User Manual
PPC Series

P15WL01 / P15AL01
P15RL01 / P15AR01

Notice

The illustrations in this user's manual are for reference only. Actual product specifications may vary with territories.

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For more information on the Waste from Electrical and Electronics Equipment (WEEE) regulations, visit http://ec.europa.eu/environment/waste/weee/index_en.htm

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Preface

■ 1.1 Regulations information

• FCC rules

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.

• CAN ICES-003(B) / NMB-003(B)

• CE compliance

This device is classed as a technical information equipment (ITE) in class A and is intended for use in commercial, transport, retailer, public, automation…field.

⚠️ ⊕ **WARNING**

THIS PRODUCT CONTAINS A BUTTON BATTERY

If swallowed, a lithium button battery can cause severe or fatal injuries within 2 hours. Keep batteries out of reach of children.

If you think batteries may have been swallowed or placed inside any part of the body, seek immediate medical attention.

⚠️ CAUTION: This product is intended for exclusive use and will not be used in places where children may come into contact with it.

⚠️ CAUTION: Any changes or modifications not expressly approved by the guarantee of this device could void the user's authority to operate the equipment.

■ 1.2 Safety instructions

The following safety precautions will increase the life of the panel PC. Follow all Precautions and instructions.

Do not place this device underneath heavy loads or in an unstable position.

Do not use or expose this device around magnetic fields as magnetic interference may affect the performance of the device.

Do not expose this device to high levels of direct sunlight, high-humidity or wet conditions.

Do not block the air vents to this device or impede the airflow in any way.

Do not expose to or use near liquid, rain, or moisture.

Never pour any liquid into an opening. This may cause damage or electrical shock.

• The unit can be operated at an ambient temperature of max.40°C (104°F). Do not subject it to temperatures below 0°C (32°F) or above 40°C (104°F).

CAUTION: Incorrectly replacing the battery may damage this computer. Replace only with the same or as equivalent recommended by the manufacturer. Dispose of used batteries in accordance with the laws of your country.

■ 1.2 Consignes de sécurité

Les mesures de précaution suivantes servent à prolonger la durée de vie de l'ordinateur. Par conséquent, veuillez observer l'ensemble des mesures de précaution et des instructions.

Ne pas poser d'objets lourds sur l'appareil ou ne pas le mettre pas dans une position instable.

Ne pas exposer l'appareil à de forts champs magnétiques, puisque cela pourrait causer des interférences.

Ne pas exposer l'appareil directement aux rayons du soleil, à l'humidité ou ne pas le placer dans un endroit humide.

Ne pas couvrir la fente d'aération de l'appareil ou ne pas empêcher la circulation d'air de quelque sorte que ce soit.

Ne pas utiliser l'appareil à proximité de liquides, de pluie ou d'humidité.

Ne pas utiliser le modem pendant un orage.

• L'appareil peut être utilisé à une température ambiante maximum de 40°C (104°F). Ne pas exposer l'appareil à une température inférieure à 0°C (21°F) ou supérieure à 40°C (104°F).

⚠ ATTENTION : Ne pas replacer correctement la pile peut endommager l'ordinateur. Remplacez-la uniquement par un modèle identique ou un équivalent comme recommandé par fabricant. Éliminez les piles usagées conformément à la législation en vigueur dans votre pays.

■ 1.3 Notes for this manual

⚠ CAUTION! Important information that must be followed for safe operation.

☞ NOTE: Information for special situations.

■ 1.4 Release history

Version	Revision note	Date
1.0	First released	10.2023

Getting to know the basics

■ 2.1 Product specification

This User's Manual provides instructions and illustrations on how to operate this panel PC. It is recommended to read this manual carefully before using this panel PC.

☞ NOTE: The product's specification will depend upon the actually shipped product.

System		
Processor	P15WL01	8th Gen. Intel® Whiskey Lake-U series Processors – Intel® Core™ i7-8665UE vPro Intel® Core™ i7-8565U Intel® Core™ i5-8365UE vPro Intel® Core™ i5-8265U Intel® Core™ i3-8145UE Intel® Celeron 4305UE
	P15AL01	12th Gen. Intel® Alder Lake-U series Processors – Intel® Core™ i7-1265UE vPro Intel® Core™ i7-1255U vPro Intel® Core™ i5-1245UE vPro Intel® Core™ i5-1235U vPro Intel® Core™ i3-1215UE Intel® Core™ i3-1215U Intel® Celeron 7305E
	P15RL01	13th Gen. Intel® Alder Lake-U series Processors – Intel® Core™ i7-1365UE vPro Intel® Core™ i7-1355U vPro Intel® Core™ i5-1345UE vPro Intel® Core™ i5-1335U vPro Intel® Core™ i3-1315UE Intel® Core™ i3-1315U Intel® Processor U300

Processor	P15AR01	Intel® Arrow Lake Processors – Intel® Core™ Ultra 5 225U Intel® Core™ Ultra 5 235U Intel® Core™ Ultra 7 255U Intel® Core™ Ultra 7 265U
Memory	P15WL01	2 x 260 pin SO-DIMM up to 64GB, Dual Channel 1.2 V DDR4 2400MHz
	P15AL01	2 x 262 pin SO-DIMM up to 64GB, Dual Channel 1.1 V DDR5 4800MHz
	P15RL01	2 x 262 pin SO-DIMM up to 64GB, Dual Channel 1.1 V DDR5 5200MHz
	P15AR01	2 x 262 pin SO-DIMM up to 64GB, Dual Channel 1.1 V DDR5 6400MHz
Display and Touch Screen		
Display	15.6" 1920x1080 Full HD LED with 10-Point Capacitive Multi-Touch	
Brightness	350 nits	
Graphics		
Chipset	Intel® UHD Graphics	
Display Interface	Supports two independent displays 1 x HDMI 2.0: 4096 x 2160@60Hz 1 x HDMI 2.1: 7680 × 4320@60Hz (AR series only) 1 x DVI-I: 1920 x 1080@60Hz (optional daughter board) 1 x VGA (optional daughter board)	
Storage		
Storage	1 x M.2 2280, M key (PCIe x4 or SATA, either one) Option: 1 x M.2 2280, M key, SSD SATA I/F	
Audio		
Audio Codec	Realtek ALC6662	

Network	
Ethernet	P15WL01: 1 x RJ-45 Gigabit Ethernet P15AL01/P15RL01/P15AR01: 1 x RJ-45 2.5GbE
WLAN	1x M.2 2230, M key Realtek RTL8821C (optional for WL/AL/RL) (802.11a/b/g/n/ac + Bluetooth 4.2 with 2x internal antenna (default) / 2x external antenna (optional))
I/O Interface	
LAN	1 x RJ-45 2nd Lan 2.5GbE (optional)
Serial Ports	1 x RS-232(DB-9) 1 x RS-232 (DB-9) (optional board) 2 x RS-232/422/485 (DB-9) (RS-232 with power supply: ring in/ 5V (standard) & 12V (with specific optional board))
USB	4 x USB3.2 Gen 2 (Type A) 4 x USB2.0 (optional board)
Audio	1 x Line-out 1 x Mic-in
Power	
Adapter	19V/ 4.74A 90W extenal adapter
Power	9-36V DC-in (Optional wide range board)
Watchdog Timer	
Watchdog Timer	255 Sec.
OS Support	
OS Support	Windows 11 64bit, Linux 64bit

Mechanism	
IP Rating	IP65 Front Panel Protection
Mounting	VESA Mount (100 x 100mm)
Dimension (WxHxD)	394 x 256 x 48.9
Weight	4.6 Kg
Environment	
Operating Temperature	0 ~ 40°C
Storage Temperature	-20°C ~ 60°C
Relative Humidity	20% - 80% RH (non-condensing)
EMC	CE, FCC, BSMI,
Safety	CB, cTUVus,CEC, BSMI
RF	EU, US, Taiwan

CAUTION: MODEL P15WL01/ P15AL01/ P15RL01/ P15AR01 IS DESIGNED
TO USE WITH THE DC INPUT: (19Vdc / 4.74A) ADAPTERS.

⚠ CAUTION! Adapter watt should follow default setting or refer to
rating label information.

∎ 2.2 Product overview

Refer to the following illustration to identify the components on this side of the panel PC. Features and configurations vary by model.

☞ NOTE: The product's color, I/O port, indicator location will depend upon the actually shipped product.
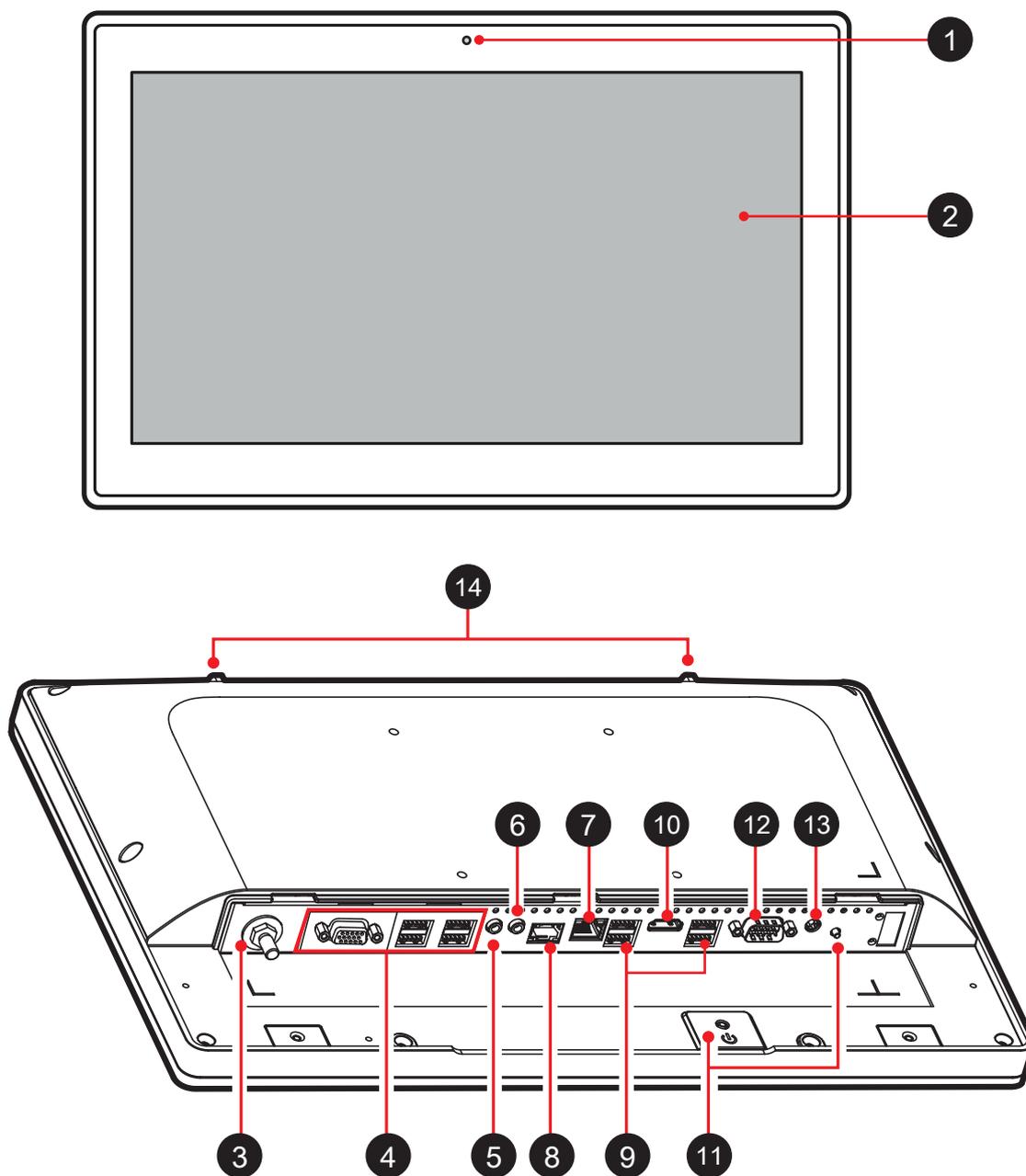
1　Webcam

2　15" FHD LCD display (True-Flat PCAP touch)

3　Potential equalization pin (POAG) (optional)

4　⚠ Optional I/O ports are available depending on the specs of the actually shipped product.

Optional I/O Port	Occupied Sections		Specifications / Limitations
D-Sub (VGA) port	1		Max. resolution:
DVI-I port	1		D-Sub (VGA): 1920x1080
HDMI port	1		DVI-I (Single Link): 1920x1080 HDMI: 4096x2160@60Hz HDMI 2.1: 7680x4320@60Hz (AR series only)
USB 2.0 Ports	1		USB 2.0 x 4pcs
COM Port	1		RS232 only

5　Headphone / Line-out jack

6　Microphone jack

(7) LAN (RJ45) port: 1st LAN on MB

(8) LAN (RJ45) port: 2nd LAN via optional daughter board
(support wake on LAN)

(9) USB 3.2 Type-A ports

(10) HDMI port

(11) Power button

(12) COM 1 port (RS232 only)

(13) Power jack (DC-IN)

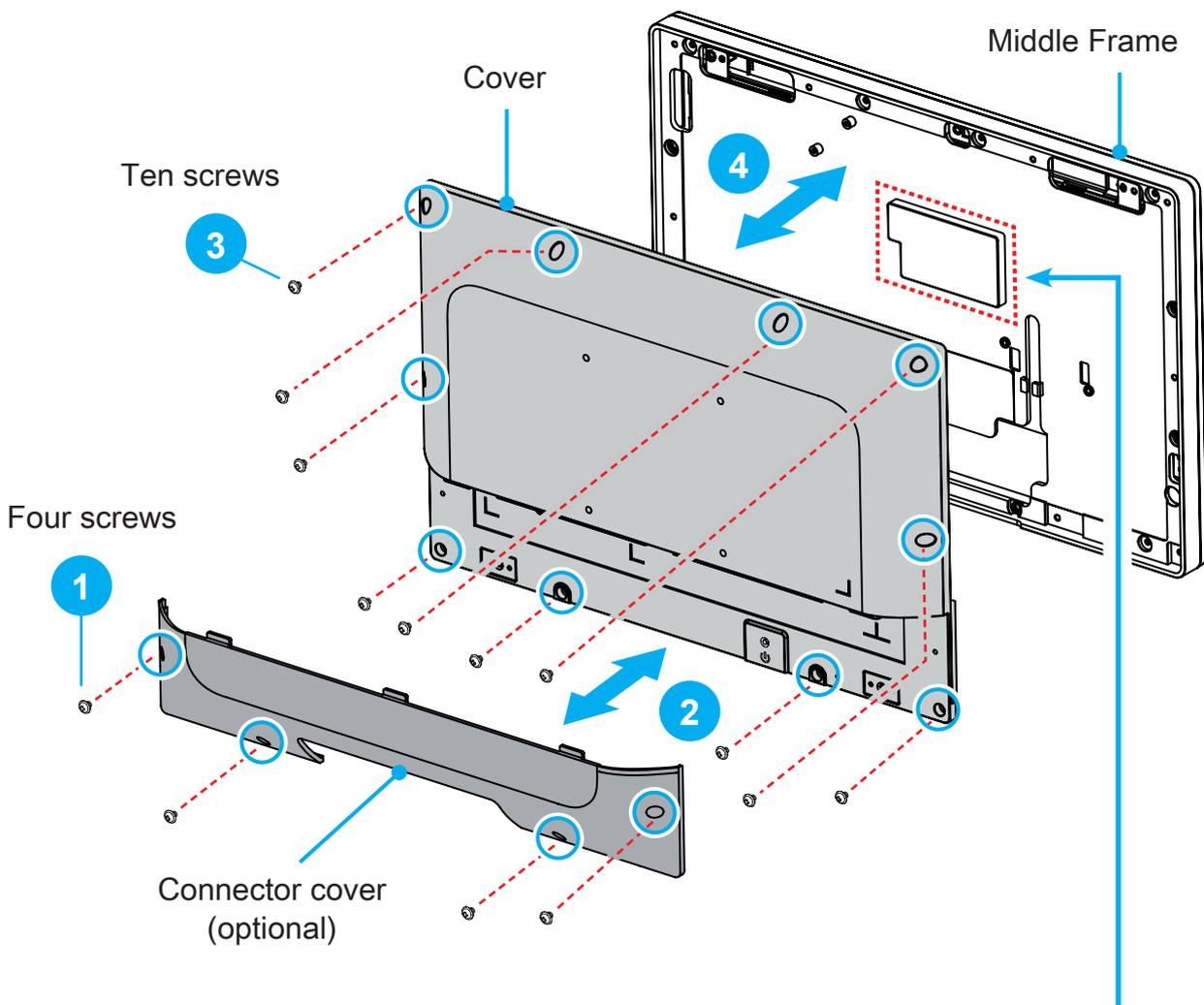(14) Connector for external antenna (optional)

■ 2.3 Product dimensions

Unit: mm
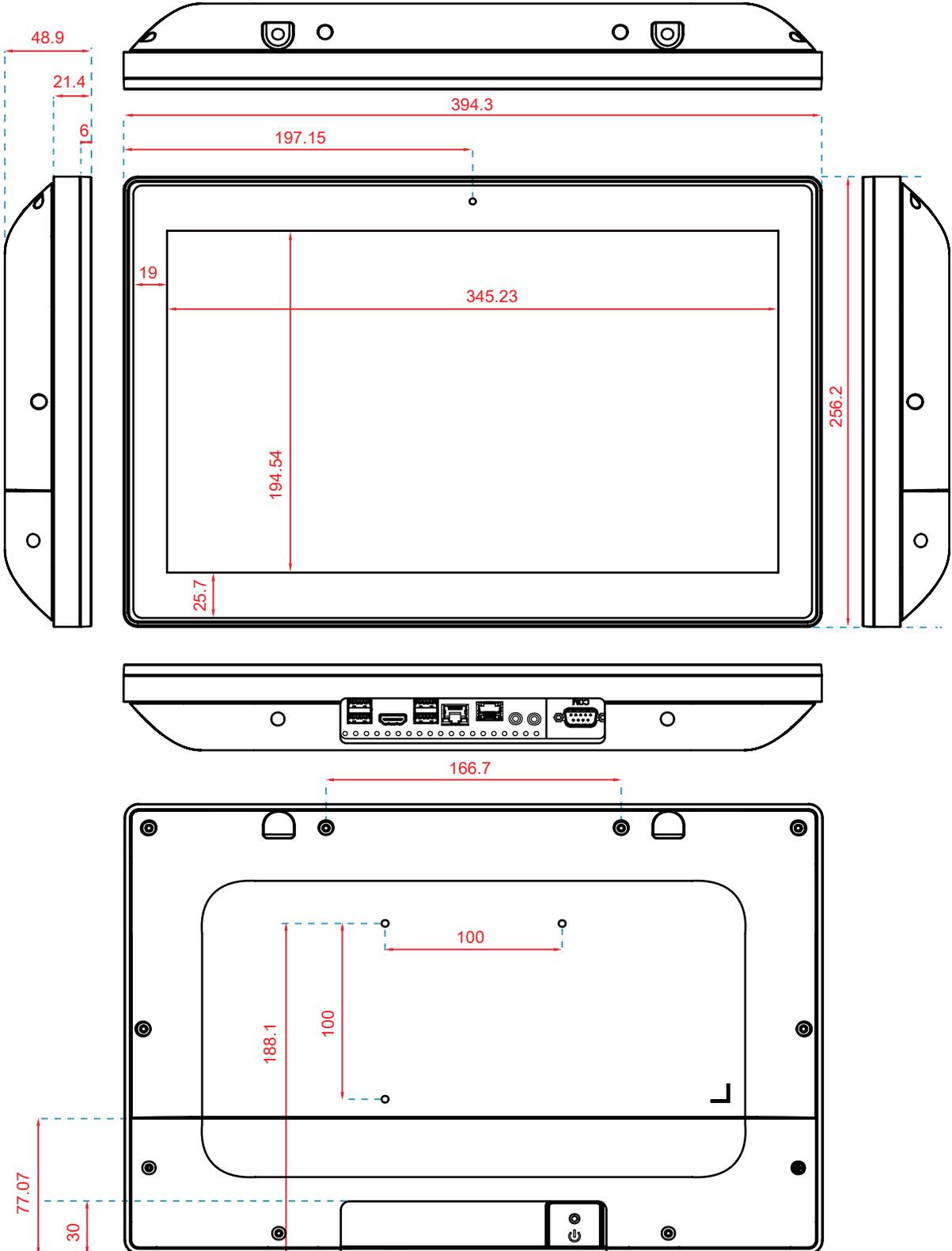
Getting Started

⚠ CAUTION: For safety reasons, please ensure that the power cord is disconnected before opening the case.

➢ Follow the steps 1 → 4 to remove the cover.

➢ Follow the steps 4 → 1 to install the cover.

Cover

Middle Frame

Ten screws

3

4

Four screws

1

2

Connector cover
(optional)

➢ If you install the M.2 SSD, please paste a thermal pad (73*46*5.5 mm) on the middle frame can effectively reduce its temperature.

Thermal Pad
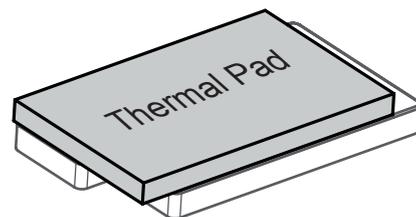
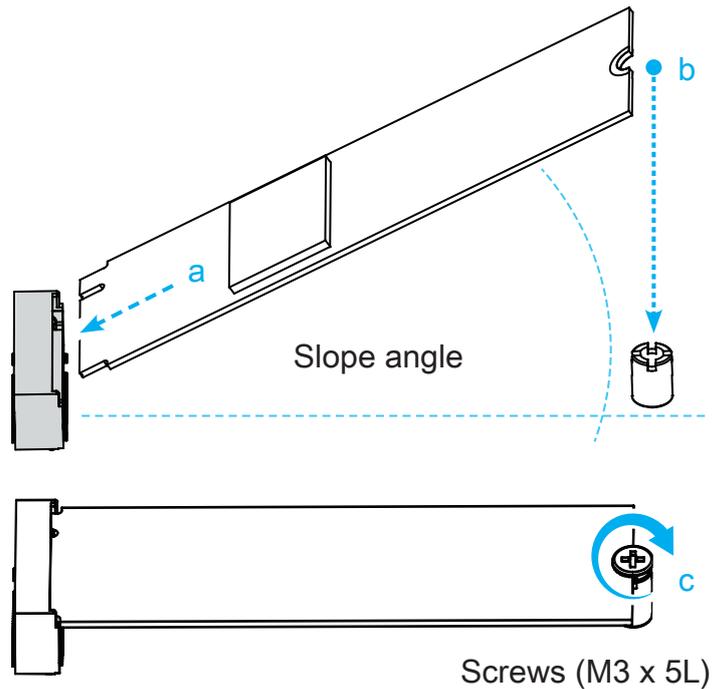# ■ 3.1 M.2 Device Installation

1. Locate the M.2 2280 M key slot on the motherboard, unfasten the screw first.

SO-DIMM slots   M.2 2280 M key slot   Cover

Fix M.2 SSD
(optional)
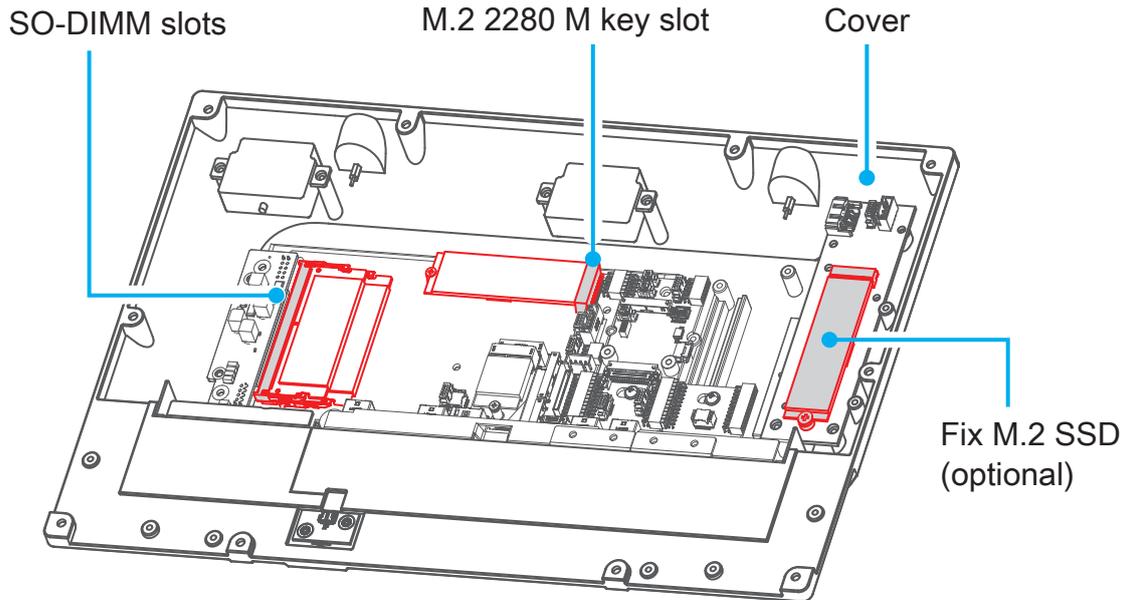
2. Install the M.2 device into the M.2 slot and secure with the screw.

➢ M.2 2280 M key slot

b

a

Slope angle

c

Screws (M3 x 5L)

■ 3.2 Memory Module Installation

P15WL01	2 x 260 pin SO-DIMM up to 64GB, Dual Channel 1.2 V DDR4 2400MHz
P15AL01	2 x 262 pin SO-DIMM up to 64GB, Dual Channel 1.1 V DDR5 4800MHz, With thermal pad *4
P15RL01	2 x 262 pin SO-DIMM up to 64GB, Dual Channel 1.1 V DDR5 5200MHz, With thermal pad *4
P15AR01	2 x 262 pin SO-DIMM up to 64GB, Dual Channel 1.1 V DDR5 6400MHz, With thermal pad *4

1. Locate the SO-DIMM and paste the thermal pad on the motherboard, which can effectively reduce its temperature. (Not included in P15WL01 model)

DIMMA1 (Bottom) DIMMB1 (Top)

Thermal Pad: P15AL01, P15RL01, P15AR01 only

Thermal pad (50x15x3 mm) for single-sided DRAM

Thermal pad (50x15x2.25 mm) for double-sided DRAM
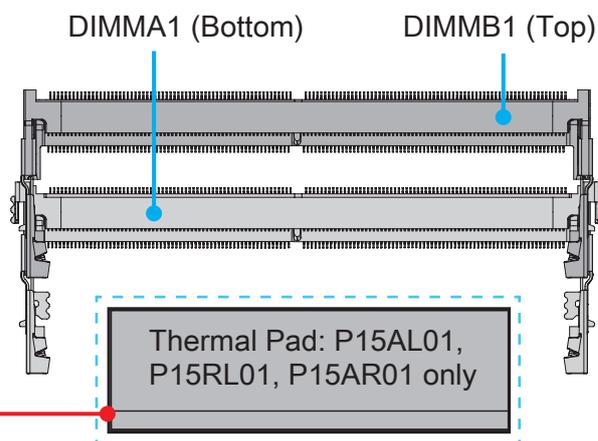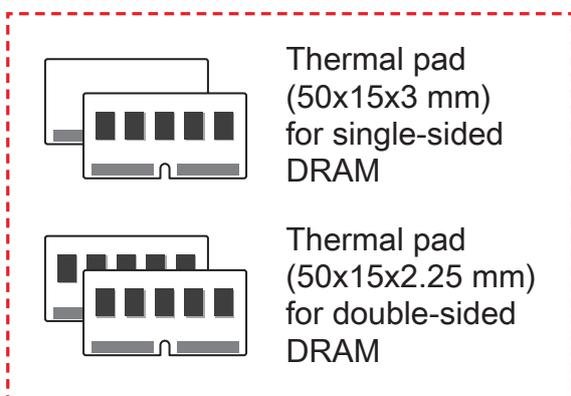
2. Install the 1st memory module into the DIMMA1 slot.

3. Align the notch of the memory module with the one of the relevant memory slot.

Notch

Cutout
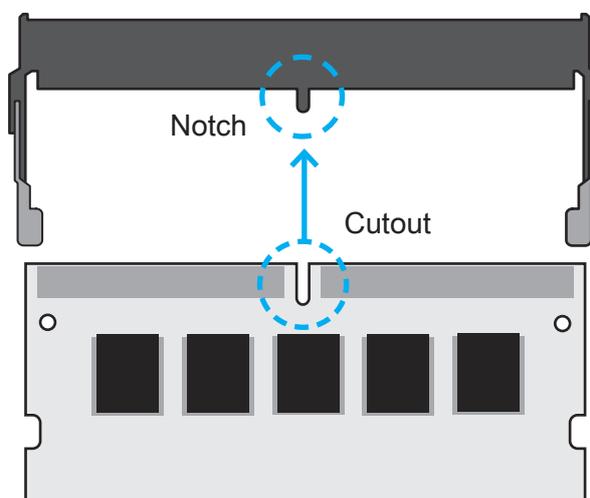
4. Gently insert the module into the slot in a 45-degree angle.

5. Carefully push down the memory module until it snaps into the locking mechanism.

a

b

45-degree angle
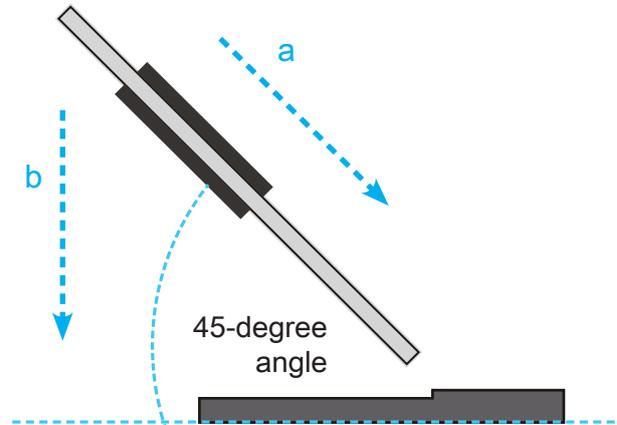
6. Install the 2nd memory module into the DIMMB1 slot (proceed with steps B3 to B5).

7. Paste the thermal pad (50*20*7.5 mm), as shown. (P15AL01, P15RL01, P15AR01 only)

Thermal Pad (50*20*7.5 mm)
(P15AL01, P15RL01, P15AR01only)

Thermal Pad *2 (50*20*7.5 mm)
(P15AL01, P15RL01, P15AR01only)

d

Latch

c

d

DIMMB1
(Top)

c

Latch
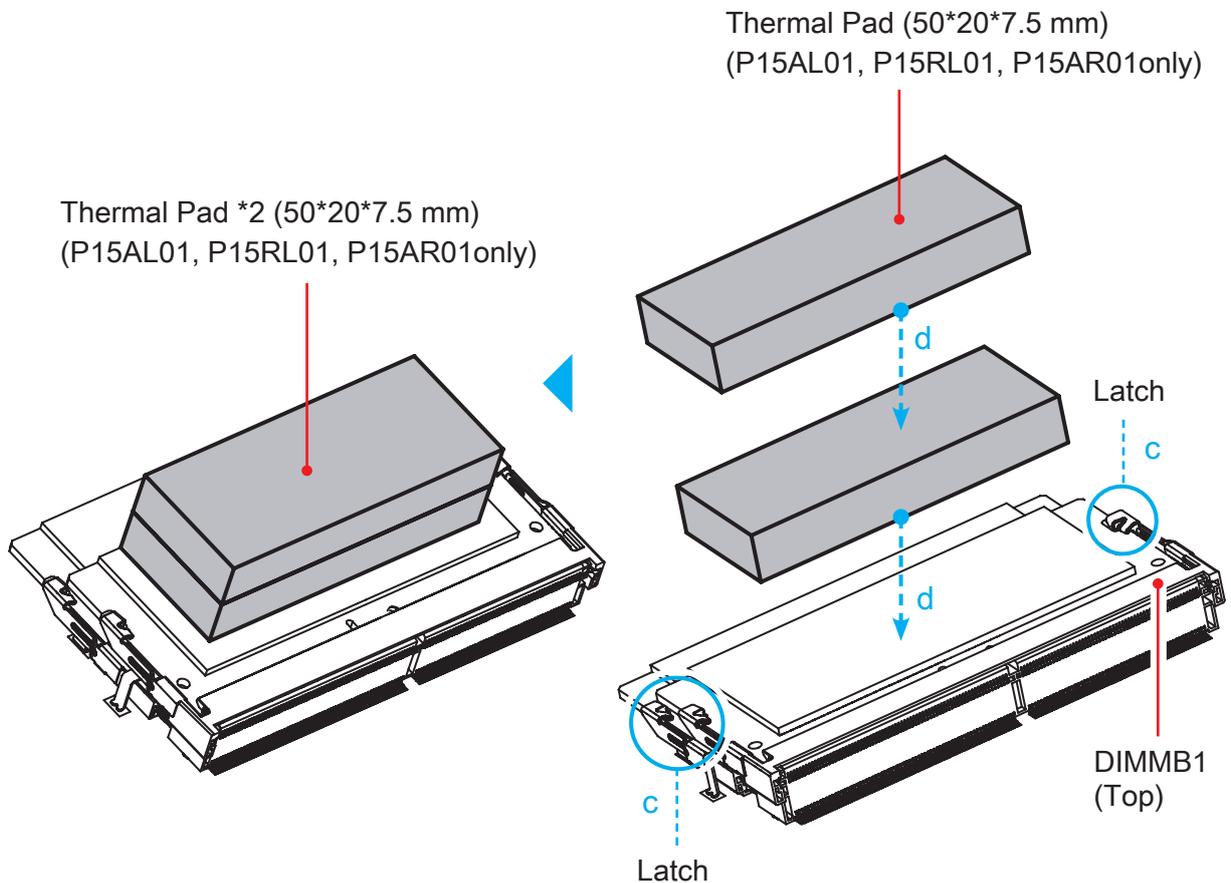
■ 3.3 Optional installation of WLAN antennas (appropriate chassis version required)

Take the two antennas out of the accessory box.

Screw the antennas on to the appropriate connectors on the back panel. Make sure the antennas are aligned vertically or horizontally to achieve the best possible signal reception.
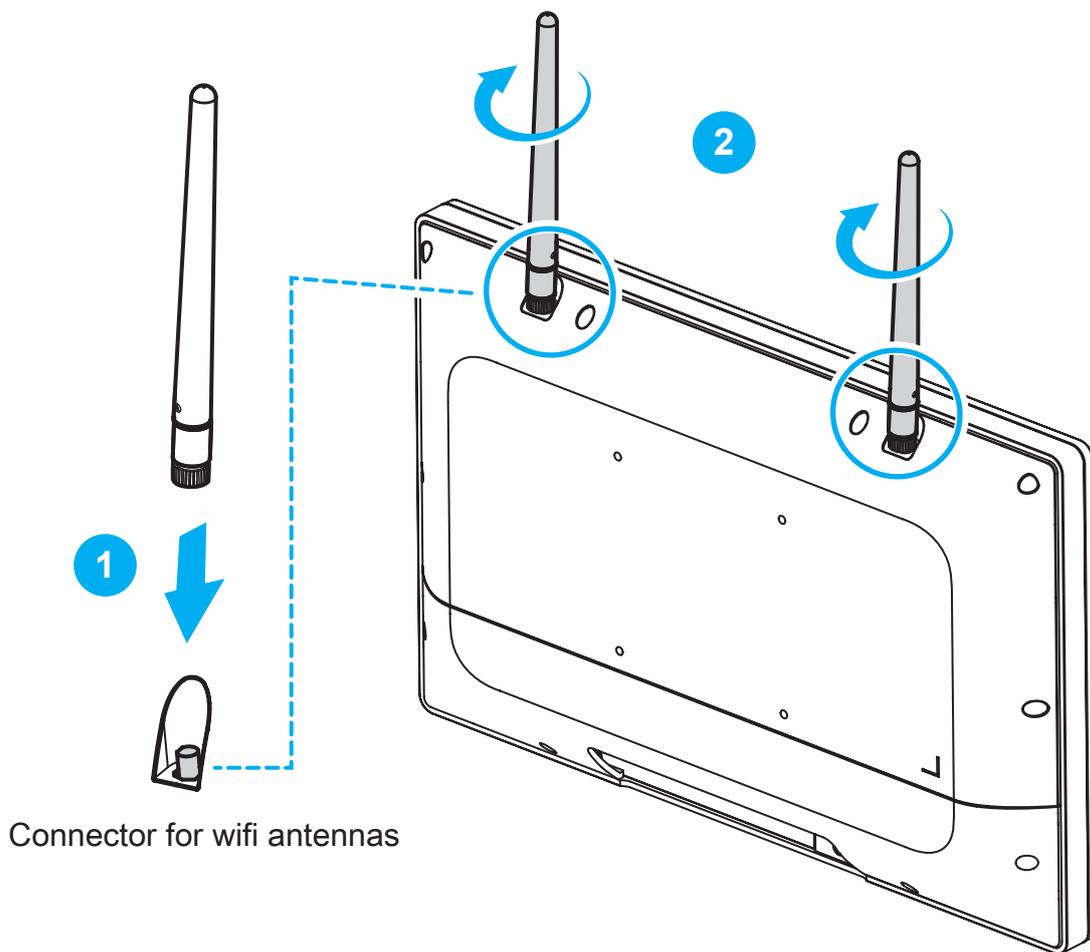
Connector for wifi antennas

■ 3.4 Powering on the system

Follow the steps (1-3) below to connect the AC adapter to the power jack (DC-IN). Press the power switch/button (4) to turn on the system.
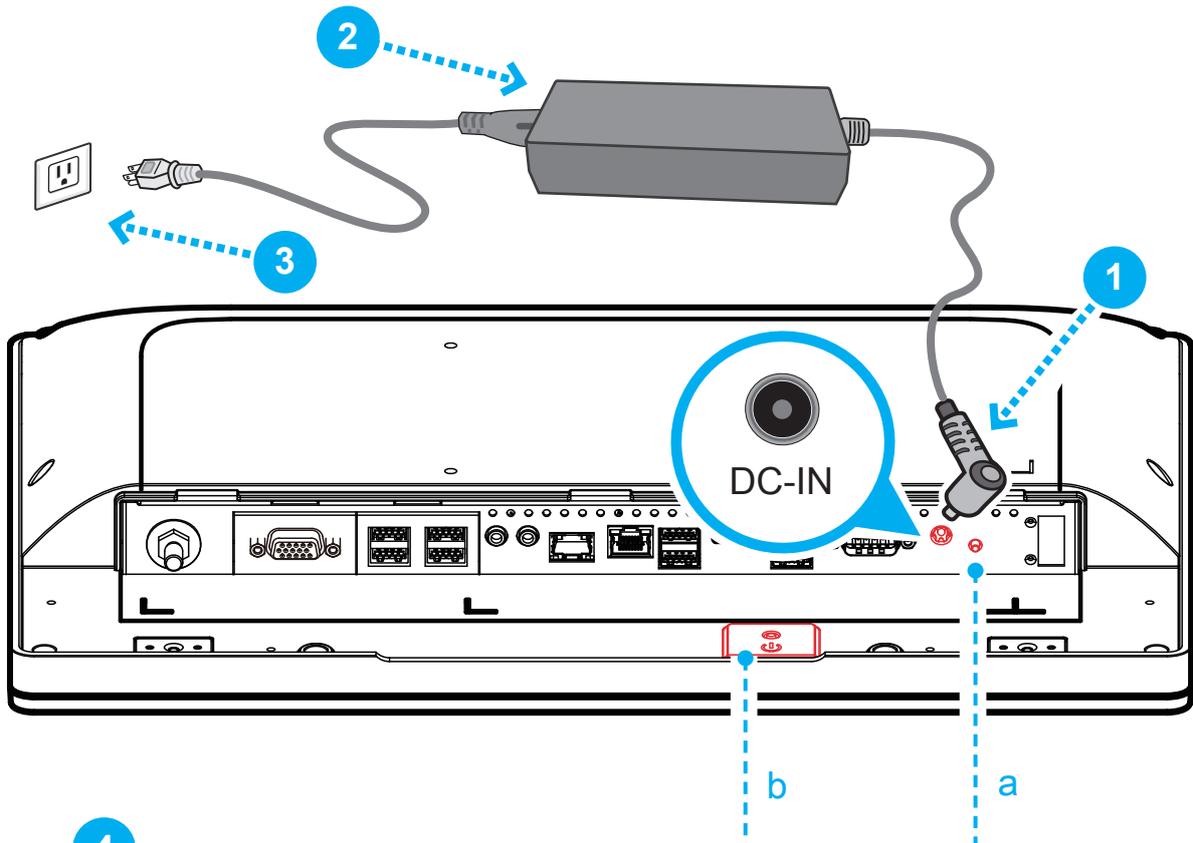
**4** Press the power button (a or b) to turn on the system.

☞ NOTE: Press and hold the power button (a or b) for 5 seconds to force shutdown.

⚠ CAUTION: Do not use inferior extension cords as this may result in damage to your panel PC. The panel PC comes with its own AC adapter. Do not use a different adapter to power the panel PC and other electrical devices.

■ 3.5 Potential equalization (optional)

When potential equalization between the panel PC and other devices is required then connect the potential equalization pin (POAG) to the potential equalization terminal of the equipment.

Potential equalization pin (POAG)

Potential equalization cable
(with 2 POAG-plugs)

Other devices
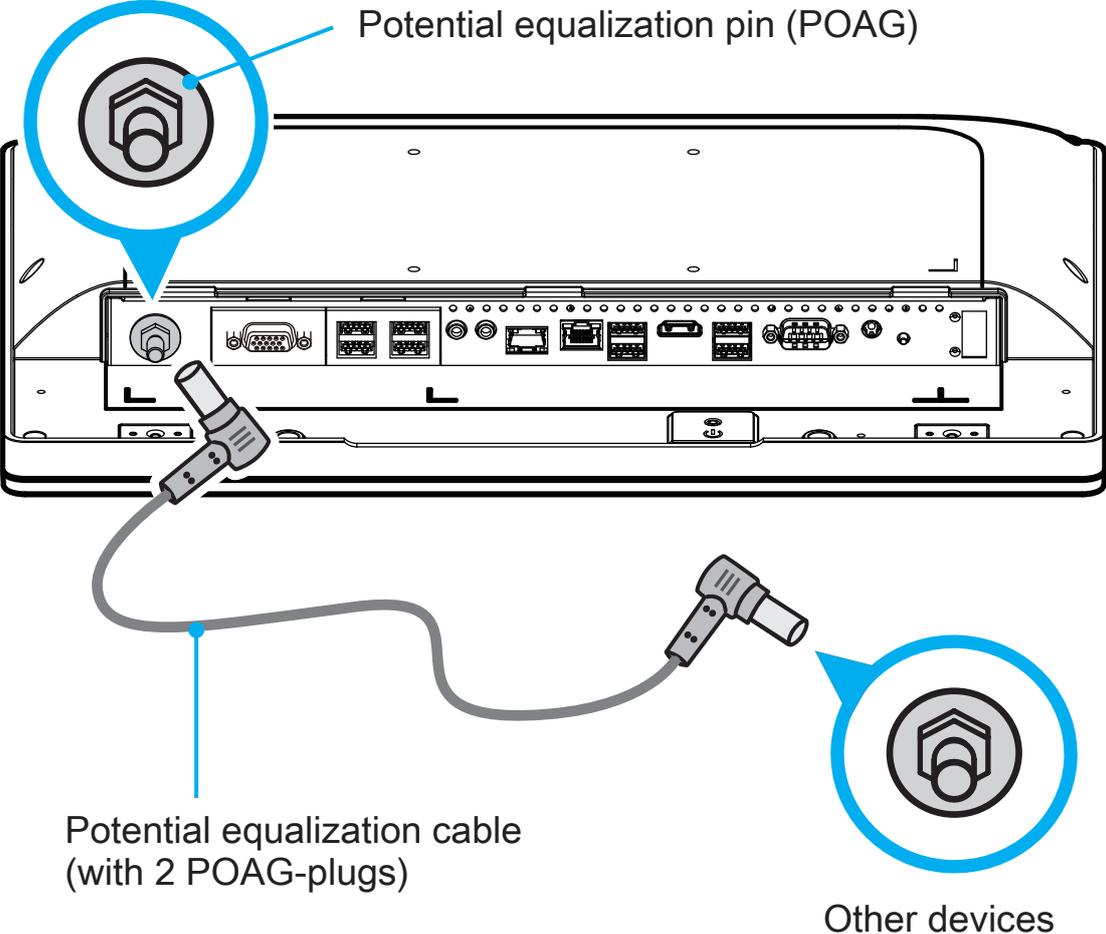
■ 3.6 VESA mounting to the wall (optional)

The standard VESA openings show where an arm / wall mount kit which is available separately can be attached.


Support

VESA Mount
100 x 100 mm

Screws
M4x6L*4pcs
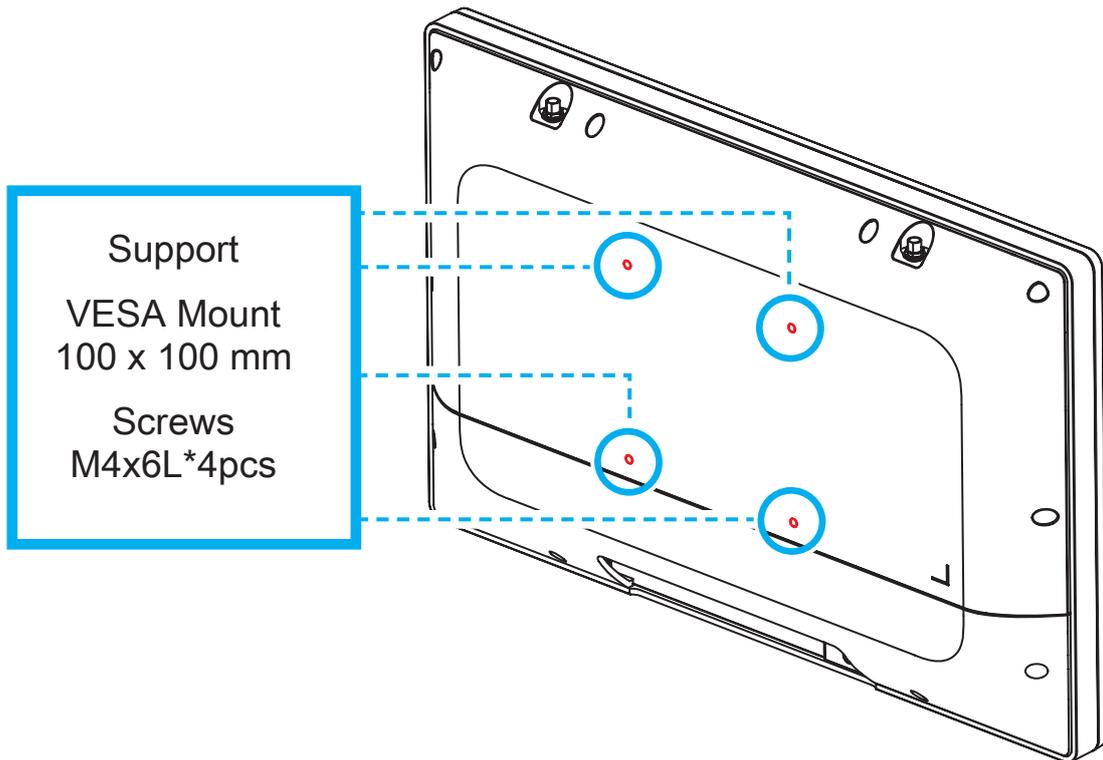
☞ NOTE: The Panel PC can be wall-mounted using a VESA compatible 100 mm x 100 mm wall / arm bracket. The maximum load capacity is 10 kg and mounting suitable in heights of ≤ 2 m only. The metal thickness of the VESA mount must be between 1.6 and 2.0 mm.

☞ REMARQUE: Le Panel PC peut être fixé au mur ou à un bras à l'aide d'un support VESA 100x100 mm. Le support doit être conçu pour une charge d'au moins 10 kg et ne doit pas être situé à plus de 2 m de hauteur. L'épaisseur du support de montage VESA doit être comprise entre 1,6 et 2,0 mm.

■ 3.7 How to use the Touch Panel

Touch panel brings digital life for an easy touch experience. Experience the ease of managing your digital life with a few touches. Your touch functions like a mouse device and all you need to interact with the touch panel.

1. Touch = left-click on the mouse

2. Touch and hold = right-click on the mouse
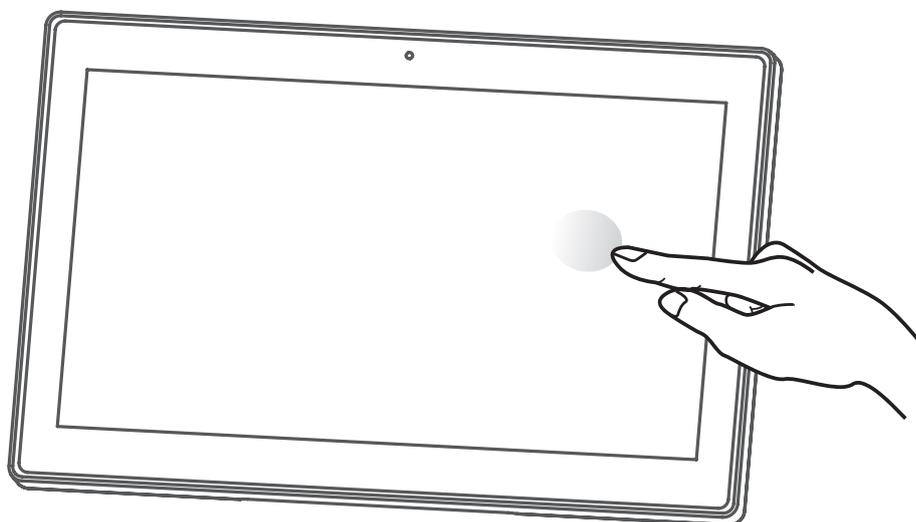
■ 3.8 Cleaning the screen

Follow these rules for cleaning the outside and handling your screen on the panel PC :

1. Moisten a soft cloth with a little water or alcohol (max. 75%) to clean the screen. Please never spray alcoholic cleaning agents directly onto the touchscreen.

2. Note that only the front side is IP65 protected. Be sure to avoid moisture on the other components.

⚠ CAUTION: Do not use or spray strong solvents such as benzine, thinner or any other solvent.

■ 3.9 Using the Vertical Stand (optional)

1. Tighten the vertical stand securely with four screws (M4 x 12L)

2. Properly tighten the vertical stand with four screws (M4 x 10L) at the rear of the Panel PC.

2 Screws M4 x 10L * 4pcs

1 Screws M4 x 12L * 4pcs
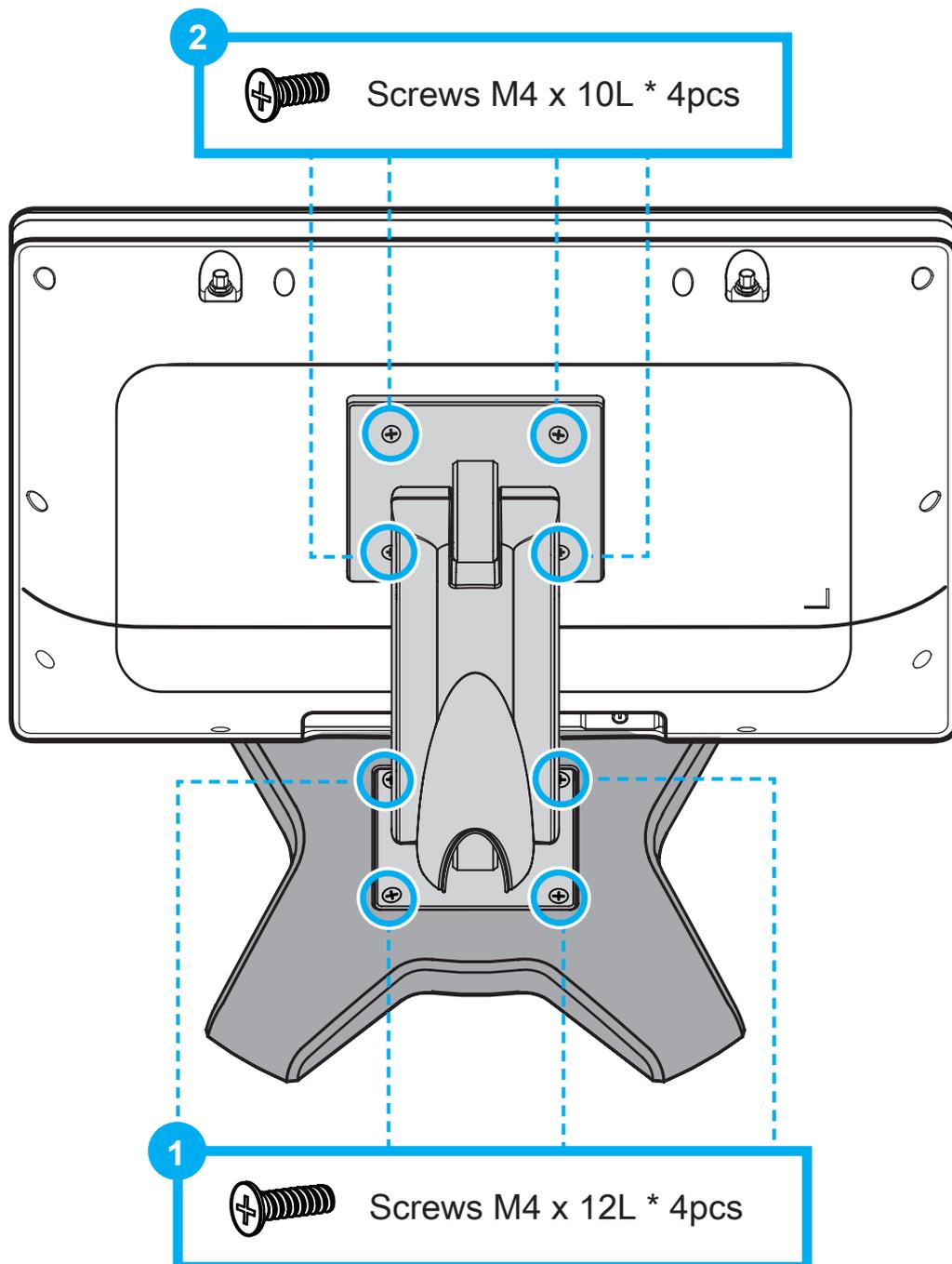
BIOS Setup

☞ NOTE: Please check your current BIOS version. If your system is not running the latest version, it may pose security risks. Please download and update the BIOS from the **Shuttle official** website.

Please run BIOSCheckerSetup (download the application from the Shuttle website https://image.shuttle.com/ResourceCenter/download_file.jsp?file_id=33992) to detect your BIOS version.

BIOSChecker is Shuttle's automatic support tool that scans your system for BIOS updates and provides download links.

Installing it helps keep your system up to date for best performance.

Steps:

1. Search **BIOSChecker** in the **Start** menu and open it.

2. The tool will automatically check for available updates.

3. If a new version is found, it will show **"New version available"** and provide a link to the Shuttle support site to download the BIOS for your model.

   For detailed instructions, visit:
   https://global.shuttle.com/support/faqDetail?faqId=1891

■ 4.1 About BIOS Setup

The default BIOS (Basic Input/Output System) is already properly configured and optimized, there is normally no need to run this utility.

■ 4.1.1 When to Use BIOS Setup ?

You may need to run the BIOS Setup when:
・ An error message appears on the screen during the system booting up and is requested to run SETUP.
・ You want to change the default settings for customized features.
・ You want to reload the default BIOS settings.

⚠ CAUTION! We strongly recommend that you change the BIOS settings only with the help of a trained service personnel.

■ 4.1.2 How to run BIOS Setup ?

To run the BIOS Setup Utility, turn on the Box-PC and press the [Del] or [F2] key during the POST procedure.

If the message disappears before you respond and you still wish to enter Setup, either restart the system by turning it OFF and ON, or simultaneously pressing [Ctrl]+[Alt]+[Del] keys to restart.

The setup function only can be invoked by pressing [Del] or [F2] key during POST that provide an approach to change some setting and configuration the user prefer, and the changed values will save in the NVRAM and will take effect after the system rebooted.

Press [F7] key for Boot Menu.

・ When OS support is Windows 11 :

1. Click the "Start ▦ menu" and select "Settings".
2. Select "Windows Update" and Click "Advanced options".
3. Click "Recovery".
4. Under "Advanced startup", click "Restart now".
   The system will restart and show the Windows 11 boot menu.
5. Select "Troubleshoot".
6. Choose "Advanced options".
7. Select "UEFI Firmware Settings".
8. Click "Restart" to restart the system and enter UEFI (BIOS).

・ When OS support is Windows 10 :

1. Click the "Start ▦ menu" and select "Settings".
2. Select "Update and Security".
3. Click "Recovery".
4. Under "Advanced startup", click "Restart now".
   The system will restart and show the Windows 10 boot menu.
5. Select "Troubleshoot".
6. Choose "Advanced options".
7. Select "UEFI Firmware Settings".
8. Click "Restart" to restart the system and enter UEFI (BIOS).