



PE3000G Series

Embedded Computer

User Manual



E21876
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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: 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.

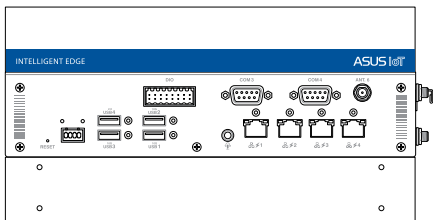
Typography

Bold text Indicates a menu or an item to select.

Italic Indicates sections that you can refer to in this manual.

Package contents

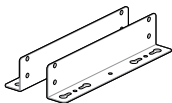
Your Embedded Computer package contains the following item(s):



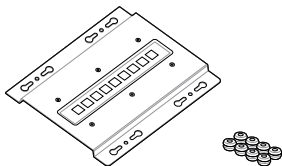
PE3000G Series



Power terminal block

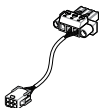


Wall mount brackets



Desk mount bracket with dampers

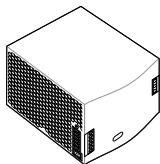
Optional items*



Power cable



DIO terminal block



Power supply



Open-wire power cord

NOTE:

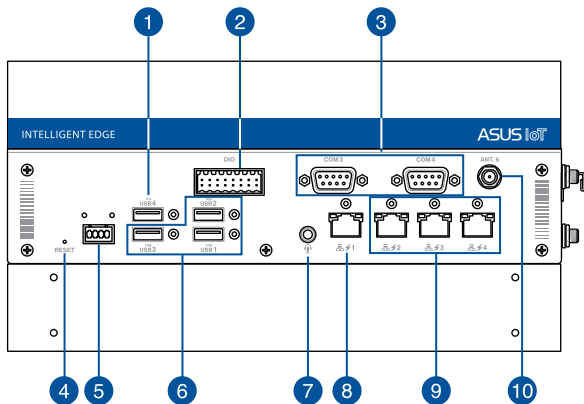
- *These accessories may not be bundled and may need to be purchased separately.
 - Some bundled accessories may vary depending on model. For details on these accessories, refer to their respective user manuals.
 - The device illustration is for reference only. Actual product specifications may vary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



1

USB^{2.0}4

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.

2

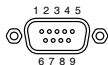
Isolated DIO connector

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.

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

3 COM3 Serial (COM/CAN) connector (optional)

COM4 The 9-pin COM/CAN Bus serial connector allows you to connect devices with a COM/CAN interface, such as an electronic control unit (ECU). Please refer to the table below for the pin definitions of the COM/CAN Bus connector.



Pin	CAN Bus
1	NA
2	CAN_L
3	GND
4	NA
5	GND
6	NA
7	CAN_H
8	NA
9	NA

4 Reset System Reset pinhole

The hard reset pinhole allows you to reboot your Embedded Computer

5 External Fan connector with cable lock (reserved)

The external fan connector allows you to connect an external fan for your Embedded Computer.

NOTE: An external fan option is currently not available for standard models. If you have a requirement for this option, please contact your sales representative.

WARNING! An external fan must be installed with a fan guard to prevent accidental contact with moving parts.

6

^{10G}
USB 1**USB 10Gbps port with cable lock**^{10G}
USB 2

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

^{10G}
USB 3

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

7

**Microphone Input jack**

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

8

**1G PoE LAN port with cable lock**

The 8-pin RJ-45 LAN port supports a standard Ethernet cable for 10/100/1000 Mbps connection to a local network, and supports Power over Ethernet (PoE).

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

9

**2.5G PoE 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, and supports Power over Ethernet (PoE).

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

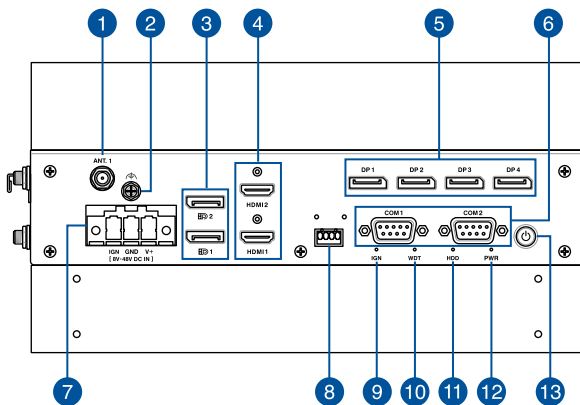
10

ANT. 6 Antenna jack

The antenna jack allows you to connect a wireless antenna. Refer to the *Installing antennas* section for more information on installing the antennas.

NOTE: SMA cables, antennas, and wireless modules are purchased separately.

1.1.2 Rear view



1 ANT.1 Antenna jack


The antenna jack allows you to connect a wireless antenna. Refer to the *Installing antennas* section for more information on installing the antennas.

NOTE: SMA cables, antennas, and wireless modules are purchased separately.

2 Functional Earth Ground

The functional earth ground provides you with a grounding point.

3 1 Dual-mode DisplayPort

 2 The DisplayPort 1.2 port can support resolutions up to 4096 x 2304 @ 60 Hz on external display devices.

4 HDMI 1 HDMI™ 1.4 port with cable lock

HDMI 2 The integrated HDMI (High Definition Multimedia Interface) port with a receptacle connector can support resolutions up to 4096 x 2304 @ 30 Hz on external display devices.

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

5 DP 1 DisplayPort

DP 2 The DisplayPort allows you to connect your Embedded Computer to an external display.

DP 3

DP 4

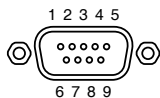
NOTE:

- This port is only functional when supported by an optional MXM GPU module.
 - When using only this port as a display output source, this port will support a resolution of up to 4K @ 60 Hz. The resolution may also be affected by the cabling and output device.
-

6 COM1 Serial (COM) connector

COM 2 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

7



Power Input jack

The power input jack allows you to connect a power source. Power supplied through this jack supplies power to the Embedded Computer.

WARNING! The power adapter may become warm to hot when in use. Do not cover the adapter and keep it away from your body.

8

External Fan connector with cable lock (reserved)

The external fan connector allows you to connect an external fan for your Embedded Computer.

NOTE: An external fan option is currently not available for standard models. If you have a requirement for this option, please contact your sales representative.

WARNING! An external fan must be installed with a fan guard to prevent accidental contact with moving parts.

9

IGN Ignition LED

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

10

WD Watchdog LED

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

11

HDD Drive Activity LED

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

12

PWR Power LED

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

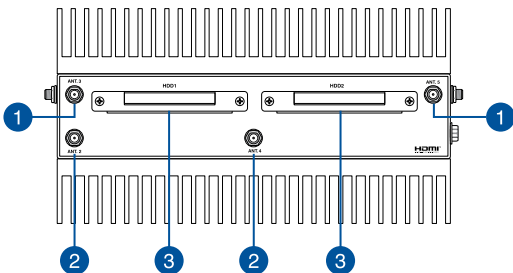
13



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.

1.1.3 Right view



1 ANT.3 Antenna jack

ANT.5 The antenna jack allows you to connect a wireless antenna. Refer to the *Installing antennas* section for more information on installing the antennas.

NOTE: SMA cables, antennas, and wireless modules are purchased separately.

2 ANT.2 Antenna jack

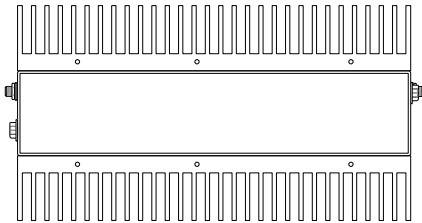
ANT.4 The antenna jack allows you to connect a wireless antenna. Refer to the *Installing antennas* section for more information on installing the antennas.

NOTE: SMA cables, antennas, and wireless modules are purchased separately.

3 HDD1 2.5-inch Hot-swap Storage Bay

HDD2 The 2.5-inch hot-swap storage bay allows you to install a 2.5-inch HDD/SSD and supports RAID 0/1.

1.1.4 Left view





2

Using your Embedded Computer

2.1 Getting started

2.1.1 Connecting a power adapter to your Embedded Computer

NOTE:

- The power adapter is optional and may not come bundled.
- The optional power adapter may vary in appearance, depending on model and country (or region) of sale. Refer to the following for more information on the power adapter, as well as the system:

330W Power adapter

Input voltage:	100 - 240 Vac
Input frequency:	50 - 60 Hz
Output current:	13.75 A (330 W)
Output voltage:	24.0 Vdc
Operating temperature :	0°C to 40°C

System

Rated input current:	41.25 A - 6.88 A (330 W)
Rated input voltage:	8 - 48 Vdc
Operating temperature :	-20°C to 60°C

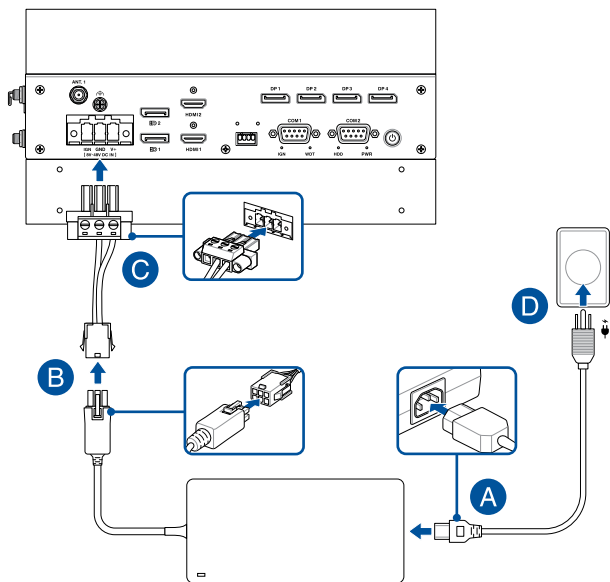
- We suggest using a power supply with 8 - 48 Vdc for DC-in that complies with the safety requirements of a regulated power source.
-

IMPORTANT!

- 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.
-

If your Embedded Computer package comes bundled with a power adapter, you may follow the steps below to set up your Embedded Computer.

- A. Connect the power cord to the AC power adapter.
- B. Connect the power terminal block to power jack adapter to the AC adapter.
- C. Connect the power terminal block to power jack adapter to your Edge Computer's power (DC) input, then secure it with the two screws on the power terminal block to power jack adapter cable.
- D. Plug the AC power adapter into a 100 V - 240 V power source.



2.1.2 Connect a power supply to your Embedded Computer

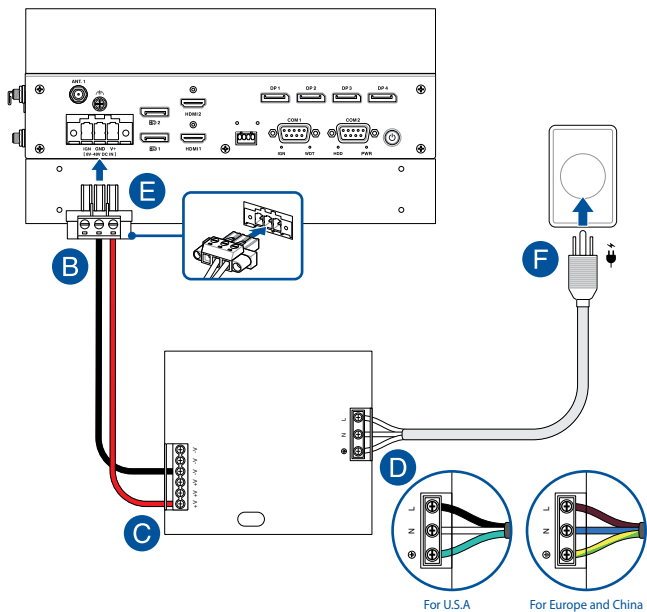
If your Embedded Computer package comes bundled with a power supply, you may follow the steps below to set up your Embedded Computer.

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

- A. Prepare your power wires by cutting it to the desired length and stripping about 12 to 18 mm of insulation from both ends of each wire.
 - B. Connect the wires to the terminal block by inserting the stripped wire ends into the terminal block and tightening the screws or close the clamps on the terminal block to secure the wires in place.
 - C. Connect the opposite ends of the wires to the terminal block on your power supply.
-

IMPORTANT! Make sure that each wire is in the correct terminal. Typically, the red wire connects to the positive (+) terminal, and the black wire connects to the negative (-) terminal.

- D. Insert the exposed wire end of the AC power cord to the terminal block on your power supply. Tighten the screws or close the clamps on the terminal block to secure the wires in place.
- E. Connect the power terminal block cable assembly to your Embedded Computer's power (DC) input, then secure it with the two screws on the power terminal block cable assembly.
- F. Plug the power supply (purchased separately) into a 100 V ~ 240 V power source.



IMPORTANT!

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

480 W Power supply (purchased separately)

Input voltage:	100-240 Vac
Input frequency:	50-60 Hz
Output current:	20 A (480 W)
Output voltage:	24.0 Vdc
Operating temperature:	-20°C to 60°C

System

Rated input current:	41.25-6.88 A (480 W)
Rated input voltage:	8-48 Vdc
Operating temperature:	-20°C to 60°C

- 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.
-

2.1.3 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:

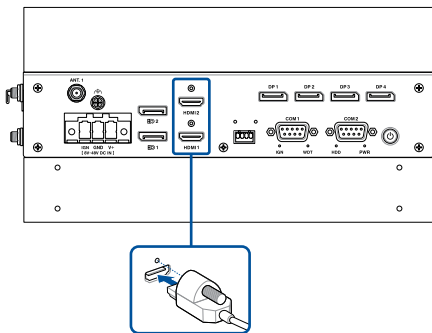
- HDMI™
- DisplayPort

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.

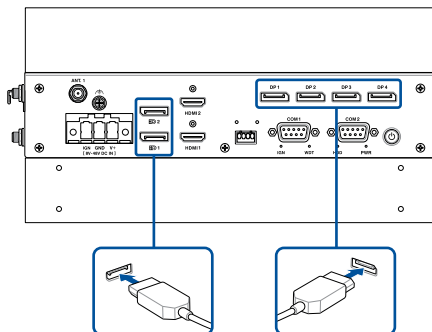
Connect display via HDMI™ port



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



2.1.4 Connect the USB cable from keyboard or mouse

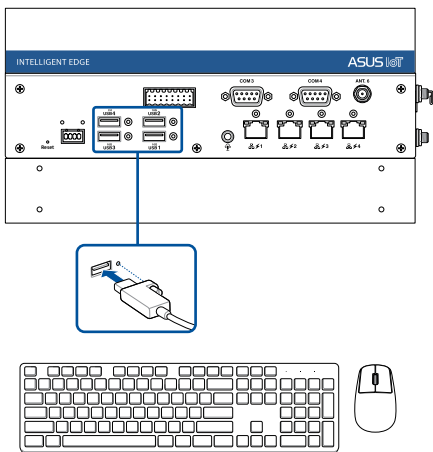
You can connect generally any USB keyboard and mouse to your Embedded Computer. You can also connect a USB dongle for a wireless keyboard and mouse set.

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:

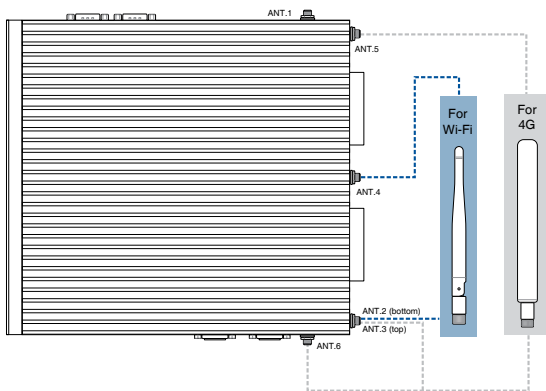
- The keyboard varies with country or region.
 - The keyboard and mouse are purchased separately.
-



2.2 Installing antennas (optional)

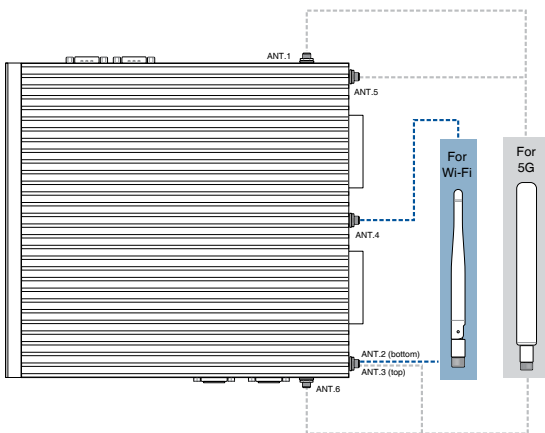
You may install antennas to the antenna jacks located on the front, rear, and right panels (refer to the *Front view*, *Rear view*, and *Right view* sections for the locations of the antennas). The installed antennas can be connected to a 4G LTE module installed in the M.2 B-key slot or the mini PCIe slot, a 5G NR module installed in the M.2 B-key slot, or to a wireless card installed in the M.2 E-key (Wi-Fi) slot.

4G module and wireless card



Ant. Jack	Module	Module Connector
ANT. 2	Wi-Fi	Wi-Fi_Aux
ANT. 4	Wi-Fi	Wi-Fi_Main
ANT. 3	4G LTE	LTE_Main
ANT. 5	4G LTE	LTE_Aux
ANT. 6	4G LTE	LTE_GPS

5G module and wireless card



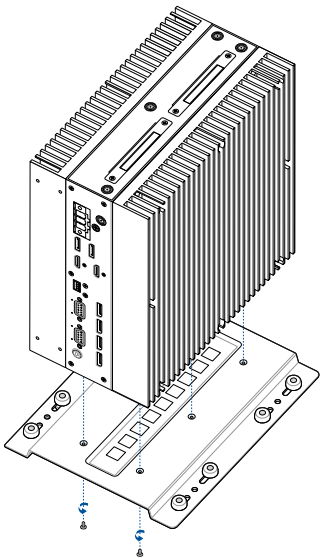
Ant. Jack	Module	Module Connector
ANT. 2	Wi-Fi	Wi-Fi_Aux
ANT. 4	Wi-Fi	Wi-Fi_Main
ANT. 1	5G NR	5G_M2
ANT. 3	5G NR	5G_Main
ANT. 5	5G NR	5G_Aux
ANT. 6	5G NR	5G_M1

2.3 Installing the desk mount

Temporarily remove the storage bays (refer to the *Left view* section for the location), and place the Embedded Computer on a flat stable surface with its left side facing down as shown.

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.

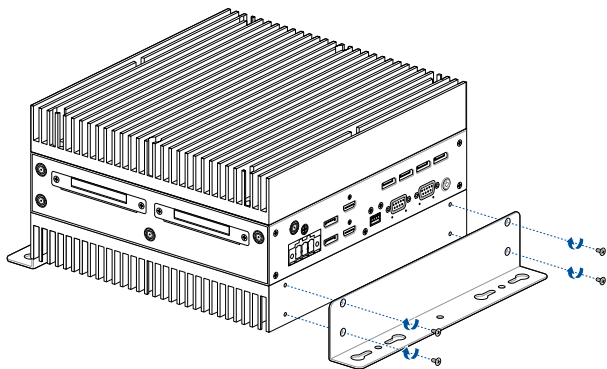
IMPORTANT! When installing the Embedded Computer into a cabinet or on the ground, we strongly recommend positioning it upright with the left side facing upwards to allow for optimal heat dissipation.



2.4 Installing the wall mount

Place the Embedded Computer on a flat stable surface as shown in the illustration below.

Align the wall mount with the screw holes on the front and rear of the Embedded Computer, then secure the wall mount to your Embedded Computer using the bundled screws.

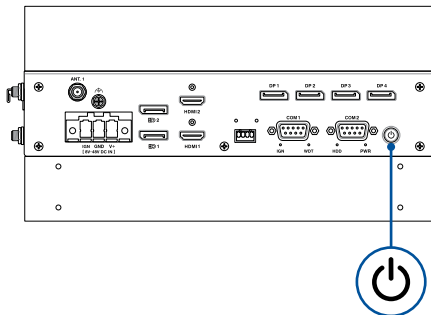


2.5 Turning your Embedded Computer off

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

2.6 Putting your Embedded Computer to sleep

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



3

Upgrading your Embedded Computer

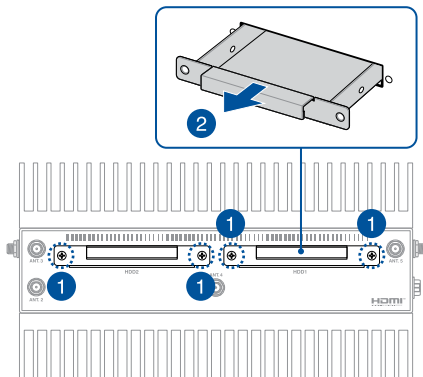
IMPORTANT!

- 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.
 - For detailed installation instructions, please contact your sales representative.
-

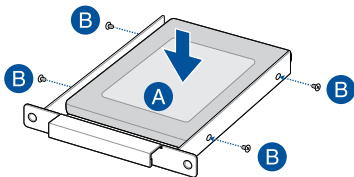
3.1 Installing a storage device

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

1. Loosen the two (2) screws securing each of the storage device trays to the right panel.
2. Pull the storage device tray out of the chassis.

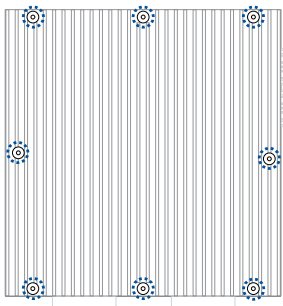


3. Install your storage device to the storage device tray (A), then secure it with four (4) screws (B).

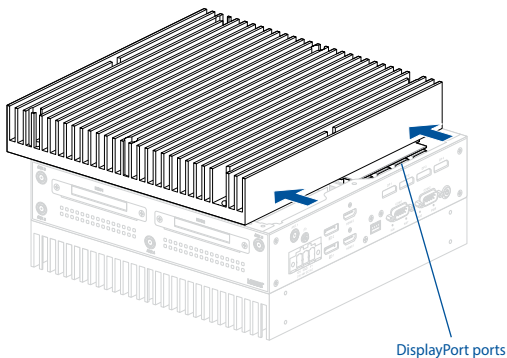


3.2 Removing the top heatsink

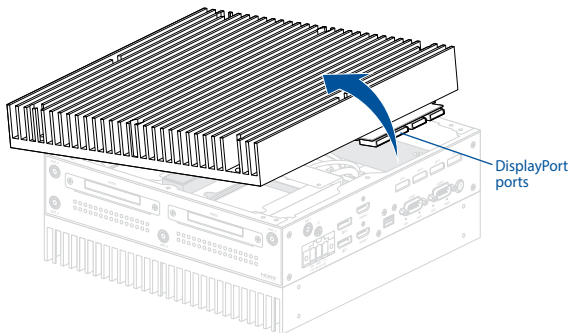
1. Remove the eight (8) screws securing the top heatsink to the chassis.



2. With the rear side of the Embedded Computer facing you, slide the top heatsink away from you until the DisplayPort ports clear the rear I/O panel.

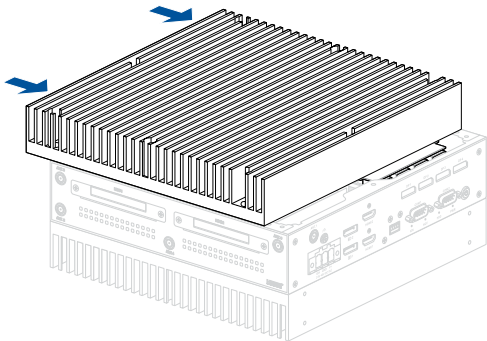


3. After you have confirmed that the DisplayPort ports have cleared the front I/O panel, rotate the top heatsink until it can stand upright on the same stable surface as the chassis, and then remove any connections between the heatsink and the motherboard.

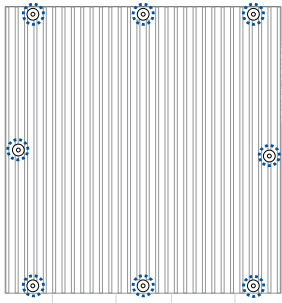


3.3 Replacing the top heatsink

1. Re-establish any connections removed in step 3 of the *Removing the top heatsink* section.
2. Replace the top heatsink as shown, and then push it towards the rear of your Embedded Computer.



3. Secure the top heatsink to the chassis using the screws removed earlier.

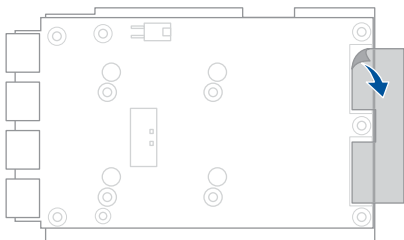


3.4 Installing an MXM GPU module

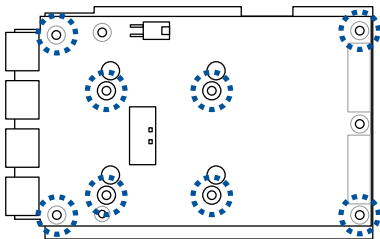
Your Embedded Computer comes with an MXM GPU slot on the top heatsink.

NOTE: The MXM GPU card is purchased separately.

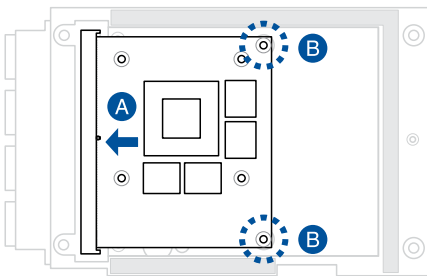
1. Remove the top heatsink. Refer to the *Removing the top heatsink* section for detailed instructions.
2. Carefully remove the absorber from the carrier board.



3. Remove the eight (8) screws securing the carrier board to the heatsink.

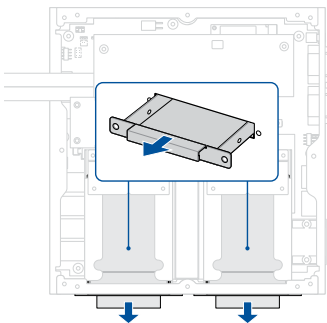


4. Flip the carrier board over to access the MXM GPU slot.
5. Insert the MXM GPU module into the MXM GPU slot (A), and secure it with two (2) screws bundled with your MXM GPU module (B).

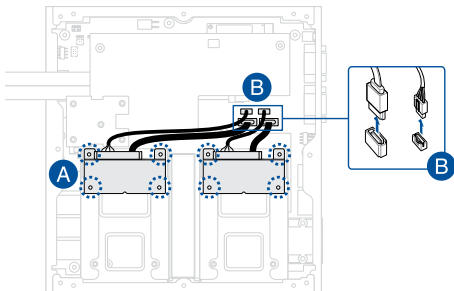


3.5 Removing the heat spreader

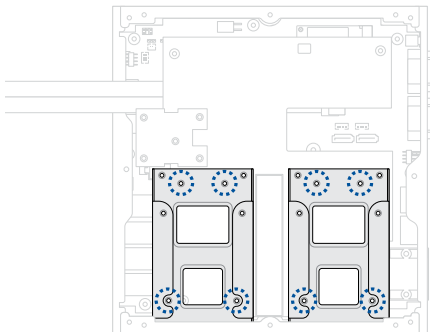
1. Follow the instructions in the *Removing the top heatsink* section to remove the top heatsink.
2. Follow steps 1-2 in the *Installing a storage device* section to remove the storage device trays.



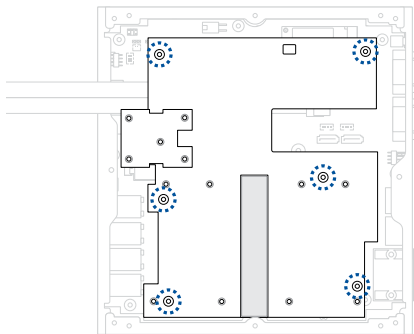
3. Remove the eight (8) screws securing the two (2) storage connector brackets (A), and disconnect the SATA signal and power cables from the motherboard (B).



4. Remove the eight (8) screws securing the storage bays, and remove the storage bays.



5. Remove the six (6) screws securing the heat spreader.



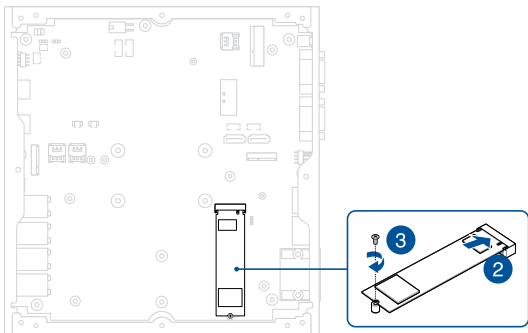
6. Carefully remove and set aside the heat spreader, making sure that the thermal pads on it do not come in contact with any surfaces.

3.6 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 Gen 4 x4) module.

To install an M.2 SSD module:

1. Follow the instructions in the *Removing the heat spreader* section to remove the top heatsink and heat spreader.
2. Align and insert the M.2 SSD into its slot inside the Embedded Computer.
3. Gently push down the M.2 SSD on top of the stand screw hole, and fasten it using a screw.



3.7 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.

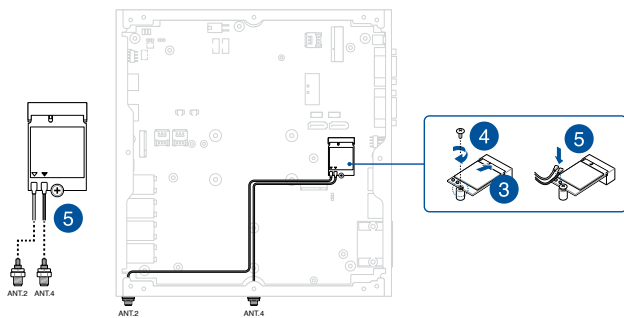
WARNING! RF modules are intended for OEM or host integrators only. For availability of system level RF certification, check with your OEM integrator.

To install an M.2 Wi-Fi module:

1. Follow the instructions in the *Removing the heat spreader* section to remove the top heatsink and heat spreader.
2. Remove the screw from the M.2 standoff.
3. Align and insert the module into its slot inside the Embedded Computer.
4. Gently push down the module on top of the standoff, and then fasten it using the previously removed screw.
5. (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 referring to the illustration on the next page.

NOTE:

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



Ant. Jack	Module Connector
ANT. 2	Wi-Fi_Aux
ANT. 4	Wi-Fi_Main

3.8 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.

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

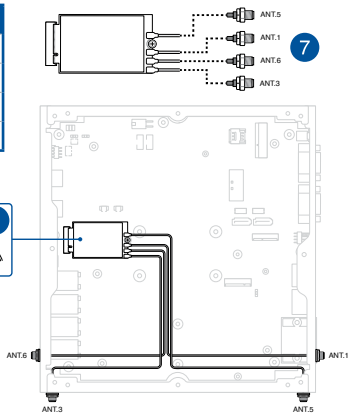
To install an M.2 5G NR module:

1. Follow the instructions in the *Removing the heat spreader* section to remove the top heatsink and heat spreader.
2. Remove the screw from the M.2 standoff.
3. If the standoff is already seated in the right mounting hole to fit your M.2 module, skip to step 5.
4. Unscrew the standoff and install it to a mounting hole that matches the length of your M.2 module.
5. Align and insert the M.2 module into the slot.
6. Press down, and then secure it in place using the screw previously removed.
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 referring to the illustration on the next page.

NOTE:

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

Ant. Jack	Module Connector
ANT. 1	5G_M2
ANT. 3	5G_Main
ANT. 5	5G_Aux
ANT. 6	5G_M1



To install an M.2 4G LTE module:

1. Follow the instructions in the *Removing the heat spreader* section to remove the top heatsink and heat spreader.
 2. Remove the screw from the M.2 standoff.
 3. If the standoff is already seated in the right mounting hole to fit your M.2 module, skip to step 5.
 4. Unscrew the standoff and install it to a mounting hole that matches the length of your M.2 module.
 5. Align and insert the module into the slot.
 6. Gently press down, and then secure it in place using the screw previously removed.
 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 referring to the illustration on the next page.
-

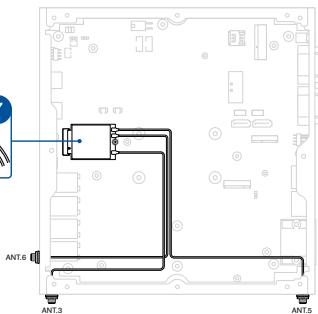
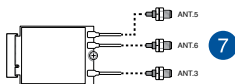
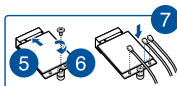
NOTE:

- To enable the hot-plug function of your 4G LTE module, click the **weston-terminal** icon in the upper left corner of your screen, and type the first command below when prompted:

```
mm_cli sim-detect 1      (enable hot-plug function)
mm_cli sim-detect 0      (disable hot-plug function)
mm_cli sim-detect        (display current setting)
```

- Connect ANT. 6 for GPS satellite tracking capability.
 - Please refer to the *Installing antennas* section for more information on installing the antennas.
 - Connecting antennas to your module may strengthen the wireless signal.
 - A soft clicking sound indicates that the antenna has been securely attached to the module.
-

Ant. Jack	Module Connector
ANT. 3	LTE_Main
ANT. 5	LTE_Aux
ANT. 6	LTE_GPS



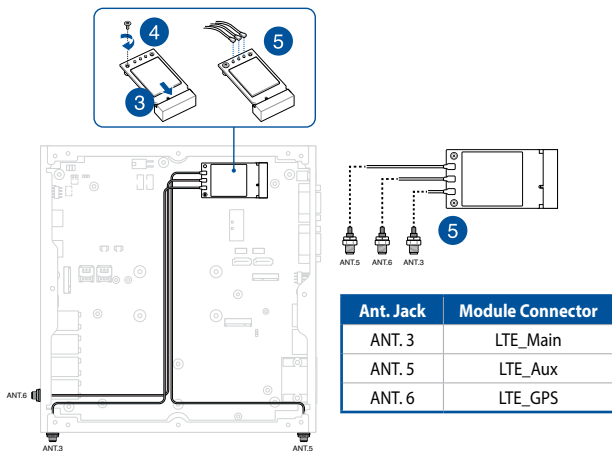
3.9 Installing an mPCIe / mSATA module

Your Embedded Computer comes with a mini PCIe / mini SATA slot that allows you to install a 4G LTE mPCIe module or a CAN bus module.

To install a 4G LTE mPCIe module:

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

1. Follow the instructions in the *Removing the heat spreader* section to remove the top heatsink and heat spreader.
2. Remove the screw from the M.2 standoff.
3. Align and insert the module into the slot.
4. Gently press down, and then secure it in place using the screw previously removed.
5. (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 referring to the illustration on the next page.



NOTE:

- To enable the hot-plug function of your 4G LTE module, click the **weston-terminal** icon in the upper left corner of your screen, and type the first command below when prompted:

```
mm_cli sim-detect 1      (enable hot-plug function)
mm_cli sim-detect 0      (disable hot-plug function)
mm_cli sim-detect         (display current setting)
```

- Connect ANT. 6 for GPS satellite tracking capability.
- Please refer to the *Installing antennas* section for more information on installing the antennas.
- Connecting antennas to your module may strengthen the wireless signal.
- A soft clicking sound indicates that the antenna has been securely attached to the module.

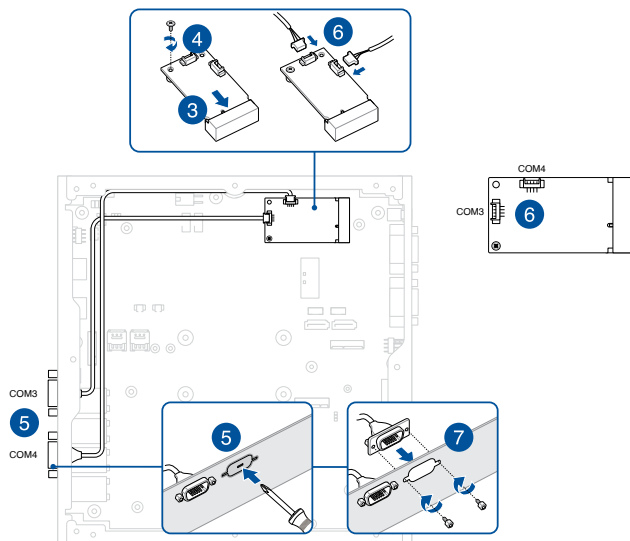
To install a CAN bus module:

1. Follow the instructions in the *Removing the heat spreader* section to remove the top heatsink and heat spreader.
 2. Remove the screw from the M.2 standoff.
 3. Align and insert the module into the slot.
 4. Gently press down, and then secure it in place using the screw previously removed.
 5. Identify the punch-out ports for COM3 and COM4 on the front of your Embedded Computer (refer to the *Front view* section for the locations), and detach the metal covers from them.
-

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

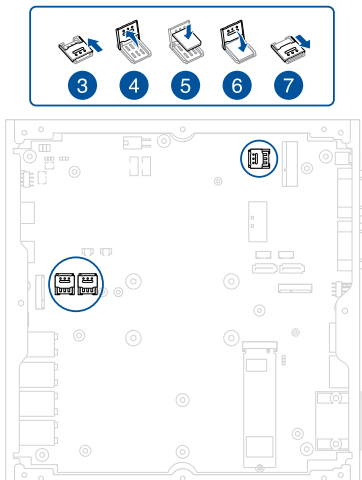
6. Connect the ends of the CAN bus cables with the 4-pin female headers to the 4-pin male headers on the CAN bus module.
 7. Install the CAN bus ports by aligning and inserting them through the punch-out ports as shown, and then securing them with the bundled screws.
-

IMPORTANT! Ensure that the cable for the COM3 port is connected to the corresponding COM3 header on the CAN bus module, and likewise, the cable for the COM4 port is connected to the corresponding COM4 header.



3.10 Installing a nano SIM card

1. Follow the instructions in the *Removing the heat spreader* section to remove the top heatsink and heat spreader.
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 shown in the illustration.
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 away from the storage bays to secure the nano SIM card.

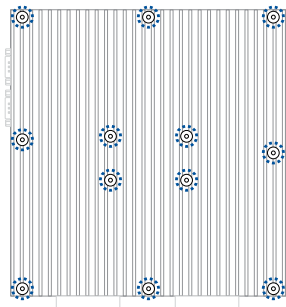


3.11 Installing memory modules

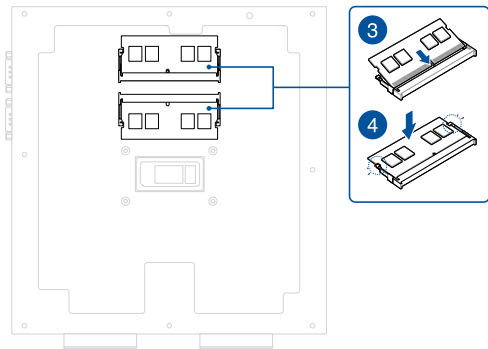
Your Embedded Computer comes with two (2) SO-DIMM memory slots that allow you to install DDR5 SO-DIMMs, ECC*, with a maximum of 64 GB.

To install a memory module:

1. Place the Embedded Computer on a flat stable surface, with its top side facing down.
2. Remove the twelve (12) screws securing the bottom heatink to the chassis, and carefully flip and set the bottom heatsink aside.



3. Align and insert a memory module into one of the two SO-DIMM memory slots in the chassis
4. Press down until the memory module is securely seated in place.
5. Repeat steps 3-4 to install the other memory module.



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 and SSD, will allow this product to be used in environments with ambient temperatures between -20°C and 60°C using DC-in power input.
- 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 or instructed 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。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 <https://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 <https://csr.asus.com/english/REACH.htm>

EU RoHS

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

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.

HDMI Trademark Notice

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Service and Support

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

