



PE1000U Series

Embedded Computer

User Manual



E27549

First Edition

April 2026

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About this manual

This manual provides information about the hardware and software features of your Embedded Computer, organized through the following chapters:

Chapter 1: System introduction

This chapter details the hardware components of your Embedded Computer.

Chapter 2: Hardware setup

This chapter provides you with information on Hardware setup.

Chapter 3: Installing and upgrading key components

This chapter provides you with information on how to upgrade the memory modules, wireless modules, and hard disk drive / solid state drive of your Embedded Computer.

Chapter 4: BIOS setup

This chapter shows you how to change system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

Chapter 5: Watchdog Timer

This chapter will guide you in implementing and programming the Watchdog Timer to allow you to monitor and manage system reliability.

Appendix

This section includes safety statements and regulatory notices for your Embedded Computer.

Conventions used in this manual

To highlight key information in this manual, some text are presented as follows:

IMPORTANT! This message contains vital information that must be followed to complete a task.

NOTE: This message contains additional information and tips that can help complete tasks.

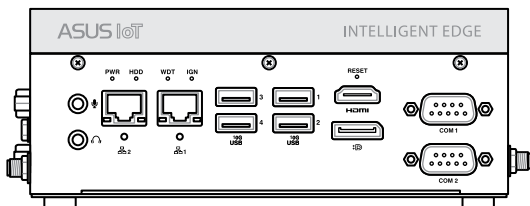
WARNING! This message contains important information that must be followed to keep you safe while performing certain tasks and prevent damage to your Embedded Computer's data and components.

1

System introduction

1.1 Package contents

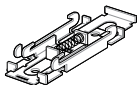
Your Embedded Computer package contains the following items:



PE1000U



Power terminal block



DIN rail clip

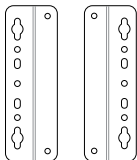
Optional item(s)



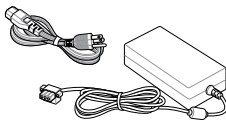
Cellular network antenna



Wi-Fi antenna



Wall mount kit with two (2) brackets



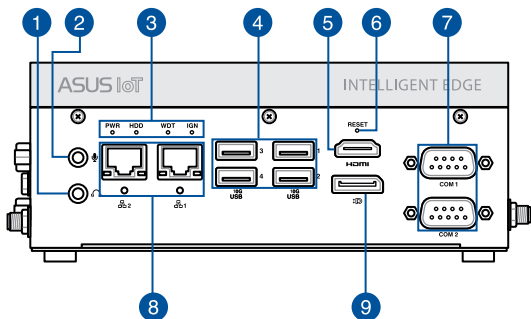
Power adapter and cord

NOTE:

- Some bundled accessories may vary depending on the model. For details on these accessories, refer to their respective user manuals.
 - Illustrations of the device and accessories are for reference only. Actual product specifications may vary depending on the model.
 - If the device or its components fail or malfunction during normal and proper use within the warranty period, bring the warranty card to the ASUS Service Center for replacement of the defective components.
-

1.2 System overview

1.2.1 Front view



1. **Headphone jack**

This port allows you to connect amplified speakers or headphones.

2. **Microphone**

The built-in microphone can be used for video conferencing, voice narrations, or simple audio recording.

3. **Power LED**

The power LED lights up when your Embedded Computer is turned on and blinks slowly when in sleep mode.

Drive activity LED

The drive activity LED lights up when your Embedded Computer is accessing the internal storage drive.

Watchdog LED

The watchdog LED lights up when a watchdog time out event occurs.

Ignition LED

The ignition LED lights up when your Embedded Computer is powered on and in ignition mode.

NOTE: The default BIOS setting for the ignition function is disabled.

4. **USB 10Gbps port**

The USB (Universal Serial Bus) 10Gbps port provides a transfer rate up to 10 Gbit/s.

5. **HDMI™ 2.0 port**

The integrated HDMI (High Definition Multimedia Interface) port with a receptacle connector can support resolutions up to 4096 x 2160 @ 60 Hz on external display devices.

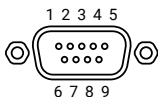
6. **System reset pinhole**

The hard reset pinhole allows you to reboot your Embedded Computer.

7. Serial (COM) connector

The 9-pin DB9 connector allows you to connect RS-232/422/485 serial (COM) devices, such as bar code scanners, modems, and printers. Please refer to the table below for the pin definitions of the different COM connectors.

NOTE: Default set to RS-232. Setting can be changed through the BIOS.



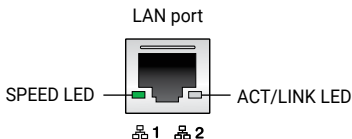
Pin	RS-232	RS-422	RS-485
1	DCD#	TX-	D-
2	RXD	TX+	D+
3	TXD	RX+	NA
4	DTR	RX-	NA
5	GND	GND	GND
6	DSR	NA	NA
7	RTS	NA	NA
8	CTS	NA	NA
9	RI	NA	NA

8. 2.5 GbE LAN port with cable lock

The 8-pin RJ-45 LAN port supports a standard Ethernet cable for 10/100/1000/2500 Mbps connection to a local network.

NOTE: The cable lock helps to prevent disconnection caused by tension or vibration.

LAN port LED indications



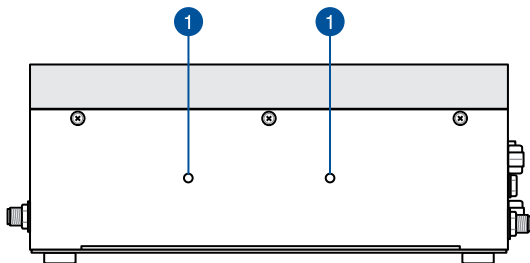
Activity Link LED	
Status	Description
Off	No link
Green	Linked
Green (blinking)	Data activity
Green (blinking then steady)	Ready to wake up from suspend mode

Speed LED	
Status	Description
Off	10/100 Mbps connection
Orange	1 Gbps connection
Green	2.5 Gbps connection

9. DisplayPort

The DisplayPort port can support resolutions up to 5120 x 3200 @ 60 Hz on external display devices.

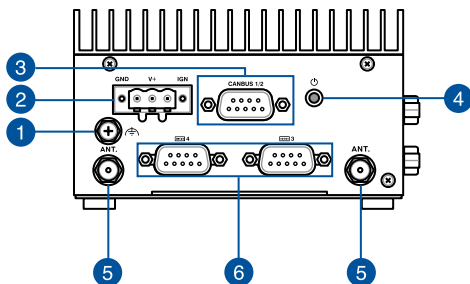
1.2.2 Rear view



1. DIN rail clip mounting hole

The DIN rail clip mounting hole allows you to secure a DIN rail clip to your Embedded Computer, so you can attach it to a DIN rail system.

1.2.3 Left view



1. Functional earth ground

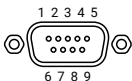
The Functional Earth Ground provides you with a grounding point.

2. Power input jack

The power input jack allows you to connect the bundled power terminal block.

3. Serial (CANBUS) connector

The 9-pin CAN Bus serial connector allows you to connect devices with a CAN interface, such as an electronic control unit (ECU). Please refer to the table below for the pin definitions of the CAN Bus connector.



Pin	CAN Bus
1	CAN0_GND
2	CAN0_H
3	CAN0_L
4	NA
5	NA
6	CAN1_GND
7	CAN1_H
8	CAN1_L
9	NA

4. Power button

The power button allows you to turn the Embedded Computer on or off. You can use the power button to put your Embedded Computer to sleep mode or press it for four (4) seconds to force shutdown your Embedded Computer.

5. Wireless antenna jack

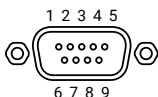
The wireless antenna jack allows you to connect a wireless antenna.

NOTE: Wireless antennas are optional and may not come bundled.

6. Serial (COM) connector (on selected models)

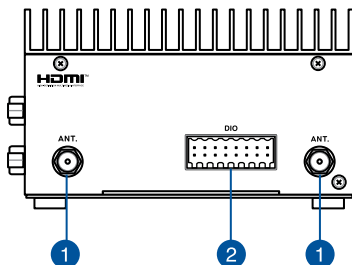
The 9-pin DB9 connector allows you to connect RS-232/RS-422/RS-485 devices that have serial ports, such as bar code scanner, modem, or printers. Refer to the table below for the pin definitions of the different COM connectors.

NOTE: Default set to RS-232. Setting can be changed through the BIOS.



Pin	RS-232	RS-422	RS-485
1	DCD#	TX-	D-
2	RXD	TX+	D+
3	TXD	RX+	NA
4	DTR	RX-	NA
5	GND	GND	GND
6	DSR	NA	NA
7	RTS	NA	NA
8	CTS	NA	NA
9	RI	NA	NA

1.2.4 Right view



1. Wireless antenna jack

The wireless antenna jack allows you to connect a wireless antenna.

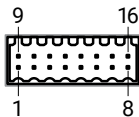
NOTE: Wireless antennas are optional and may not come bundled.

2. Isolated DIO connector (optional)

The Isolated Digital Input/Output (DIO) connector provides electrical isolation of digital input and output signals, which allow micro controllers to detect and output logic states. The high voltage protection can be used in industrial level uses. Please refer to the illustration below for the specification and pin definitions of the Isolated DIO connector.

Signal	Specifications	
DO	Output voltage range	0-48 VDC
	Rated output current	4 A
DI	Voltage for logic "0"	0-3 VDC
	Voltage for logic "1"	10-48 VDC
	Rated input current	±50 mA

Pin	DIO	Pin	DIO
1	DI_COM	9	DI1
2	DI_COM	10	DI2
3	DIO_GND	11	DI3
4	DIO_GND	12	DI4
5	DIO_GND	13	DO1
6	DIO_GND	14	DO2
7	DO_PWR	15	DO3
8	DO_PWR	16	DO4



2

Hardware setup

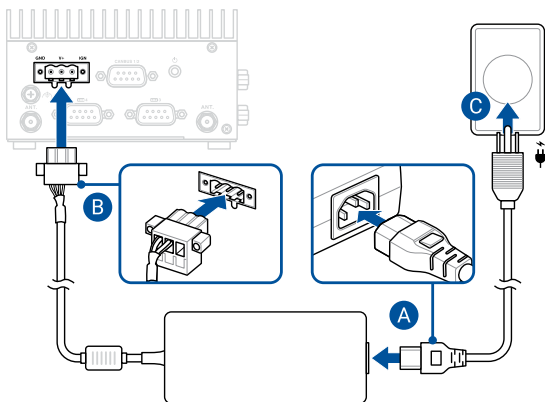
2.1 Getting started

2.1.1 Connect the AC power adapter

To connect the AC power adapter to your Embedded Computer:

- Connect the power cord to the AC power adapter.
- Connect the 3-pin terminal block DC power connector into your Embedded Computer's power (DC) input.
- Plug the AC power adapter into a 100 V~240 V power source.

NOTE: The power adapter is purchased separately and may vary in appearance, depending on model and your region.



IMPORTANT!

- We strongly recommend that you use only UL-certified power adapters and cables that meet the following requirements or ones that you purchased as an option with your Embedded Computer.

160 W Power adapter

Input voltage: 100 - 240 Vac

Input frequency: 50 - 60 Hz

Output current: 8 A (160 W)

Output voltage: 20 Vdc

System (operating temperature -25 to 60°C)

Rated voltage: 9 - 36 Vdc

Rated current: 17.77 A - 4.44 A (160 W)

- We suggest using a power supply with 9 - 36 Vdc for DC-in that complies with the safety requirements of a regulated power source.
- We strongly recommend that you use a grounded wall socket while Hardware setup.
- The socket outlet must be easily accessible and near your Embedded Computer.
- To disconnect your Embedded Computer from its main power supply, unplug your Embedded Computer from the power socket.

WARNING!

- Do not use power adapters or batteries from other devices to reduce the risk of injury to persons due to fire or explosion. Use only UL certified power adapters or batteries supplied by the manufacturer or authorized retailers.
 - Do not disable or remove the power cord grounding plug, the grounding is an important safety feature.
 - Make sure to plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
-

2.1.2 Connect a display panel to your Embedded Computer

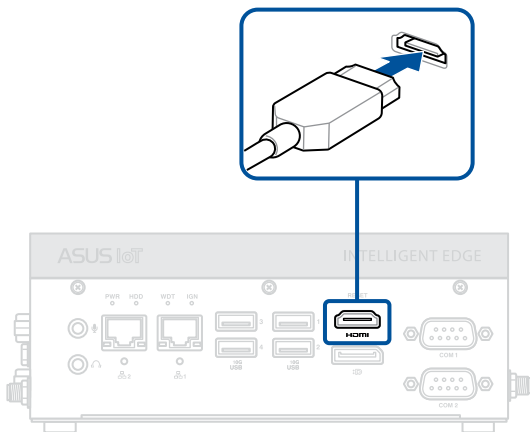
You can connect a display panel or projector to your Embedded Computer that has the following connector(s):

- HDMI™ connector
- DisplayPort

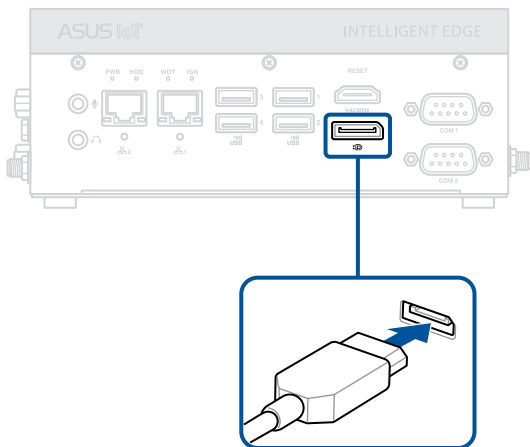
To connect a display panel to your Embedded Computer:

Connect one end of an HDMI™ or a DisplayPort cable to an external display, and the other end of the cable to your Embedded Computer's HDMI™ port or DisplayPort.

Connect display via HDMI™ port



Connect display via DisplayPort



2.1.3 Connect the USB cable from keyboard or mouse

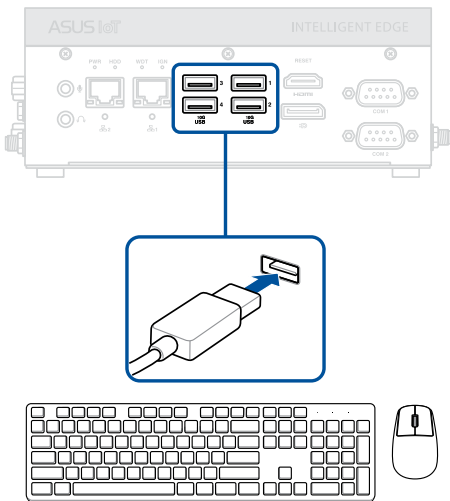
You can connect generally any USB keyboard and mouse to your Embedded Computer. You can also connect a USB dongle for a wireless keyboard and mouse set.

To connect a keyboard and mouse to your Embedded Computer:

Connect the USB cable from your keyboard and mouse to any of the USB ports of your Embedded Computer.

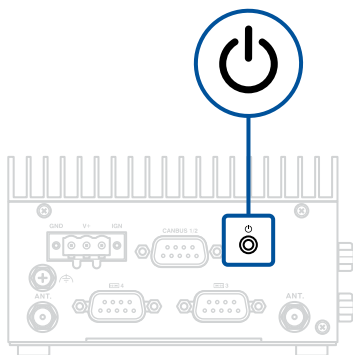
NOTE:

- The keyboard varies with country and/or region.
 - The keyboard and mouse are purchased separately.
-



2.1.4 Turn on your Embedded Computer

Press the power button to turn on your Embedded Computer if it does not power on automatically when you connect it to a power source.



2.2 Turning off your Embedded Computer

If your Embedded Computer is unresponsive, press and hold the power button for at least four (4) seconds until your Embedded Computer turns off.

3

***Installing and upgrading
key components***

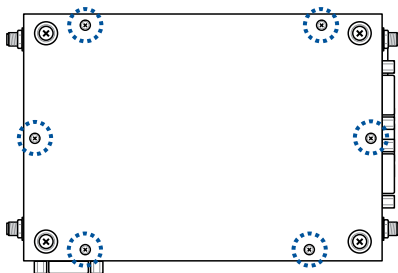
3.1 Removing the bottom cover

IMPORTANT!

- Ensure that your hands are dry before proceeding with the rest of the installation process. Before installing any of the features in this guide, use a grounded wrist strap or touch a safely grounded object or metal object to avoid damaging them due to static electricity.
 - Turn off the power of your Embedded Computer and allow it to cool for at least 10 minutes before performing any installation/uninstallation process.
-

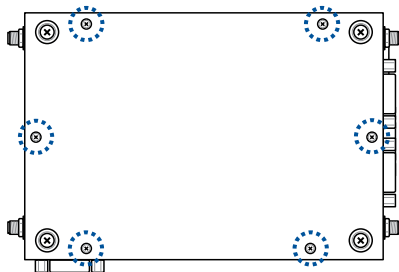
NOTE: The illustrations in this section are for reference only. The slots may vary depending on model.

1. Turn off your Embedded Computer, and then disconnect all cables and peripherals.
2. Place the Embedded Computer on a flat stable surface with its top side facing down.
3. Remove the screws from the bottom cover, and then remove the bottom cover.



3.2 Replacing the bottom cover

Align the screw holes on the bottom cover with those on your Embedded Computer's chassis. Secure the bottom cover using the screws removed previously.

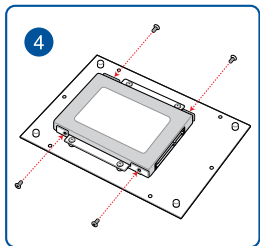
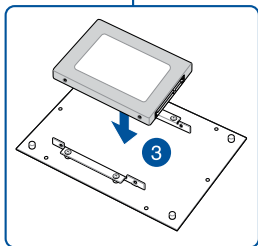
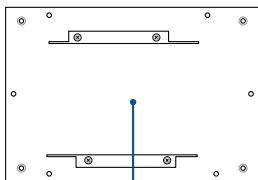


3.3 Installing 2.5" storage device

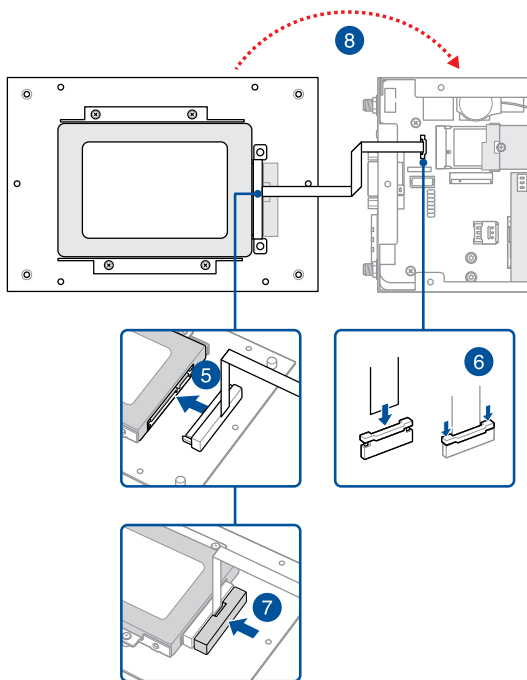
IMPORTANT! This device only supports 7mm 2.5" HDD or SSD.

NOTE: Only models without PoE LAN ports have sufficient space to accommodate a 2.5" storage device.

1. Remove the bottom cover. Refer to the **Removing the bottom cover** section for instructions.
2. Prepare your 2.5" storage device, then align it with the storage bay on the bottom cover of your Embedded Computer.
3. Insert your storage device into the storage bay.
4. Secure the storage device to the storage bay using four (4) screws.

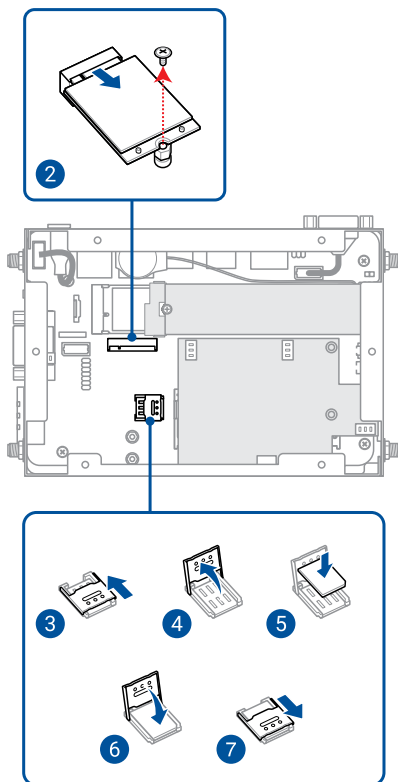


5. Connect the storage device cable to the storage device.
6. Connect the storage device cable to the **SATA** connector on the motherboard.
7. Slide the connector protective cover over the SATA cable connector until it is fully seated and secure.
8. Replace the bottom cover, then secure the bottom cover using the six (6) screws removed previously.



3.4 Installing a nano SIM card

1. Remove the bottom cover. Refer to the **Removing the bottom cover** section for instructions.
2. (Optional) Remove the M.2 module from the M.2 B-key slot, if one is installed, by first removing the screw securing the module, and then removing the module.
3. Push the nano SIM cover in the direction away from the SO-DIMM slots.
4. Lift the nano SIM cover.
5. Place the nano SIM into the nano SIM slot.
6. Close the nano SIM cover.
7. Push the nano SIM cover towards the SO-DIMM slots to secure the nano SIM card.



3.5 Installing a wireless card to the M.2 E-key slot

Your Embedded Computer comes with an M.2 E-key slot that allow you to install an M.2 wireless (Wi-Fi / Bluetooth) module.

To install an wireless module:

1. Remove the bottom cover. Refer to the **Removing the bottom cover** section for instructions.
2. Remove the stacking standoff from the M.2 standoff.
3. Align and insert the wireless card into its slot inside the Embedded Computer.
4. Gently push down the wireless card on top of the standoff, and then fasten it using the previously removed stacking standoff.

NOTE: We recommend using a PH1/sleeve screwdriver with a torque of 2.0 ± 0.2 kgf-cm when tightening the standoff.

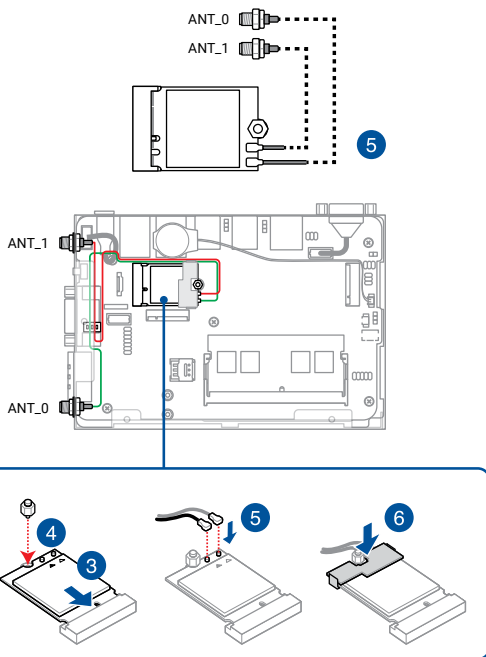
5. (Optional) Connect the RF cables from the antennas to your wireless card. Make sure that the correct cable is attached to each of the connectors by referring to the illustration below.

WARNING! RF modules are intended for OEM or host integrators only. For availability of system level RF certification, check with your OEM integrator.

NOTE:

- Please refer to the **Installing antennas** section for more information on installing the antennas.
 - Connecting antennas to your wireless card may strengthen the wireless signal.
 - A soft clicking sound indicates that the antenna has been securely attached on the wireless card.
-

6. (Optional) Align the protective cover as shown and gently press down on it over the RF cables.



3.6 Installing a cellular network module to the M.2 B-key slot

Your Embedded Computer comes with an M.2 B-key slot that allows you to install a B-key (USB2.0, type 3042/3052) M.2 device, such as a 4G LTE or 5G NR module.

To install a 4G LTE module:

1. Remove the bottom cover. Refer to the **Removing the bottom cover** section for instructions.
2. Remove the screw from the M.2 standoff.
3. If the standoff is already seated in the right mounting hole to fit your module, skip to step 5.
4. Unscrew the standoff, and install it to a mounting hole that matches the length of your module.

NOTE: We recommend using a PH1/sleeve screwdriver with a torque of 2.0 ± 0.2 kgf-cm when tightening the standoff.

5. Align and insert the module into the slot.
6. Press down, and then secure it in place using the screw previously removed.

NOTE: We recommend using a PH1 screwdriver with a torque of 2.0 ± 0.2 kgf-cm when tightening the screw.

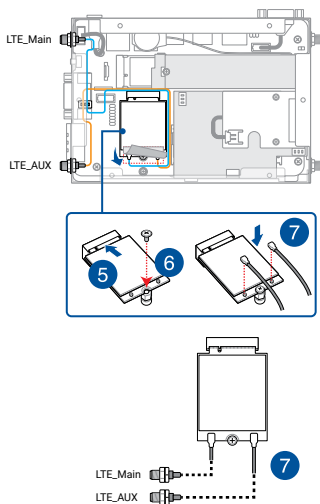
7. (Optional) Connect the RF cables from the antennas to your module. Make sure that the correct cable is attached to each of the connectors by following chart on the next page.

WARNING! RF modules are intended for OEM or host integrators only. For availability of system level RF certification, check with your OEM integrator.

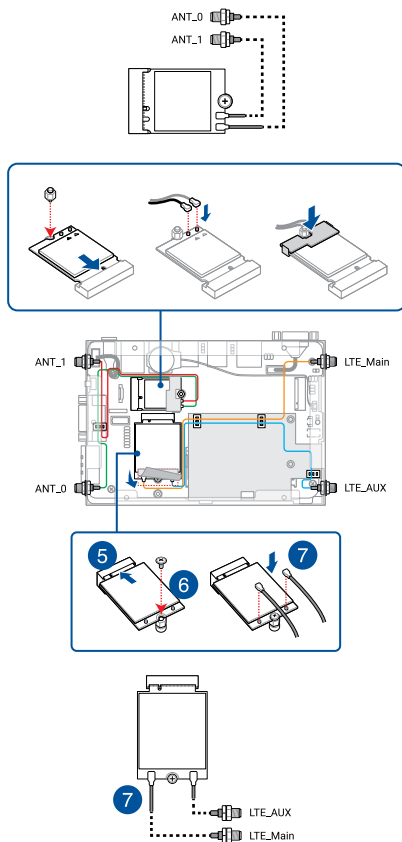
NOTE:

- Refer to **Installing antennas** for more information on installing the antennas.
 - Connecting antennas to your module may strengthen the signal.
 - A soft clicking sound indicates that the antenna has been securely attached on the module.
-

4G LTE module without wireless card



4G LTE module with wireless card



To install a 5G NR module:

1. Remove the bottom cover. Refer to the **Removing the bottom cover** section for instructions.
2. Remove the screw from the M.2 standoff.
3. If the standoff is already seated in the right mounting hole to fit your module, skip to step 5.
4. Unscrew the standoff, and install it to a mounting hole that matches the length of your module.

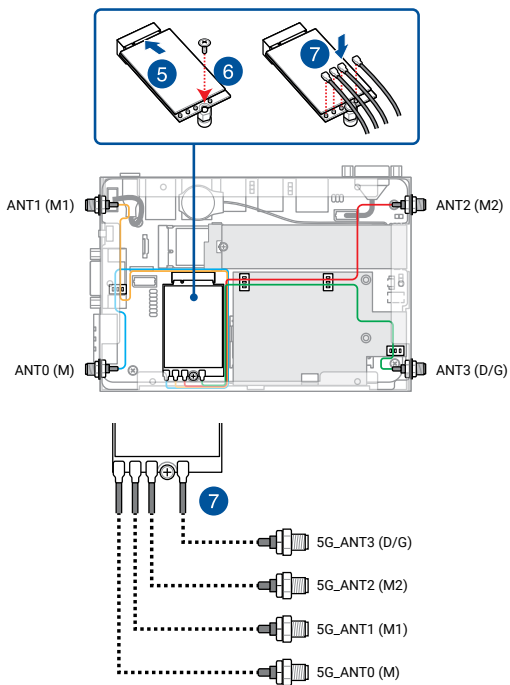
NOTE: We recommend using a PH1/sleeve screwdriver with a torque of 2.0 ± 0.2 kgf-cm when tightening the standoff.

5. Align and insert the module into the slot.
6. Press down, and then secure it in place using the screw previously removed.

NOTE: We recommend using a PH1 screwdriver with a torque of 2.0 ± 0.2 kgf-cm when tightening the screw.

7. (Optional) Connect the RF cables from the antennas to your module. Make sure that the correct cable is attached to each of the connectors by following chart on the next page.

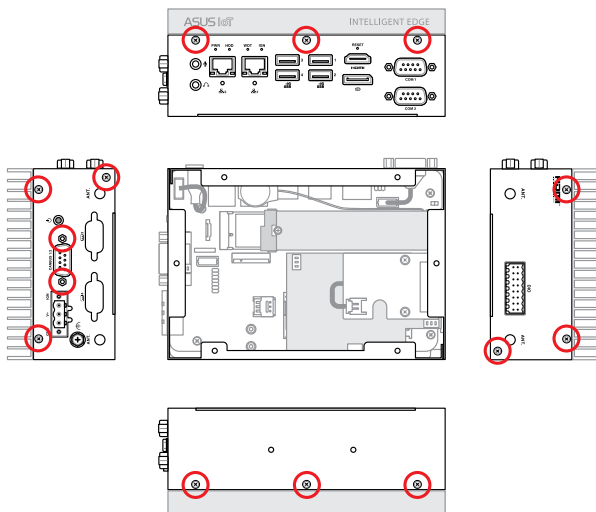
WARNING! RF modules are intended for OEM or host integrators only. For availability of system level RF certification, check with your OEM integrator.



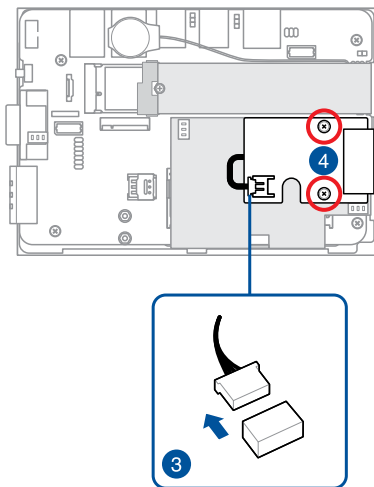
3.7 Installing memory modules

Your Embedded Computer comes with two SO-DIMM slots that allow you to install DDR5 SO-DIMMs.

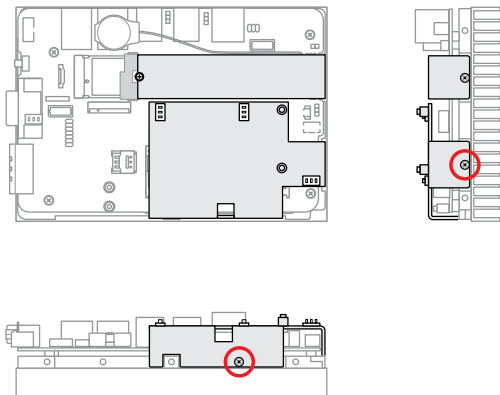
1. Remove the bottom cover. Refer to the **Removing the bottom cover** section for instructions.
2. Remove the screws located on all four sides of your Embedded Computer as shown in the illustration.



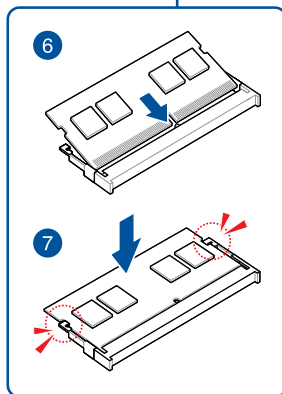
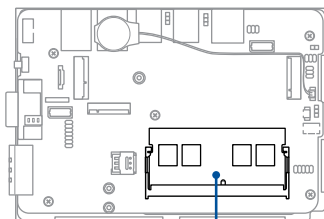
3. Disconnect the DIO cable from the DIO module.
4. Remove the two (2) screws securing the DIO module to the memory heat spreader, then remove the DIO module.



5. Remove the two (2) screws securing the DIMM heat spreaders to the motherboard.



6. Align and insert a memory module into one of the two SO-DIMM memory slots in the chassis.
7. Press down until the memory module is securely seated in place.
8. Repeat steps 6 and 7 to install the other memory module.

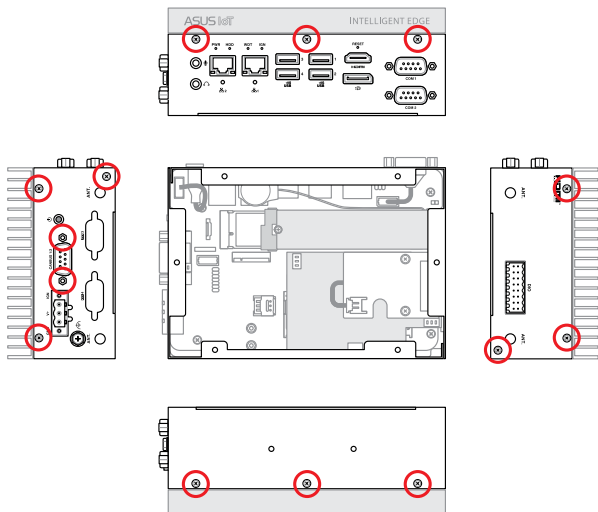


3.8 Installing an M.2 SSD module to the M.2 M-key slot

Your Embedded Computer comes with an M.2 M-key slot that allows you to install an M.2 (M-key, supports 2280 PCIe x2) SSD module.

To install an M.2 SSD module:

1. Remove the bottom cover. Refer to the **Removing the bottom cover** section for instructions.
2. Remove the screws located on all four sides of your Embedded Computer as shown in the illustration.



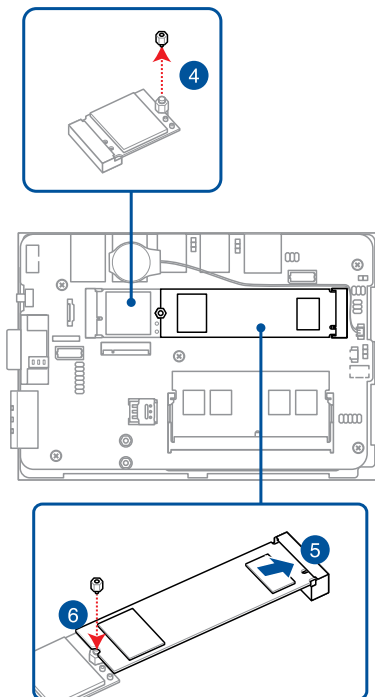
3. Remove the two (2) screws securing the M.2 SSD heat spreader to the motherboard, then remove the heat spreader.



4. Hold the lower standoff that is securing the wireless card, then unscrew and remove the upper stacking standoff.
5. Align and insert the M.2 SSD into its slot inside the Embedded Computer.
6. Gently push down the M.2 SSD on top of the standoff and fasten it using the upper stacking standoff removed earlier.

NOTE: We recommend using a PH1/sleeve screwdriver with a torque of 2.0 ± 0.2 kgf-cm when tightening the standoff.

7. Align the heat spreader removed earlier over the M.2 SSD, then secure it using a screw.

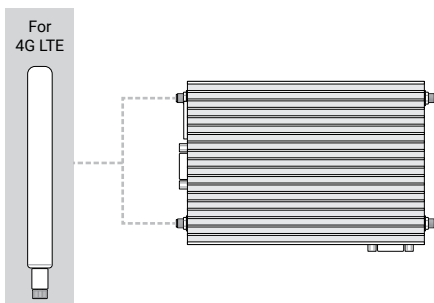


3.9 Installing antennas (optional)

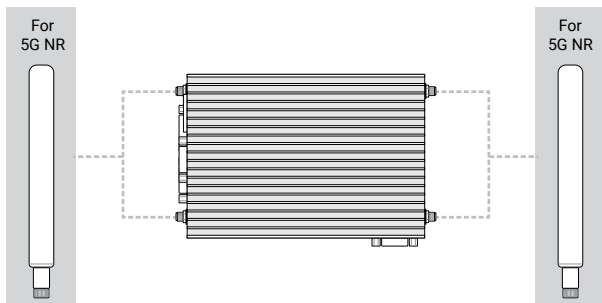
You may install antennas to the four (4) antenna jacks located on the two sides of your Embedded Computer. The installed antennas can be connected to the 4G LTE or 5G NR module installed in the M.2 B-key slot and to the wireless card installed in the M.2 E-key Wi-Fi slot.

NOTE: It is recommended that you refer to the illustration that corresponds to the module(s) you have installed in your Embedded Computer.

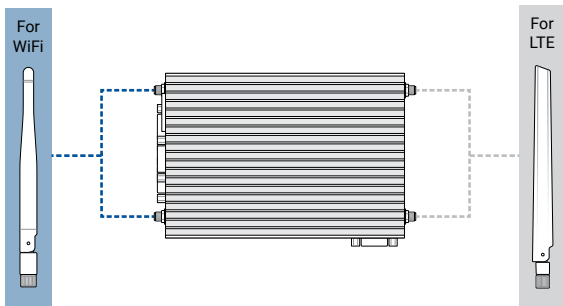
For 4G LTE module



For 5G NR module



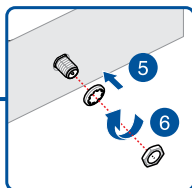
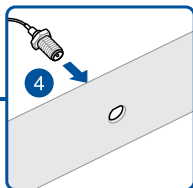
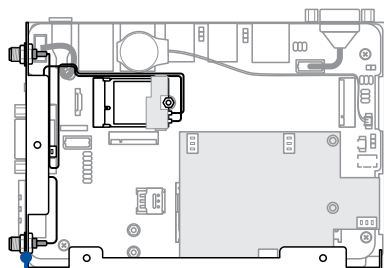
For 4G LTE module with wireless card



To install an antenna:

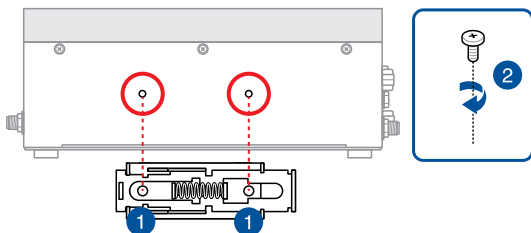
NOTE: If your Embedded Computer came pre-installed with antenna jacks, skip to step 7.

1. Remove the bottom cover. Refer to the **Removing the bottom cover** section for instructions.
2. Prepare the RF connector and cable.
3. Remove the rubber caps from the antenna holes.
4. Insert the antenna jack end of the RF connector and cable into the antenna jack from within the chassis outwards.
5. Insert the bundled O-ring to the antenna jack.
6. Secure the antenna jack using the bundled hex screw.
7. Connect the other end of the RF connector and cable to your wireless card (refer to **Installing a wireless card to the M.2 E-key slot** for details) or to your cellular network module (refer to **Installing a cellular network module to the M.2 B-key slot** for details).
8. Replace the bottom cover. Refer to **Replacing the bottom cover** for details.
9. Screw the external wireless antennas onto their corresponding antenna jacks on the sides of your Embedded Computer by turning them in a clockwise direction.
10. Position the antennas for optimal signal reception.



3.10 Installing a DIN rail clip

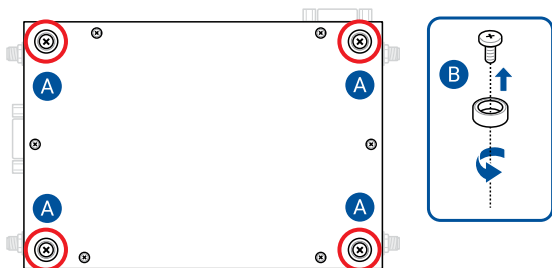
1. Align the screw holes on the DIN rail clip to the ones on your Embedded Computer's (refer to the **Rear view** section for the location of the DIN rail clip mounting holes).
2. Secure the DIN rail clip to your Embedded Computer using the screws bundled with the DIN rail clip.



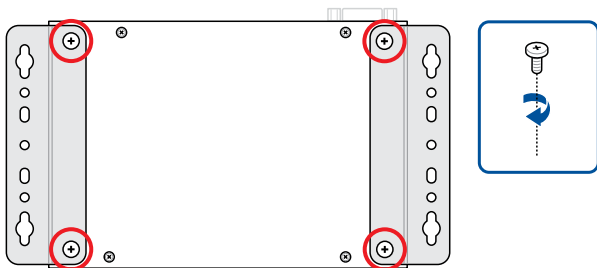
3. Clip the final assembly to a DIN rail by hooking the DIN rail clip to the top of the DIN rail and then pressing down until you hear the clip snap into place.

3.11 Installing wall mount brackets (optional)

1. Remove the four (4) screws (A), and then remove the rubber feet from them (B).



2. Align the wall mount brackets to the rubber feet screw holes, and then secure the wall mount brackets to your Embedded Computer using the rubber feet screws.



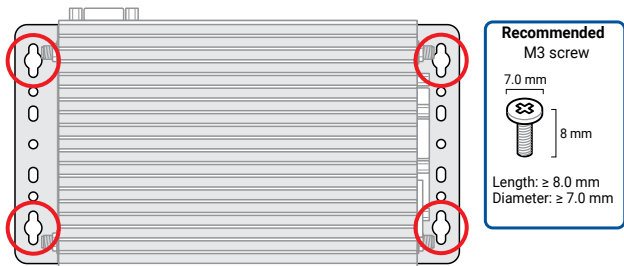
NOTE:

- The wall mount brackets are compatible with most DIN rail clips available on the market.
 - The rubber feet screws and wall mount bracket screws are the same screws.
-

3.12 Mounting to a surface (optional)

You can install your Embedded Computer to a suitable surface using wall mount brackets.

1. Make sure that the wall mount brackets are already installed.
Refer to the section **Installing wall mount brackets** for installation instructions.
2. Secure your Embedded Computer onto your selected surface using four (4) M3 screws.



BIOS Setup

4

4.1 Getting to know your BIOS

The BIOS (Basic Input and Output System) stores system hardware settings such as Storage Device Configuration, Advanced Power Management, and Boot Device Configuration that are needed for system startup. Under normal circumstances, the default BIOS settings apply to most conditions to ensure optimal performance. DO NOT change the default BIOS settings except in the following circumstances:

- An error message appears on the screen during the system bootup and requests you to run the BIOS setup.
- You have installed a new system component that requires further BIOS settings or update.

WARNING! Inappropriate BIOS settings may result to instability or boot failure. We strongly recommend that you change the BIOS settings only with the help of a trained service personnel.

NOTE:

- The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.
 - BIOS settings and options may vary due to different BIOS release versions. Please refer to the latest BIOS version for settings and options.
-

4.2 BIOS setup program

Use the BIOS Setup program to update the BIOS or configure its parameters. The BIOS screens include navigation keys and brief online help to guide you in using the BIOS Setup program.

Entering BIOS Setup at startup

To enter BIOS Setup at startup:

- Press or <ESC> during the Power-On Self Test (POST). If you do not press or <ESC>, POST continues with its routines.

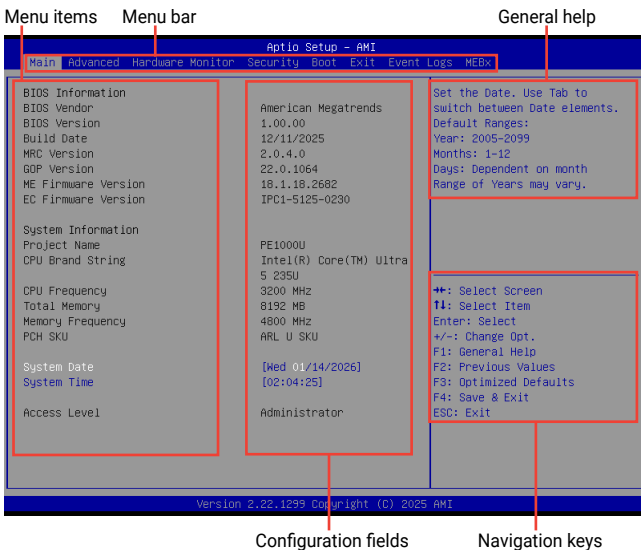
Entering BIOS Setup after POST

To enter BIOS Setup after POST:

- Press <Ctrl>+<Alt>+<Delete> simultaneously.
- Press the power button to turn the system off then back on. Do this option only if you failed to enter BIOS Setup using the first option.

BIOS menu screen

This section provides a brief introduction of the BIOS Interface of your Embedded Computer.



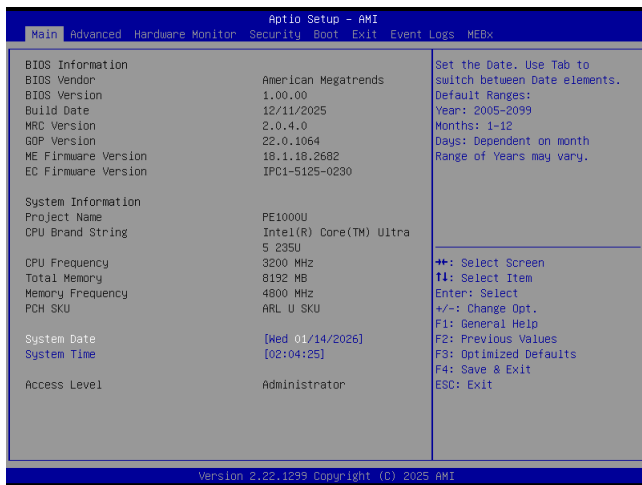
Menu bar

The menu bar on top of the screen has the following main items:

Main	For changing the basic system configuration
Advanced	For changing advanced system settings
Hardware Monitor	For viewing system temperature/power status and changing the fan mode
Security	For changing security settings
Boot	For changing system boot configuration
Exit	For selecting save and exit options or loading default settings
Event Logs	For viewing system event logs and changing Smbios event log settings
MEBx	For viewing and changing Intel® Management Engine settings

4.3 Main Menu

When you enter the BIOS Setup program, the Main menu screen appears. The Main menu provides you an overview of the basic system information, and allows you to set the system date and time. Scroll down to display the other BIOS items.



System Date [Day mm/dd/yyyy]

Allows you to set the system date.

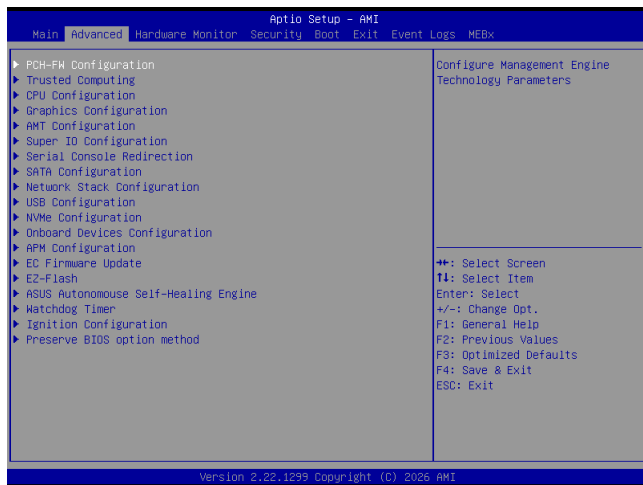
System Time [hh:mm:ss]

Allows you to set the system time.

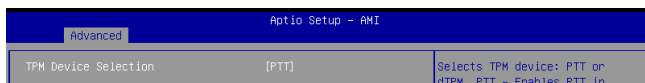
4.4 Advanced menu

The Advanced menu items allow you to change the settings for the CPU and other system devices.

WARNING! Be cautious when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction.



4.4.1 PCH-FW Configuration



TPM Device Selection

Allows you to select the TPM device.

[dTPM] Discrete TPM

[PTT] Intel Platform Trust Technology firmware TPM

NOTE:

- When **[dTPM]** is selected, PTT (firmware TPM) will be disabled, and the TPM device connected to the SPI TPM connector on the motherboard will be enabled. If no TPM device is connected, the TPM feature will be disabled.
- When **[PTT]** is selected, PTT (firmware TPM) is enabled.

WARNING! When **[dTPM]** is selected, PTT (firmware TPM) will be disabled, and all data saved on it will be lost.

4.4.2 Trusted Computing

Aptio Setup - AMI		
Advanced		
TPM 2.0 Device Found		Enables or Disables BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.
Firmware Version:	700.19	
Vendor:	INTC	
Security Device Support	[Enabled]	
Active PCR banks	SHA256	
Available PCR banks	SHA256,SHA384,SM3	
SHA256 PCR Bank	[Enabled]	
SHA384 PCR Bank	[Disabled]	
SM3_256 PCR Bank	[Disabled]	
Pending operation	[None]	
Platform Hierarchy	[Enabled]	F1: Select Screen F2: Select Item Enter: Select +/-: Change Opt. F1: General Help F9: Restore Defaults
Storage Hierarchy	[Enabled]	
Endorsement Hierarchy	[Enabled]	
Physical Presence Spec Version	[1.3]	
PH Randomization	[Enabled]	

NOTE: Changes here do not take effect until computer is restarted.

Security Device Support

Allows you to enable or disable the BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.

Configuration options: [Disabled] [Enabled]

NOTE:

- The following items appear only when **Security Device Support** is set to **[Enabled]**.
 - The availability of the following items depends on support of the TPM device installed.
-

SHA256 PCR Bank

Allows you to enable or disable SHA256 PCR Bank.

Configuration options: [Disabled] [Enabled]

SHA384 PCR Bank

Allows you to enable or disable SHA384 PCR Bank.

Configuration options: [Disabled] [Enabled]

SM3_256 PCR Bank

Allows you to enable or disable SM3_256 PCR Bank.

Configuration options: [Disabled] [Enabled]

Pending Operation

Schedule and Operation for the Security Device.

Configuration options: [None] [TPM Clear]

NOTE: Your computer will reboot during restart in order to change the State of the Security Device.

Platform Hierarchy

Allows you to enable or disable Platform Hierarchy.

Configuration options: [Disabled] [Enabled]

Storage Hierarchy

Allows you to enable or disable Storage Hierarchy.

Configuration options: [Disabled] [Enabled]

Endorsement Hierarchy

Allows you to enable or disable Endorsement Hierarchy.

Configuration options: [Disabled] [Enabled]

Physical Presence Spec Version

Select to tell O.S. to support PPI Spec Version 1.2 or 1.3.

Configuration options: [1.2] [1.3]

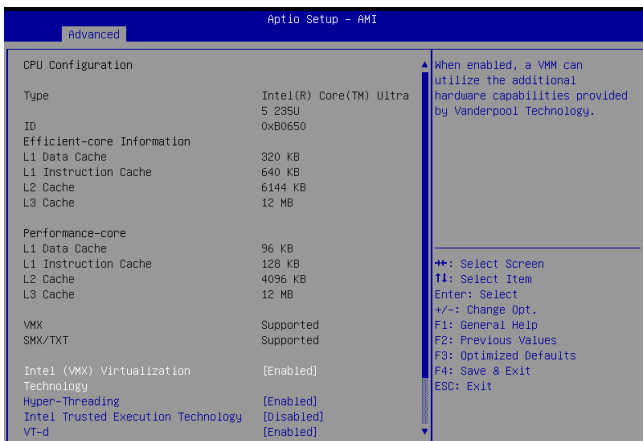
PH Randomization

Allows you to enable or disable Platform Hierarchy randomization.

Configuration options: [Disabled] [Enabled]

4.4.3 CPU Configuration

The items in this menu show the CPU-related information that the BIOS automatically detects. Scroll down to display other BIOS items.



Intel (VMX) Virtualization Technology

When set to [Enabled], a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

Configuration options: [Disabled] [Enabled]

Hyper-Threading

This item is enabled for Windows and Linux (OS optimized for Hyper-Threading Technology) and Disabled for other OS (OS not optimized for Hyper-Threading Technology).

Configuration options: [Disabled] [Enabled]

Intel Trusted Execution Technology

Allows you to enable or disable utilization of additional hardware capabilities provided by Intel (R) Trusted Execution Technology. Changes require a full power cycle to take effect.
Configuration options: [Disabled] [Enabled]

VT-d

Allows you to enable or disable VT-d capability.
Configuration options: [Disabled] [Enabled]

Active Performance-cores

Allows you to select the number of CPU cores to activate in each processor package.
Configuration options: [All] [1]

Active Efficient-cores

Allows you to select the number of efficient cores to activate in each processor package.
Configuration options: [All] [7] [6] [5] [4] [3] [2] [1] [0]

CPU - Power Management Control

Intel(R) SpeedStep(tm)

Allows more than two frequency to be supported.
Configuration options: [Disabled] [Enabled]

Intel(R) Speed Shift Technology

Allows you to enable or disable Intel(R) Speed Shift Technology support. When enabled, CPPC v2 interface allows hardware controlled P-states.
Configuration options: [Disabled] [Enabled]

Turbo Mode

Allows you to enable or disable processor Turbo Mode (requires Intel Speed Step or Intel Speed Shift to be available when enabled).
Configuration options: [Disabled] [Enabled]

C states

Allows you to enable or disable CPU Power Management. Allows CPU to go to C states when it's not 100% utilized.

Configuration options: [Disabled] [Enabled]

NOTE: The following item appears only when **C states** is set to **[Enabled]**.

Enhanced C-States

Allows you to enable or disable C1E. When enabled, CPU will switch to minimum speed when all cores enter C-State.

Configuration options: [Disabled] [Enabled]

Power Limit 1

Allows you to configure Power Limit 1 value in milliwatts (e.g., enter 12500 for 12.5 W).

Power Limit 2

Allows you to configure Power Limit 2 value in milliwatts (e.g., enter 12500 for 12.5 W).

Max TOLUD

Allows you to select the maximum memory size of TOLUD (Top of Low Usable DRAM). Dynamic assignment will adjust TOLUD automatically based on the largest MMIO length of installed graphics controller.

Configuration options: [Dynamic] [0.75 GB] [1 GB] [1.25 GB] [1.5 GB] [1.75 GB] [2 GB] [2.25 GB] [2.5 GB]

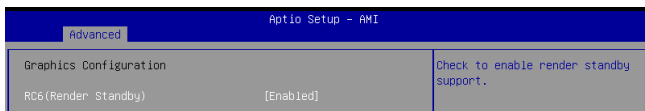
Maximum Memory Frequency

Allows you to select the maximum memory frequency setting in Mhz.

Configuration options: [Auto] [1067] [1333] [1600] [1867] [2133] [2400] [2667] [2933] [3200] [3467] [3600] [3733] [4000] [4200] [4267] [4400] [4600] [4800] [5000] [5200] [5400] [5600] [5800] [6000] [6200] [6400] [6600] [6800] [7000] [7200] [7400] [7600] [7800] [8000] [8200] [8400] [8600] [8800] [9000] [9200] [9400] [9600] [9800] [10000] [10200] [10400] [10600] [10800] [11000] [11200] [11400] [11600] [11800] [12000] [12200] [12400] [12600] [12800]

4.4.4 Graphics Configuration

The items in this menu allow you to configure settings related to graphics.



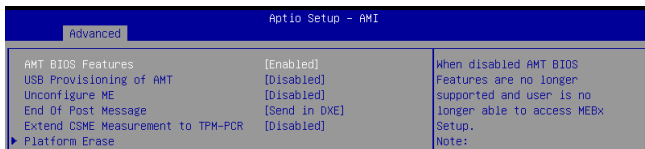
RC6(Render Standby)

Allows you to enable or disable render standby support.

Configuration options: [Disabled] [Enabled]

4.4.5 AMT Configuration

The items in this menu allow you to configure Intel(R) Active Management Technology parameters.



AMT BIOS Features

Allows you to enable or disable AMT BIOS features.

Configuration options: [Disabled] [Enabled]

IMPORTANT! When set to **[Disabled]**, AMT features are no longer supported, and you will no longer be able to access MEBx setup.

NOTE: Setting this option to **[Disabled]** will not disable the manageability features in the firmware.

USB Provisioning of AMT

Allows you to enable or disable AMT USB Provisioning.

Configuration options: [Disabled] [Enabled]

Unconfigure ME

Allows you to enable or disable unconfigure ME by resetting the MEBx password to its default.

Configuration options: [Disabled] [Enabled]

End Of Post Message

Allows you to enable or disable End of Post message sent to ME.

Configuration options: [Disabled] [Send in DXE]

Extend CSME Measurement to TPM-PCR

Allows you to enable or disable Extend CSME Measurements to TPM-PCR[0] and AMT Config to TPM-PCR[1]

Configuration options: [Disabled] [Enabled]

Platform Erase

Enable Remote Platform Erase Feature

Allows you to enable or disable the remote platform erase feature.

This feature only works in vPro Enterprise.

Configuration options: [Disable] [Enable]

NOTE: The following item is available only when **Enable Remote Platform Erase Feature** is set to **[Enable]**.

SSD Erase Mode

Allows you to to Performs RPE SSD Erase flow without erasing SSD or Erase SSD.

Configuration options: [Simulated] [Real]

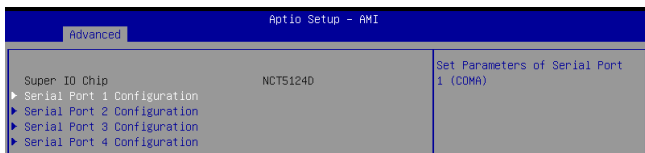
Storage Erase Configuration

Allows you to erase data on storage device according to the method order.

Configuration options: [Block Erase] [Crypto Erase] [Override Erase] [Clear]

4.4.6 Super IO Configuration

The items in this menu allow you to configure system super IO chip parameters.



Super IO Chip NCT5124D

Serial Port 1-4 Configuration

Allows you to set the parameters of Serial Port 1-4.

Serial Port

Allows you to enable or disable Serial Port.

Configuration options: [Disabled] [Enabled]

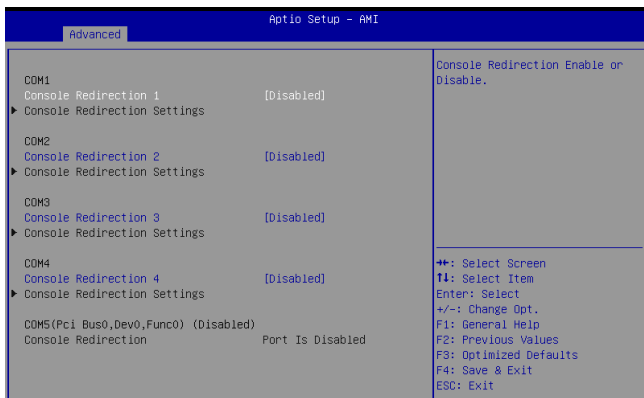
NOTE: The following items appear only when **Serial Port** is set to **[Enabled]**.

COM1-4 Control

Configuration options: [RS232] [RS422] [RS485]

4.4.7 Serial Console Redirection

The items in this menu allow you to configure serial console redirection parameters.



COM1-4

Console Redirection

Allows you to enable or disable the console redirection feature.
Configuration options: [Disabled] [Enabled]

NOTE: The following item appears only when **Console Redirection** is set to **[Enabled]**.

Console Redirection Settings

This item becomes configurable only when you enable the **Console Redirection** item. 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.

Terminal Type

Allows you to set the terminal type.

[VT100] ASCII char set.

[VT100Plus] Extends VT100 to support color, function keys, etc.

[VT-UTF8] Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.

[ANSI] Extended ASCII char set.

Bits per second

Selects serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.

Configuration options: [9600] [19200] [38400] [57600] [115200] [230400] [460800] [921600]

Data Bits

Configuration options: [7] [8]

Parity

A parity bit can be sent with the data bits to detect some transmission errors. **[Mark]** and **[Space]** parity do not allow for error detection.

[None] None.

[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.

Stop Bits

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.

Configuration options: [1] [2]

Flow Control

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.

Configuration options: [None] [Hardware RTS/CTS]

VT-UTF8 Combo Key Support

Allows you to enable the VT-UTF8 Combo Key Support for ANSI/VT100 terminals.

Configuration options: [Disabled] [Enabled]

Recorder Mode

With this mode enabled only text will be sent. This is to capture Terminal data.

Configuration options: [Disabled] [Enabled]

Resolution 100x31

Allows you to enable or disable extended terminal resolution.

Configuration options: [Disabled] [Enabled]

Putty KeyPad

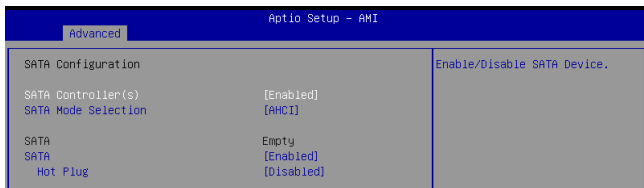
This allows you to select the FunctionKey and Keypad on Putty.

Configuration options: [VT100] [LINUX] [XTERM6] [SCO] [ESCN] [VT400]

4.4.8 SATA configuration

The items in this menu allow you to configure SATA device options.

While entering Setup, the BIOS automatically detects the presence of SATA devices. The SATA Port items show **[Empty]** if no SATA device is installed to the corresponding SATA port.



SATA Controller(s)

Allows you to enable or disable the SATA Controller.

Configuration options: [Disabled] [Enabled]

NOTE: The following items appear only when **SATA Controller(s)** is set to **[Enabled]**.

SATA Mode Selection

Allows you to configure how the SATA Controller operates.

[AHCI] Set to [AHCI] when you want the SATA hard disk drives to use the AHCI (Advanced Host Controller Interface). The AHCI allows the onboard storage driver to enable advanced Serial ATA features that increases storage performance on random workloads by allowing the drive to internally optimize the order of commands.

SATA

Allows you to enable or disable the SATA port.

Configuration options: [Disabled] [Enabled]

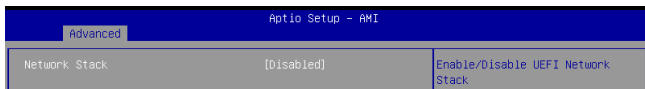
Hot Plug

Allows you to designate the SATA port as hot pluggable.

Configuration options: [Disabled] [Enabled]

4.4.9 Network Stack Configuration

Allows you to configure network stack settings.



Network Stack

Allows you to enable or disable UEFI Network Stack.

Configuration options: [Disabled] [Enabled]

NOTE: The following items appear only when **Network Stack** is set to **[Enabled]**.

IPv4 PXE Support

Enables or disables the IPv4 PXE Boot Support. If disabled, IPv4 PXE boot support will not be available.

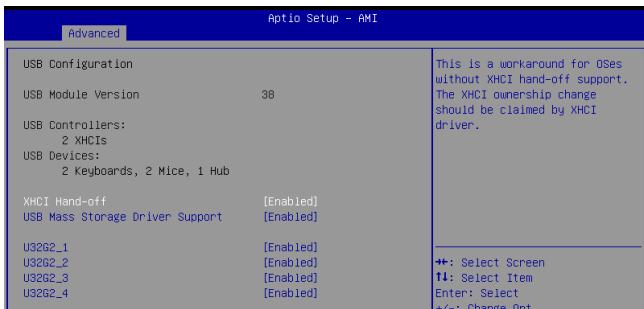
Configuration options: [Disabled] [Enabled]

IPv6 PXE Support

Enables or disables the IPv6 PXE Boot Support. If disabled, IPv6 PXE boot support will not be available.

Configuration options: [Disabled] [Enabled]

4.4.10 USB Configuration



NOTE: The **USB Devices** item shows the auto-detected values. If no USB device is detected, the item shows **None**.

XHCI Hand-off

NOTE: This item is set to **[Disabled]** by default for the EHCI (enhanced host controller interface) support by XHCI drivers in operating systems.

[Enabled] Support XHCI by BIOS for operating systems without XHCI support.

[Disabled] Support XHCI by XHCI drivers for operating systems with XHCI support.

USB Mass Storage Driver Support

Allows you to enable or disable the USB Mass Storage driver support.

Configuration options: [Disabled] [Enabled]

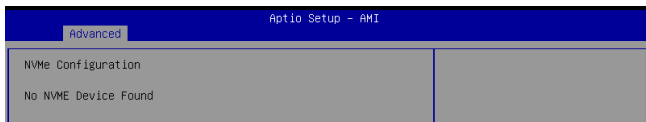
USB32G2_1-4

Allows you to enable or disable each USB port. When set to **[Disabled]**, any USB devices plugged into the connector will not be detected by the BIOS or OS.

Configuration options: [Disabled] [Enabled]

4.4.11 NVMe Configuration

This menu displays the NVMe controller and drive information of the connected devices.



4.4.12 Onboard Devices Configuration

Aptio Setup - AMI		
Advanced		
Onboard Devices Configuration		Control Detection of the HD-Audio device. Disabled = HDA will be unconditionally disabled Enabled = HDA will be unconditionally enabled.
HD Audio	[Enabled]	
LAN1 I226-IT	[Enabled]	
LAN2 I226-IT	[Enabled]	
NPU Device	[Enabled]	
M.2 WWLAN(B-Key)		
M.2 B-Key (PCIE)	[Enabled]	
M.2 B-Key (USB)	[Enabled]	
M.2 Wi-Fi(E-Key)		
CNV1 Mode	[Auto Detection]	
M.2 E-Key (PCIE)	[Enabled]	
M.2 E-Key (USB)	[Enabled]	
M.2 NVMe(M-Key)		
M.2 M-Key (PCIE)	[Enabled]	

HD Audio

Allows you to enable or disable HD-Audio support.
Configuration options: [Disabled] [Enabled]

LAN1 I226-IT

Allows you to enable or disable LAN1 I226-IT.
Configuration options: [Enabled] [Disabled]

LAN2 I226-IT

Allows you to enable or disable LAN2 I226-IT.
Configuration options: [Enabled] [Disabled]

NPU

Allows you to enable or disable the NPU.
Configuration options: [Enabled] [Disabled]

M.2 WWLAN(B-Key)

M.2 B-Key (PCIE)

Allows you to enable or disable the M.2 B-key PCIE port.
Configuration options: [Disabled] [Enabled]

M.2 B-Key (USB)

Allows you to enable or disable the M.2 B-key USB port.

Configuration options: [Disabled] [Enabled]

M.2 WiFi(E-Key)

CNVi Mode

This option configures Connectivity.

[Disable Integrated] Disabled Integrated Solution.

[Auto Detection] If Discrete solution is discovered it will be enabled by default. Otherwise Integrated solution (CNVi) will be enabled.

M.2 E-Key (PCIe)

Allows you to enable or disable the M.2 E-key PCIe port.

Configuration options: [Disabled] [Enabled]

M.2 E-Key (USB)

Allows you to enable or disable the M.2 E-key USB port.

Configuration options: [Disabled] [Enabled]

M.2 NVME(M-Key)

M.2 M-Key (PCIe)

Allows you to enable or disable the M.2 M-key PCIe port.

Configuration options: [Disabled] [Enabled]

4.4.13 APM Configuration

Allows you to configure the Advanced Power Management (APM) settings.

Aptio Setup - AMI		
Advanced		
APM Configuration		
ErP Ready	[Disabled]	Allow BIOS to switch off some power at S4/S5 to get the system ready for ErP requirement. When set to Enabled, all other PME options will be switched off.
Restore AC Power Loss	[S5 State]	
Power On By PCIE	[Disabled]	
Power On By Ring	[Disabled]	
Power On By RTC	[Disabled]	

ErP Ready

Allows the BIOS to switch off some power at S4/S5 to get the system ready for ErP requirement.

Configuration options: [Disabled] [Enabled]

NOTE: When set to **[Enabled]**, all other PME options will be switched off.

Restore AC Power Loss

[S5 State] The system enters the S5 state when power is re-applied after a power failure.

[S0 State] The system enters the S0 state when power is re-applied after a power failure.

Power On By PCIE

Allows you to enable or disable the wake-on-LAN function for the onboard LAN controller or other installed PCIe LAN cards.

Configuration options: [Disabled] [Enabled]

Power On By Ring

[Disabled] Disables the Ring devices to generate a wake event.

[Enabled] Enables the Ring devices to generate a wake event.

Power On By RTC

Allows you to disable the real-time clock (RTC) or enable it to schedule a wake event.

Configuration options: [Disabled] [Single event] [Daily event] [Weekly event] [Monthly event]

4.4.14 EC Firmware Update

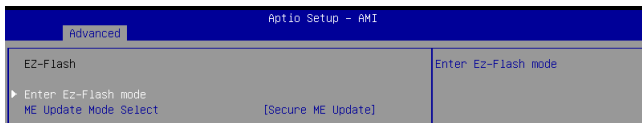
Advanced		Aptio Setup - AMI	
EC Firmware Update		Enable/Disable EC External ROM FW update during POST	
ASUS EC FW Update		[Disabled]	

ASUS EC FW Update

Allows you to enable or disable the EC external ROM RW update during post.

Configuration options: [Disabled] [Enabled]

4.4.15 EZ-Flash



Enter Ez-Flash mode

Allows you to enter Ez-Flash mode to run the ASUS Ez-Flash BIOS ROM utility.

WARNING! Make sure to back up your Bitlocker recovery key and suspend Bitlocker encryption in the operating system before updating your BIOS.

ME Update Mode Select

Allows you to select the ME update mode.

[Secure ME Update] Use the Intel Firmware Update Tool to update the CSME.

[Full ME Block Update] Perform a complete update of the ME region.

WARNING! Setting **ME Update Mode Select** to **[Full ME Block Update mode]** may cause all Intel CSME settings to be cleared (e.g., GbE LAN MAC address and PTT).

4.4.16 ASUS Autonomouse Self-Healing Engine

Aptio Setup - AMI		
Advanced		
Diagnostics Mode Support	[Disabled]	Support Diagnostics Mode
Auto Repair Mode Support	[Disabled]	
Event Debug Mode Support	[Disabled]	

Diagnostics Mode Support

Allows you to enable or disable diagnostic mode.

Configuration options: [Disabled] [Enabled]

Auto Repair Mode Support

Allows you to enable or disable auto repair mode.

Configuration options: [Disabled] [Enabled]

Event Debug Mode Support

Allows you to enable or disable event debug mode.

Configuration options: [Disabled] [Enabled]

4.4.17 Watchdog Timer

Aptio Setup - AMI		
Advanced		
Watchdog Timer		Enable/Disable Watchdog Support
Watchdog Support	[Enabled]	
Watchdog Count Mode	[Second Mode]	
Watchdog Timer	120	

Watchdog Support

Allows you to enable or disable Watchdog Support.

Configuration options: [Disabled] [Enabled]

NOTE: The following items appear only when Watchdog Support is set to [Enabled].

Watchdog Count Mode

Allows you to select the Watchdog Timer count mode.

Configuration options: [Second Mode] [Minute Mode]

Watchdog Timer

Allows you to input the Watchdog time-out interval.

4.4.18 Ignition Configuration

Aptio Setup - AMI	
Advanced	
Ignition Configuration	Enable/Disable Ignition Mode
Ignition Mode	[Disabled]

Ignition Mode

Allows you to enable or disable ignition mode.

Configuration options: [Disabled] [Enabled]

NOTE: The following items appear only when Ignition Mode is set to **[Enabled]**.

Ignition Delay Time Unit

Allows you to select ignition delay time unit.

Configuration options: [Second] [Minute]

Power On Delay

Allows you to specify the ignition power on delay time.

Configuration options: [0] - [255]

Power Off Delay

Allows you to specify the ignition power off delay time.

Configuration options: [0] - [255]

Power Hard Off Delay

Allows you to specify the ignition power hard off delay time.

Configuration options: [0] - [255]

Battery Voltage Monitor

Allows you to enable or disable the battery voltage monitor.

Configuration options: [Disabled] [Enabled]

Battery Voltage Monitor

Allows you to enable or disable the battery voltage monitor.

Configuration options: [Disabled] [Enabled]

NOTE: The following items appear only when Battery Voltage Monitor is set to [Enabled].

Battery Voltage Monitor Timeout Unit

Allows you to select the battery voltage monitor timeout unit

Configuration options: [Second] [Minute]

Power On Voltage of Battery

Allows you to set the minimum battery voltage to power on the system.

Use the <+> and <-> keys to adjust the value or input the desired value

Configuration options: [0] - [65535]

Hard Off Voltage of Battery

Allows you to set the voltage after which to power hard off. Use the <+> and <-> keys to adjust the value or input the desired value.

Configuration options: [0] - [65535]

Hard Off Voltage Timeout

Allows you to set the duration time of hard off voltage. Use the <+> and <-> keys to adjust the value or input the desired value.

Configuration options: [0] - [255]

4.4.19 Preserve BIOS option method

The items in this menu allow you to configure the preserve BIOS option method.

Advanced		Aptio Setup - AMI	
Preserve BIOS option method		Enabled/Disabled preserve BIOS option after flash BIOS	
Preserve BIOS option	[Disabled]		

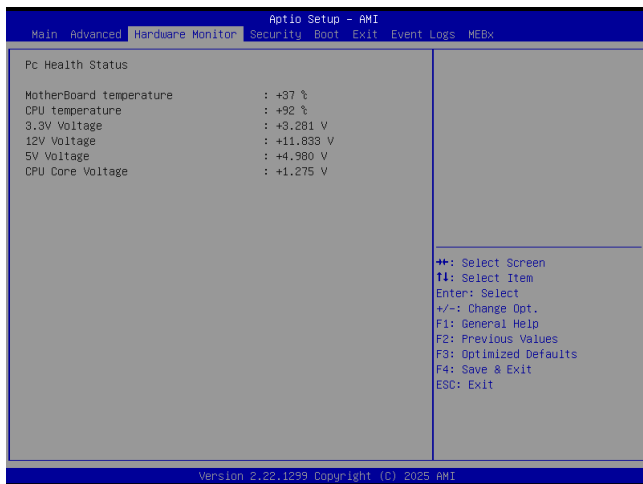
Preserve BIOS option

Allows you to enable or disable the preserve BIOS option after flash BIOS.

Configuration options: [Disabled] [Enabled]

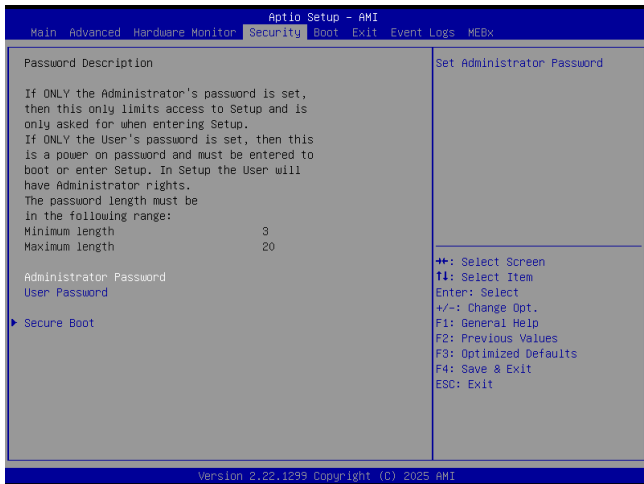
4.5 Hardware Monitor menu

The Hardware Monitor menu displays the system temperature/power status.



4.6 Security menu

This menu allows a new password to be created or a current password to be changed. The menu also enables or disables the Secure Boot state and lets the user configure the System Mode state.



Administrator Password

To set an administrator password:

1. Select the Administrator Password item and press <Enter>.
2. From the Create New Password box, key in a password, then press <Enter>.
3. Confirm the password when prompted.

To change an administrator password:

1. Select the Administrator Password item and press <Enter>.
2. From the Enter Current Password box, key in the current password, then press <Enter>.

3. From the Create New Password box, key in a new password, then press <Enter>.
4. Confirm the password when prompted. **NOTE:** To clear the administrator password, follow the same steps as in changing an administrator password, but press <Enter> when prompted to create/confirm the password.

User Password

To set a user password:

1. Select the User Password item and press <Enter>.
2. From the Create New Password box, key in a password, then press <Enter>.
3. Confirm the password when prompted.

To change a user password:

1. Select the User Password item and press <Enter>.
2. From the Enter Current Password box, key in the current password, then press <Enter>.
3. From the Create New Password box, key in a new password, then press <Enter>.
4. Confirm the password when prompted.

To clear a user password:

1. Follow the same steps as in changing a user password, but press <Enter> when prompted to create a new password.
2. Select Yes from the Warning message window, then press <Enter>.

Secure Boot

Secure Boot can be enabled if the system is running in User mode with enrolled platform Key (PK) or if the CSM function is disabled.

Configuration options: [Disabled] [Enabled]

Secure Boot Mode

In Custom Mode, the secure boot policy variables can be configured by a physically present user without full authentication.

Configuration options: [Standard] [Custom]

Key Management

The Key Management item allows you to modify Secure Boot variables and set Key Management page.

Platform Key (PK)

Configuration options: [Details] [Export] [Update] [Delete]

Key Exchange Keys / Authorized Signatures / Forbidden Signatures

Configuration options: [Details] [Export] [Update] [Append] [Delete]

HDD Security Configuration

The HDD Security Configuration item allows you to set up passwords to protect your HDD.

NOTE: This item is only available when you have a SATA HDD connected.

To set a password for your HDD:

1. Select the HDD Security Configuration item and press <Enter>.
2. Select the User Password item and press <Enter>.
3. From the Create New Password box, key in a password, then press <Enter>.
4. Confirm the password when prompted.

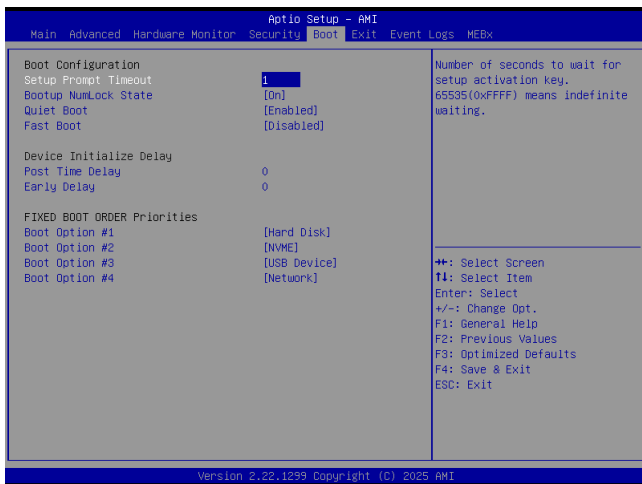
To change the password for your HDD:

1. Select the HDD Security Configuration item and press <Enter>.
2. Select the Set User Password item and press <Enter>.
3. From the Enter Current Password box, key in a password, then press <Enter>.
4. From the Create New Password box, key in a password, then press <Enter>.
5. Confirm the password when prompted.

NOTE: To clear the user password, follow the same steps as in changing a user password, but press <Enter> when prompted to create/confirm the password.

4.7 Boot menu

The Boot menu items allow you to change the system boot options.



Boot Configuration

Setup Prompt Timeout

Allows you to set the number of seconds that the firmware waits before initiating the original default boot selection. 65535(0xFFFF) means indefinite waiting. Use <+> or <-> to adjust the value.

Bootup NumLock State

Allows you to select the power-on state for the NumLock.
Configuration options: [On] [Off]

Quiet Boot

Allows you to enable or disable the Quiet Boot option.

Configuration options: [Disabled] [Enabled]

Fast Boot

[Disabled] Allows your system to go back to its normal boot speed.

[Enabled] Allows your system to accelerate the boot speed.

Device Initialize Delay

Post Time Delay

Allows you to add a delay of 0-6000 ms after device initialization to increase the compatibility. You can only execute the POST time delay during normal boot. The unit is 500 ms, and the values range from 0 to 12.

Early Delay

Allows you to add a delay of 0-6000 ms before device initialization to increase the compatibility. You can only execute the POST early delay during normal boot. The unit is 100 ms, and the values range from 0 to 60.

FIXED BOOT ORDER Priorities

These items specify the boot device priority sequence from the available devices. The number of device items that appears on the screen depends on the number of devices installed in the system.

NOTE: To select the boot device during system startup, press <F8> when the ASUS Logo appears.

4.8 Exit menu

The Save & Exit menu items allow you to save or discard your changes to the BIOS items.



NOTE: Pressing <ESC> does not immediately exit this menu. Select one of the options from this menu or press <F4> to save and exit.

Save Changes and Exit

Exit system setup after saving changes.

Discard Changes and Exit

Exit system setup without saving changes.

Save Changes and Reset

Reset the system after saving changes.

Discard Changes and Reset

Reset the system without saving any changes.

Save Options

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.

Restore Defaults

Restore/load default values for all the setup options.

Save as User Defaults

Save the changes done so far as User Defaults.

Restore User Defaults

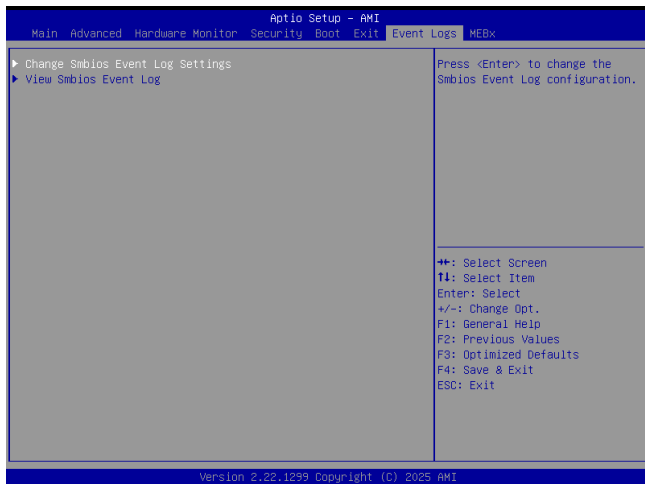
Restore/load default values for all the setup options.

Boot Override

These item displays the available devices. The number of device items that appear on the screen depends on the number of devices installed in the system. Click an item to start booting from the selected device.

4.9 Event Logs menu

The Event Logs menu items allow you to change the Smbios event log settings and view the system event logs.



Change Smbios Event Log Settings

Allows you to change the Smbios Event Log settings.

NOTE: All values changed here do not take effect until computer is restarted.

View Smbios Event Log

Allows you to view all Smbios event logs.

4.10 MEBx menu

The MEBx menu allows you to configure Intel(R) Management Engine (ME) features.



Intel(R) ME Password

Allows you to login to access the Intel(R) MEBx configuration settings.

NOTE: The default password is **admin**. After logging in with the default password, you must change the password before any features can be used.

4.11 Updating your BIOS

The following utilities allow you to manage and update the motherboard Basic Input/Output System (BIOS) setup:

1. **ASUS CrashFree BIOS**

To recover the BIOS using a bootable USB flash disk drive when the BIOS file fails or is corrupt.

2. **ASUS EzFlash**

Updates the BIOS using a USB flash disk.

Refer to the corresponding sections for details on these utilities.

4.11.1 ASUS CrashFree BIOS utility

The ASUS CrashFree BIOS is an auto recovery tool that allows you to restore the BIOS file when it fails or gets corrupted during the updating process. You can update a corrupted BIOS file using a USB flash drive that contains the updated BIOS file.

IMPORTANT! Prepare a USB flash drive containing the updated motherboard BIOS before using this utility.

Recovering the BIOS from a USB flash drive

To recover the BIOS from a USB flash drive:

1. Insert the USB flash drive with the original BIOS file to one of the USB ports on the system.
2. The utility will automatically recover the BIOS. It resets the system when the BIOS recovery finished.

WARNING! DO NOT shut down or reset the system while recovering the BIOS! Doing so will cause system boot failure!

NOTE: The recovered BIOS may not be the latest BIOS version for this motherboard. Visit the ASUS website at www.asus.com to download the latest BIOS file.

4.11.2 ASUS EzFlash Utility

The ASUS EzFlash Utility feature allows you to update the BIOS using a USB flash disk without having to use a DOS-based utility.

IMPORTANT! Download the latest BIOS from the ASUS website at www.asus.com before using this utility.

NOTE: The succeeding BIOS screens are for reference only. The actual BIOS screen displayed may not be the same as shown.

To update the BIOS using EzFlash Utility:

1. Insert the USB flash disk that contains the latest BIOS file to a USB port.
2. Enter the BIOS setup program. Go to the **Advanced** menu > **EZ-Flash** > **Enter Ez-Flash mode**. Select Yes and then OK to auto reboot and enter EZ-Flash mode.

WARNING! Make sure to back up your Bitlocker recovery key and suspend Bitlocker encryption in the operating system before updating your BIOS.

3. Use the Up/Down arrow keys to find the USB flash disk that contains the latest BIOS, and then press <Enter>.
4. Use the Up/Down arrow keys to find the BIOS file then press <Enter>.



5. Reboot the system when the update process is done.

WARNING!

- This function can support devices such as a USB flash disk with FAT 32/16 format and single partition only.
 - DO NOT shut down or reset the system while updating the BIOS to prevent system boot failure!
-

IMPORTANT! Make sure to load the BIOS default settings to ensure system compatibility and stability. Press <F3> and select Yes to load the BIOS default settings.

Appendix

Safety information

Your Embedded Computer is designed and tested to meet the latest standards of safety for information technology equipment. However, to ensure your safety, it is important that you read the following safety instructions.

Setting up your system

- Read and follow all instructions in the documentation before you operate your system.
- Do not use this product near water or a heated source.
- Set up the system on a stable surface.
- When configured with industrial-grade components, this product can operate in extended temperature environments with adequate airflow.
- When used with a power adapter, this product should only operate in environments with ambient temperatures between -25°C and 60°C. Refer to the **Connect the AC power adapter** section for detailed power adapter requirements.
- If you use an extension cord, make sure that the total ampere rating of the devices plugged into the extension cord does not exceed its ampere rating.
- This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.
- This device shall not be connected to an Ethernet network with outside plant routing.

Care during use

- Do not walk on the power cord or allow anything to rest on it.
- Do not spill water or any other liquids on your system.
- When the system is turned off, a small amount of electrical current still flows. Always unplug the power cord from the power outlets before cleaning the system.
- Use this product with care when operating at full load, as the product, especially the outer casing, may reach elevated temperatures.
- If you encounter the following technical problems with the product, unplug the power cord and contact a qualified service technician or your retailer.
 - The power cord or plug is damaged.
 - Liquid has been spilled into the system.
 - The system does not function properly even if you follow the operating instructions.
 - The system was dropped or the cabinet is damaged.
 - The system performance changes.

Lithium-Metal Battery Warning

CAUTION! Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

NO DISASSEMBLY

**The warranty does not apply to the products
that have been disassembled by users**

Regulatory notices

FCC Compliance Information

Responsible Party: Asus Computer International

Address: 48720 Kato Rd., Fremont, CA 94538, USA

Phone / Fax No: (510)739-3777 / (510)608-4555

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

IMPORTANT! Outdoor operations in the 5.15~5.25 GHz band is prohibited. This device has no Ad-hoc capability for 5250~5350 and 5470~5725 MHz.

CAUTION! Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Compliance Statement of Innovation, Science and Economic Development Canada (ISED)

This device complies with Innovation, Science and Economic Development Canada licence exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

CAN ICES(A)/NMB(A)

Déclaration de conformité d'Innovation, Sciences et Développement économique Canada (ISED)

Le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

CAN ICES(A)/NMB(A)

KC: Korea Warning Statement

Class A:

사용자 안내문

이 기기는 업무용 환경에서 사용할 목적으로 적합성평가를 받은 기기로서 가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다.

Safety Precautions

Accessories that came with this product have been designed and verified for the use in connection with this product. Never use accessories for other products to prevent the risk of electric shock or fire.

安全上のご注意

付属品は当該専用品です。他の機器には使用しないでください。機器の破損もしくは、火災や感電の原因となることがあります。

Environmental information

Declaration of compliance for product environmental regulation

ASUS follows the green design concept to design and manufacture our products, and makes sure that each stage of the product life cycle of ASUS product is in line with global environmental regulations. In addition, ASUS disclose the relevant information based on regulation requirements.

Please refer to <https://esg.asus.com/Compliance.htm> for information disclosure based on regulation requirements ASUS is complied with.

EU REACH and Article 33

Complying with the REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals) regulatory framework, we publish the chemical substances in our products at ASUS REACH website at <https://esg.asus.com/Compliance.htm>

EU RoHS

This product complies with the EU RoHS Directive. For more details, see <https://esg.asus.com/Compliance.htm>

Japan JIS-C-0950 Material Declarations

Information on Japan RoHS (JIS-C-0950) chemical disclosures is available on <https://esg.asus.com/Compliance.htm>

India RoHS

This product complies with the "India E-Waste (Management) Rules, 2016" and prohibits use of lead, mercury, hexavalent chromium, polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs) in concentrations exceeding 0.1% by weight in homogenous materials and 0.01% by weight in homogenous materials for cadmium, except for the exemptions listed in Schedule II of the Rule.

Vietnam RoHS

ASUS products sold in Vietnam, on or after September 23, 2011, meet the requirements of the Vietnam Circular 30/2011/TT-BCT.

Các sản phẩm ASUS bán tại Việt Nam, vào ngày 23 tháng 9 năm 2011 trở về sau, đều phải đáp ứng các yêu cầu của Thông tư 30/2011/TT-BCT của Việt Nam.

Türkiye RoHS

AEEE Yönetmeliğine Uygundur

ASUS Recycling/Takeback Services

ASUS recycling and takeback programs come from our commitment to the highest standards for protecting our environment. We believe in providing solutions for you to be able to responsibly recycle our products, batteries, other components as well as the packaging materials. Please go to <https://esg.asus.com/en/Takeback.htm> for detailed recycling information in different regions.

Ecodesign Directive

The European Union announced a framework for the setting of ecodesign requirements for energy-related products (2009/125/EC). Specific implementing measures are aimed at improving environmental performance of specific products or across multiple product types. ASUS provides product information at <https://esg.asus.com/Compliance.htm>

Proper disposal



The Waste Electrical and Electronic Equipment (WEEE) Directive (Directive 2012/19/EU) is a European Union law that aims to reduce the environmental impact of electrical and electronic equipment. It mandates producers to take responsibility for the end-of-life management of their products, promoting collection, treatment, and recycling to minimize waste and encourage resource recovery. Do not throw your electrical and electronic equipment in municipal waste.

The symbol of the crossed-out wheeled bin on the product or packaging indicates that this product (including any batteries it contains) must not be disposed of with your household waste. To prevent potential harm to the environment and human health, a collection framework should be used to return, recycle, and recover waste electrical and electronic equipment (WEEE), and this product has been designed to enable the reuse of parts and facilitate the recycling of certain materials. Improper disposal may involve risks due to the presence of hazardous substances within electrical and electronic equipment, such as lead and BFR and other harmful components. Check your local recycling services for electronic products.

<https://esg.asus.com/en/circular-economy/resource-regeneration/global-take-back-service>

甲類警語

警告：為避免電磁干擾，本產品不應安裝或使用於住宅環境。

China Compulsory Certification

警告：在居住環境中，運行此設備可能會造成無線電干擾。

「產品之限用物質含有情況」之相關資訊，請參考下表：

Taiwan Declaration of Restricted Substances Marking

單元 (Unit)	限用物質及其化學符號 (Restricted substances and its chemical symbols)					
	鉛 Lead (Pb)	汞 Mercury (Hg)	鎘 Cadium (Cd)	六價鉻 Hexavalent chromium (Cr ⁶⁺)	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyls ethers (PBDE)
印刷電路板 及電子組件 PCB	—	○	○	○	○	○
外殼 Chassis	—	○	○	○	○	○
硬碟 Disk drive	—	○	○	○	○	○
散熱設備 Thermal solutions	—	○	○	○	○	○
其他及其 配件 (線材等) Accessories (e.g., cables)	—	○	○	○	○	○

備考 1. “○” 係指該項限用物質之百分比含量未超出百分比含量基準值。

備考 2. “—” 係指該項限用物質為排除項目。

Note 1 “○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

Note 2 The “—” indicates that the restricted substance corresponds to the exemption.

UK: The Radio Equipment Regulations 2017 (S.I. 2017/1206)

Simplified UKCA Declaration of Conformity

ASUSTek Computer Inc. hereby declares that this device is in compliance with the essential requirements and other relevant provisions of The Radio Equipment Regulations 2017 (S.I. 2017/1206). Full text of UKCA declaration of conformity is available at <https://www.asus.com/support/>.

The WiFi operating in the band 5150-5350MHz shall be restricted to indoor use for country listed below:

UK

EU: Radio Equipment Directive (Directive 2014/53/EU)

Simplified EU Declaration of Conformity

ASUSTek Computer Inc. hereby declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. Full text of EU declaration of conformity is available at <https://www.asus.com/support/>.

The WiFi operating in the band 5150-5350MHz shall be restricted to indoor use for countries listed in the table below:

Déclaration simplifiée de conformité de l'UE

ASUSTek Computer Inc. déclare par la présente que cet appareil est conforme aux critères essentiels et autres clauses pertinentes de la directive 2014/53/EU. La déclaration de conformité de l'UE peut être téléchargée à partir du site internet suivant :

<https://www.asus.com/support/>

Dans la plage de fréquence 5150-5350 MHz, le Wi-Fi est restreint à une utilisation en intérieur dans les pays listés dans le tableau ci-dessous:

Vereinfachte EU-Konformitätserklärung

ASUSTek COMPUTER INC erklärt hiermit, dass dieses Gerät mit den grundlegenden Anforderungen und anderen relevanten Bestimmungen der Richtlinie 2014/53/EU übereinstimmt. Der gesamte Text der EU-Konformitätserklärung ist verfügbar unter: <https://www.asus.com/support/>

Der WLAN-Betrieb im Band von 5150-5350 MHz ist für die in der unteren Tabelle aufgeführten Länder auf den Innenbereich beschränkt:

Dichiarazione di conformità UE semplificata

ASUSTek Computer Inc. con la presente dichiara che questo dispositivo è conforme ai requisiti essenziali e alle altre disposizioni pertinenti con la direttiva 2014/53/EU. Il testo completo della dichiarazione di conformità UE è disponibile all'indirizzo:

<https://www.asus.com/support/>

L'utilizzo della rete Wi-Fi con frequenza compresa nell'intervallo 5150-5350MHz deve essere limitato all'interno degli edifici per i paesi presenti nella seguente tabella:

Упрощенное заявление о соответствии европейской директиве

ASUSTek Computer Inc. заявляет, что устройство соответствует основным требованиям и другим соответствующим условиям директивы 2014/53/EU. Полный текст декларации соответствия ЕС доступен на <https://www.asus.com/support/>

Работа WiFi в диапазоне частот 5150-5350 должна быть ограничена использованием в помещениях для стран, перечисленных в таблице ниже:

إعلان التوافق المبسط الصادر عن الاتحاد الأوروبي

تقر شركة ASUSTek Computer Inc. أن هذا الجهاز يتوافق مع المتطلبات الأساسية والأحكام الأخرى ذات الصلة الخاصة بتوجيه 2014/53/EU. يتوفر النص الكامل لإعلان التوافق الصادر عن الاتحاد الأوروبي على:

<https://www.asus.com/support/>

يجب حصر استخدام WiFi العاملة بـ 5150-5350 ميجا هرتز على الاستخدام المنزلي للبلدان المدرجة بالجدول.

Опростена декларация за съответствие на ЕС

С настоящото ASUSTek Computer Inc. декларира, че това устройство е в съответствие със съществените изисквания и другите приложими постановления на свързаната Директива 2014/53/ЕС. Пълният текст на ЕС декларация за съвместимост е достъпен на адрес <https://www.asus.com/support/>. WiFi, работеща в диапазон 5150-5350MHz, трябва да се ограничи до употреба на закрито за страните, посочени в таблицата по-долу.

Declaração de Conformidade UE Simplificada

ASUSTek Computer Inc. declara que este dispositivo está em conformidade com os requisitos essenciais e outras disposições relevantes relacionadas às diretivas 2014/53/UE. O texto completo da declaração de conformidade CE está disponível em <https://www.asus.com/support/>.

O WiFi operando na banda 5150-5350MHz deve ser restrito para uso interno para os países listados na tabela abaixo:

Pojednostavljena EU Izjava o sukladnosti

ASUSTek Computer Inc. ovim izjavljuje da je ovaj uređaj sukladan s bitnim zahtjevima i ostalim odgovarajućim odredbama direktive 2014/53/EU. Cijeli tekst EU izjave o sukladnosti dostupan je na <https://www.asus.com/support/>. WiFi koji radi na opsegu frekvencija 5150-5350 MHz bit će ograničen na upotrebu u zatvorenom prostoru u zemljama na donjem popisu:

Zjednodušené prohlášení o shodě EU

Společnost ASUSTek Computer Inc. tímto prohlašuje, že toto zařízení splňuje základní požadavky a další příslušná ustanovení směrnice 2014/53/EU. Plné znění prohlášení o shodě EU je k dispozici na adrese <https://www.asus.com/support/>.

V zemích uvedených v tabulce je provoz sítě Wi-Fi ve frekvenčním rozsahu 5 150 - 5 350 MHz povolen pouze ve vnitřních prostorech:

Forenklet EU-overensstemmelseserklæring

ASUSTek Computer Inc. erklærer hermed at denne enhed er i overensstemmelse med hovedkravene og øvrige relevante bestemmelser i direktivet 2014/53/EU. Hele EU-overensstemmelseserklæringen kan findes på <https://www.asus.com/support/>.

Wi-Fi, der bruger 5150-5350 MHz skal begrænses til indendørs brug i lande, der er anført i tabellen:

Vereenvoudigd EU-conformiteitsverklaring

ASUSTek Computer Inc. verklaart hierbij dat dit apparaat voldoet aan de essentiële vereisten en andere relevante bepalingen van Richtlijn 2014/53/EU. De volledige tekst van de EU-conformiteitsverklaring is beschikbaar op <https://www.asus.com/support/>.

De WiFi op 5150-5350MHz zal beperkt zijn tot binnengebruik voor in de tabel vermelde landen:

Lihtsustatud EÜ vastavusdeklaratsioon

Käesolevaga kinnitab ASUSTek Computer Inc, et seade vastab direktiivi 2014/53/EÜ olulistele nõuetele ja teistele asjakohastele sätetele. EL vastavusdeklaratsiooni täistekst on saadaval veebisaidil <https://www.asus.com/support/>. Sagedusvahemikus 5150-5350 MHz töötava WiFi kasutamise on järgmistes riikides lubatud ainult siseruumides:

Eurooppa - EY:n vaatimustenmukaisuusvakuutus

ASUSTek Computer Inc. ilmoittaa täten, että tämä laite on direktiivin 2014/53/EU olennaisten vaatimusten ja muiden asiaankuuluvien lisäysten mukainen. Koko EY:n vaatimustenmukaisuusvakuutuksen teksti on luettavissa osoitteessa <https://www.asus.com/support/>.

5 150 - 5 350 MHz:n taajuudella toimiva WiFi on rajoitettu sisäkäyttöön taulukossa luetteluissa maissa:

تبعیت از نسخه ساده شده بیانیہ اتحادیہ اروپا

ASUSTek Computer Inc در اینجا اعلام می کند که این دستگاه با نیازهای اساسی و سایر مقررات مربوط به بیانیہ 2014/53/EU. مطابقت دارد. متن کامل پیروی از این بیانیہ اتحادیہ اروپا در این آدرس موجود است:

<https://www.asus.com/support/>

عملکرد 5150-5350 مگاهرتز برای WiFi باید برای استفاده در فضای داخل ساختمان برای کشورهای فهرست شده در جدول، محدود شود.

Απλοποιημένη Δήλωση Συμμόρφωσης ΕΕ

Διά του παρόντος η ASUSTek Computer Inc. δηλώνει ότι αυτή η συσκευή είναι σύμμορφη με τις βασικές προϋποθέσεις και άλλες σχετικές διατάξεις της Οδηγίας 2014/53/ΕΕ. Το πλήρες κείμενο της δήλωσης συμμόρφωσης της ΕΕ είναι διαθέσιμο στη διεύθυνση <https://www.asus.com/support/>

Το WiFi που λειτουργεί στη ζώνη 5150-5350MHz περιορίζεται για χρήση σε εσωτερικούς χώρους για τις χώρες που αναφέρονται στον παρακάτω πίνακα:

הצהרת תאימות רגולטורית מקוצרת עבור האיחוד אירופי

2014/53/ ASUSTek Computer Inc. מצהירה בזאת כי מכשיר זה תואם לדרישות החיוביות ולשאר הסעיפים הרלוונטיים של תקנה 2014/53/EE. ניתן לקרוא את הנוסח המלא של הצהרת התאימות הרגולטורית עבור האיחוד האירופי בכתובת: <https://www.asus.com/support/>

יש להגביל רשתות Wi-Fi הפועלות ברצועת התדרים 5150-5350MHz לשימוש בתוך מבנים סגורים בארצות המפורסות ברשימה הבאה:

Egyszerűsített EU megfelelőségi nyilatkozat

Az ASUSTek Computer Inc. ezennel kijelenti, hogy ez az eszköz megfelel az 2014/53/EU sz. irányelv alapvető követelményeinek és egyéb vonatkozó rendelkezéseinek. Az EU megfelelőségi nyilatkozat teljes szövegét a következő weboldalon tekintheti meg: <https://www.asus.com/support/>

Az 5150-5350 MHz-es sávban működő Wi-Fi-t beltéri használatra kell korlátozni az alábbi táblázatban felsorolt országokban:

Pernyataan Kesesuaian UE yang Disederhanakan

ASUSTek Computer Inc. dengan ini menyatakan bahwa perangkat ini memenuhi persyaratan utama dan ketentuan relevan lainnya yang terdapat pada Petunjuk 2014/53/EU. Teks lengkap pernyataan kesesuaian EU tersedia di: <https://www.asus.com/support/>

WiFi yang Beroperasi pada 5150-5350 MHz akan terbatas untuk penggunaan dalam ruangan di negara yang tercantum dalam tabel

Vienkāršota ES atbilstības paziņojums

ASUSTek Computer Inc. ar šo paziņo, ka šī ierīce atbilst Direktīvas 2014/53/ES būtiskajām prasībām un citiem citiem saistošajiem nosacījumiem. Pilns ES atbilstības paziņojuma teksts pieejams šeit: <https://www.asus.com/support/>

Wi-Fi darbība 5150–5350 MHz ir jāierobežo lietošanai telpās valstīs, kuras norādītas tālāk.

Suprastinta ES atitikties deklaracija

Šiame dokumente bendrovė „ASUSTek Computer Inc.“ pareiškia, kad šis prietaisas atitinka pagrindinius reikalavimus ir kitas susijusias Direktyvos 2014/53/ES nuostatas. Visas ES atitikties deklaracijos teksto pateikiamas čia: <https://www.asus.com/support/>

Toliau nurodytose šalyse „WiFi“ ryšiu, veikiančiu 5 150–5 350 MHz dažnio juostoje, galima naudotis tik patalpose:

Forenklet EU-samsvarserklæring

ASUSTek Computer Inc. erklærer herved at denne enheten er i samsvar med hovedsaklige krav og andre relevante forskrifter i direktivet 2014/53/EU. Fullstendig tekst for EU-samsvarserklæringen finnes på: <https://www.asus.com/support/>

Wi-Fi-området 5150–5350 MHz skal begrenses til innendørs bruk for landene som er oppført i tabellen:

Uproszczona deklaracja zgodności UE

Firma ASUSTek Computer Inc. niniejszym oświadca, że urządzenie to jest zgodne z zasadniczymi wymogami i innymi właściwymi postanowieniami dyrektywy 2014/53/EU. Pełny tekst deklaracji zgodności UE jest dostępny pod adresem <https://www.asus.com/support/>

W krajach wymienionych w tabeli działanie sieci Wi-Fi w paśmie 5150–5350 MHz powinno być ograniczone wyłącznie do pomieszczeń:

Declaração de Conformidade Simplificada da UE

A ASUSTek Computer Inc. declara que este dispositivo está em conformidade com os requisitos essenciais e outras disposições relevantes da Diretiva 2014/53/UE. O texto integral da declaração de conformidade da UE está disponível em <https://www.asus.com/support/>

A utilização das frequências WiFi de 5150 a 5350MHz está restrita a ambientes interiores nos países apresentados na tabela:

Declarație de conformitate UE, versiune simplificată

Prin prezenta, ASUSTek Computer Inc. declară că acest dispozitiv este în conformitate cu reglementările esențiale și cu celelalte prevederi relevante ale Directivei 2014/53/UE. Textul complet al declarației de conformitate UE este disponibil la adresa

<https://www.asus.com/support/>

Pentru țările listate în tabelul de mai jos, rețelele WiFi care funcționează în banda de frecvență de 5.150-5.350 MHz trebuie utilizate doar în interior:

Pojednostavljena Deklaracija o usaglašenosti EU

ASUSTek Computer Inc. ovim izjavljuje da je ovaj uređaj usaglašen sa osnovnim zahtevima i drugim relevantnim odredbama Direktive 2014/53/EU. Ceo tekst Deklaracije o usaglašenosti EU dostupan je na lokaciji <https://www.asus.com/support/>

WiFi koji radi u frekventnom opsegu od 5150 MHz do 5350 MHz ograničen je isključivo na upotrebu u zatvorenom prostoru za zemlje navedene u tabeli ispod:

Zjednodušené vyhlásenie o zhode platné pre EÚ

Spoločnosť ASUSTek Computer Inc. týmto vyhlasuje, že toto zariadenie je v súlade so základnými požiadavkami a ďalšími príslušnými ustanoveniami smernice č. 2014/53/EÚ. Plné znenie vyhlásenia o zhode pre EÚ je k dispozícii na lokalite

<https://www.asus.com/support/>

Činnosť WiFi v pásme 5150 - 5350 MHz bude obmedzená na použitie vo vnútornom prostredí pre krajiny uvedené v tabuľke nižšie:

nostavljena izjava EU o skladnosti

ASUSTek Computer Inc. tukaj izjavlja, da je ta naprava skladna s temeljnimi zahtevami in drugimi relevantnimi določili Direktive 2014/53/EU. Polno besedilo izjave EU o skladnosti je na voljo na <https://www.asus.com/support/>

WiFi, ki deluje v pasovnem območju 5150–5350 MHz, mora biti v državah, navedenih v spodnjem seznamu, omejen na notranjo uporabo.

Declaración de conformidad simplificada para la UE

Por la presente, ASUSTek Computer Inc. declara que este dispositivo cumple los requisitos básicos y otras disposiciones pertinentes de la directiva 2014/53/EU. En <https://www.asus.com/support/> está disponible el texto completo de la declaración de conformidad para la UE.

La conexión WiFi con una frecuencia de funcionamiento de 5150-5350 MHz se restringirá al uso en interiores para los países enumerados en la tabla:

Förenklad EU-försäkrän om överensstämmelse

ASUSTek Computer Inc. deklarerar härmed att denna enhet överensstämmer med de grundläggande kraven och andra relevanta bestämmelser i direktiv 2014/53/EU. Fullständig text av EU-försäkrän om överensstämmelse finns på <https://www.asus.com/support/>

WiFi som använder 5150-5350 MHz kommer att begränsas för användning inomhus i de länder som anges i tabellen:

ประกาศเกี่ยวกับความสอดคล้องของสหภาพยุโรปแบบย่อ

ASUSTek Computer Inc. ขอประกาศในที่นี้ว่าอุปกรณ์นี้มีความสอดคล้องกับมาตรฐาน

ต้องการที่จำเป็นและเงื่อนไขที่เกี่ยวข้องอื่น ๆ ของบทบัญญัติข้อกำหนด 2014/53/EU เนื้อหาที่สมบูรณ์ของประกาศความสอดคล้องกับ EU มีอยู่ที่ <https://www.asus.com/support/>

การทำงานของ WiFi ที่ 5150-5350MHz ถูกจำกัดให้ใช้ในอาคารสำหรับประเทศที่แสดงในตาราง

Basitleştirilmiş AB Uyumluluk Bildirimi

ASUSTek Computer Inc., bu aygıtın 2014/53/EU Yönergesinin temel gereksinimlerine ve diğer ilgili hükümlerine uygun olduğunu bildirir. AB uyumluluk bildiriminin tam metni şu adreste bulunabilir: <https://www.asus.com/support/>

5150-5350 MHz arasındaki WiFi çalışması, tabloda listelenen ülkeler için iç mekân kullanımıyla kısıtlanacaktır.

Спрощена декларація про відповідність нормам ЄС

ASUSTek Computer Inc. заявляє, що цей пристрій відповідає основним вимогам та іншим відповідним вимогам Директиви 2014 / 53 / EU. Повний текст декларації відповідності нормам ЄС доступний на <https://www.asus.com/support/>

Робота Wi-Fi на частоті 5150-5350 МГц обмежується використанням у приміщенні для країн, поданих у таблиці нижче:

AT	BE	BG	CZ	DK	EE	FR
DE	IS	IE	IT	EL	ES	CY
LV	LI	LT	LU	HU	MT	NL
NO	PL	PT	RO	SI	SK	TR
FI	SE	CH	HR	UK (NI)		

RF Module Warning Statement

RF modules are intended for OEM or host integrators only. For availability of system level RF certification, check with your OEM integrator.

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Service and Support

Visit our multi-language website at <https://www.asus.com/support/>.

