ASUS

PE5101D Series
Embedded Computer

User Manual

E25146

Revised Edition V3

September 2024

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Contents

Chapter 4:   Watchdog Timer

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.

Chapter 4: 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 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.

Package contents

Your Embedded Computer package contains the following items:
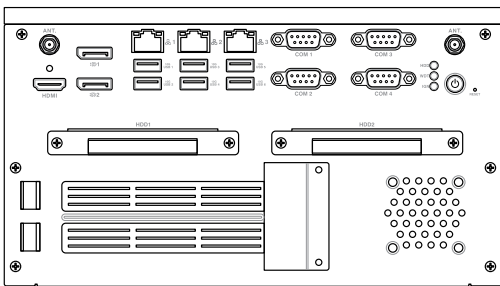
PE5101D
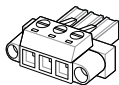
Power terminal block
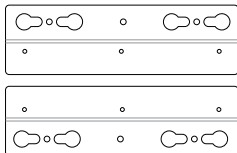
Wall mount kit with dampers

Remote power terminal block
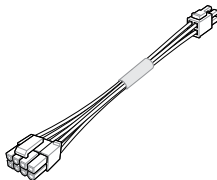
Expansion card power cable

Optional item(s)*
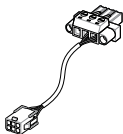
Terminal block power adapter
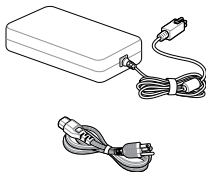
Power adapter and cord

Cellular network antenna

Wi-Fi antenna

NOTE:

- *These accessories are not bundled and need to be purchased separately.

- 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

Getting to know your
Embedded Computer

1.1   Features

1.1.1   Front view
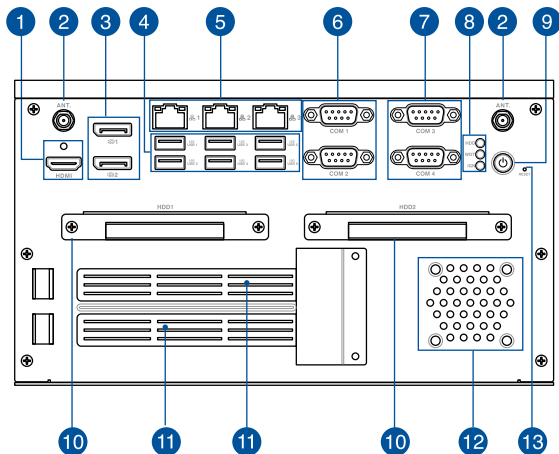
HDMI **HDMI™ port with cable lock**

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.

ANT. **Wireless antenna jack**

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

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

⇵🄳1
⇵🄳2 **Dual-mode DisplayPort**

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

10G USB 1
10G USB 2 **USB 10Gbps port**
10G USB 3 The USB (Universal Serial Bus) 10Gbps port provides a
10G USB 4 transfer rate up to 10 Gbit/s.
10G USB 5
10G USB 6

⑤ 品 **1** **2.5G LAN port**

品 **2**

品 **3** The 8-pin RJ-45 LAN port for 10/100/1000/2500 Mbps connection to a Local Area Network (LAN).

LAN port LED indications

LAN port

ACT/LINK LED — SPEED LED

品 **1** 品 **2** 品 **3**
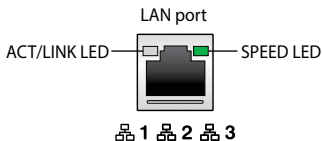
Activity Link LED	
Status	**Description**
Off	No link
Green	Linked
Green (blinking)	Data activity
Green (blinking then steady)	Ready to wake up from suspend mode

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

COM 1
COM 2

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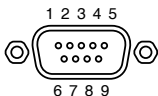
Pin	RS-232	RS-422	RS-485
1	DCD#	TX-	D-
2	RXD	TX+	D+
3	TXD	RX+	NA
4	DTR	RX-	NA
5	GND	GND	GND
6	DSR	NA	NA
7	RTS	NA	NA
8	CTS	NA	NA
9	RI	NA	NA

⑦ **COM 3** **Serial (COM) connector**
COM 4

The 9-pin DB9 connector allows you to connect RS-232 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.

1 2 3 4 5

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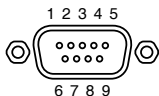
Pin	RS-232
1	DCD#
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

⑧ **HDD** **Drive activity LED**

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

WDT **Watchdog LED**

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

IGN **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.

9 ⏻ **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.

10 **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.

11 **Expansion card slot**

The expansion card slot allows you to install additional hardware components, such as graphics cards or network adapters.

12 **Air vents**

The air vents allow improved air ventilation.

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

13 **RESET** **System reset pinhole**

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

1.1.2 Rear view
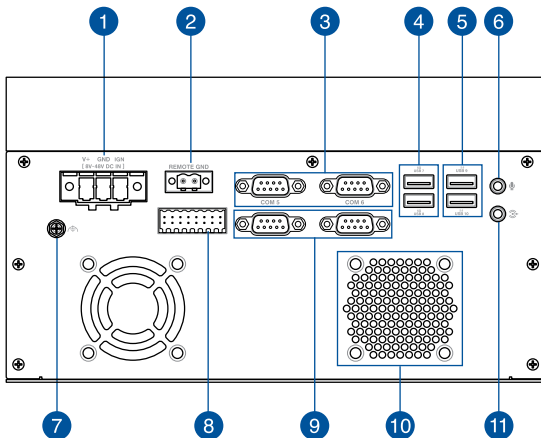
1 Power input

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

2 Remote power connector

The remote power connector allows you to connect an external power button or switch.

③ **COM 5** **Serial (COM) connector**
COM 6

The 9-pin DB9 connector allows you to connect RS-232 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.

1 2 3 4 5

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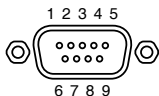
Pin	RS-232
1	DCD#
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

④ **5G** **USB 5Gbps port**
USB 7

5G
USB 8 The USB (Universal Serial Bus) 5Gbps port provides a transfer rate up to 5 Gbit/s.

⑤ **2.0** **USB 2.0 port**
USB 9

2.0
USB 10 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.

⑥ 🎤 **Microphone input jack**

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

⑦ ⏚ **Functional earth ground**

The functional earth ground provides you with a grounding point.

8 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
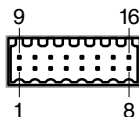
9 Serial connector (optional)

The 9-pin DB9 connector allows you to connect additional serial devices.

10   **Air vents**

The air vents allow improved air ventilation.

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

11   **Audio output jack**

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

1.1.3   Left view
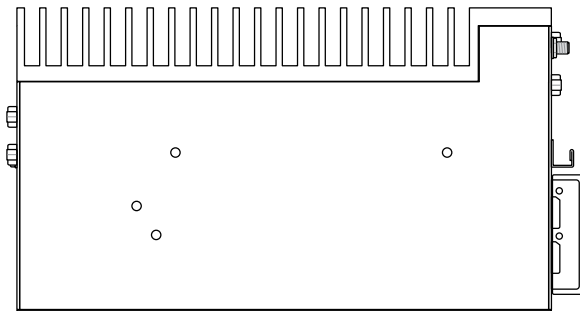
1.1.4   Right view
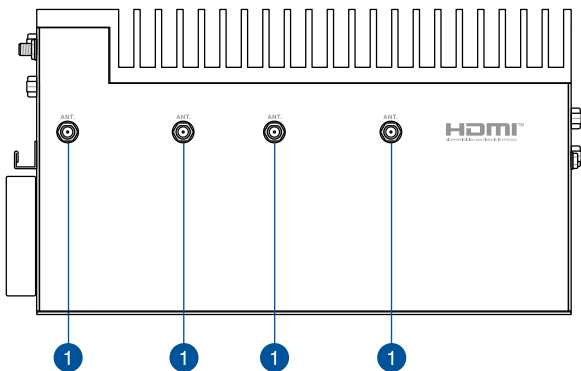
1   **ANT.**   **Wireless antenna jack**

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

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

1.2 Motherboard & riser card overview

Refer to the table on the next page for the page numbers of the numbered items.

1.2.1 Motherboard layout
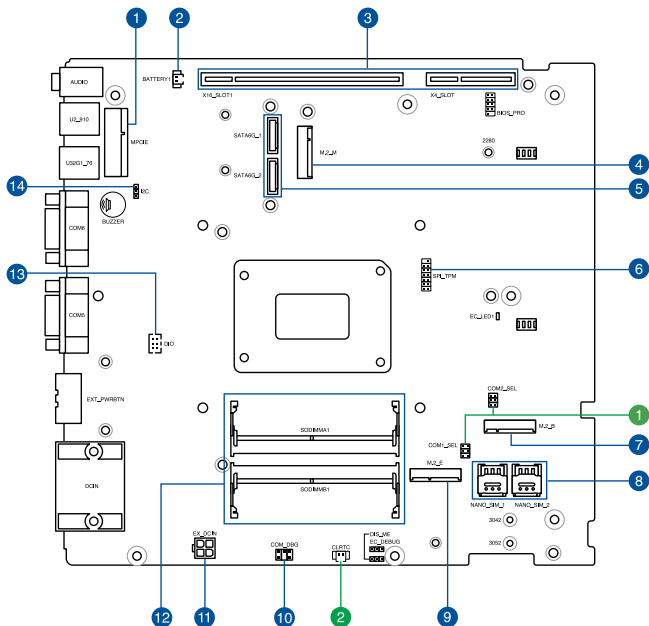
Jumpers	Page
1. COM +5V/+12V Selection jumper	23
2. Clear RTC RAM jumper	24

Connectors/slots	Page
1. Mini PCIe slot	25
2. Battery connector	25
3. Riser card slot	26
4. M.2 M-key slot	26
5. SATA 6Gb/s connector	27
6. SPI TPM connector	28
7. M.2 B-key slot	28
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9. M.2 E-key (Wi-Fi) slot	29
10. COM Debug connector	30
11. 4-pin Power connector	31
12. DIMM slot	32
13. GPIO connector	32
14. I2C connector	33

1.2.2 Onboard jumpers

1. COM +5V/+12V Selection jumper

The COM +5V/+12V Selection jumper allows you to select the voltage for the COM1 and COM2 ports.

Ⓐ COM2_SEL
Ⓑ COM1_SEL

+12V   +5V   RI
(Default)
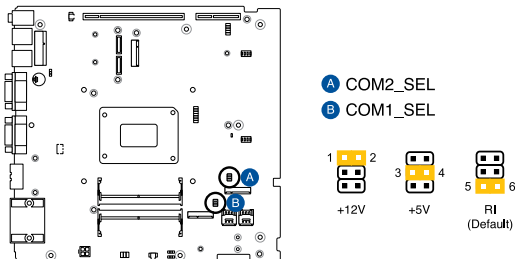
2. Clear RTC RAM jumper

The Clear RTC RAM jumper allows you to clear the Real Time Clock (RTC) RAM in the CMOS, which contains the date, time, system passwords, and system setup parameters.

CLRTC
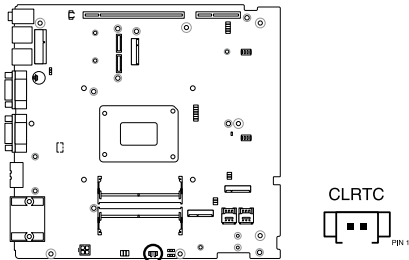
To erase the RTC RAM:

1. Turn OFF the computer and unplug the power cord.

2. Short-circuit pins 1-2 with a metal object or jumper cap for about 5-10 seconds.

3. Plug the power cord and turn ON the computer.

4. Hold down the <Delete> key during the boot process and enter BIOS setup to re-enter data.

NOTE: If the steps above do not help, disconnect the battery cable from the motherboard and short-circuit pins 1-2 again to clear the CMOS RTC RAM data. After clearing the CMOS, reconnect the battery cable.

1.2.3 Internal connectors

1. Mini PCIe slot

The Mini PCIe slot allows you to install a Mini PCIe peripheral device.

MPCIE
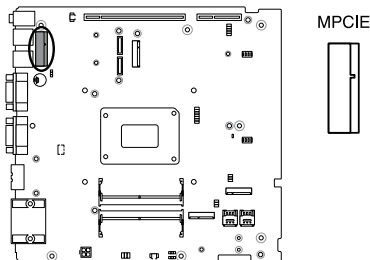
NOTE:

- The Mini PCIe peripheral device is purchased separately.
- We recommend using a PH1 screwdriver with a torque of 2.0±0.2 kgf-cm when tightening the screws.

2. RTC Battery connector

The RTC Battery connector allows you to connect a lithium CMOS battery.

BATTERY1

VBAT
GND
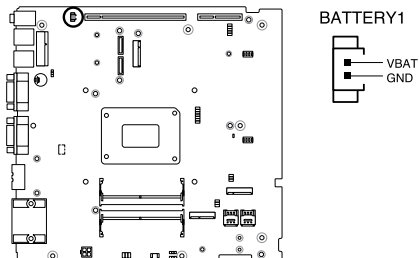
3. **Riser card slot**

   The riser card slot supports a PCIe riser card that allows you to install a full-height, half-length (FHHL) PCIe Gen4 x16 expansion card and a FHHL PCIe Gen4 x4 expansion card. For more information on the riser card, refer to the **Riser card layout** section.

X16_SLOT1   X4_SLOT
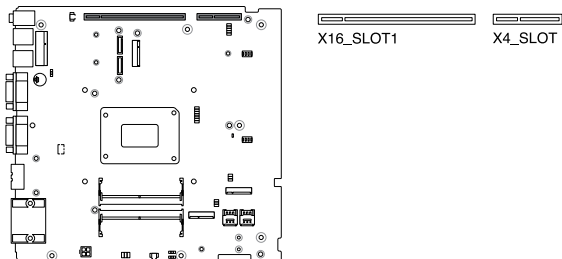
4. **M.2 M-key slot**

   The M.2 M-key slot allows you to install an M-key (PCIe Gen4 x4), type 2280 M.2 device, such as an M.2 SSD module.

M.2_M
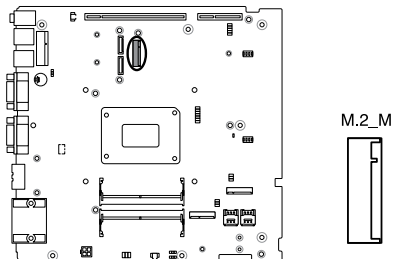
NOTE:

- The M.2 SSD module is purchased separately.
- We recommend using a PH1 screwdriver with a torque of 2.0±0.2 kgf-cm when tightening the screw.

5. **SATA 6Gb/s connector**

   The SATA 6Gb/s allows you to connect SATA devices, such as optical disc drives and hard disk drives via a SATA cable.

SATA6G_1

SATA6G_2
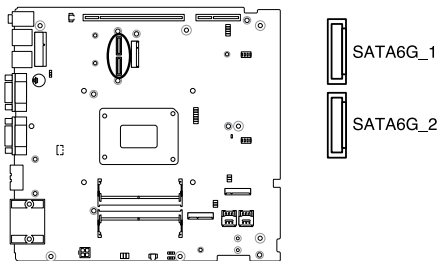
Connector type	Wafer HD 7p, 1.27mm pitch

NOTE: Ensure to use the bundled cable when connecting a storage device to this connector.

6. SPI TPM connector

The SPI TPM connector supports a Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.

NOTE: The TPM module is purchased separately.

SPI_TPM

| NC |
| T_SPI_MOSI — T_SPI_MISO |
| T_SPI_CLK — NC |
| GND — NC |
| NC — NC |
| S_SPI_TPM_CS2# — S_PLTRST# |
| S_SPI_TPM_IRQ# — +VCC_SPI_TPM |

PIN 1
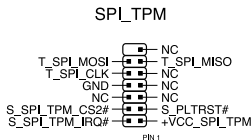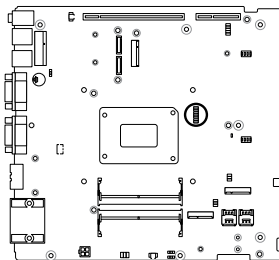
| **Connector type** | Header 2x7p, K14, 2.0mm pitch |

7. **M.2 B-key slot**

    The M.2 B-key slot allows you to install a B-key (PCIe x1, USB 3.2 Gen 1, USB 2.0) type 3042/3052 M.2 device, such as a 4G LTE or 5G NR module.

    M.2_B
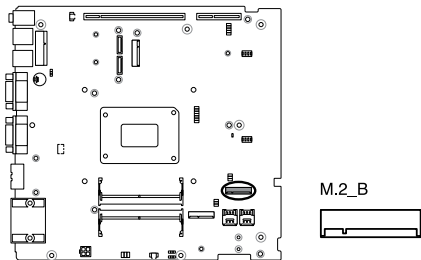
    NOTE:

    -   The M.2 4G LTE or 5G NR module is purchased separately.
    -   We recommend using a PH1/sleeve screwdriver with a torque of 2.0±0.2 kgf-cm when tightening the screw/standoff.

8. **Nano SIM Card slot**

    The Nano SIM Card slot allows you to install a Nano SIM card.
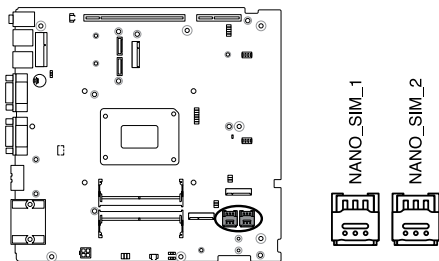
    NANO_SIM_1   NANO_SIM_2

    NOTE: Nano SIM cards are purchased separately.

9. **M.2 E-key (Wi-Fi) slot**

   The M.2 E-key (Wi-Fi) slot allows you to install an E-key (PCIe, USB 2.0) type 2230 M.2 Wi-Fi module.

M.2_E
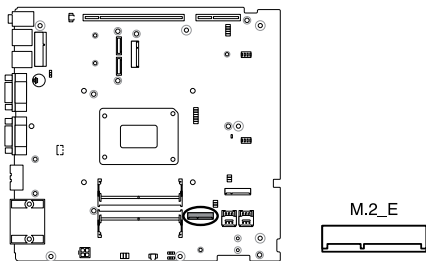
NOTE:

- The M.2 Wi-Fi module is purchased separately.

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

10. **COM Debug connector**

   The COM Debug connector allows you to connect a COM debug card.

COM_DBG
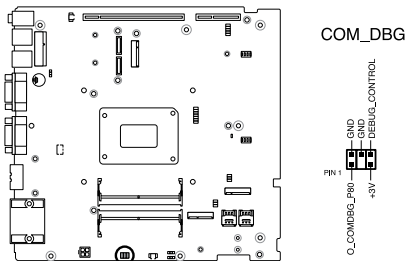
Connector type	Header 2x3p, 2.54mm pitch

11. 4-Pin Power connector

The 4-pin Power connector allows you to supply power to an expansion card via an expansion card power cable.

EX_DCIN

PIN 1

+12V — GND
+12V — GND
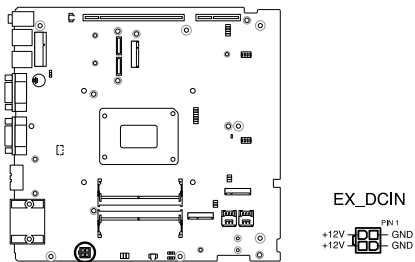
Connector type	POWER CON 4P W/P

12. DIMM slot

The motherboard comes with a Small Outline Dual Inline Memory Module (SODIMM) slot designed for DDR5 (Double Data Rate 5) memory modules.
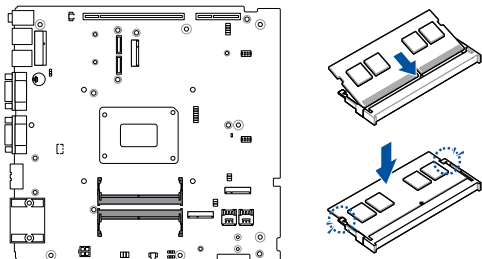
13. GPIO connector

The GPIO connector allows you to connect a general purpose input/output module to customize digital signal input/output.

DIO

PIN 1

GND	DIO_INT#
DIO_SMB_DAT	DIO_SMB_CLK
+5VSB	+3VSB
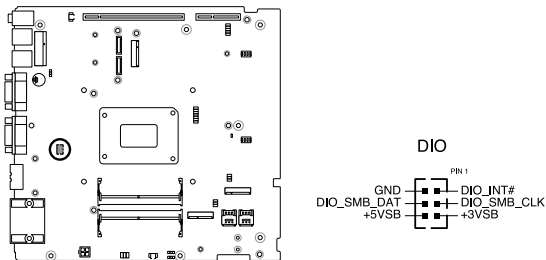
Connector type	BOX header 2x5p, K9, 2.0mm pitch

14. I2C connector

The I2C (Inter-Integrated Circuit) connector allows you to connect an I2C-compatible IoT security module.

I2C

PIN 1

I2C_SCL
I2C_SDA
GND
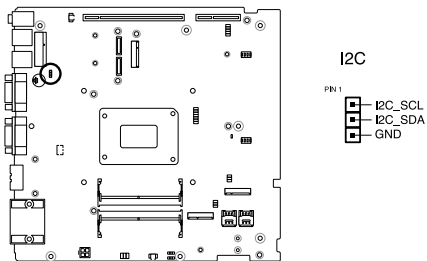
Connector type	Header 1x3p, K6, 2.0mm pitch

1.2.4   Riser card layout
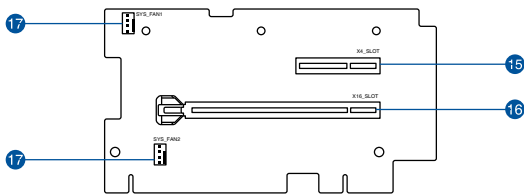
Connectors/slots	Page
1. Chassis fan connector	35
2. PCIe Gen4 x4 slot	36
3. PCIe Gen4 x16 slot	36

1.2.5 Riser card connectors

1. Chassis fan connector

The fan connector allow you to connect a fan to cool the system.

A SYS_FAN1

GND
+12V
O_FAN1_TACT_R
O_FAN1_PWM_Q

B SYS_FAN2

GND
+12V
SENSE
PWM
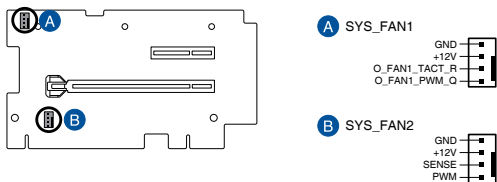
Connector type	WtoB CON 4P, 1.25mm, S/T

WARNING!

- DO NOT forget to connect the fan cable to the fan connector. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! Do not place jumper caps on the fan connectors!

- Make sure that the cable is fully inserted into the connector.

2. **PCIe Gen4 x4 slot**

    The PCIe Gen4 x4 slot supports full-height, half-length PCIe Gen4 x4 expansion cards.
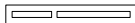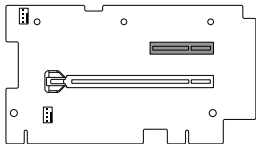
    X4_SLOT

3. **PCIe Gen4 x16 slot**

    The PCIe Gen4 x16 slot supports full-height, half-length PCIe Gen4 x16 expansion cards.
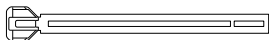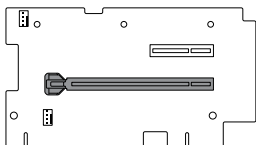
    X16_SLOT1

2

Using your Embedded Computer

2.1   Getting started

2.1.1   Connect the AC power adapter to your Embedded Computer

To connect the AC power adapter to your Embedded Computer:

A.   Connect the power cord to the AC power adapter.

B.   Connect the AC power adapter to the terminal block power adapter.

C.   Connect the 3-pin terminal block DC power connector into your Embedded Computer's power (DC) input.

D.   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.
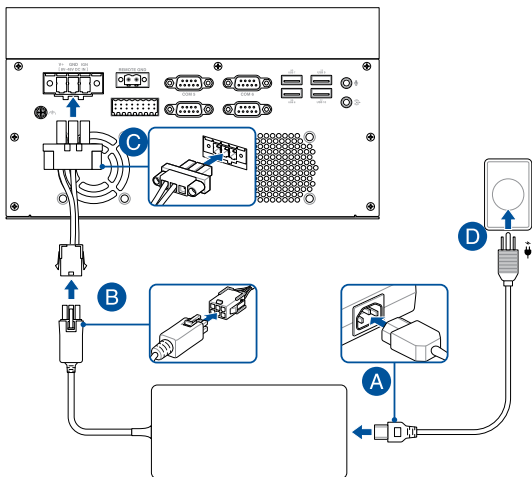
IMPORTANT!

- 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.

  330 W Power adapter (operating temperature 0˚C to 40˚C)
  Input voltage: 100-240 Vac
  Input frequency: 50-60 Hz
  Output current: 13.75 A (330 W)
  Output voltage: 24 Vdc

  System (operating temperature -25˚C to 60˚C)
  Rated voltage: 8-48 Vdc
  Rated current: 41.25 A - 6.875 A (330 W)

- We suggest using a power supply with 8 - 48 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 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.

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
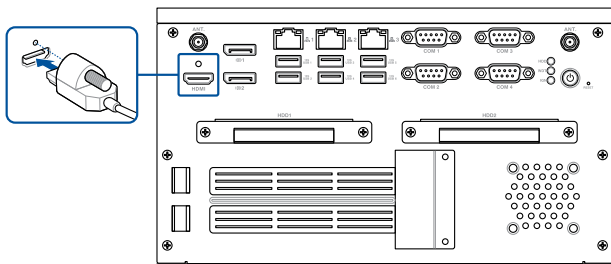
Connect display via DisplayPort
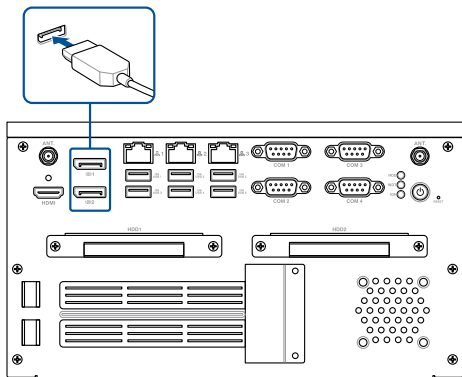
2.1.3 Connect the USB cable from keyboard or mouse

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.
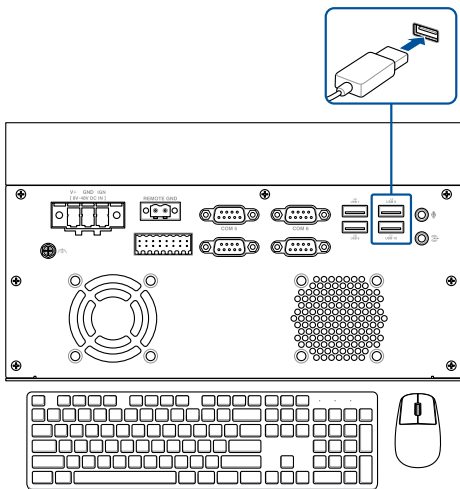
2.1.4 Turn on your Embedded Computer

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.
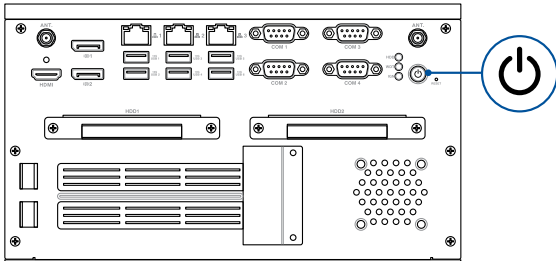
2.2 Turning off your Embedded Computer

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

2.3　Installing wall mount brackets

1. Insert the eight (8) dampers bundled with the wall mount kit into the keyhole slots on the wall mount brackets and slide them into the narrower channel of each hole for secure placement.

2. Align the wall mount brackets to the screw holes on the bottom of your Embedded Computer, and then secure the wall mount brackets using the six (6) bundled screws.

3
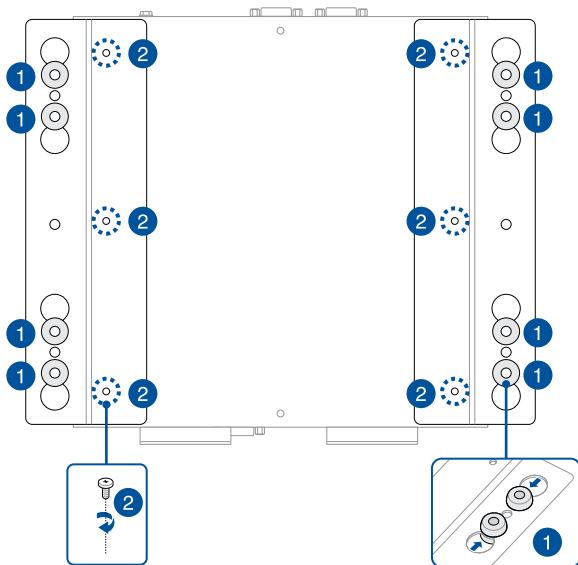
Upgrading your Embedded Computer

3.1 Installing a storage device

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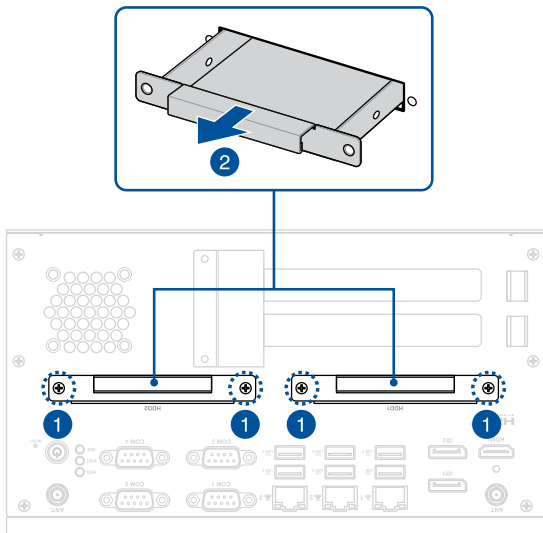
3. Install your storage device to the storage device tray (A), then secure it with four (4) screws (B).
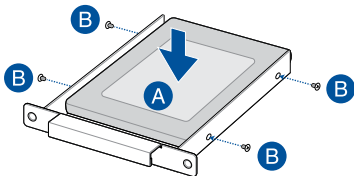
4. Replace the storage device tray.

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

3.2   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.
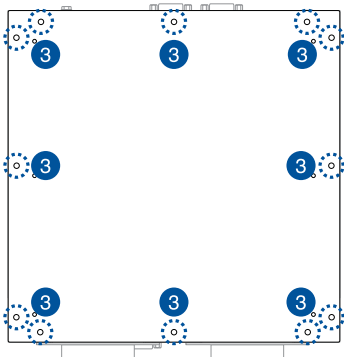
3.3 Replacing the bottom cover

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.
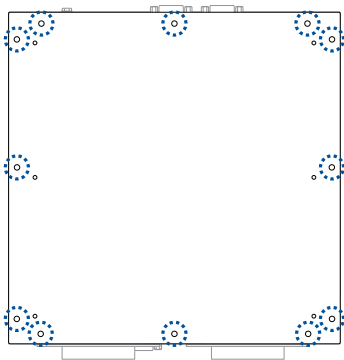
3.4   Removing the heat spreader

1. Follow the instructions in the **Removing the bottom cover** section to remove the bottom cover.

2. Follow steps 1-2 in the **Installing a storage device** section to remove the storage device trays.
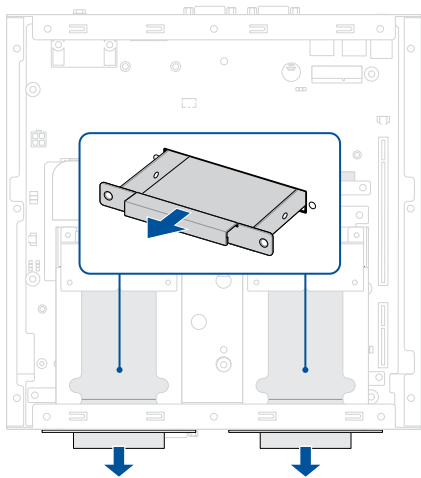
3. Disconnect the fan cable from the riser card.
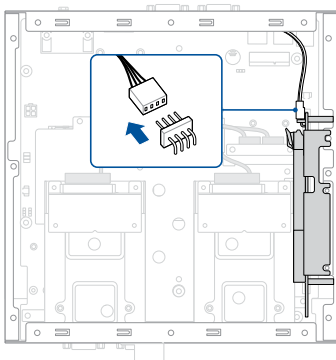
4. Remove the three (3) screws on the top (A) and the two (2) screws on the side (B) securing the riser card assembly to the chassis, and then remove the riser card assembly.

Side view
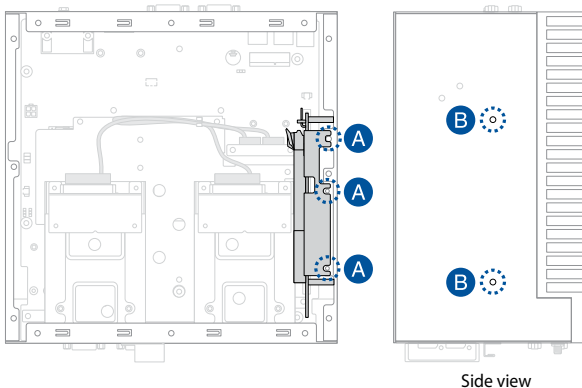
5. Remove the six (6) screws securing the heat spreader.
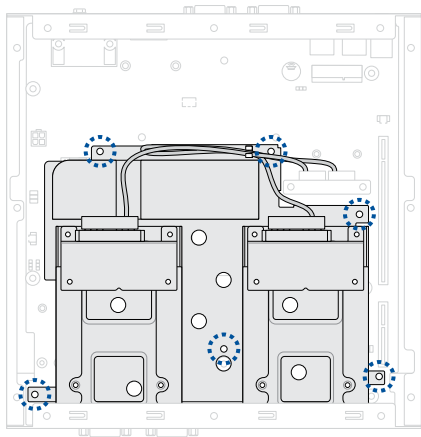
6. Carefully remove and set aside the heat spreader, making sure that the thermal pads on it do not come in contact with any surfaces.

3.5   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.   Follow the steps in the **Removing the heat spreader** section to remove the bottom cover and heat spreader.

2.   Align and insert a memory module into one of the two SO-DIMM memory slots in the chassis.

3.   Press down until the memory module is securely seated in place.
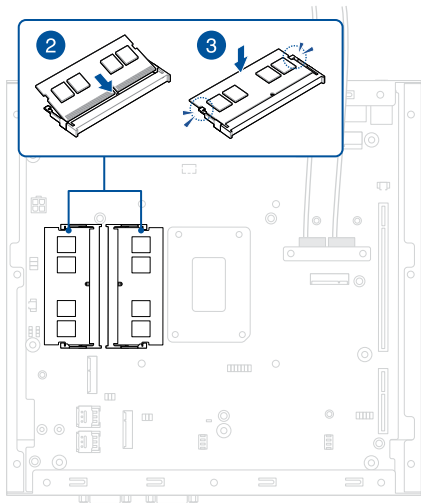
4.   Repeat steps 2-3 to install the other memory module.

3.6 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 Gen4 x4) SSD module.

To install an M.2 SSD module:

1. Follow the steps in the **Removing the heat spreader** section to remove the bottom cover and heat spreader.

2. Align and insert the M.2 SSD module into its slot inside the Embedded Computer.

3. Gently push down the module on top of the standoff and fasten it using a screw.
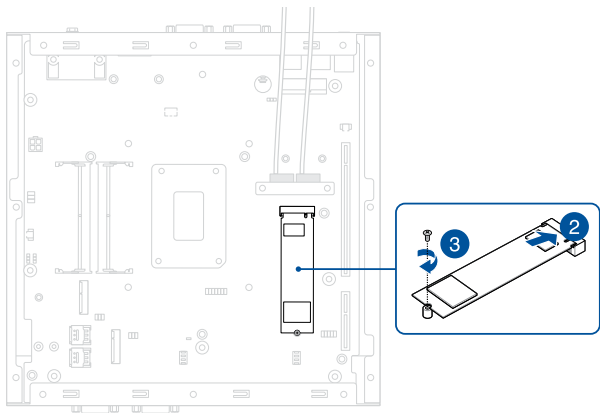
3.7 Installing a wireless card to the M.2 E-key slot

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

1. Follow the steps in the **Removing the heat spreader** section to remove the bottom cover and heat spreader.

2. Remove the screw from the M.2 standoff.

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

---

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 screw.

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

---

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.

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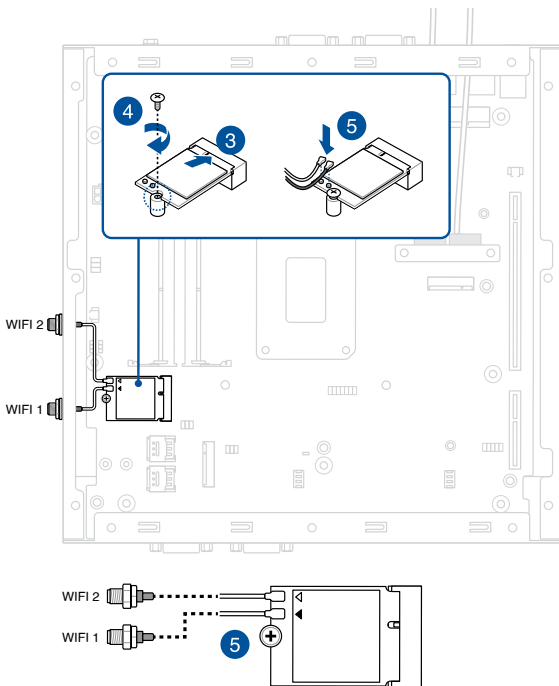
3.8 Installing a cellular network module to the M.2 B-key slot

Your Embedded Computer comes with an M.2 B-key slot that allows you to install a B-key (PCIe x1/USB 3.2 Gen 1/USB2.0, type 3042/3052) M.2 device, such as a 4G LTE or 5G NR 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 a 4G LTE module:

1. Follow the steps in the **Removing the heat spreader** section to remove the bottom cover and heat spreader.

2. Remove the screw from the M.2 standoff.

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

    ---

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.

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.

To install a 5G NR 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 steps in the **Removing the heat spreader** section to remove the bottom cover and heat spreader.

2. Remove the screw from the M.2 standoff.

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

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.

AUX 0

MAIN 3

AUX 2

MAIN 1

AUX 0

MAIN 1

AUX 2

MAIN 3

3.9   Installing an mPCIe module

Your Embedded Computer comes with an mPCIe slot that allows you to install an mPCIe add-on module, such as a CANbus module.

To install an mPCIe module:

1. Follow the steps in the **Removing the heat spreader** section to remove the bottom cover and heat spreader.

2. Remove the two (2) screws from the standoffs.

3. Align and insert the module into the slot.

4. Press down, and then secure it in place using the two (2) screws previously removed.

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

---

5. Connect the necessary cables based on the type of module installed.
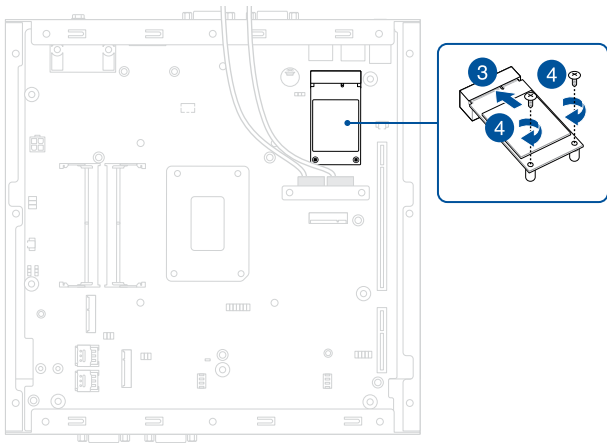
3.10 Installing a nano SIM card

Your Embedded Computer comes with two (2) nano SIM card slots.

NOTE: Nano SIM cards are purchased separately.

To install a nano SIM card:

1. Follow the steps in the **Removing the heat spreader** section to remove the bottom cover 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 towards the M.2 B-key slot.

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 M.2 B-key slot to secure the nano SIM card.

8. Repeat steps 3 to 7 to install a second nano SIM card.
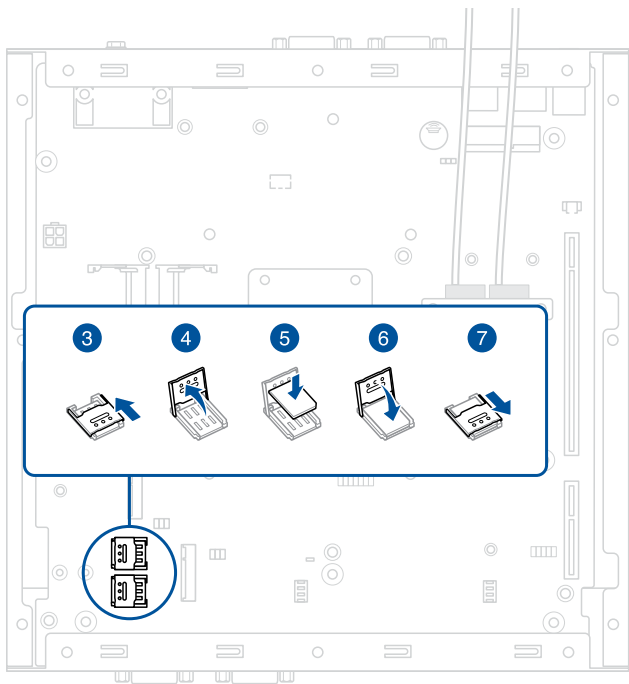
3.11 Installing a GPU card

NOTE: The maximum size GPU card that will fit in this Embedded Computer is 229 mm (L) x 123.24 mm (H) x 49.6 mm (W). If installing a GPU card that is longer than 200 mm, you will need to relocate the chassis fan.

1. Remove the two (2) screws securing the PCIe protective cover to the front of your Embedded Computer, and remove the PCIe protective cover.

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

3. Detach the metal cover of the punch-out port by repeatedly pushing the left and right 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.
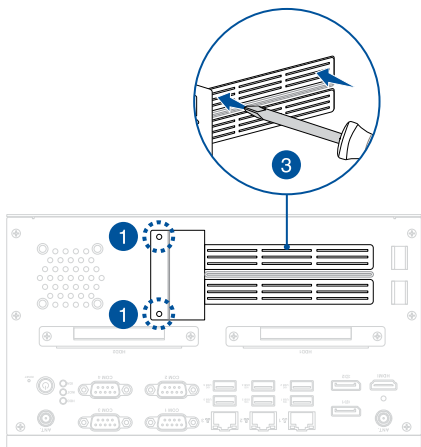
4. (Optional) For GPU cards that are longer than 200 mm, you will need to relocate the chassis fan installed on the rear panel to prevent interference.

NOTE: Before moving the chassis fan, remove the metal covers from the fan mount area to enable sufficient air flow.
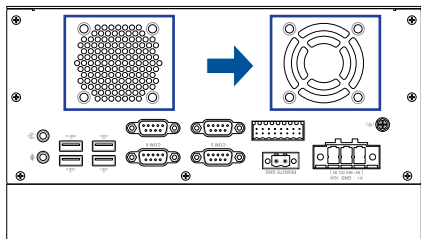
5. Insert your GPU card to the empty PCIe slot corresponding to the punch-out port with the metal cover you removed earlier. Ensure that the tapered end of the retaining bracket is inserted into the recessed receptacle on the chassis.

6. Secure the retaining bracket to the chassis using a screw.

X16_SLOT
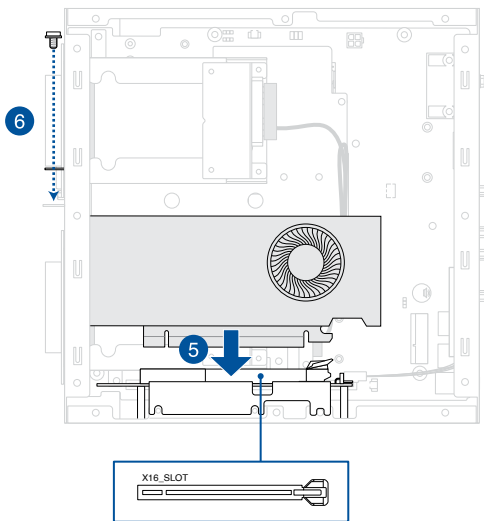
7. Connect the 4-pin end of an expansion card power cable to the **EX_DCIN** connector on the motherboard (A) and the other end to your GPU card (B).
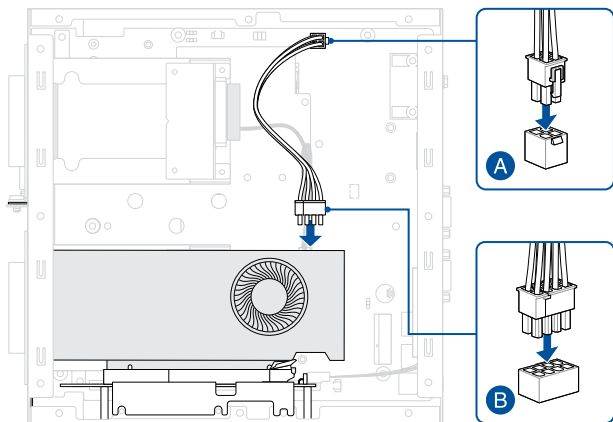
3.12 Installing antennas (optional)

You may install antennas to the six (6) antenna jacks located on the front and right 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
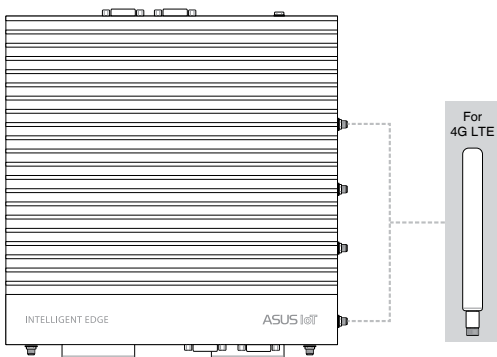
For 5G NR module
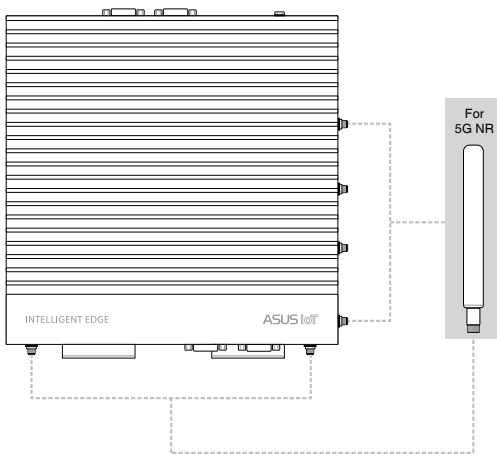
For wireless card
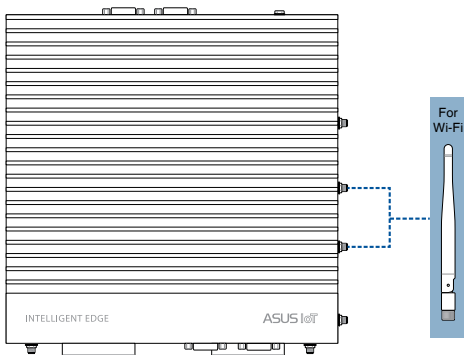
To install an antenna:

> **NOTE:** If your Embedded Computer came pre-installed with antenna jacks, skip to step 9.

1. Remove the bottom cover. Refer to **Removing the bottom cover** for details.

2. (Optional) To install the antennas on the front panel for 5G NR modules, you will also need to remove the front panel by removing the two (2) screws securing it to the chassis.
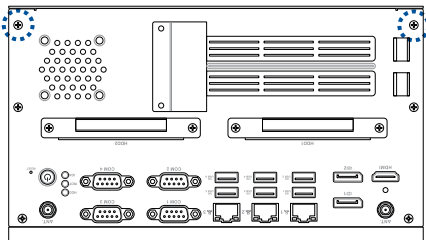
3. Prepare the RF connector and cable.

4. Remove the rubber caps from the antenna holes.

5. Insert the antenna jack end of the RF connector and cable into the antenna jack from within the chassis outwards.

6. Insert the bundled O-ring to the antenna jack.

7. Secure the antenna jack using the bundled hex screw.
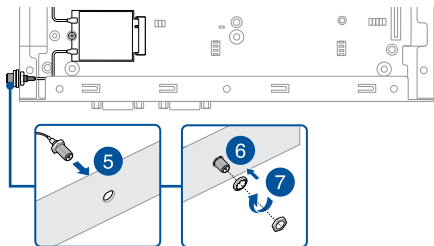
8. (Optional) For RF cables that need to connected to the front panel, route them to the 5G NR module through the two cutouts on the motherboard.
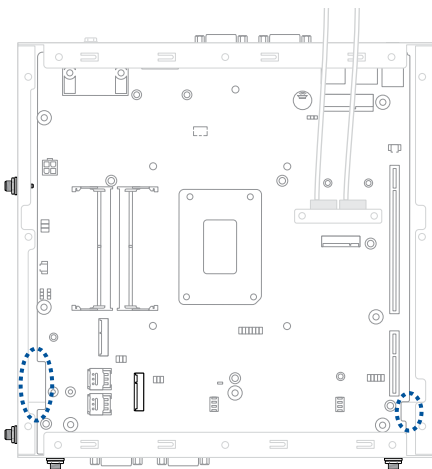
9. Connect the other end of the RF connector and cable to your wireless card (refer to **Installing a wireless card to the M.2 E-key slot** for details) or to your cellular network module (refer to **Installing a cellular network module to the M.2 B-key slot** for details).

10. Replace the bottom cover. Refer to **Replacing the bottom cover** for details.

11. Screw the external wireless antennas onto their corresponding antenna jacks on your Embedded Computer by turning them in a clockwise direction.

12. Position the antennas for optimal signal reception.

4

Watchdog Timer

4.1   Watchdog Timer implementation

The Watchdog Timer used in this Embedded Computer is the POST Watchdog Timer. The Watchdog Timer circuit is in SuperIO and can be controlled by the BIOS setup menu through the system BIOS for different boot phases.

Please refer to the table below for more details on the implementation of the Watchdog Timer.

Watchdog timer	Implementation	Default Timeout
POST Watchdog Timer	This Watchdog Timer is for recovering the system from crashes during BIOS takeover to OS. **NOTE:** The default setting for the BIOS item is set to enabled.	The timeout value is determined by the BIOS settings.
*OS Watchdog Timer	No implementation. User needs to write software in OS to keep updating the watchdog timer to prevent it from timing out. The application is executed on payload. **NOTE:** Please refer to the section **Watchdog Timer Programming** for more information.	N/A

4.2   Watchdog Timer programming

Please refer to the pseudo code for the NCT6116D watchdog timer programming below:

SIO_INDEX_PORT is 0x2E

SIO_DATA_PORT is 0x2F

1. **Set WDT Time Unit**

    ```
    Outportb(SIO_INDEX_PORT, 0x87); // Unlock SIO

    Outportb(SIO_INDEX_PORT, 0x87); // Unlock SIO


    Outportb(SIO_INDEX_PORT, 0x07);

    Outportb(SIO_DATA_PORT, 0x08);

    Outportb(SIO_INDEX_PORT, 0xF0);

    val = Inportb(SIO_DATA_PORT) // Read current WDT setting


    val = val | 0x08; // minute mode, val = val & 0xF7 if second mode

    Outportb(SIO_INDEX_PORT, 0xF0);

    Outportb(SIO_DATA_PORT, val); // Write back WDT setting


    Outportb(SIO_INDEX_PORT, 0xAA); // Lock SIO
    ```

2. Set WDT Time

```
Outportb(SIO_INDEX_PORT, 0x87); // Unlock SIO
Outportb(SIO_INDEX_PORT, 0x87); // Unlock SIO

Outportb(SIO_INDEX_PORT, 0x07);
Outportb(SIO_DATA_PORT, 0x08);
Outportb(SIO_INDEX_PORT, 0xF1);
Outportb(SIO_DATA_PORT, Time); // Write WDT time, value 1 to 255

Outportb(SIO_INDEX_PORT, 0xAA); // Lock SIO
```

3. Enable WDT

```
Outportb(SIO_INDEX_PORT, 0x87); // Unlock SIO
Outportb(SIO_INDEX_PORT, 0x87); // Unlock SIO

Outportb(SIO_INDEX_PORT, 0x07);
Outportb(SIO_DATA_PORT, 0x08);
Outportb(SIO_INDEX_PORT, 0x30);
val = Inportb(SIO_DATA_PORT) // Read current WDT status

val = val | 0x01; // Enable WDT Timer
Outportb(SIO_INDEX_PORT, 0x30);
Outportb(SIO_DATA_PORT, val); // Write back WDT status

Outportb(SIO_INDEX_PORT, 0xAA); // Lock SIO
```

4. **Disable WDT**

    Outportb(SIO_INDEX_PORT, 0x87); // Unlock SIO
    Outportb(SIO_INDEX_PORT, 0x87); // Unlock SIO

    Outportb(SIO_INDEX_PORT, 0x07);

    Outportb(SIO_DATA_PORT, 0x08);

    Outportb(SIO_INDEX_PORT, 0xF1);

    Outportb(SIO_DATA_PORT, 0x00); // Clear WDT time, it means WDT
    Time-Out disable

    Outportb(SIO_INDEX_PORT, 0x30);

    val = Inportb(SIO_DATA_PORT) // Read current WDT status

    val = val & 0xFE; // Disable WDT Timer

    Outportb(SIO_INDEX_PORT, 0x30);

    Outportb(SIO_DATA_PORT, val); // Write back WDT status

    Outportb(SIO_INDEX_PORT, 0xAA); // Lock SIO

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 tolerance (such as industrial grade memory and storage) will allow this product to be used in environments with ambient temperatures between -25˚C and 60˚C with adequate airflow.
- 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.
- 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

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

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-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)

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。

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 năm2011 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.

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，运行此设备可能会造成无线电干扰。

「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 أن هذا الجهاز يتوافق مع المتطلبات الأساسية والأحكام الأخرى ذات الصلة الخاصة بتوجيه EU/53/2014. 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 zemljana 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 kasutamine 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:in taajuudella toimiva WiFi on rajoitettu sisäkäyttöön taulukossa luetelluissa maissa:

<div dir="rtl">

تبعیت از نسخه ساده شده بیانیه اتحادیه اروپا

Inc Computer ASUSTek در اینجا اعلام می کند که این دستگاه با نیازهای اساسی و سایر مقررات مربوط به بیانیه EU/53/2014. مطابقت دارد. متن کامل پیروی از این بیانیه اتحادیه اروپا در این آدرس موجود است: https://www.asus.com/support/.

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

</div>

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:

<div dir="rtl">

הצהרת תאימות רגולטורית מקוצרת עבור האיחוד אירופי

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

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

</div>

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.

Supaprastinta 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 tekstas 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 oświadcza, 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 relevantnimii 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-försäkran 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-försäkran 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. ขอประกาศในที่นี้ว่าอุปกรณ์นี้มีความสอดคล้องกับความ ต้องการที่จำเป็นและเงื่อนไขที่เกี่ยวข้องอื่น ๆ ของบทบัญญัติข้อกำหนด 2014/53/EU เนื่อหาที่สมบูรณ์ของประกาศความ สอดคล้องกับ 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 uygunluk 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:

Жеңілдетілген ЕО талаптарына сәйкестік бойынша мәлімдеме

ASUSTek Computer Inc. компаниясы осымен бұл құрылғының 2014/53/EU директивасының маңызды талаптары мен басқа тиісті қағидаларына сәйкес келетіндігін жариялайды. ЕО талаптарына сәйкестік бойынша мәлімдеменің толық мәтіні мына мекенжай бойынша қолжетімді: https://www.asus.com/support/.

Төмендегі кестеде келтірілген елдер үшін 5150-5350 МГц жиіліктер диапазонында жұмыс істейтін Wi-Fi желілерін тек бөлме ішінде пайдалануға рұқсат берілуі керек:

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)		

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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/.