PE4000G Series

Embedded Computer

User Manual

HIGH-DEFINITION MULTIMEDIA INTERFACE

E21412
First Edition
December 2023

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Appendix

About this manual

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

Chapter 1: Getting to know your Embedded Computer

This chapter details the hardware components of your Embedded Computer.

Chapter 2: Using your Embedded Computer

This chapter provides you with information on using your Embedded Computer.

Chapter 3: Upgrading your Embedded Computer

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.

Appendix

This section includes notices and safety statements 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.

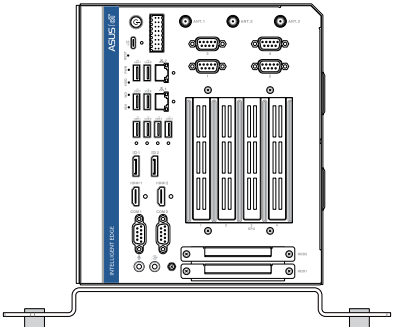
WARNING! This message contains important information that must be followed to keep you safe while performing certain tasks and prevent damage to your Embedded Computer's data and components.

Typography

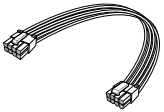
Bold text	Indicates a menu or an item to select.
Italic	Indicates sections that you can refer to in this manual.

Package contents

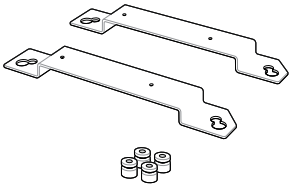
Your Embedded Computer package contains the following items:



PE4000G Series



GPU power cable



Desk mount with dampers

Power terminal block

IO port dust covers*

DIO terminal block*

NOTE:

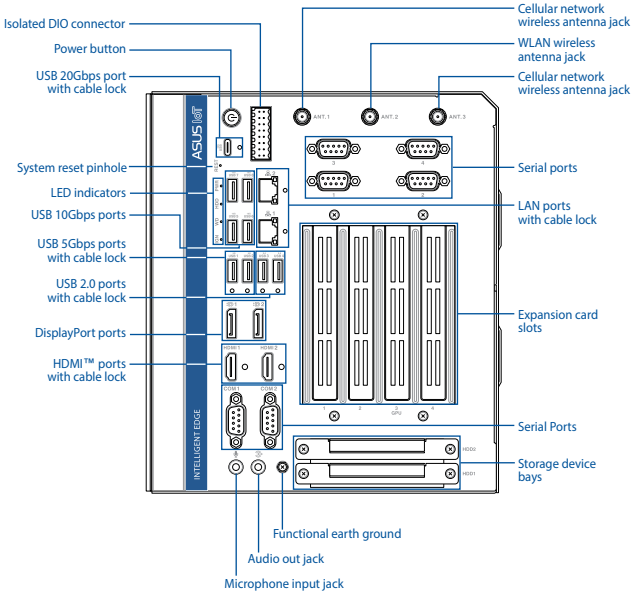
- *These accessories are not bundled and need to be purchased separately.
- Some bundled accessories may vary depending on model. For details on these accessories, refer to their respective user manuals.
- The device illustration is for reference only. Actual product specifications may vary depending on 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

Getting to know your Embedded Computer

1.1 Features

1.1.1 Front view



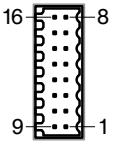
DI
DO

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



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.

USB 20Gbps Type-C® port with cable lock

The USB (Universal Serial Bus) 20Gbps Type-C® port provides a transfer rate up to 20 Gbit/s and a maximum of 5 V / 3 A power output.

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

System reset pinhole

The hard reset pinhole allows you to reboot your Embedded Computer

Ignition LED

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

Watchdog LED

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

Drive activity LED

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

Power LED

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

USB 10Gbps port

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

USB 5Gbps port with cable lock

The USB (Universal Serial Bus) 5Gbps port provides a transfer rate up to 5 Gbit/s.

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

USB 2.0 port with cable lock

The USB (Universal Serial Bus) port is compatible with USB 2.0 or USB 1.1 devices, such as keyboards, pointing devices, flash disk drives, external HDDs, speakers, cameras, and printers.

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

Dual-mode DisplayPort

The DisplayPort 1.2 port can support resolutions up to 4096 x 2160 @ 60 Hz on external display devices.

HDMI™ 1.4 port with cable lock

The integrated HDMI (High Definition Multimedia Interface) port with a receptacle connector can support resolutions up to 4096 x 2160 @ 30 Hz on external display devices.

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

Microphone input jack

The microphone input jack is used to connect your Embedded Computer to an external microphone.

Audio output jack

This stereo audio jack is used to connect the system's audio out signal to amplified speakers.

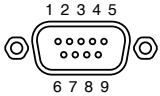
Functional earth ground

The functional earth ground provides you with a grounding point.

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 onboard jumper.



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

2 LAN port with cable lock

The Intel i219 (1 GbE) Gigabit Ethernet controller with 8-pin RJ-45 LAN port supports a standard Ethernet cable for connection to a local network and PXE boot.

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

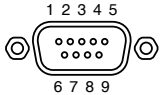
1 LAN port with cable lock

The Intel i226 (2.5 GbE) Gigabit Ethernet controller with 8-pin RJ-45 LAN port supports a standard Ethernet cable for connection to a local network and PXE boot.

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

3 4 Serial (COM) connector (on selected models)

1 2 The 9-pin DB9 connector allows you to connect RS-232 serial devices, such as bar code scanners, modems, and printers. Refer to the table below for the pin definitions.



Pin	RS-232
1	DCD#
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

ANT. 1
ANT. 3

Cellular network wireless antenna jack

The cellular network wireless antenna jack allows you to connect a wireless antenna for cellular signals.

NOTE: The cellular network wireless antenna is optional and may not come bundled.

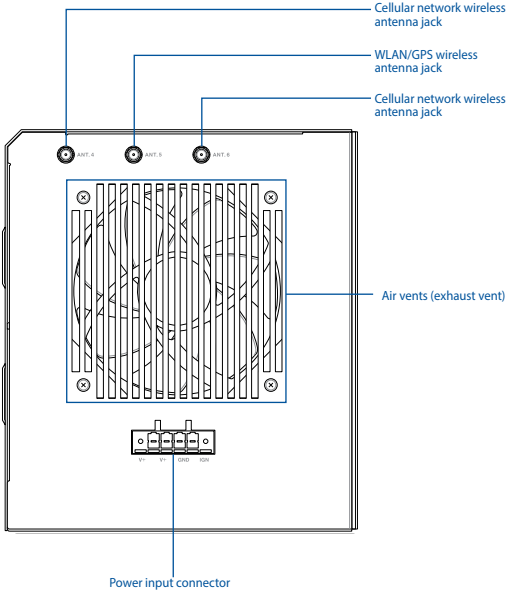
ANT. 2

WLAN Wireless antenna jack

The WLAN wireless antenna jack allows you to connect a wireless antenna for Wi-Fi signals.

NOTE: The WLAN wireless antenna is optional and may not come bundled.

1.1.2 Rear view



ANT. 4
ANT. 6

Cellular network wireless antenna jack

The cellular network wireless antenna jack allows you to connect a wireless antenna for cellular network signals.

> **NOTE:** The cellular network wireless antenna is optional and may not come bundled.

ANT. 5

WLAN/GPS wireless antenna jack

The WLAN wireless antenna jack allows you to connect a wireless antenna for Wi-Fi signals or GPS signals.

> **NOTE:** The WLAN/GPS wireless antenna is optional and may not come bundled.

Air vents (exhaust vent)

The air vents allow the chassis to expel hot air.

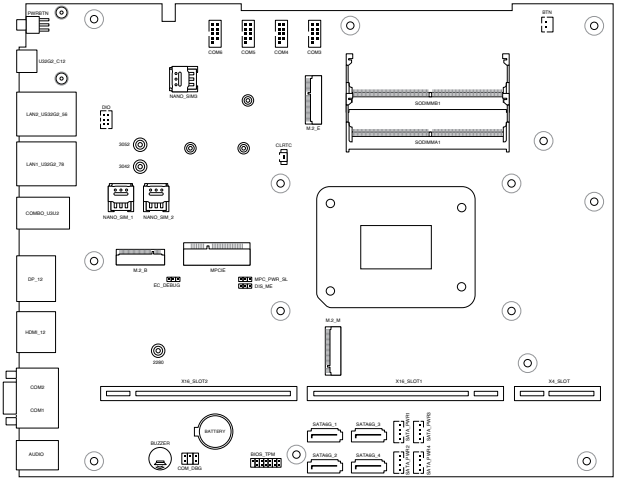
> **IMPORTANT!** For optimal heat dissipation and air ventilation, ensure that the air vents are free from obstructions.

Power input

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

1.2 Motherboard overview

Motherboard layout



2

Using your Embedded Computer

2.1 Getting started

2.1.1 Connect a power supply to your Embedded Computer

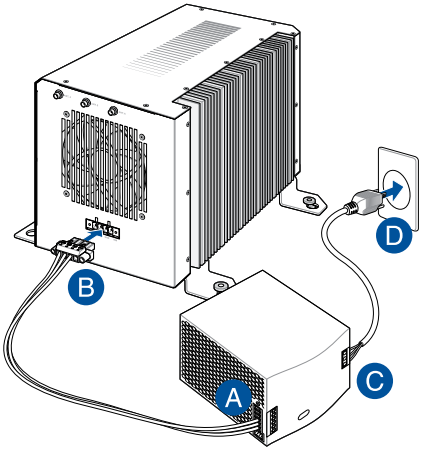
IMPORTANT! Ensure to use a power supply with a rated output power of 480 W (purchased separately).

A. Insert the exposed wire end of the power terminal block to your power supply's terminal block as shown in the *Power supply connection: terminal block* section. Tighten the screws or close the clamps on the terminal block to secure the wires in place.

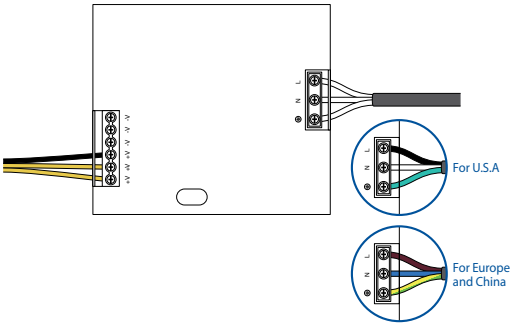
B. Insert the other end of the power terminal block to power jack adapter to your Embedded Computer's power (DC) input, then secure it with the two screws on the terminal block connector.

C. Insert the exposed wire end of the AC power cord to your power supply's terminal block as shown in the *Power supply connection: terminal block* section. Tighten the screws or close the clamps on the terminal block to secure the wires in place.

D. Plug the power supply (purchased separately) into a 100 V ~ 240 V power source.



Power supply connection: terminal block



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.

  480 W Power adapter (purchased separately)

Input voltage:	100-240 Vac
Input frequency:	50-60 Hz
Rated output current:	13.75 A
Rated output voltage:	8-48 Vdc
Operating temperature:	40°C

  System

Rated voltage:	8-48 Vdc
Rated current:	60-10 A

- We strongly recommend that you use a grounded wall socket while using your Embedded Computer.
- 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.

2.1.2 Connect a display panel to your Embedded Computer

You can connect a display panel or projector that has the following connectors to your Embedded Computer:

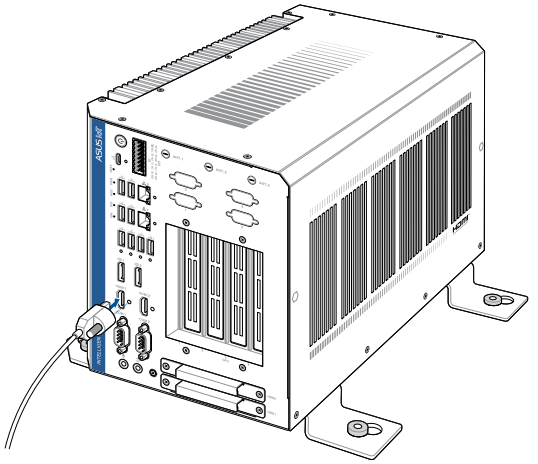
- HDMI™
- DisplayPort

To connect an HDMI™ display panel:

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

> **NOTE:** If you are using a HDMI™ cable with a locking screw connector, tighten the lock screw onto the cable lock screw hole on the chassis to prevent disconnection caused by tension or vibration.

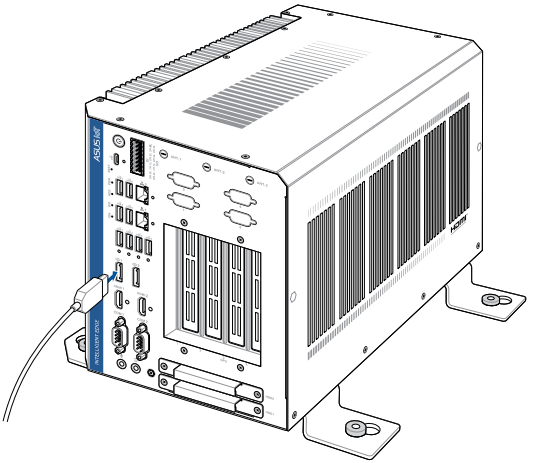
Connect display via HDMI™ port



To connect a DisplayPort display panel:

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

Connect display via DisplayPort



2.1.3 Connect the USB cable from keyboard or mouse

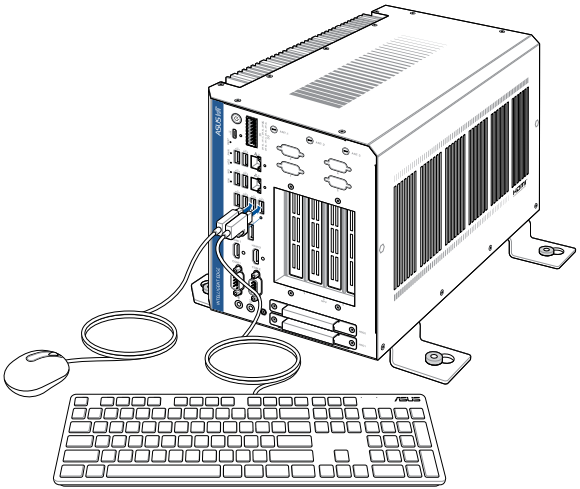
You can connect generally any USB keyboard and mouse to your Embedded Computer. You can also connect a USB dongle for a wireless keyboard and mouse set.

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 or region.
- The keyboard and mouse are purchased separately.

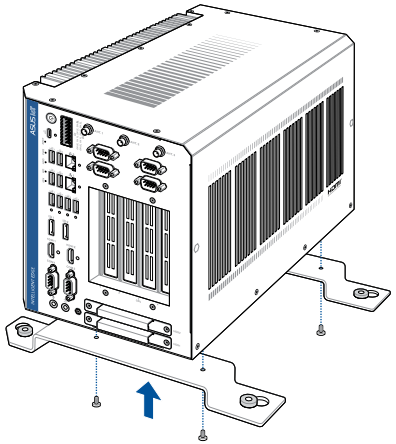


2.2 Installing the desk mount

Place the Embedded Computer on a flat stable surface with its top side facing down.

Align the desk mount with the screw holes on the bottom of the Embedded Computer, then secure the desk mount to your Embedded Computer using the bundled screws.

IMPORTANT! When installing the Embedded Computer into a cabinet or on the ground, we strongly recommend positioning it upright with the top facing upwards to allow for optimal heat dissipation.

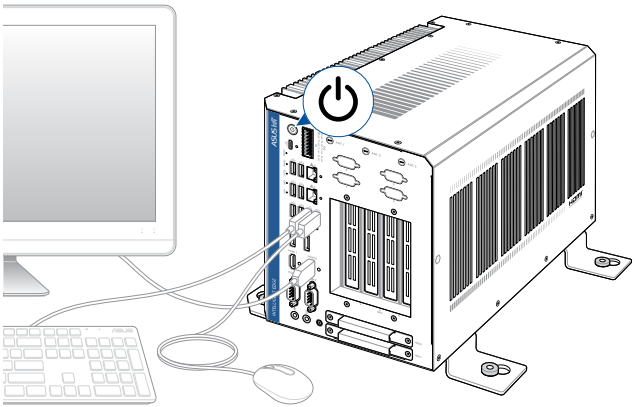


2.3 Turning your Embedded Computer off

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

2.4 Putting your Embedded Computer to sleep

To put your Embedded Computer on Sleep mode, press the Power button once.



3

Upgrading your Embedded Computer

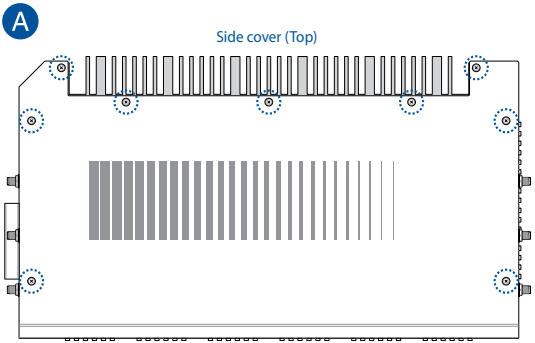
IMPORTANT!

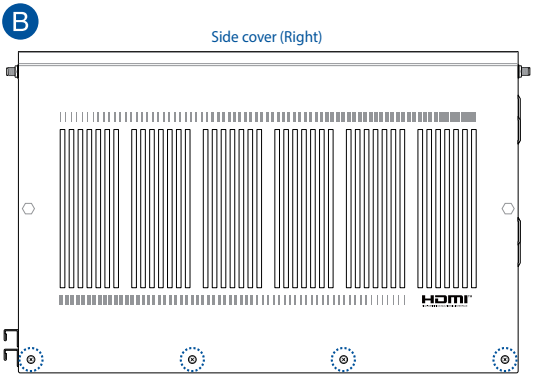
- Ensure that your hands are dry before proceeding with the rest of the installation process. Before installing any of the features in this guide, use a grounded wrist strap or touch a safely grounded object or metal object to avoid damaging them due to static electricity.
- Turn off the power of your 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.

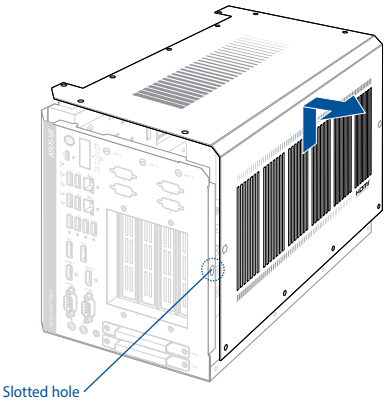
3.1 Removing the side cover

1. Turn off your Embedded Computer then disconnect all cables and peripherals.
2. Place the Embedded Computer on a flat stable surface.
3. Remove the nine (9) screws from the top (A) and four (4) screws from the right side (B) of the Embedded Computer.



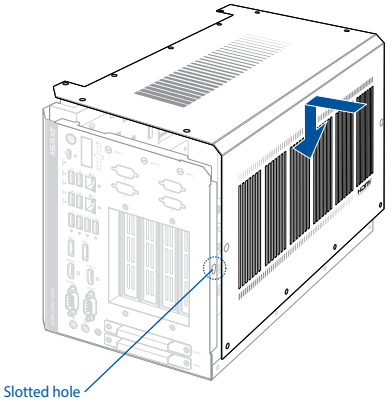


4. Lift the side cover to clear the two (2) knobs from the slotted holes on the chassis, then move it away from the chassis to remove it.



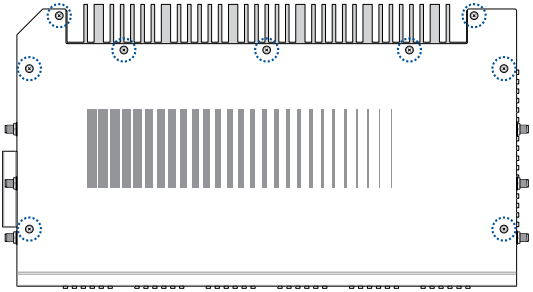
3.2 Replacing the side cover

1. Align and insert the two (2) knobs on the side cover into the slotted holes on the chassis.
2. Lower the side cover until the knobs are seated securely at the bottom of the slotted holes.

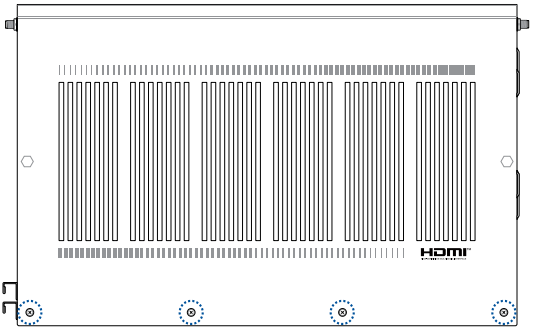


3. Secure the side cover to the top and right side of the chassis using the screws removed previously.

Side cover (Top)



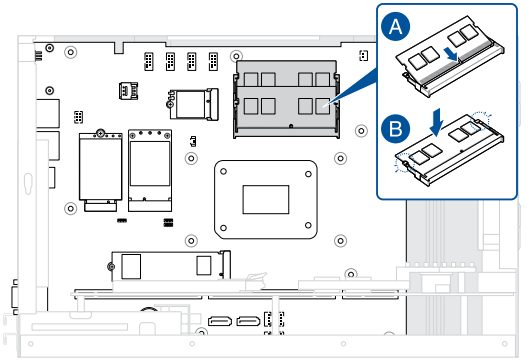
Side cover (Right)



3.3 Installing memory modules

Your Embedded Computer comes with a SO-DIMM memory slot that allow you to install two (2) DDR5 SO-DIMMs, ECC*, with a maximum of 64GB.

Align and insert the memory module into the slot on the motherboard (A) and press down (B) until it is securely seated in place.

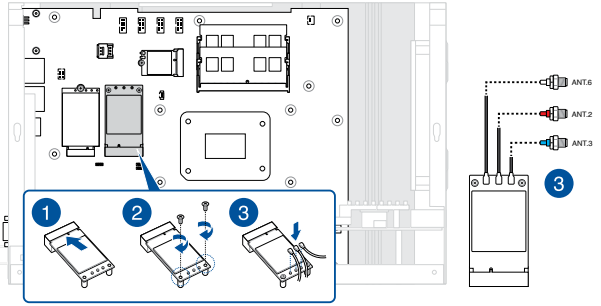


3.4 Installing an mPCIe / mSATA module

Your Embedded Computer comes with a mini PCIe / mini SATA slot that allow you to install an LTE mPCIe module or mSATA storage module.

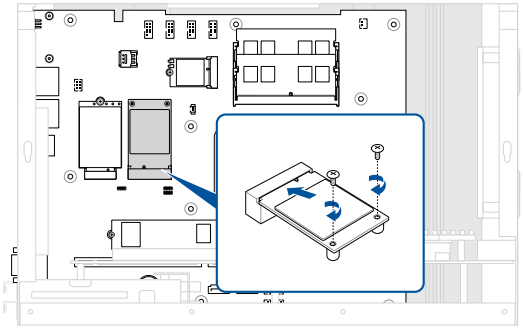
To install an LTE mPCIe module:

1. Align and insert the LTE mPCIe module into the slot.
2. Press down, and secure it in place using two (2) screws.
3. Connect the antennas to your LTE mPCIe module.



To install an mSATA storage module

Align and insert the mSATA storage module into the slot, press it down and secure it in place using two (2) screws.

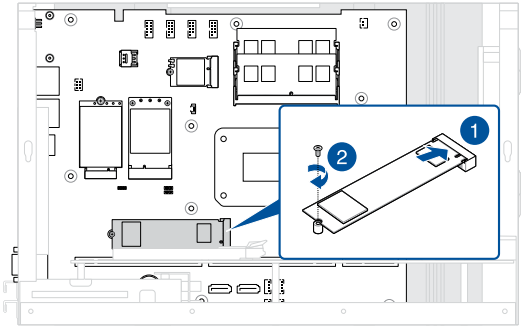


3.5 Installing an M.2 M-key module

Your Embedded Computer comes with an M.2 (M-key) slot that allow you to install an M.2 SSD (M-key, supports 2280 PCIe x4) module.

To install an M.2 SSD module:

1. Align and insert the M.2 SSD into its slot inside the Embedded Computer.
2. Gently push down the M.2 SSD on top of the stand screw hole, and fasten it using a screw.

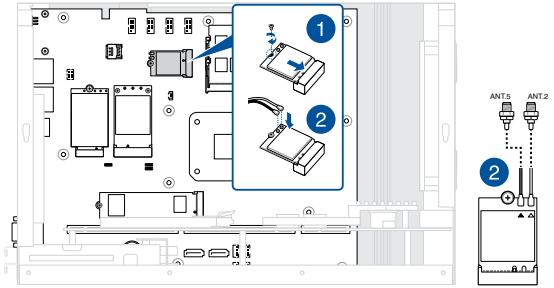


3.6 Installing an M.2 E-key module

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

To install an M.2 Wi-Fi module:

1. Align and insert the M.2 Wi-Fi module into the slot, press it down, and secure it in place using a screw.
2. Connect the antenna to your M.2 Wi-Fi module.

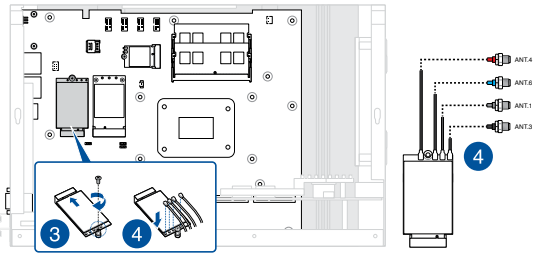


3.7 Installing an M.2 B-key module

Your Embedded Computer comes with an M.2 (B-key, supports 3042/3052) slot that allows you to install an M.2 5G/4G/UDR GPS module.

To install an M.2 5G module:

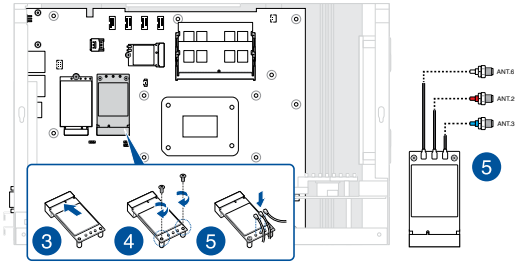
1. If the standoff is already seated in the right mounting hole to fit your M.2 module, skip to step 3.
2. Unscrew the standoff and install it to a mounting hole that matches the length of your M.2 module.
3. Align and insert the M.2 module into the slot, press it down, and secure it in place using a screw.
4. Connect the antennas to your M.2 module.



To install an M.2 4G module:

1. If the standoff is already seated in the right mounting hole to fit your M.2 module, skip to step 3.
2. Unscrew the standoff and install it to a mounting hole that matches the length of your M.2 module.
3. Align and insert the M.2 module into the slot.
4. Press down the M.2 module, and secure it in place using two (2) screws.
5. Connect the antennas to your M.2 module.

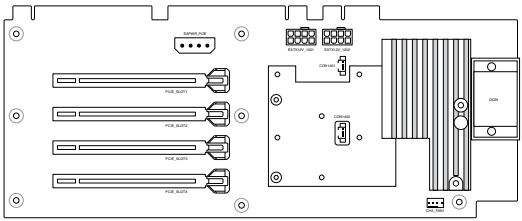
NOTE: Connect ANT. 6 for GPS satellite tracking capability.



3.8 Installing a PCIe expansion card

Your Embedded Computer comes with four (4) PCIe expansion slots on the riser board, which will auto-detect the expansion card(s) installed and adjust bandwidth between Mode 1 (1 x PCIe x16 + 2 x PCIe x4) and Mode 2 (2 x PCIe x8 + 2 x PCIe x4).

PCIe slot	Operation mode	
	Mode 1	Mode 2
PCIE_SLOT1	-	x8
PCIE_SLOT2	x4	x4
PCIE_SLOT3	x16	x8
PCIE_SLOT4	x4	x4

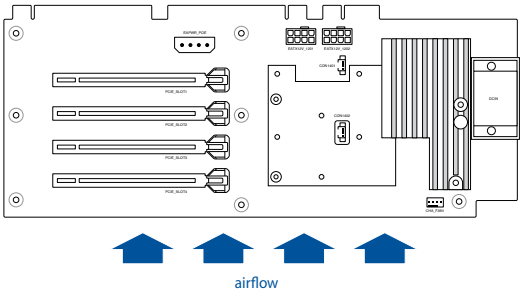


NOTE:

- The PCIe slots support expansion cards with a maximum length of 270 mm.
- The maximum power that the motherboard can supply to the four (4) slots combined is 225 W.

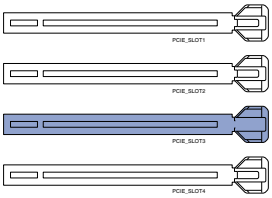
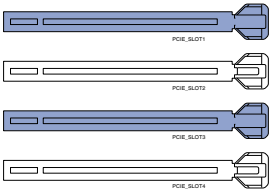
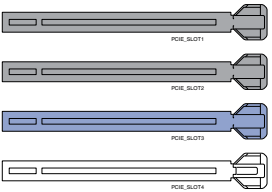
3.8.1 Recommended configurations

The below illustrates some recommended PCIe expansion card configurations for your Embedded Computer.



NOTE:

- We recommend that you install your GPU card to **PCIE_SLOT3**.
- Due to space limitation, this Embedded Computer supports at most one mid-level GPU card together with two standard add-on cards.
- For improved air flow within the system, leave **PCIE_SLOT4** empty.

PCIe card(s)	Recommended slot(s)
One (1) GPU card	
Two (2) GPU cards	
One (1) GPU card + up to two (2) add-on cards	

GPU card
Add-on card

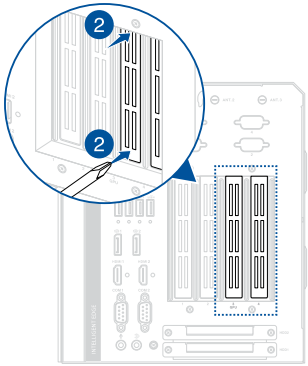
3.8.2 Installing a GPU card

1. Identify the punch-out port(s) on the front of your Embedded Computer corresponding to the slot(s) that will be occupied by the GPU card.

   NOTE: We recommend that you install your GPU card to **PCIE_SLOT3**. Refer to the *Recommended configurations* section for more detailed information regarding PCIe configuration options.

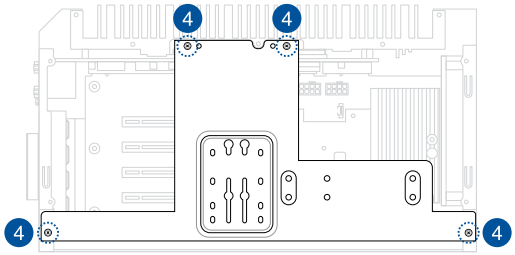
2. Detach the metal cover(s) of the punch-out port by repeatedly pushing the top and bottom edges of the cover into the chassis until it breaks loose.

   WARNING! Take extra care when removing the metal cover. Use tools, such as a screw driver, to bend and detach the metal cover to avoid physical injury.



3. Carefully remove the detached metal cover from the chassis.

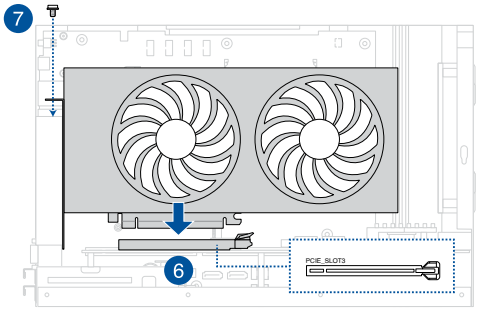
4. Remove the four (4) screws securing the GPU support plate to the chassis, and remove the GPU support plate.



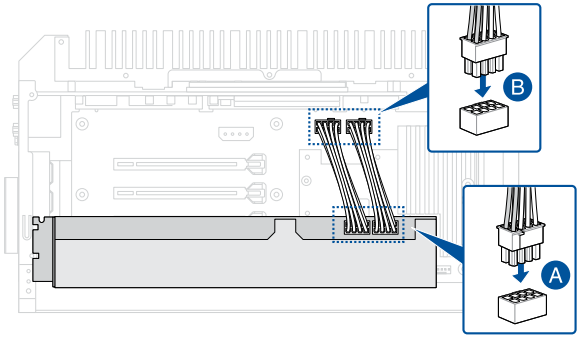
5. (Optional) Install a GPU support bracket (purchasely separately) to keep the GPU card from moving in the vertical direction. Refer to the *Installing a GPU support bracket* section for instructions, and then skip to step 10.

6. Insert your GPU card to the empty PCIe slot corresponding to the punch-out port(s) with the metal cover(s) you removed earlier, and ensure that it is securely seated in the slot.

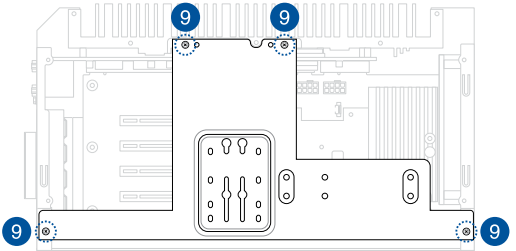
7. Ensure the bracket on your GPU card is properly aligned to the opening on the front of the Embedded Computer, and secure it from the top using a screw to tighten its bracket to the chassis.



8. Depending on your GPU card's power requirements, you may need to connect one or two power cables from the riser board to your GPU card. Connect one end of the power cable(s) that came with your GPU card to the expansion card (A) and the other end to the PCIe riser board (B).



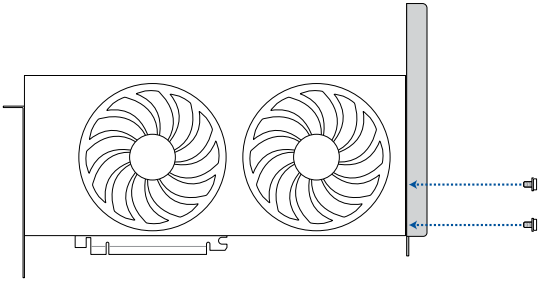
9. Secure the GPU support plate to the chassis using four (4) screws.



10. (Optional) Install a set of GPU holders (purchased separately) to keep the GPU card from moving and dislodging due to vibration and shock. Refer to the *Installing GPU holders* section for detailed instructions.

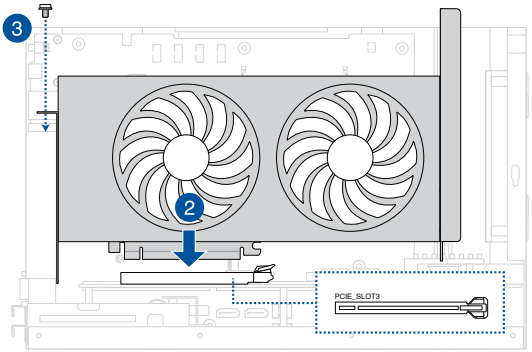
3.8.3 Installing a GPU support bracket (optional)

1. Secure the GPU support bracket (purchased separately) to the back of your GPU card with two (2) screws.

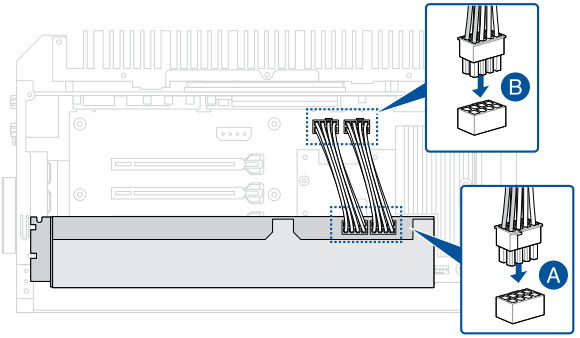


2. Insert your GPU card to the empty PCIe slot corresponding to the punch-out port(s) with the metal cover(s) you removed earlier, and ensure that it is securely seated in the slot.

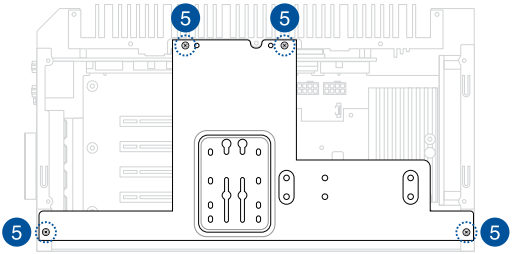
3. Ensure the bracket on your GPU card is properly aligned to the opening on the front of the Embedded Computer, and secure it from the top using a screw to tighten its bracket to the chassis.



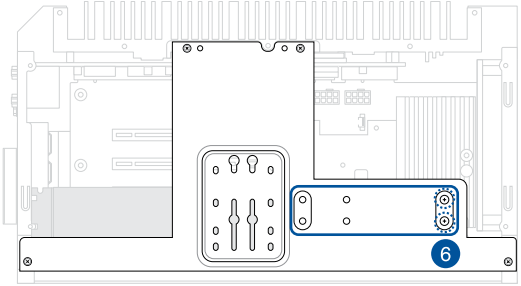
4. Depending on your GPU card's power requirements, you may need to connect one or two power cables from the riser board to your GPU card. Connect one end of the power cable(s) that came with your GPU card to the expansion card (A) and the other end to the PCIe riser board (B).



5. Secure the GPU support plate to the chassis using four (4) screws.

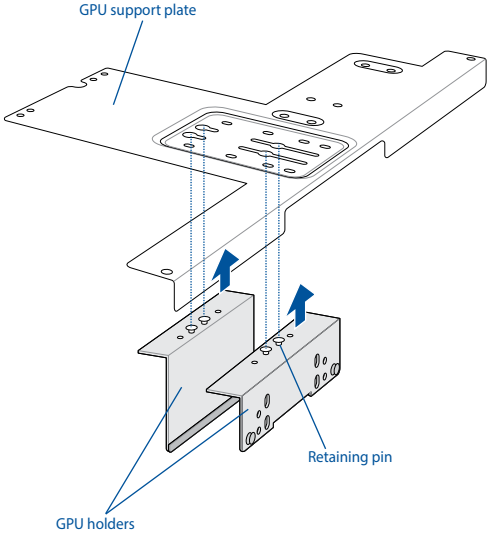


6. Secure the GPU support bracket to the GPU support plate using one of the three sets of screw holes that aligns with the length of your GPU card.



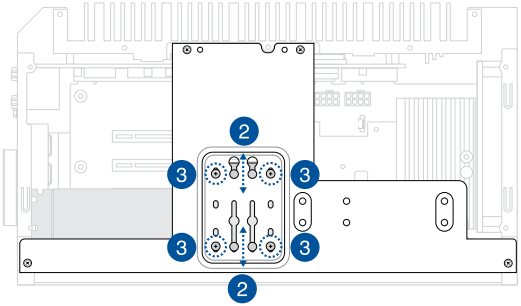
3.8.4 Installing GPU holders (optional)

1. Insert the two retaining pins on each of the two GPU holders to the slotted holes on the GPU support plate.

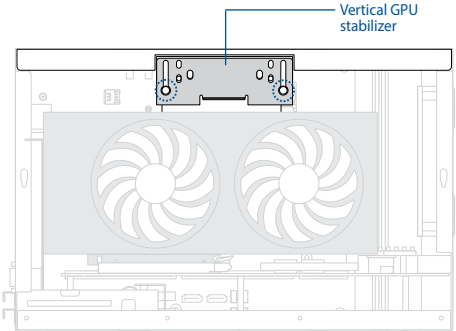


2. Slide the two GPU holders so that they are positioned as closely as possible to both sides of the GPU card to provide support.

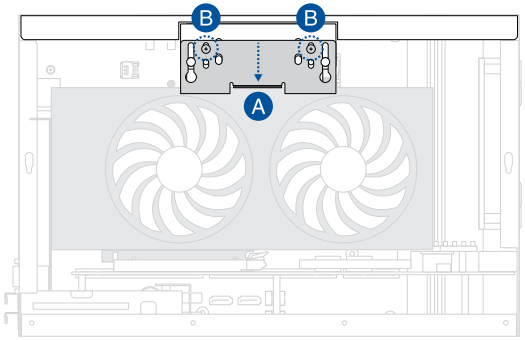
3. Secure the two GPU holders to the GPU support plate using four (4) screws.



4. Fit the bottom rounded end of the slotted holes on the vertical GPU stabilizer over the two retaining pins on the side of the GPU support plate as shown.



5. Move the vertical GPU stabilizer down until it rests securely on top of the GPU card (A), and secure it to the GPU support plate with two (2) screws.

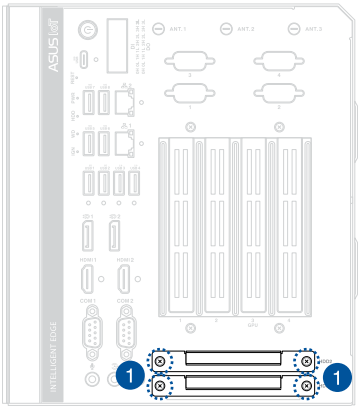


3.9 Installing a storage device

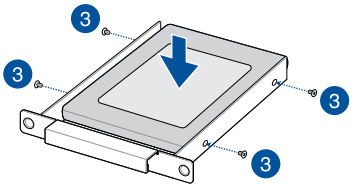
Your may install up to two (2) 2.5" storage devices (hot-swappable, 7~7.5mm) to your Embedded Computer.

1. Loosen the two (2) screws of the storage device tray located on the front of your Embedded Computer.

2. Pull the storage device tray out of the chassis.

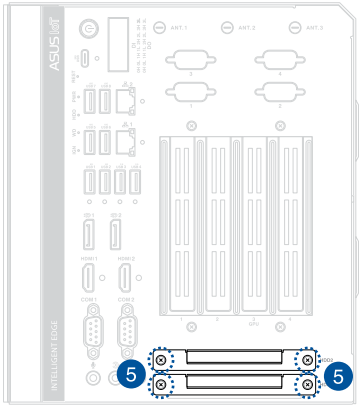


3. Install your storage device to the storage device tray, then secure it with four (4) screws.



4. Replace the storage device tray. To ensure that the connector of the storage device is properly inserted into the HDD slot inside the Embedded Computer, the screw holes on the storage device tray should be properly aligned to the screw holes on the front of the Embedded Computer.

5. Secure the storage device trays with the two (2) screws removed previously.



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.
- Peripherals with extended temperature tolerance (such as industrial grade DRAM, SSD, etc.) will allow this product to be used in environments with ambient temperatures between -20˚C and 60˚C.
- 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.
- Restricted Access Area:

  The equipment should only be installed in a Restricted Access Area where both these conditions apply:

  – access can only be gained by skilled persons who have been instructed about the reasons for the restrictions applied to the area and about any precautions that shall be taken; and

  – access is through the use of a TOOL or lock and key, or other means of security, and is controlled by the authority responsible for the area.
- 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.
- 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-Ion 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

DO NOT throw the Embedded Computer in municipal waste. This product has been designed to enable proper reuse of parts and recycling. This symbol of the crossed out wheeled bin indicates that the product (electrical, electronic equipment, and mercury-containing button cell battery) should not be placed in municipal waste. Check local technical support services for product recycling.

Regulatory notices

COATING NOTICE

IMPORTANT! To provide electrical insulation and maintain electrical safety, a coating is applied to insulate the device except on the areas where the I/O ports are located.

Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- 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.

FCC RF Exposure Information

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. The exposure standard employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6 W/kg. Tests for SAR are conducted using standard operating positions accepted by the FCC with the EUT transmitting at the specified power level in different channels. The FCC has granted an Equipment Authorization for this device with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this device is on file with the FCC and can be found under the Display Grant section of www.fcc.gov/oet/ea/fccid.

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-003(A)/NMB-003(A)

Déclaration de conformité de 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-003(A)/NMB-003(A)

Wireless Operation Channel for Different Domains

N. America	2.412-2.462 GHz	Ch01 through CH11
Japan	2.412-2.484 GHz	Ch01 through Ch14
Europe ETSI	2.412-2.472 GHz	Ch01 through Ch13

KC: Korea Warning Statement

Class A:

사용자 안내문

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

VCCI: Japan Compliance Statement

Class A ITE

この装置は、クラスＡ機器です。この装置を住宅環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

VCCI－A

Japan RF Equipment Statement

屋外での使用について

本製品は、5GHz帯域での通信に対応しています。電波法の定めにより5.2GHz、5.3GHz帯域の電波は屋外で使用が禁じられています。

法律および規制遵守

本製品は電波法及びこれに基づく命令の定めるところに従い使用してください。日本国外では、その国の法律または規制により、本製品の使用ができないことがあります。このような国では、本製品を運用した結果、罰せられることがありますが、当社は一切責任を負いかねますのでご了承ください。

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 http://csr.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 http://csr.asus.com/english/REACH.htm

EU RoHS

This product complies with the EU RoHS Directive. For more details, see http://csr.asus.com/english/article.aspx?id=35

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Service and Support

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