbo IMON Current	Graphics turbo IMON current values supported (14-31)
GTT Size	Select the GTT Size (2MB / 4MB / 8MB).
Aperture Size	Select the Aperture Size (128MB/256MB/ 512MB/1024MB). Note: Above 4GB MMIO BIOS assignment is automatically enabled when selecting > 2048MB aperture. To use this feature, please disable CSM Support.
DVMT Pre-Allocated	Select DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by the Internal Graphics Device.
VT-d	Enable/Disable VT-d capability

4.5.2 PCH-IO Configuration

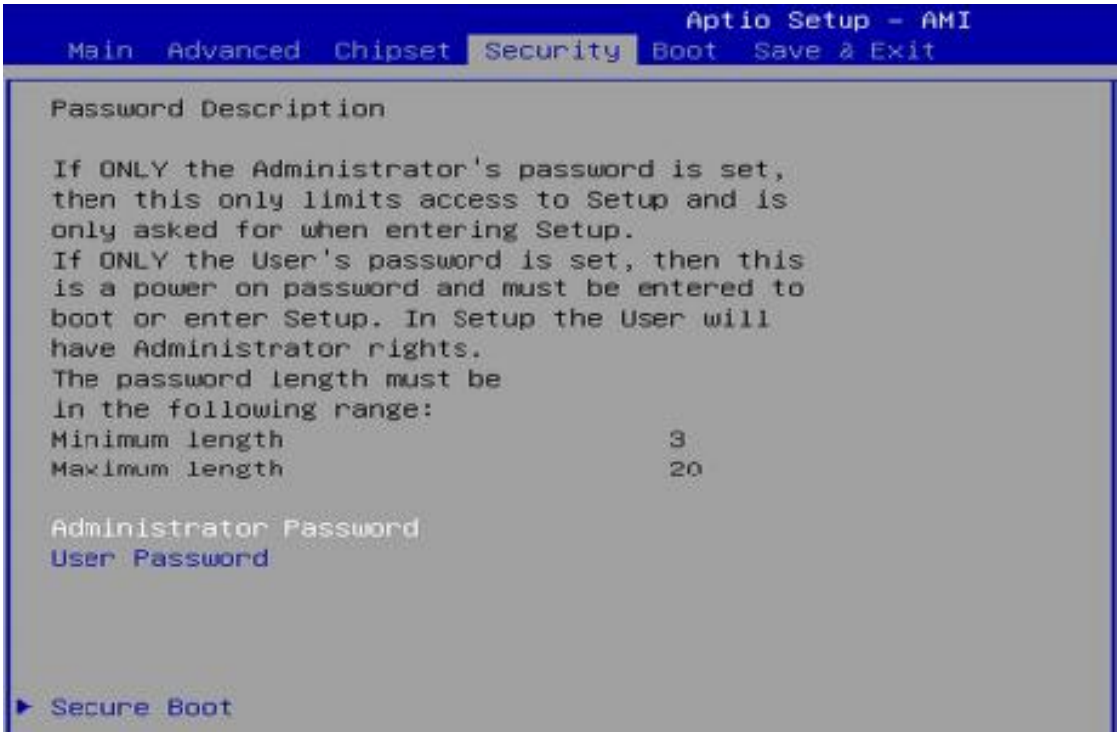
4.5.2.1 SATA Configuration:



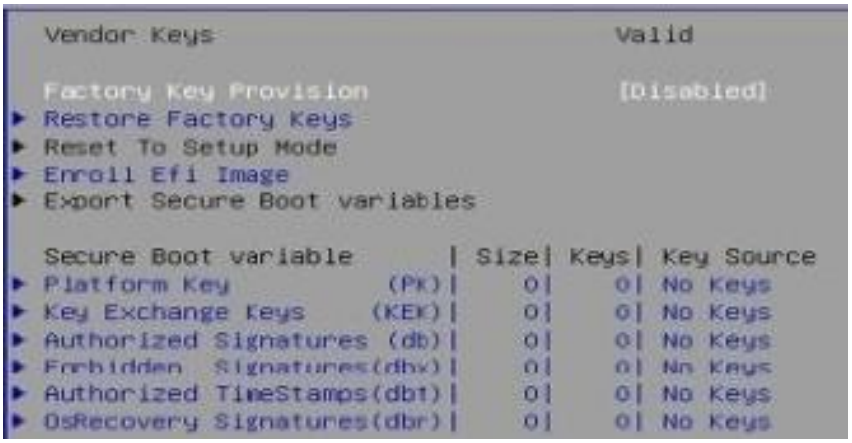


BIOS Setting	Description
SATA and RST Configuration	SATA device options and settings
SATA Controller(s)	Enables / Disables the SATA Device.
Serial ATA Port 0~1	Enables / Disables Serial Port 0 ~ 1.
SATA Ports Hot Plug	Enables / Disables SATA Ports HotPlug.
Power-On After Power failure	Specify what state to go to when power is re-applied after a power failure (G3 state)

4.6 Security Settings



BIOS Setting	Description
Setup Administrator Password	Sets an administrator password for the setup utility.
User Password	Sets a user password.
Secure Boot	Secure Boot feature is Active if Secure Boot is enabled. Platform Key(PK) is enrolled and the system is in user mode. The mode change requires platform reset.
Secure Boot Mode	Secure Boot mode options: Standard or Custom. In Custom mode, Secure Boot Policy variables can be configured by a physically present user without full authentication
Key Management	Enables expert users to modify Secure Boot Policy variables without variable authentication.



BIOS Setting	Description
Factory Key Provision	Install factory default Secure Boot keys after the platform reset and while the system is in setup mode.
Restore Factory Keys	Force System to User Mode. Install factory default secure boot key databases.
Enroll EFI Image	Allow EFI image to run in secure boot mode. Enroll SHA256 Hash certificate of a PE image into Authorized Signature Database (db).
Platform Key Key Exchange Keys Authorized Signatures Forbidden Signatures Authorize TimeStamps OsRecovery Signatures	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.Modified.Mixed

4.7 Boot Settings

BIOS Setting	Description
Setup Prompt Timeout	Number of seconds to wait for setup activation key. 65535 (0xFFFF) means indefinite waiting.
Bootup NumLock State	Selects the keyboard NumLock state.
Quiet Boot	Enables / Disables Quiet Boot option.
FIXED BOOT ORDER Priorities	Sets the system boot order.

4.8 Save & Exit Settings

BIOS Setting	Description
Save Changes and Exit	Exits system setup after saving the changes.
Discard Changes and Exit	Exits system setup without saving any changes.
Save Changes and Reset	Resets the system after saving the changes.
Discard Changes and Reset	Resets system setup without saving any changes.
Save Changes	Saves changes done so far to any of the setup options.
Discard Changes	Discards changes done so far to any of the setup options.
Restore Defaults	Restores / Loads defaults values for all the setup options.
Save as User Defaults	Saves the changes done so far as User Defaults.
Restore User Defaults	Restores the user defaults to all the setup options.