

User Manual

IC-100P-AA1

Interactive Computer



About This Document

No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, including, but not limited to, electronic, magnetic, optical, chemical, manual, or otherwise without prior written permission of MicroTouch™ a TES Company.

The information in this document is subject to change without notice. MicroTouch™ a TES Company makes no representations or warranties with respect to the contents herein, and specifically disclaims any implied warranties of merchantability or fitness for a particular purpose. MicroTouch™ a TES Company reserves the right to revise this publication and to make changes from time to time in the content hereof without obligation of MicroTouch™ a TES Company to notify any person of such revisions or changes. Windows is a registered trademark of Microsoft, Inc. Other brand or product names are trademarks of their respective holders.

Compliance Information

For FCC (USA)

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.

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.

For IC (Canada)

CAN ICES-3(A)/NMB-3(A)

For CE (EU)

The device complies with the EMC Directive 2014/30/EU and Low Voltage Directive 2014/35/EU

Renseignements relatifs à la conformité

Pour la FCC (États-Unis).

Ce matériel a fait l'objet d'essais qui ont déterminé qu'il respectait les limites d'un appareil de classe A selon la partie 15 des règlements de la FCC. Ces limites sont établies pour assurer une protection raisonnable contre les parasites nuisant à un fonctionnement dans un environnement commercial. Ce matériel génère, utilise et peut émettre des ondes radio électriques, et lorsqu'il n'est pas installé et utilisé selon le manuel d'instructions, peut causer des parasites nuisant aux communications radio. L'utilisation de ce matériel dans une zone résidentielle est susceptible de causer des parasites auquel cas l'utilisateur est tenu de corriger le problème des parasites à ses propres frais.

L'appareil respecte la partie 15 des règlements de la FCC. Le fonctionnement doit respecter les deux conditions suivantes : 1) cet appareil ne doit pas causer de parasites et (2) cet appareil doit accepter tous les parasites reçus, notamment ceux pouvant causer un fonctionnement non voulu.





Pour Industrie Canada

Norme canadienne NMB-3(A)

Pour la CE (UE)

L'appareil respecte la directive 2014/30/UE relative à la compatibilité électromagnétique et la directive 2014/35/EU sur les limites de basse tension

Usage Notice

-  **Warning - To prevent the risk of fire or shock hazards, and do not expose the product to moisture.**
-  **Warning - Please do not open or disassemble the product as this may cause electric shock.**
-  **Warning - Power cord shall be connected to a socket-outlet with earthing connection.**
-  **Warning - Stability Hazard. The touch monitor may fall, causing serious personal injury or death. To prevent injury, this touch monitor must be securely attached to the wall in accordance with the installation instructions.**

Precautions

Please follow all warnings, precautions and maintenance as recommended in this user's manual to maximize the life of your unit.

Do :

- Turn off the product before cleaning.
- Use a soft cloth moistened with mild detergent to clean the product housing.
- Use only the qualified power adapter that comes with your device.
- Disconnect the power plug from AC outlet if the product is not going to be used for an extended period of time.

Don't :

- Do not use abrasive cleaners, waxes or solvents for your cleaning.
- Do not operate the product under the following conditions:
 - Extremely hot, cold or humid environment.
 - Areas susceptible to excessive dust and dirt.
 - Near any appliance generating a strong magnetic field.

Caution

Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

Avis d'utilisation



Mise en garde — Pour prévenir les risques d'incendie ou d'électrocution, ne pas exposer le produit à l'humidité.



Mise en garde — Prière de ne pas ouvrir ou démonter le produit, car cela pourrait entraîner l'électrocution.



Mise en garde – Le cordon d'alimentation doit être branché à une prise pourvue d'une mise à la terre.



Mise en garde — Risque de renversement. Le moniteur tactile peut se renverser et causer de graves blessures corporelles, voire la mort. Pour prévenir les blessures, ce moniteur tactile doit être solidement fixé au mur selon les instructions d'installation.

Précautions

Veillez suivre toutes les mises en garde, précautions et entretiens recommandés dans ce manuel d'utilisation pour maximiser la durée de vie de votre unité.

À faire :

- Éteindre l'appareil avant de le nettoyer.
- Utiliser un chiffon humidifié par une solution savonneuse pour nettoyer le boîtier du produit.
- Utiliser uniquement l'adaptateur d'alimentation prescrit pour votre appareil.
- Débrancher l'appareil lorsqu'il n'est pas utilisé pendant une période prolongée.

À éviter :

- Ne pas utiliser de nettoyeurs abrasifs, de cires ou de solvants pour le nettoyage
- Ne jamais utiliser l'appareil dans les conditions suivantes :
 - des conditions environnementales extrêmes (chaud, froid ou humidité)
 - des endroits remplis de poussières et de saletés.
 - à proximité d'appareils produisant un fort champ magnétique.

Mise en garde

Risque d'explosion si la batterie est remplacée par un type incorrect. Jetez les piles usagées conformément aux instructions.

Table of Contents

Chapter 1	8
1.1 Overview	9
1.2 Feature.....	9
1.3 Specifications.....	9
1.4 Block Diagram.....	11
1.5 Interface Connectors.....	12
1.6 Package Overview	14
Chapter 2	16
2.1 About VESA Mount.....	17
2.2 About Wall Mount.....	19
2.2.1 Wall Mount A.....	19
2.2.2 Wall Mount B.....	21
2.2.3 Wall Mount C.....	24
2.3 Power On / Off Switch.....	27
2.4 Light Bar	28
2.5 NFC	29
2.6 Dimension.....	30
2.7 Optional Accessory Installation.....	31
2.7.1 Install the Adjustable Cable Hanging Kit	31
Chapter 3	38
3.1 Initial Turn-On	39
3.2 Boot Touch Panel PC	39
Chapter 4	41
4.1 App Main Interface.....	41
Chapter 5	43
5.1 Operating Instructions.....	43
5.1.1 Equipment Operation (no identification card required).....	44
5.1.2 NTAG Card Operation (other card types are not supported).....	45
5.1.3 Mifare Card Operation (other card types are not supported).....	46
5.2 Project API Description	48
5.2.1 Equipment Related Operations	48
5.2.2 NTAG Card Operation.....	48
5.2.3 Mifare Card Operation.....	49
Appendix	50

Chapter 1

Product Introduction

1.1 Overview

The IC-100P-AA1 series is a thinner 10.1” touch panel pc that offers a unique screw less design with expandability and flexibility, making expansion and accessory installation much easier. The versatility of IC-100P-AA1 series is an exceptional choice for applications in all business sectors, especially in the retail market.

1.2 Feature

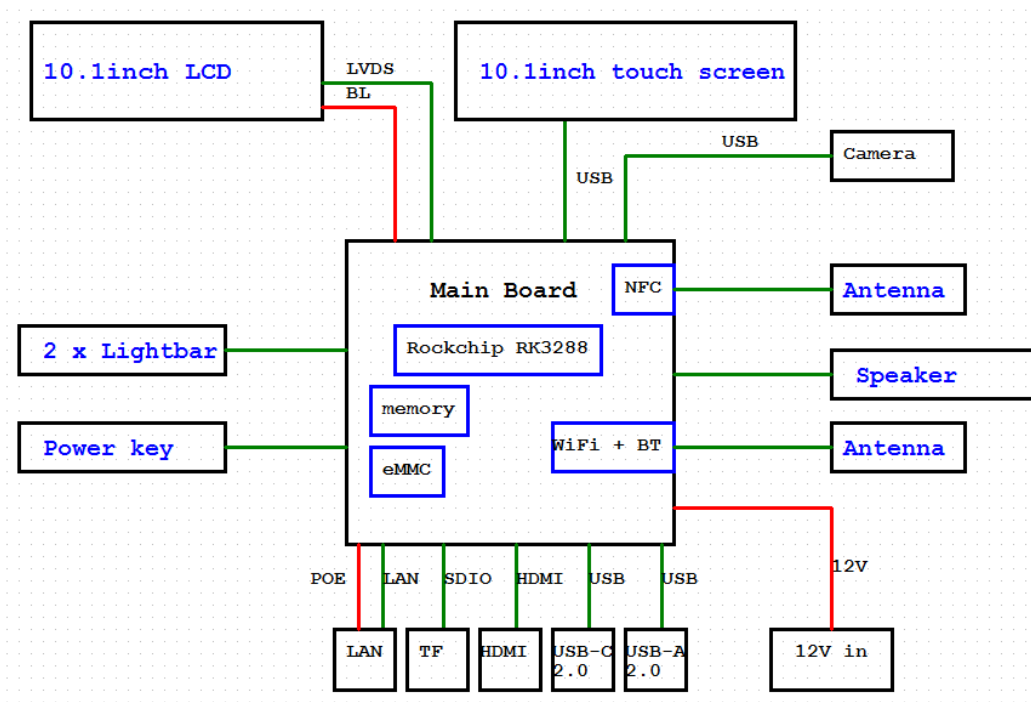
- Support Rockchip RK3288 processor.
- Unique screw less design for better user experience.
- Patented I/O design for better wiring management while implementation.

1.3 Specifications

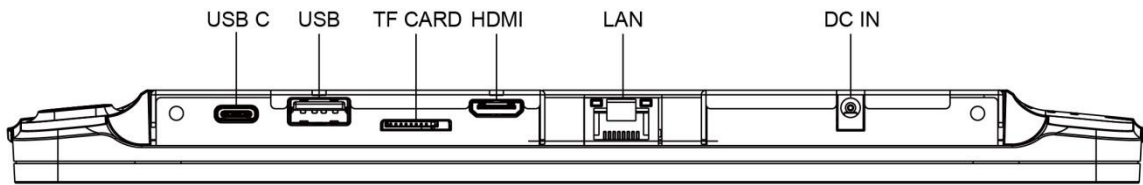
System	
CPU	Rockchip RK3288, Quad-core Cortex-A17 up to 1.8GHz
GPU	Mali-T760 MP4
DDR	2GB dual channel DDRIII
Storage	16GB eMMC
Input Power	DC in 12V/2A 2PIN (first); POE 48V/55V (second) (Can't be switched after system stand-by power on)
Display	Single channel LVDS, resolution up to 1280x800P60
Touch	10.1-inch P-Cap touch sensor (EETI 80H46 controller), supports 10 fingers touch function.
Audio	1 x speaker (2W x 1)
Camera	FHD (1920x1080), 1/6inch sensor D-FOV 77.5 °; H-FOV 69.7 °; V-FOV 42.8e ° ±5%
NFC	ISO/IEC 14443A Support S50/S70/desfire/N-Tag/ultralight/CPU card 13.56MHz, 125KHz Effective distance: 0~10mm
Light Bar	RGB Color Mixing
Network	Gigabit Ethernet

	Wi-Fi 802.11a/b/g/n 1T1R Bluetooth 4.0 (Support BLE)
External IO Ports	1 x TF slot (Support SDHC 2.0) 1 x LAN (Support 10/100/1000Mbps, POE (802.3at 25W)) 1 x HDMI Type-C (Support 4K@60Hz) 1 x USB2.0 Type-A 1 x USB2.0 Type-C OTG (5V/0.5A)
OS Version	Android 8.1
Operation Temp.	0°C ~40°C
Storage Temp.	-20°C to 60°C
Operation Humidity	20~80%
Storage Humidity	10~90%
LCD Touch Panel	
WT1010C13-V01	
Size	10.1" TFT LCD
Brightness (non-touch screen)	Typical 450cd/m ² ; min. 400 cd/m ²
Brightness (P-CAP)	Typical 382 cd/m ² ; min. 340 cd/m ²
Number of Pixels	1280 (H) × 800 (V)/ 60Hz
IVO M101NWWB R3	
Size	10.1" TFT LCD
Brightness (non-touch screen)	Typical 350cd/m ² ; min. 300 cd/m ²
Brightness (P-CAP)	Typical 300 cd/m ² ; min. 255 cd/m ²
Number of Pixels	1280 (H) × 800 (V)/ 60Hz
Environment	
Certificate	CE、FCC、LVD
Mounting	VESA 75 mm x 75 mm
Dimension (W x H x D)	247.4 mm x 170.5 mm x 25.7 mm
Net Weight	0.94 Kg
Gross Weight	1.34 Kg

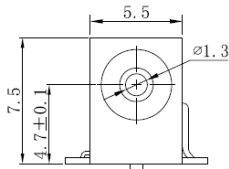
1.4 Block Diagram



1.5 Interface Connectors

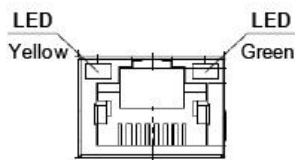


12V DC in



Pin #	Signal Name	Pin #	Signal Name
1	12V	2	GND

RJ45 for LAN



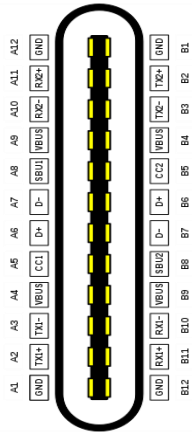
Pin #	Signal Name	Pin #	Signal Name
1	TP1+	2	TP1-
3	TP2+	4	TP3-
5	TP3+	6	TP2-
7	TP4+	8	TP4-
LED	Function	Color	
Left	Active	Yellow (Blink)	
Right	10M/100M/1000M	Green	

USB2.0



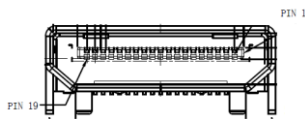
Pin #	Signal Name	Pin #	Signal Name
1	USB5V	2	D-
3	D+	4	GND

USB-C



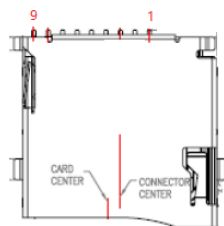
Pin #	Signal Name	Pin #	Signal Name
A1	GND	B12	GND
A2		B11	
A3		B10	
A4	VBUS	B9	VBUS
A5		B8	
A6	Dp1	B7	Dn2
A7	Dn1	B6	Dp2
A8		B5	
A9	VBUS	B4	VBUS
A10		B3	
A11		B2	
A12	GND	B1	GND

HDMI-C



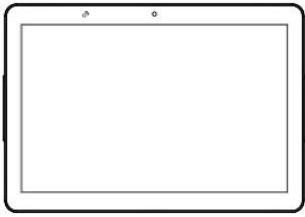
Pin #	Signal Name	Pin #	Signal Name
1	TMDS Data2 Shield	2	TMDS Data2+
3	TMDS Data2-	4	TMDS Data1 Shield
5	TMDS Data1+	6	TMDS Data1-
7	TMDS Data0 Shield	8	TMDS Data0+
9	TMDS Data0-	10	TMDS Clock Shield
11	TMDS Clock+	12	TMDS Clock-
13	DDC/CEC Ground	14	CEC (N.C on device)
15	SCL	16	SDA
17	Reserved (N.C. on device)	18	+5V Power
19	Hot Plug Detect		

TF card

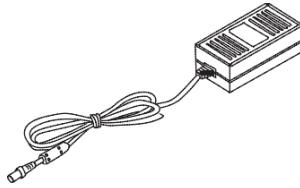


Pin #	Signal Name	Pin #	Signal Name
1	DAT2	2	DAT3
3	CMD	4	VCC
5	CLK	6	GND
7	DAT0	8	DAT1
9	CD		

1.6 Package Overview



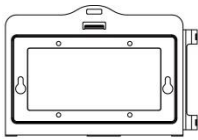
Touch Panel PC



DC Power Supply



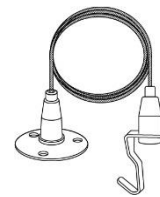
Screw



Wall Mount Kit



Cable Tie



Adjustable Cable Hanging
Kit A (Optional)



Adjustable Cable Hanging
Kit B (Optional)

Warning!

This product is intended to be supplied by a UL Listed Power Adapter, rated 12Vdc, 2A maximum. (complied with LPS or PS2) T-ambient = 40 degree C minimum, and the altitude of operation = 3048m minimum. If it needs further assistance with purchasing the power source, please contact to MicroTouch for further information.



Mise en garde!

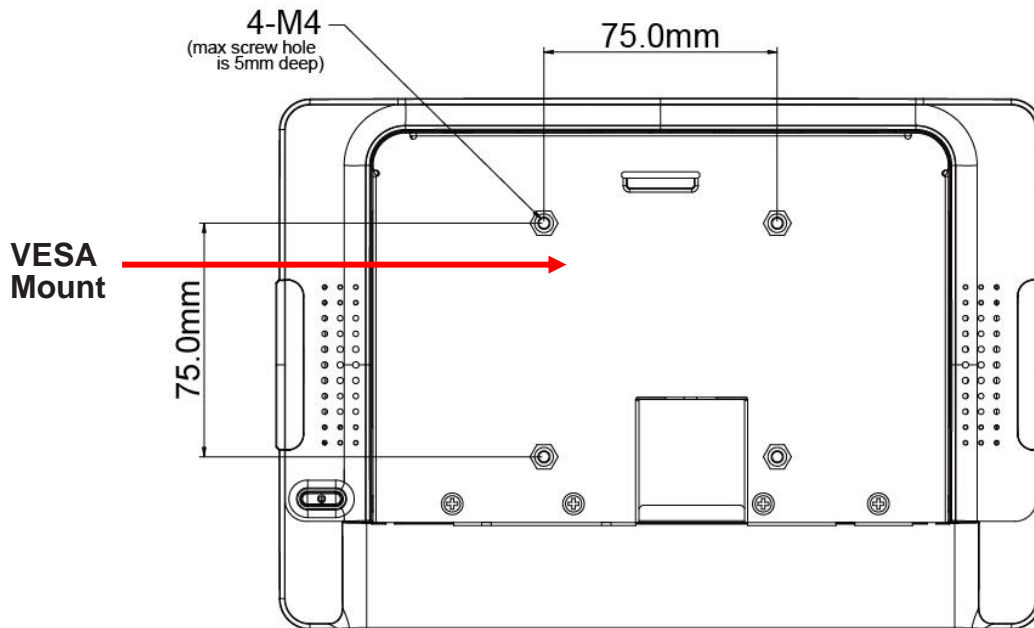
Cet appareil est conçu avec une alimentation de courant CA, d'une tension nominale de 12Vdc, 2A maximum. (conforme au LPS ou PS2) T-ambient = 40 degrés C minimum et l'altitude de l'utilisation = 3048m minimum. Pour d'autres conseils pour l'installation de la source d'alimentation, communiquer avec MicroTouch pour de plus amples renseignements.

Chapter 2

Product Installation

2.1 About VESA Mount

The IC-100P-AA1 series conform to the “VESA Flat Display Mounting Interface Standard” which defines a physical mounting interface for touch panel pc, and corresponding with the standards of touch panel pc mounting devices, such as wall-mounted or pole-mounted. The VESA mount is located on the back of this unit.



Warning!

*Please select the MicroTouch original screws!
The distance between the back cover surface and the bottom of the screw hole is 5 mm (without wall mount kit). Please use four M4 / 5 mm screws diameter with proper length to mount your monitor.*

Note: The mounting stand must be able to support at least 2.2 lbs (1 Kg).

Warning!

The equipment is only suitable for mounting ceiling or wall at heights $\leq 2m$.



Mise en garde!

Sélectionner les vis d'origine de MicroTouch!

La distance entre la surface du couvercle arrière et le bas de l'orifice de la vis est de 5 mm (sans kit de montage mural). Utiliser quatre vis M4 de 5 mm de diamètre pour le montage de votre moniteur.

Remarque : Le support de montage doit pouvoir supporter un poids d'au moins 2,2 lb (1 kg).



Mise en garde!

L'équipement ne convient que pour le montage au plafond ou au mur à des hauteurs ≤ 2 m.

2.2 About Wall Mount

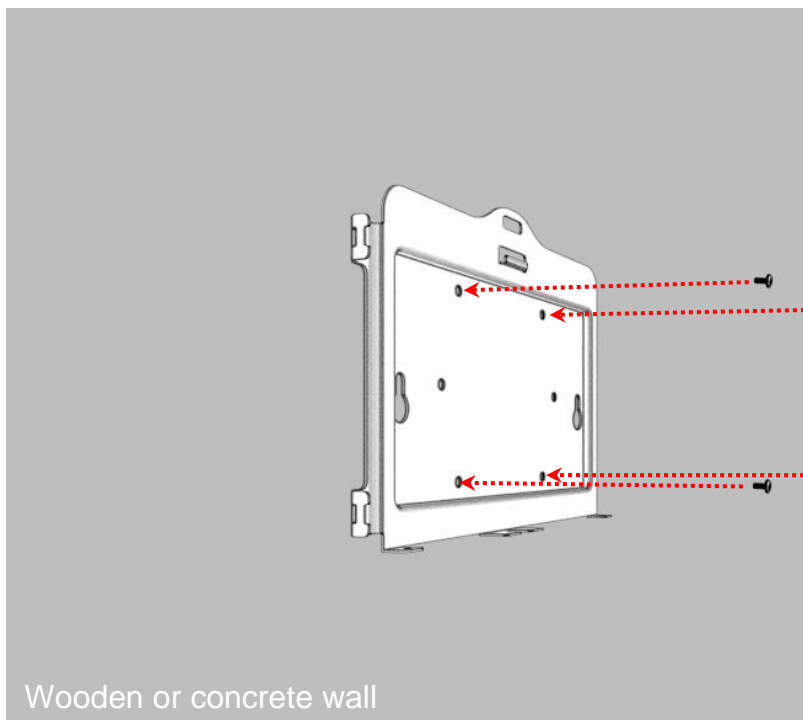
The IC-100P-AA1 series support wall mount and this touch panel pc can be mounted to the wooden, glass or concrete wall.

Note: Please install/ dismantle the product when the computer system is in the shutdown state.

2.2.1 Wall Mount A

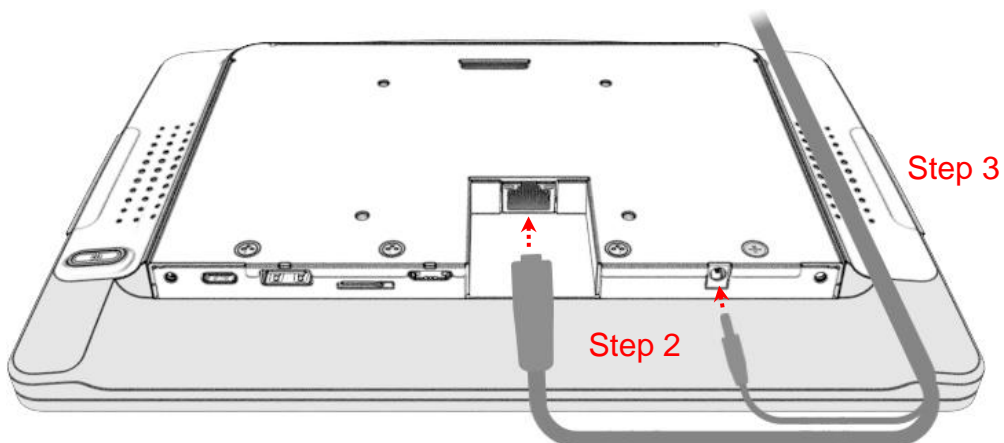
Step 1: Install the four screws (not supplied) to fasten the wall mount kit.

Note: Please use the appropriate type of screws for your wall type.

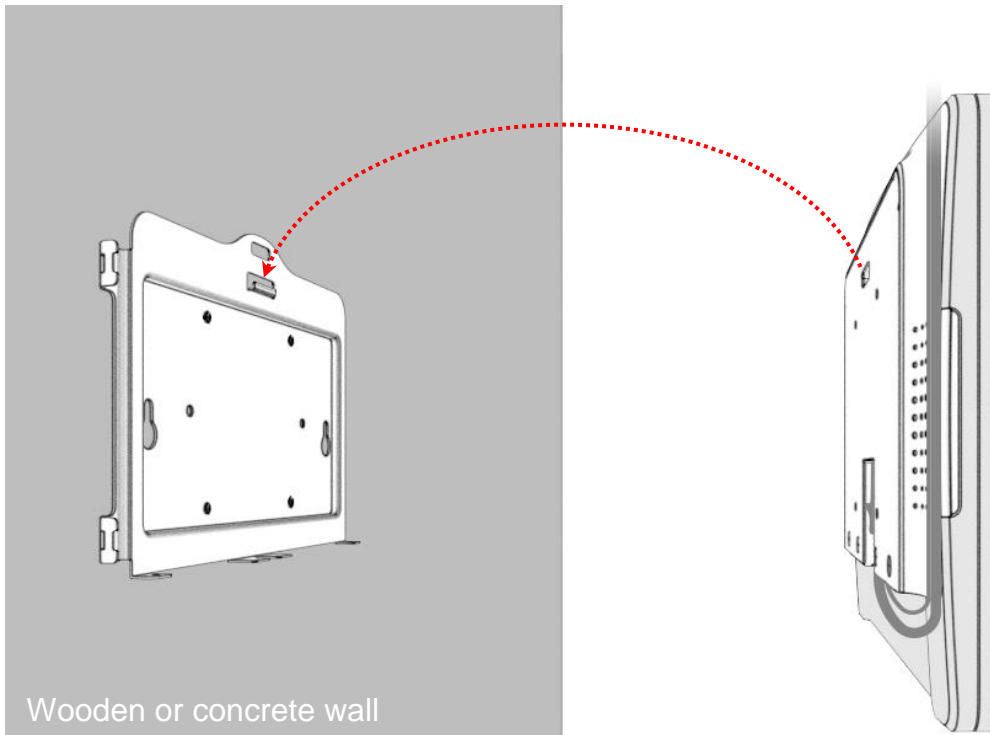


Step 2: Connect the Ethernet cable and power cable to touch panel pc.

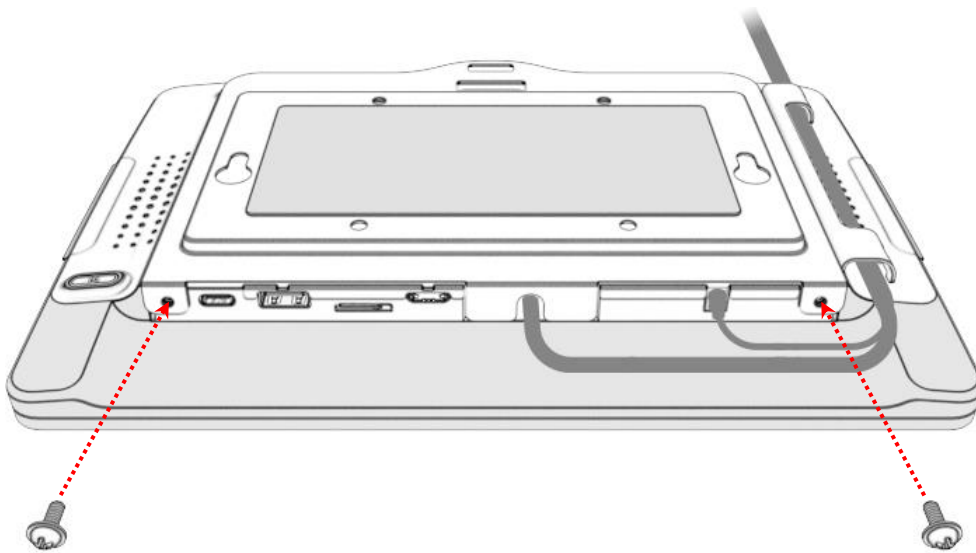
Step 3: Route cables.



Step 4: Install the touch panel pc on the hook of the wall mount kit.

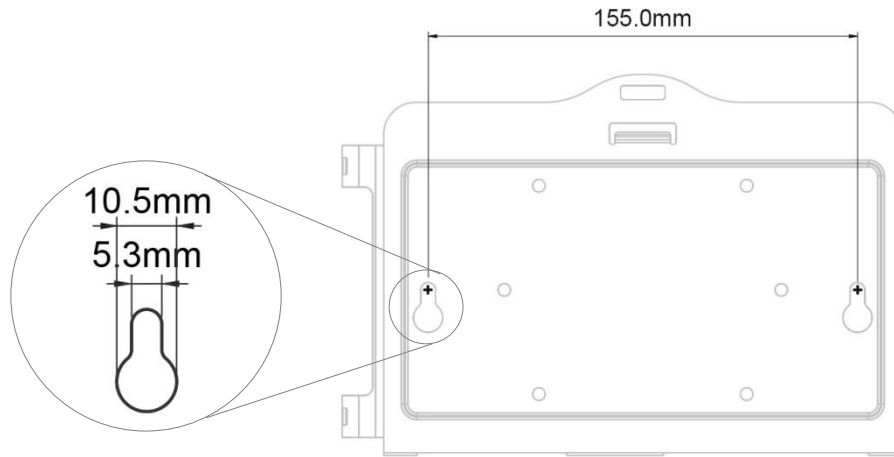


Step 5: Install the two M3 screws.



2.2.2 Wall Mount B

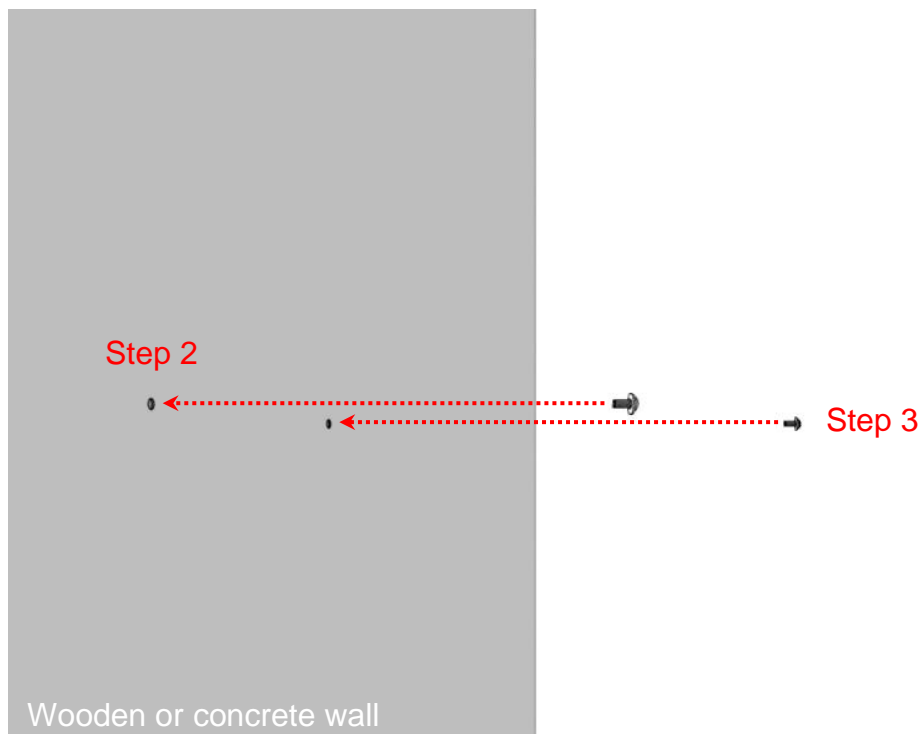
Step 1: Place the wall mount kit on the wall, and using the keyholes on the wall mount kit, mark the positions to drill the two holes.



Step 2: Drill two holes in the wall.

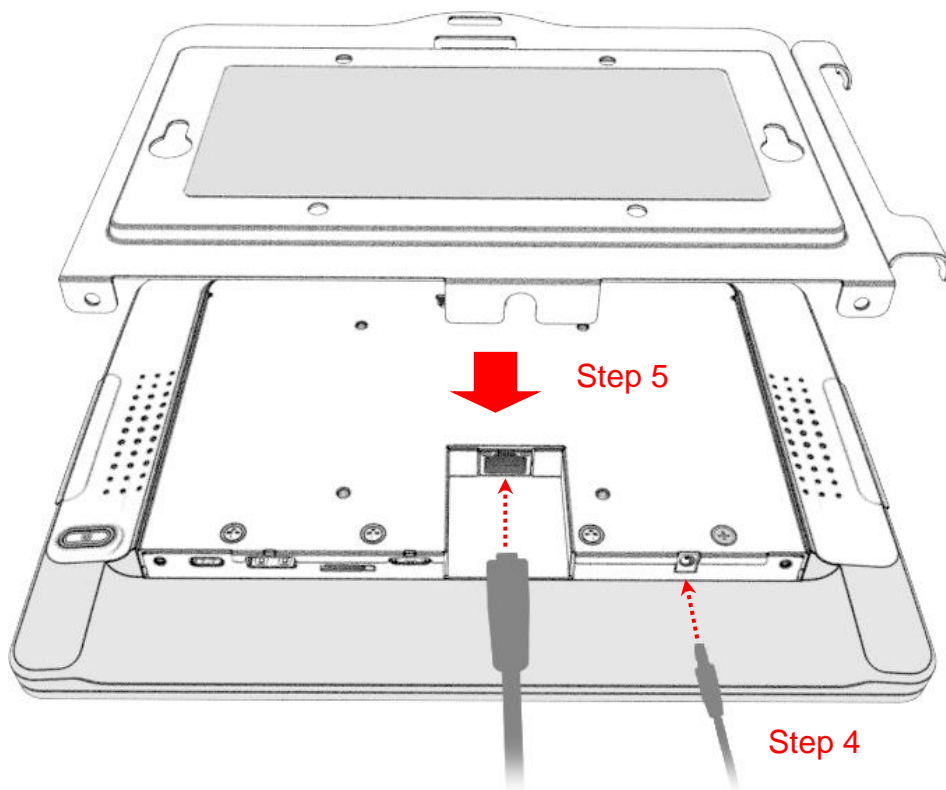
Step 3: Install the two screws (not supplied) into the wall but do not seat them fully, leave a gap between the screw head and the wall.

Note: Please use the appropriate type of screws for your wall type.



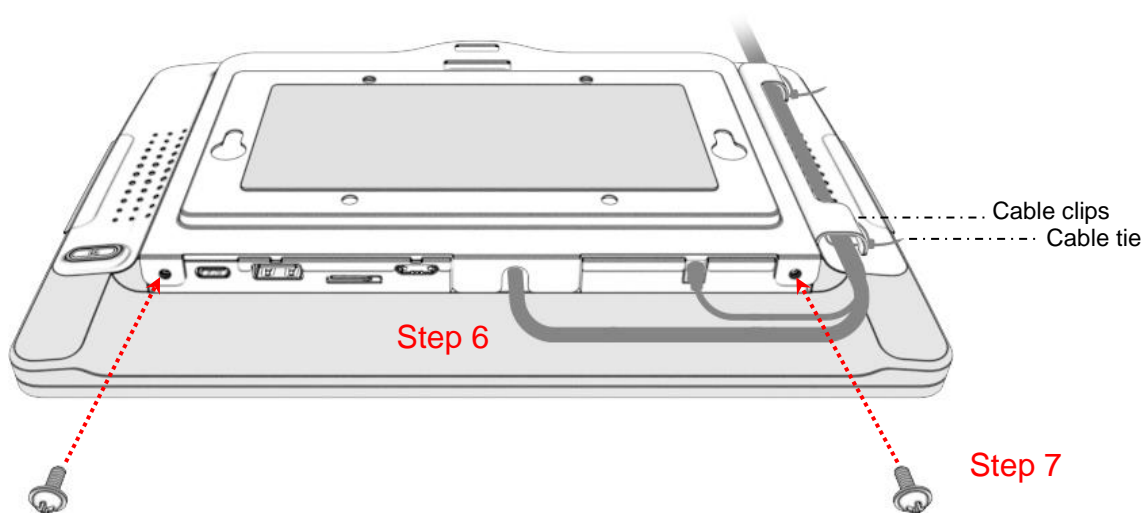
Step 4: Connect the Ethernet cable and power cable to touch panel pc.

Step 5: Hook the wall mount kit into the recess hole on the back of the touch panel pc.

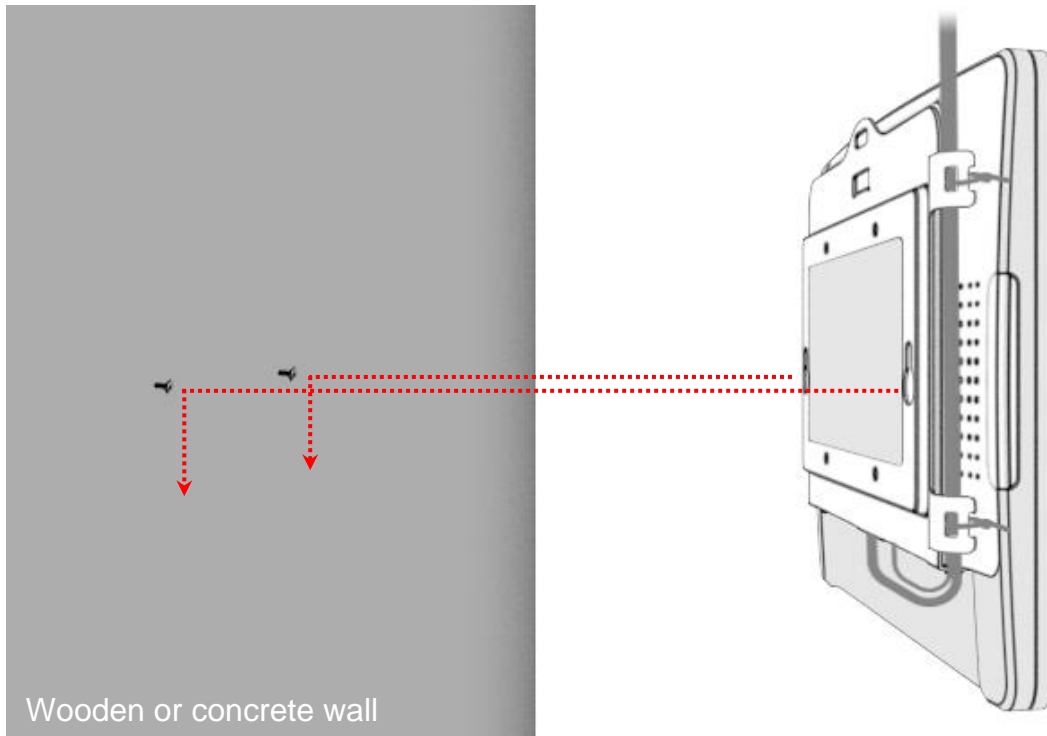


Step 6: Route cables through cable clips and fix it together using the supplied cable tie.

Step 7: Install the two M3 screws.



Step 8: Slide the touch panel pc onto the screws



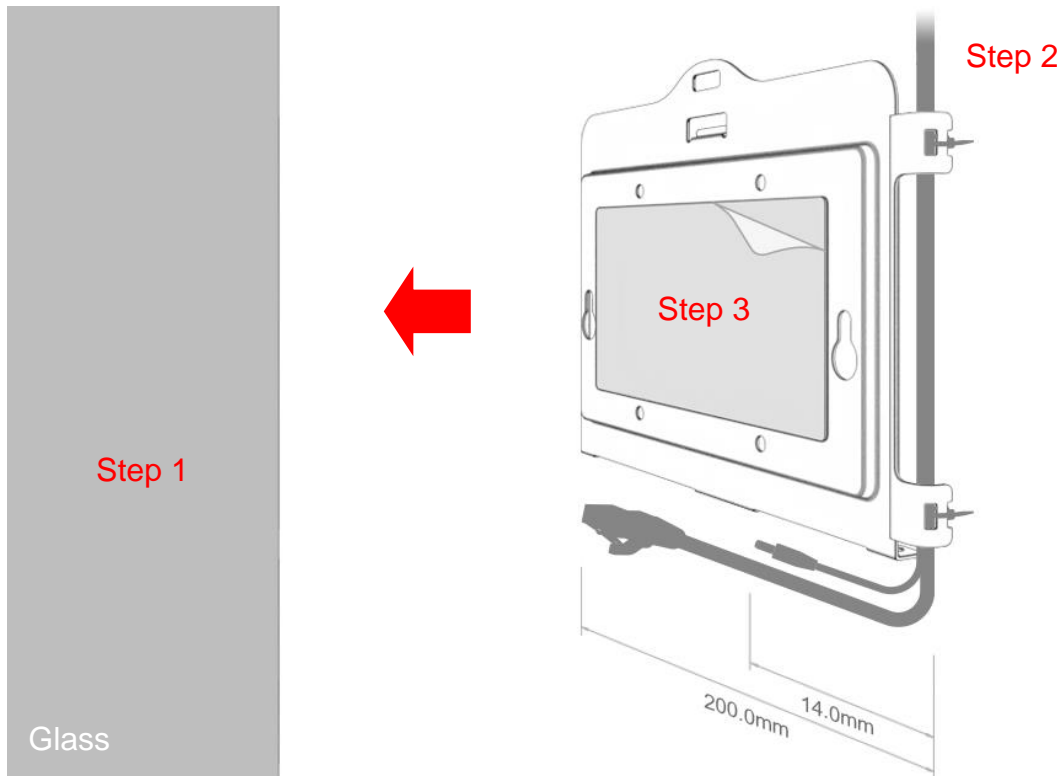
2.2.3 Wall Mount C

Step 1: Clean the glass with rubbing alcohol and dry thoroughly.

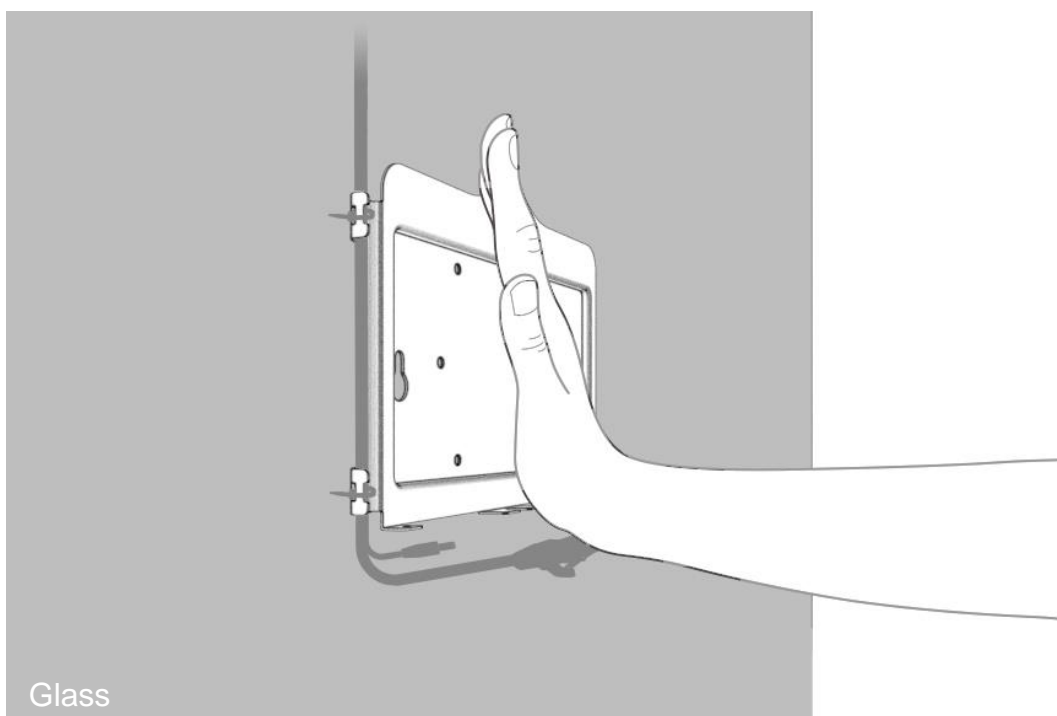
Step 2: Route cables through cable clips and fix it together using the supplied cable tie.

Step 3: Remove the film from the adhesive tape and attach the wall mount kit to the glass.

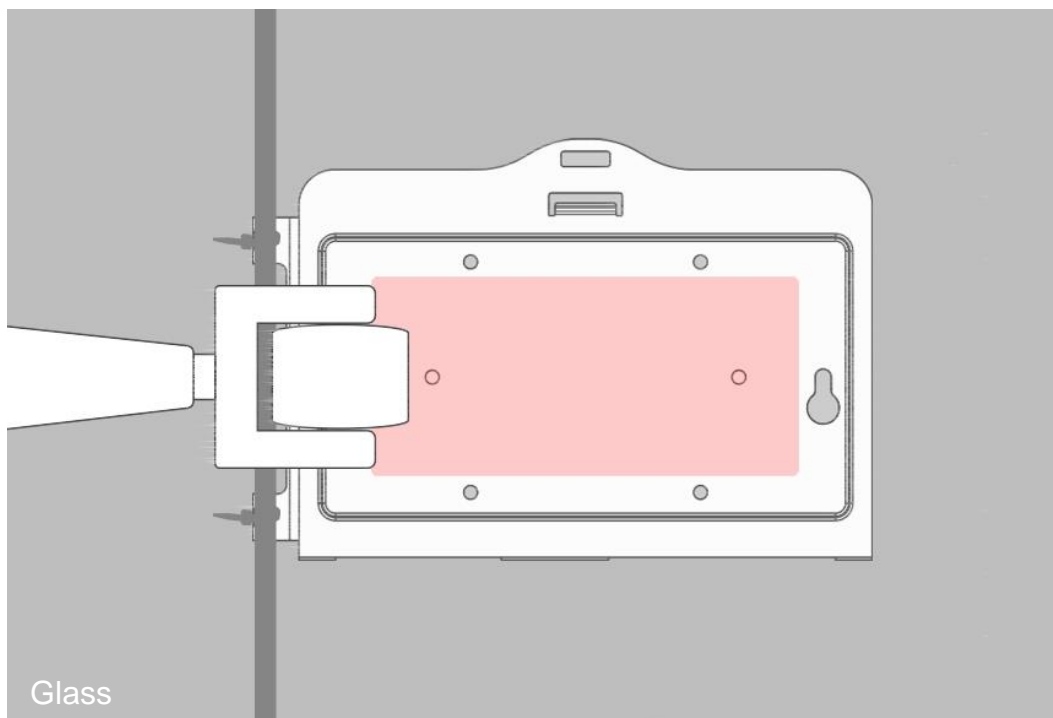
Note: Touch panel pc must be installed under the cable outlet and power outlet.



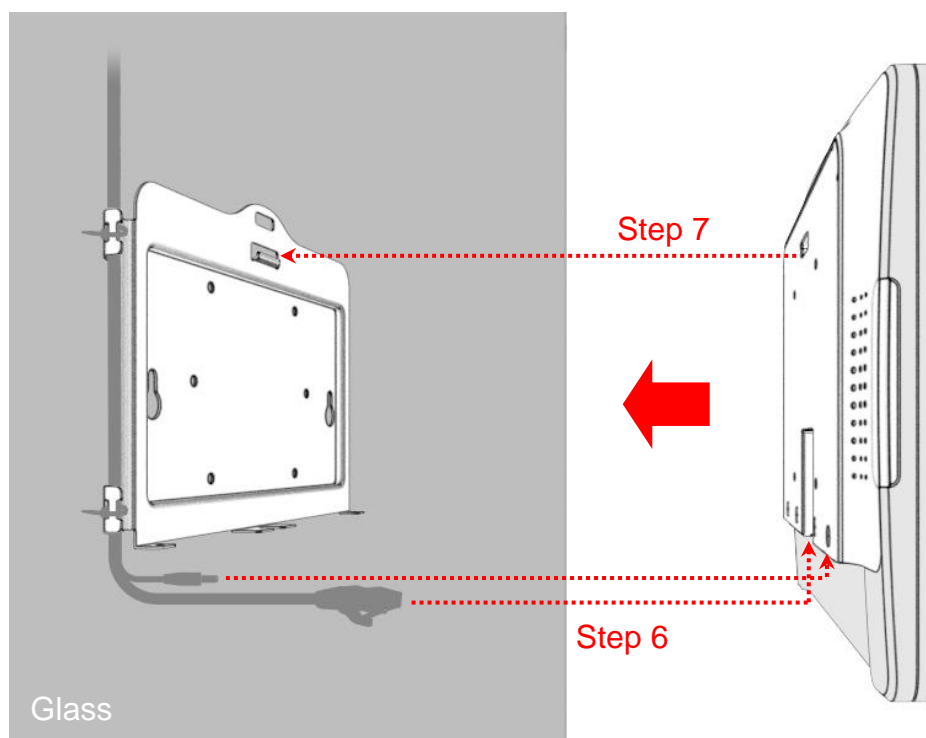
Step 4: Press wall mount kit for 30 seconds.



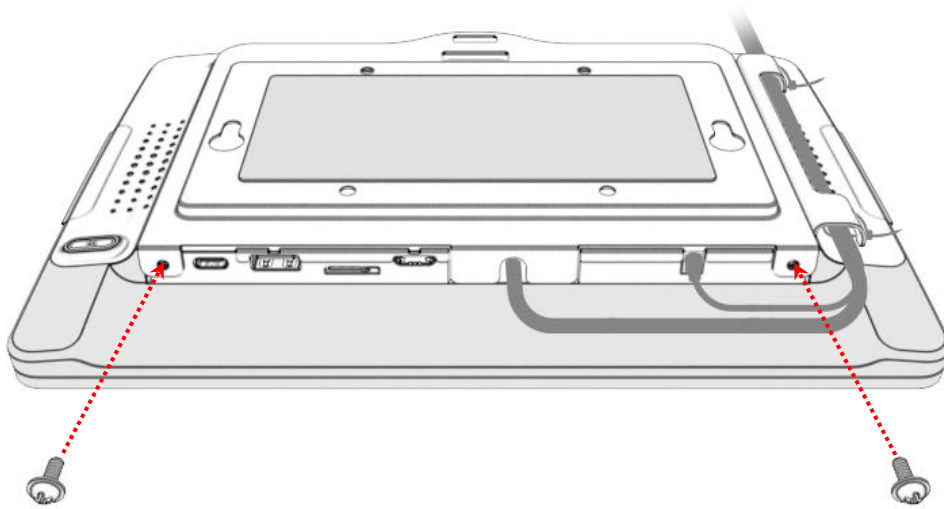
Step 5: Put additional even pressure on bracket area using rollers.
Wait 8~12 hours for adhesive to build.



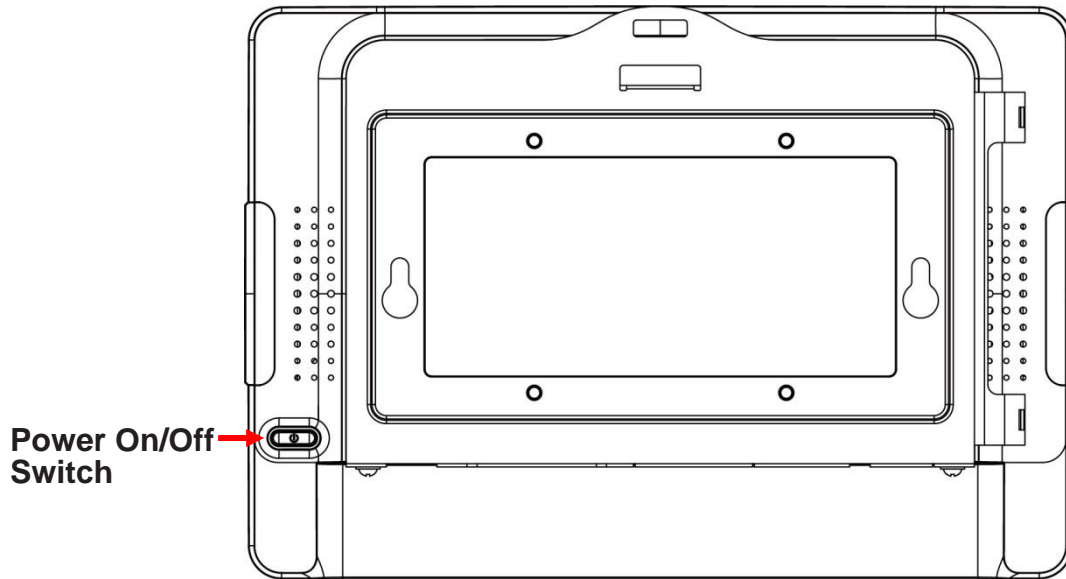
Step 6: Connect the Ethernet cable and power cable to touch panel pc.
Step 7: Install the touch panel pc on the hook of the wall mount kit.



Step 8: Install the two M3 screws.

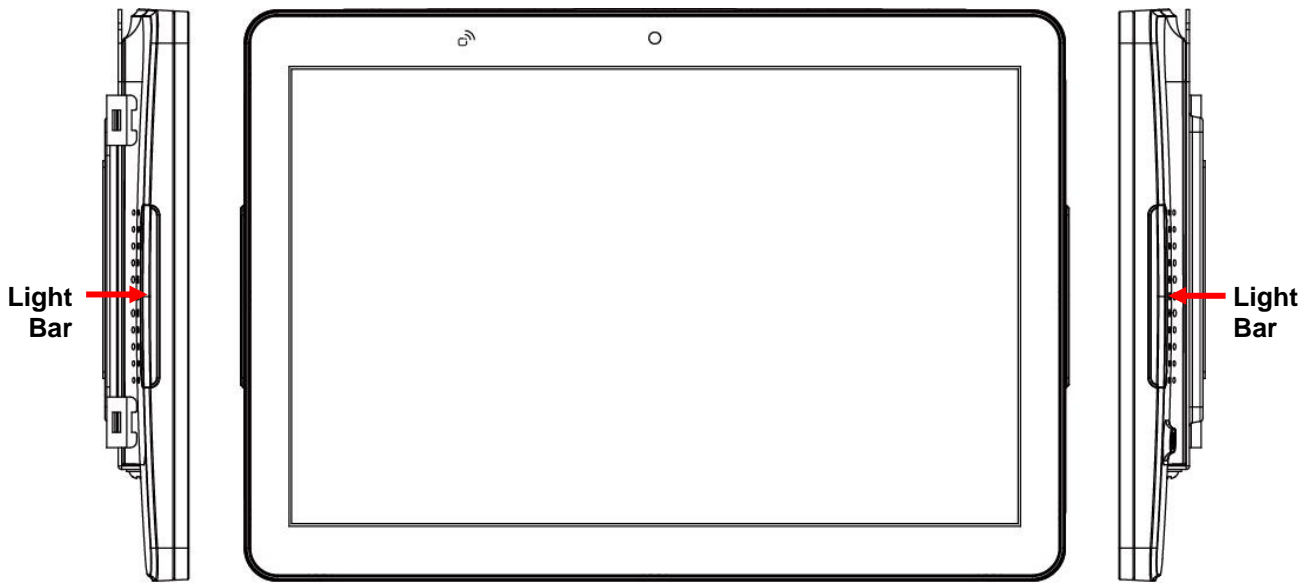


2.3 Power On / Off Switch



Function	Description
Power on	Press the power button 2 sec
Sleep	Press the power button to enter sleep mode, and press again to resume from sleep
Power off	Press the power button 2 sec to power off

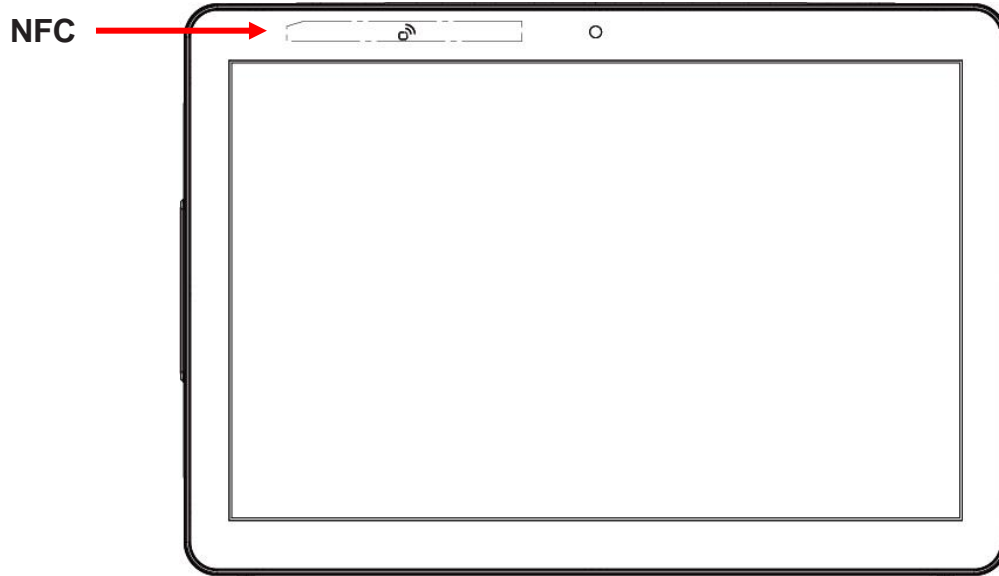
2.4 Light Bar



LED Color
Green, Red, Blue

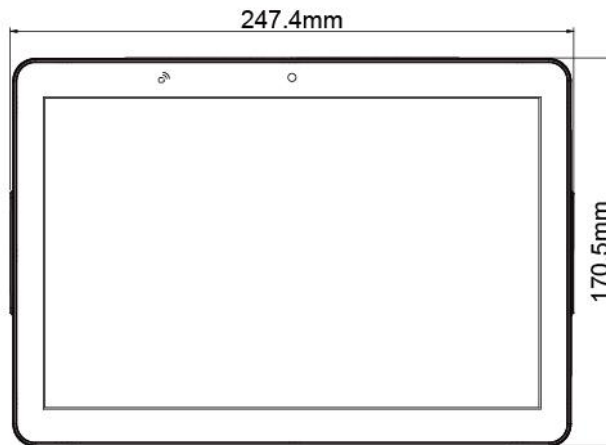
LED Mode
Static, Blink, Smart Fade

2.5 NFC



2.6 Dimension

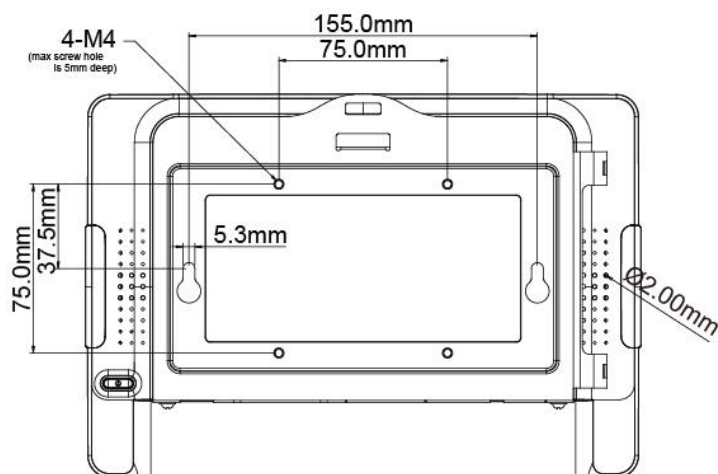
Front View



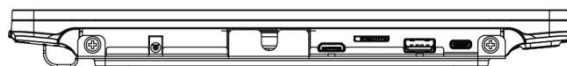
Side View



Rear View



Bottom View

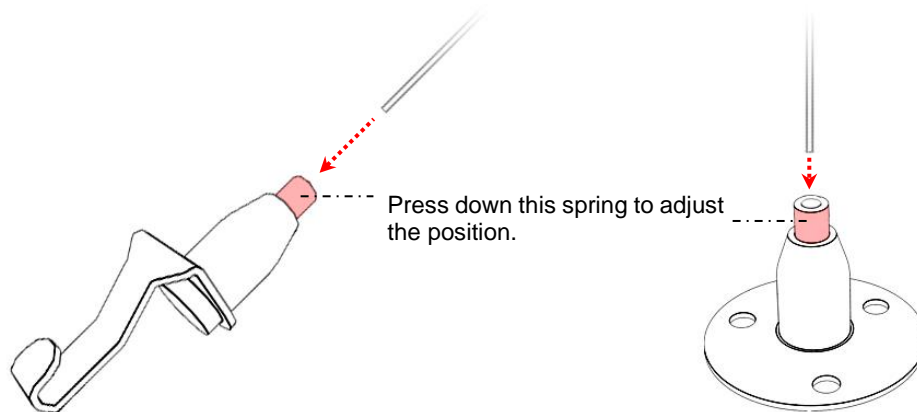


2.7 Optional Accessory Installation

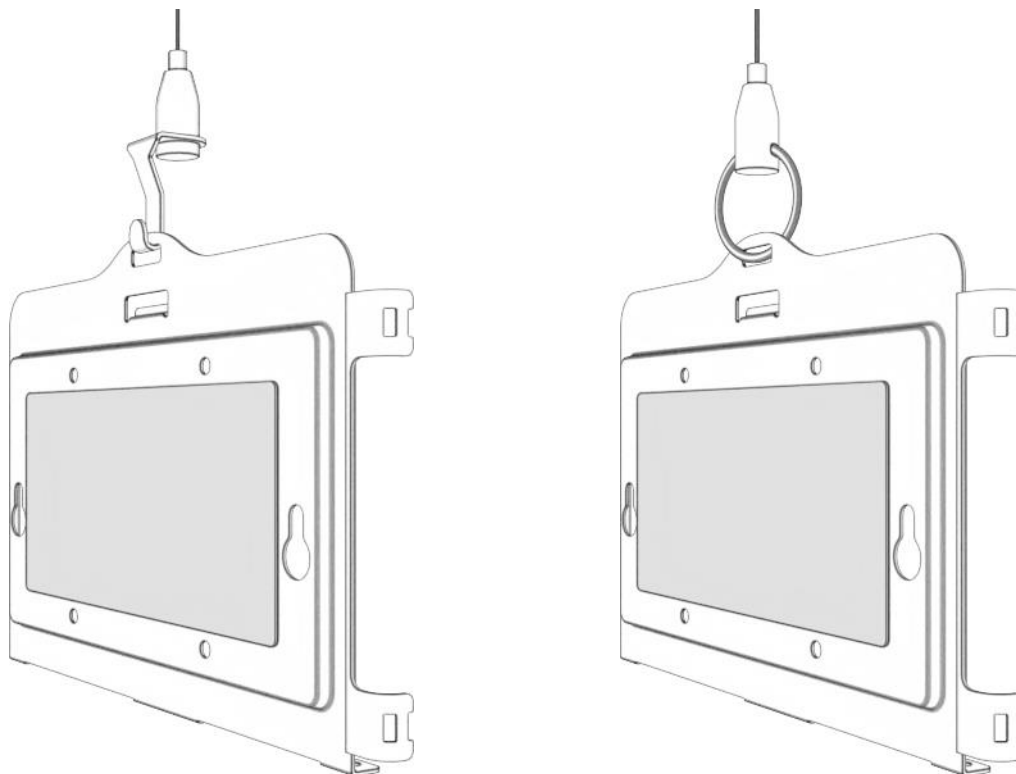
Note: Please install/ dismantle the product when the computer system is in the shutdown state.

2.7.1 Install the Adjustable Cable Hanging Kit

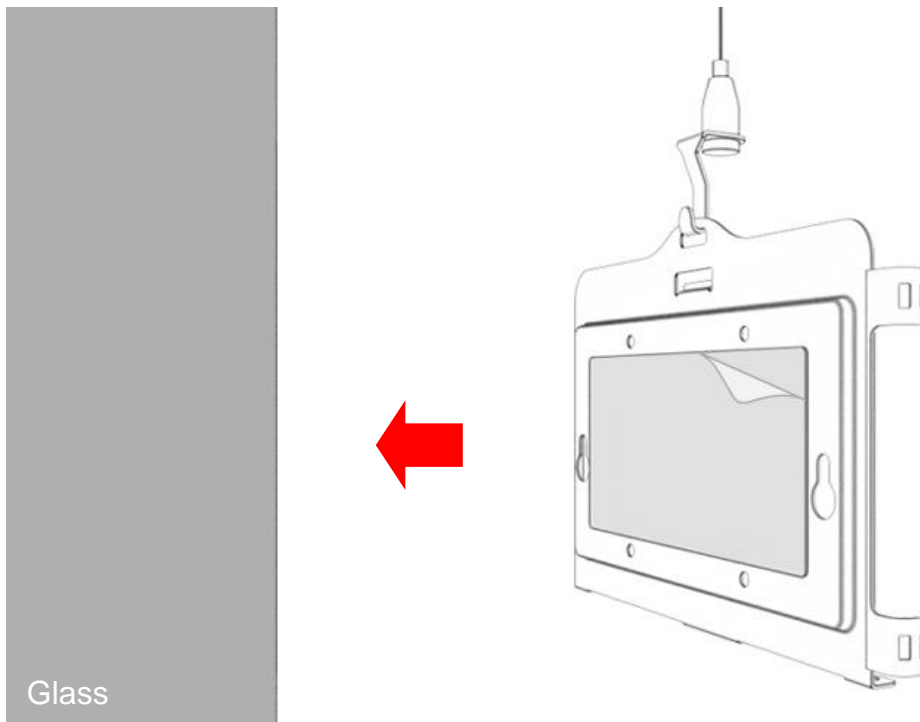
Step 1: Insert the cable into the plunger and slide the gripper to the desired position.



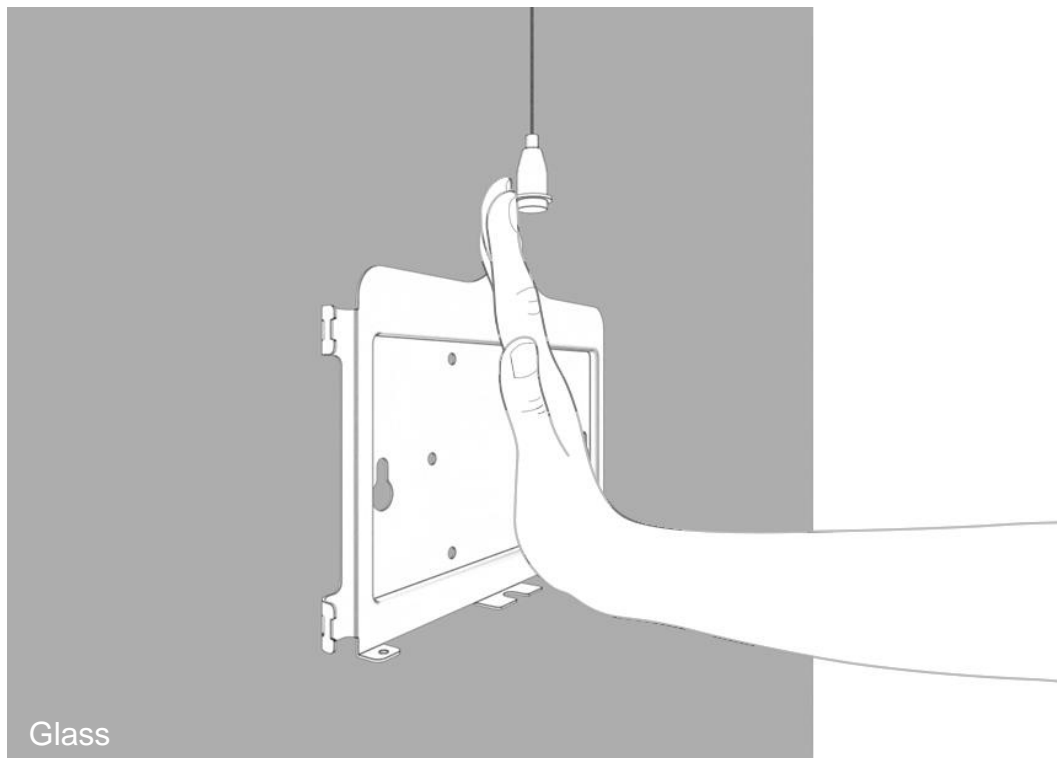
Step 2: Connect the wall mount kit as shown.



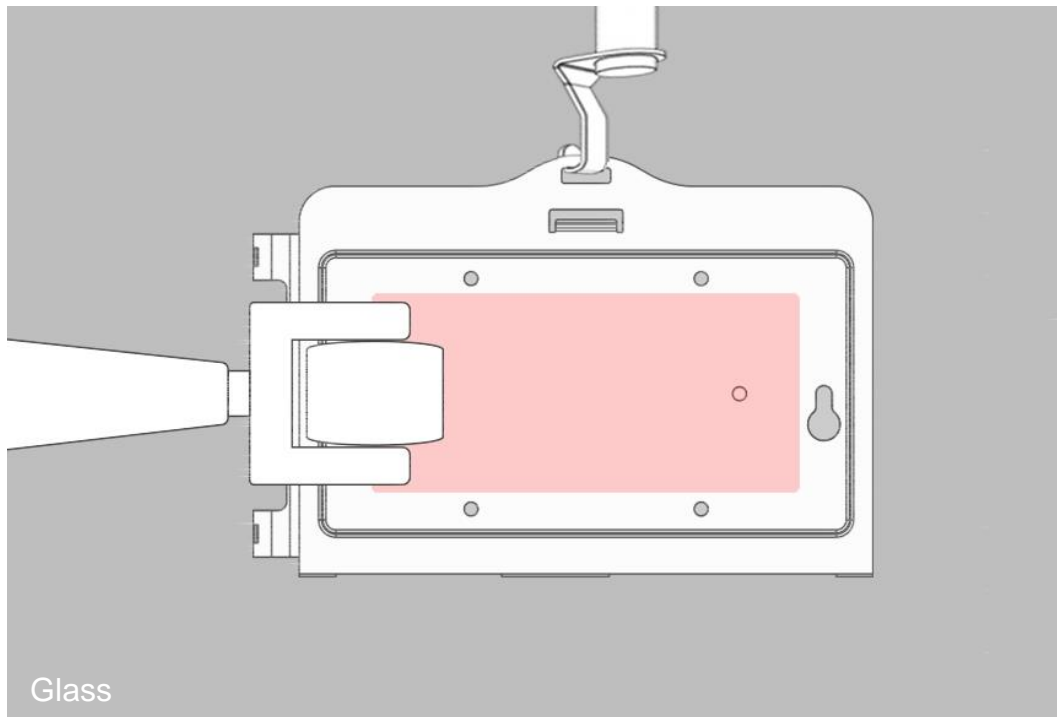
Step 3: Clean the glass with rubbing alcohol and dry thoroughly.
Remove the film from the adhesive tape and attach the wall mount kit to the glass.



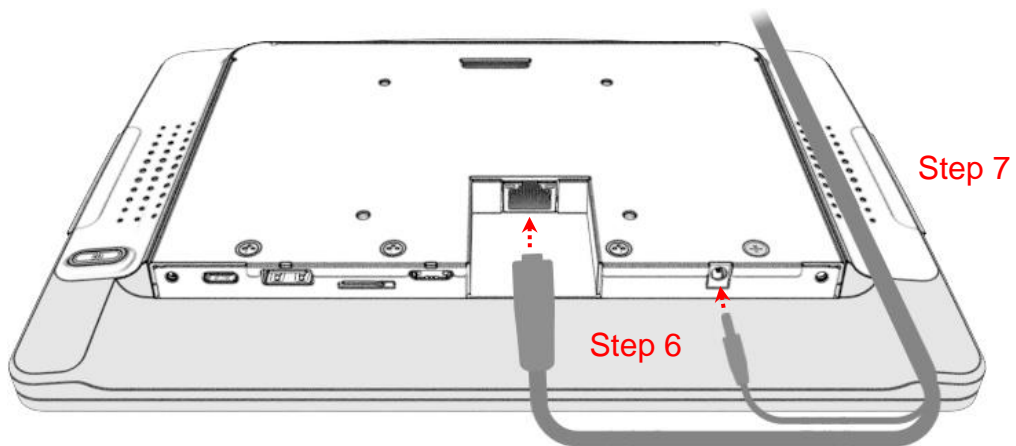
Step 4: Press wall mount kit for 30 seconds.



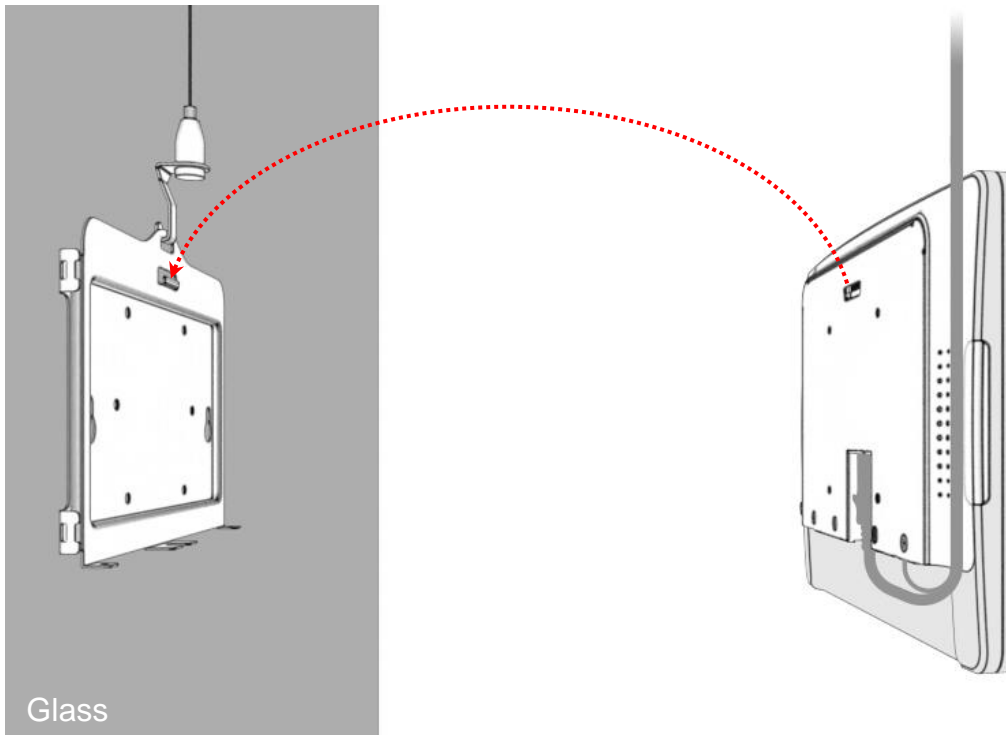
Step 5: Put additional even pressure on bracket area using rollers.
Wait 8~12 hours for adhesive to build.



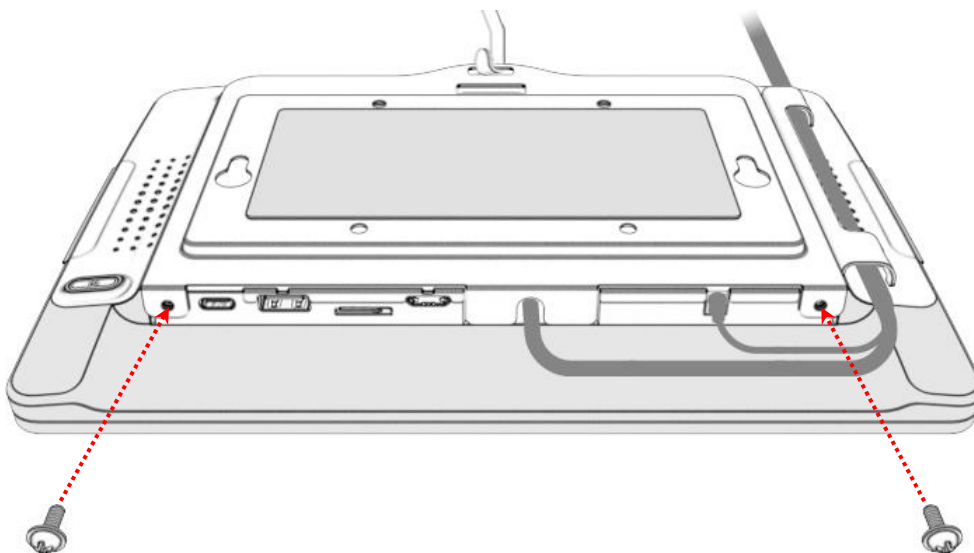
Step 6: Connect the Ethernet cable and power cable to touch panel pc.
Step 7: Route cables.



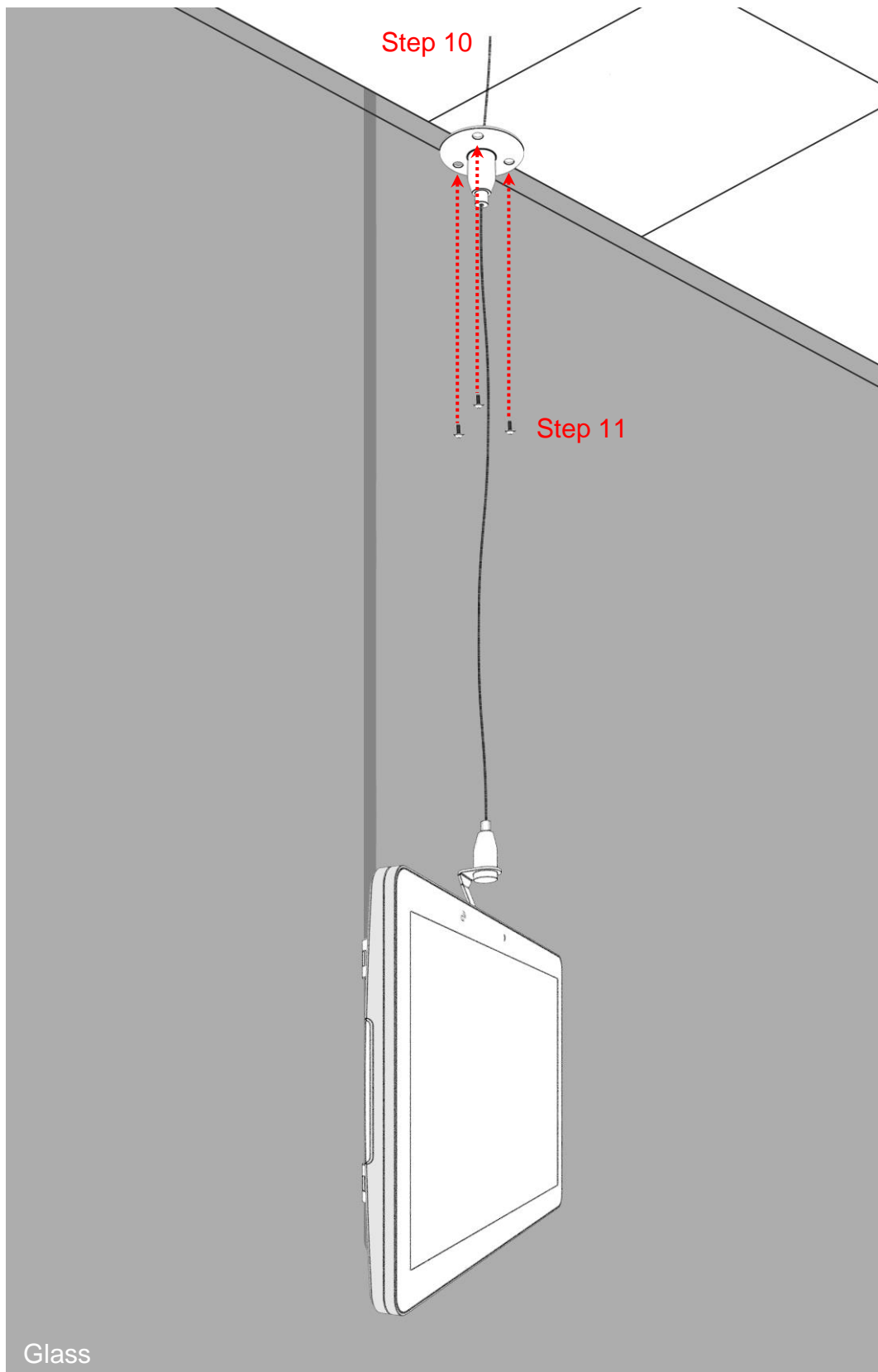
Step 8: Install the touch panel pc on the hook of the wall mount kit.



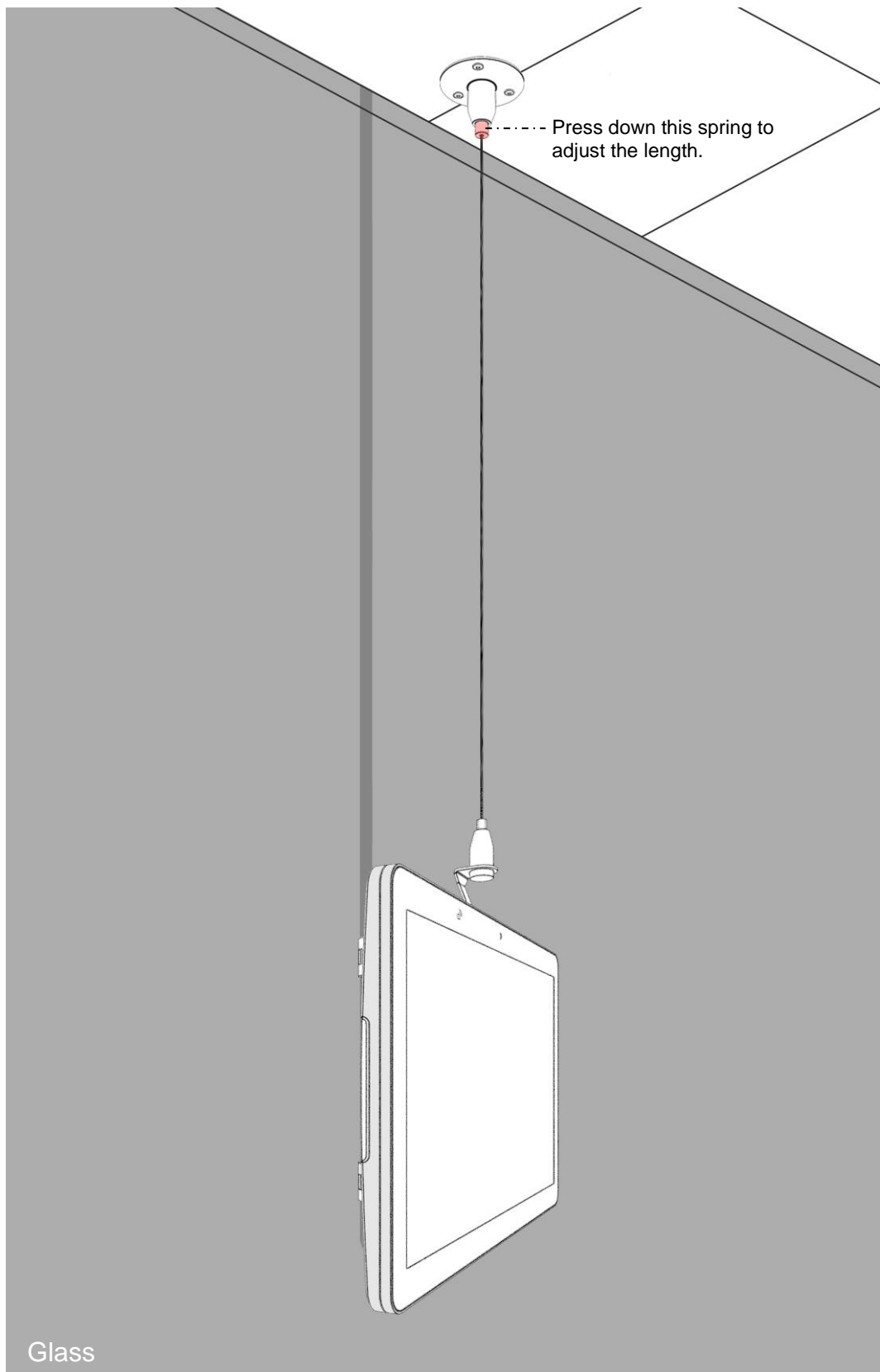
Step 9: Install the two M3 screws.



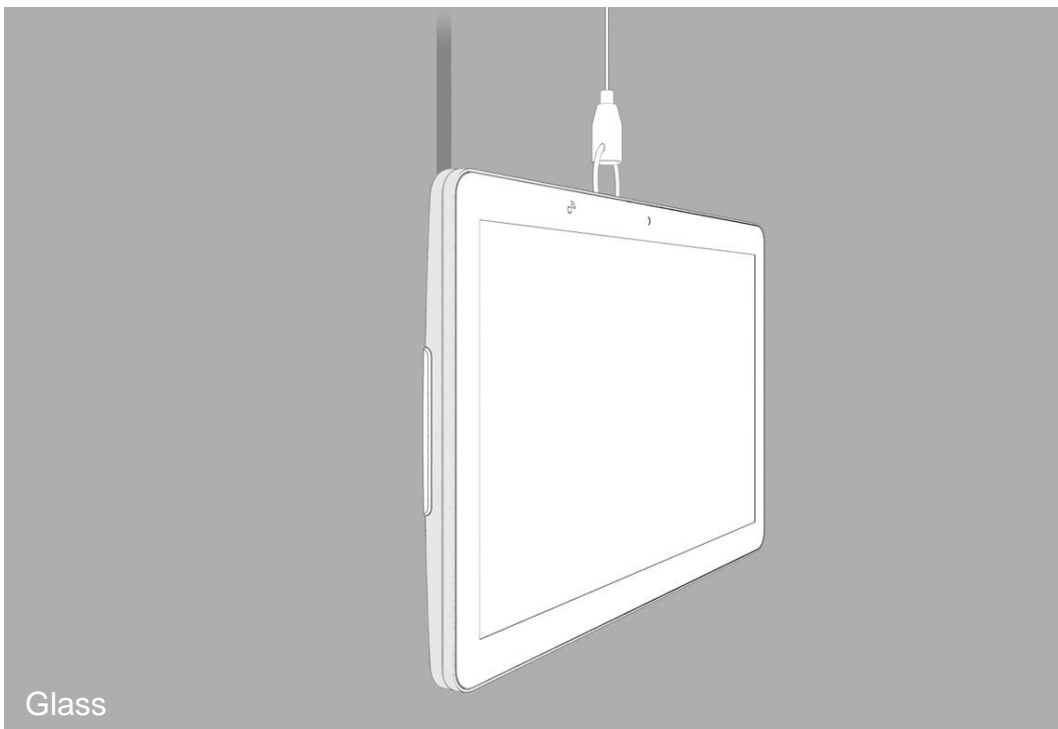
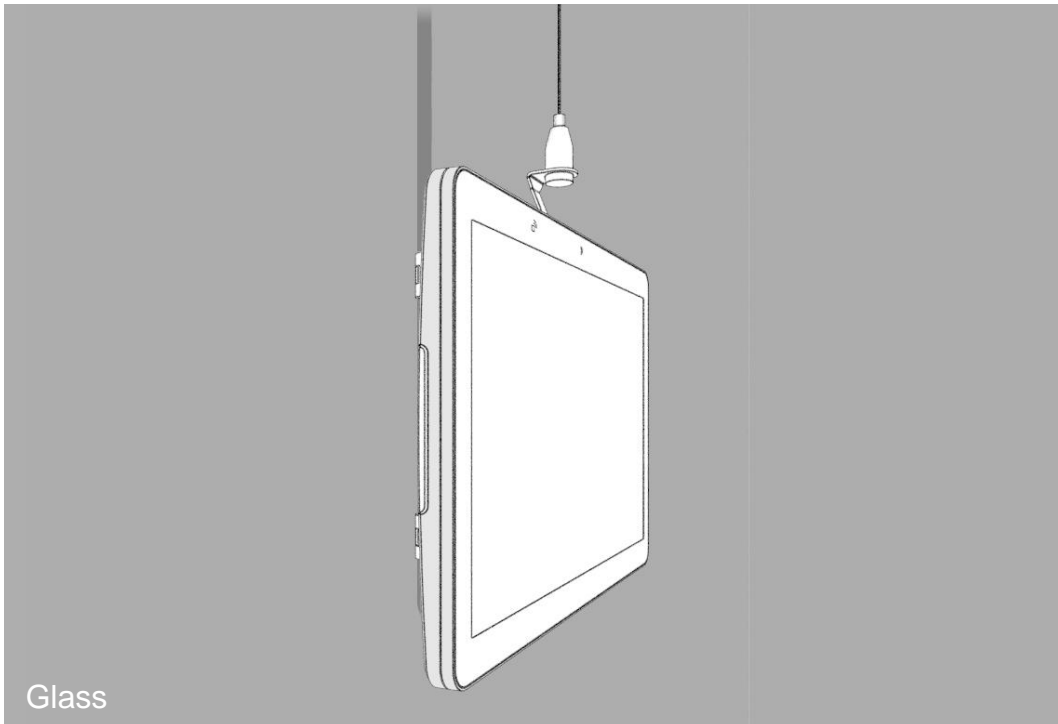
Step 10: Determine the length of the cable used to hang the touch panel pc.
Step 11: Rings are installed to the ceiling using the three screws (not supplied).



Step 12: Adjust the cable to a proper length.



Step 13: Finishing installation.



Chapter 3

Operating System Setup

3.1 Initial Turn-On

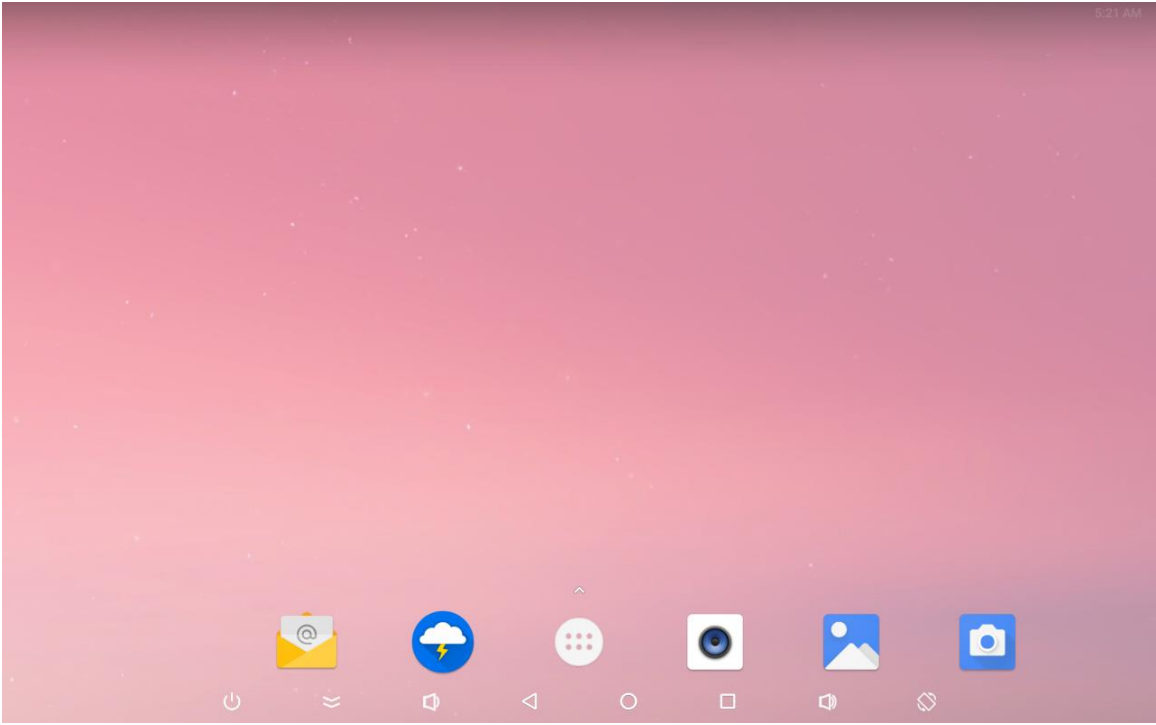
The initial setup of the operating system takes approximately 5-10 minutes. Additional time may be needed depending on touch panel pc hardware configuration and connected devices. To setup the Android OS for the touch panel pc, turn on the touch panel pc and follow the instructions on the screen.

3.2 Boot Touch Panel PC

Step 1: Press "Power Switch" to boot touch panel pc.



Step 2: Finish and launch Android system.



Chapter 4

LED Programmable Guide

4.1 App Main Interface



Test: click the button to switch the ON/OFF state of the light.

Chapter 5

NFC Programmable Guide

5.1 Operating Instructions

The CardReaderTest app is divided into three parts: device operation, NTAG card reading and writing function, Mifare card reading and writing function.

As shown in Figure 1:

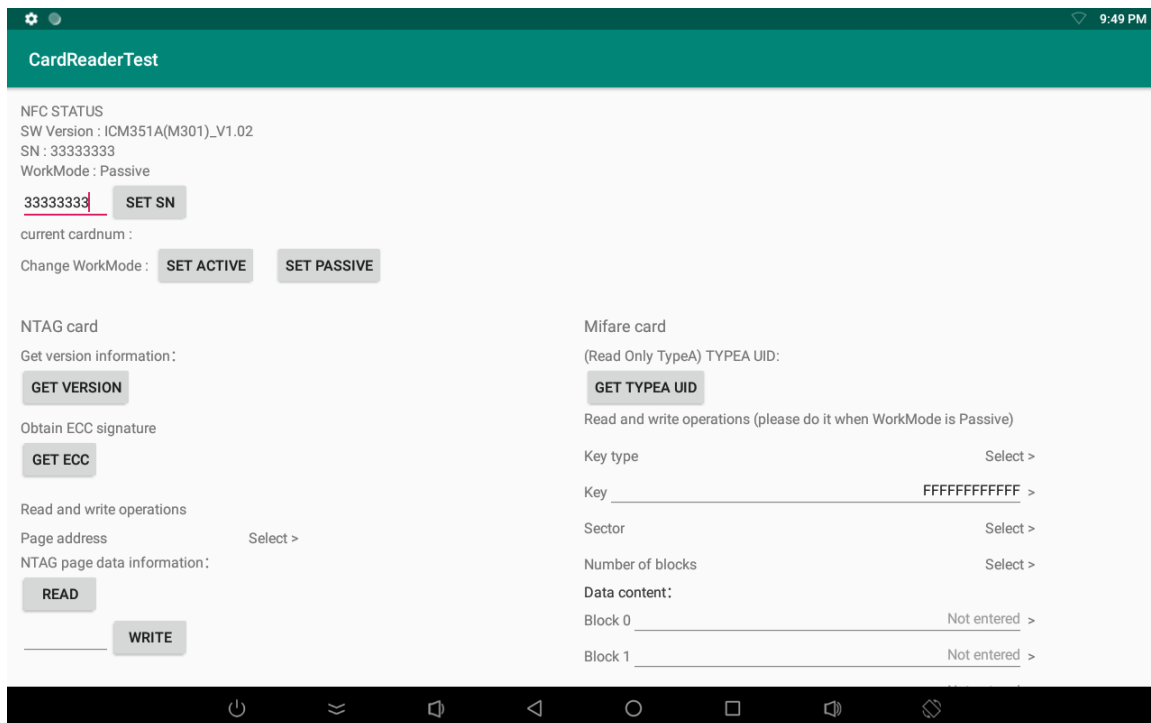


Figure 1

5.1.1 Equipment Operation (no identification card required)

When the application starts, get the device Information of Version, SN and WorkMode at the same time. Since the operation is performed on the same device node, the reading and writing process takes time, so it may fail to obtain it, and it can be obtained manually. The method of obtaining can be seen in the API description.

SW Version: Device software version number

SN: Device factory serial number

WorkMode: working mode

SET SN: Set the factory serial number of the device, 8 characters. After the setting is successful, it will be displayed on the page immediately.

current cardnum: When WorkMode is Active, the card number will be automatically identified, passive mode(Passive)It will not.

Set Active: Set the working mode to Active, take the initiative to obtain, and read the card number when the card is recognized, displayed on the page.

Set Passive: Set the working mode to Passive, the card number cannot be recognized. So the card number information cannot be obtained on the page. You need to obtain it by yourself.

5.1.2 NTAG Card Operation (other card types are not supported)

Need to prepare an NTAG card and put it on the identification area.

GET VERSION: Get the version information of the NTAG card.

GET ECC: Get NTAG specific ECC signature.

Read and write operations (which is to read page data information, you need to select the page address for operation, the data must be a hexadecimal number, 8 digits)

After the page address is selected, Read, and the NTAG page data information will be displayed successfully. As shown in Figure 2:

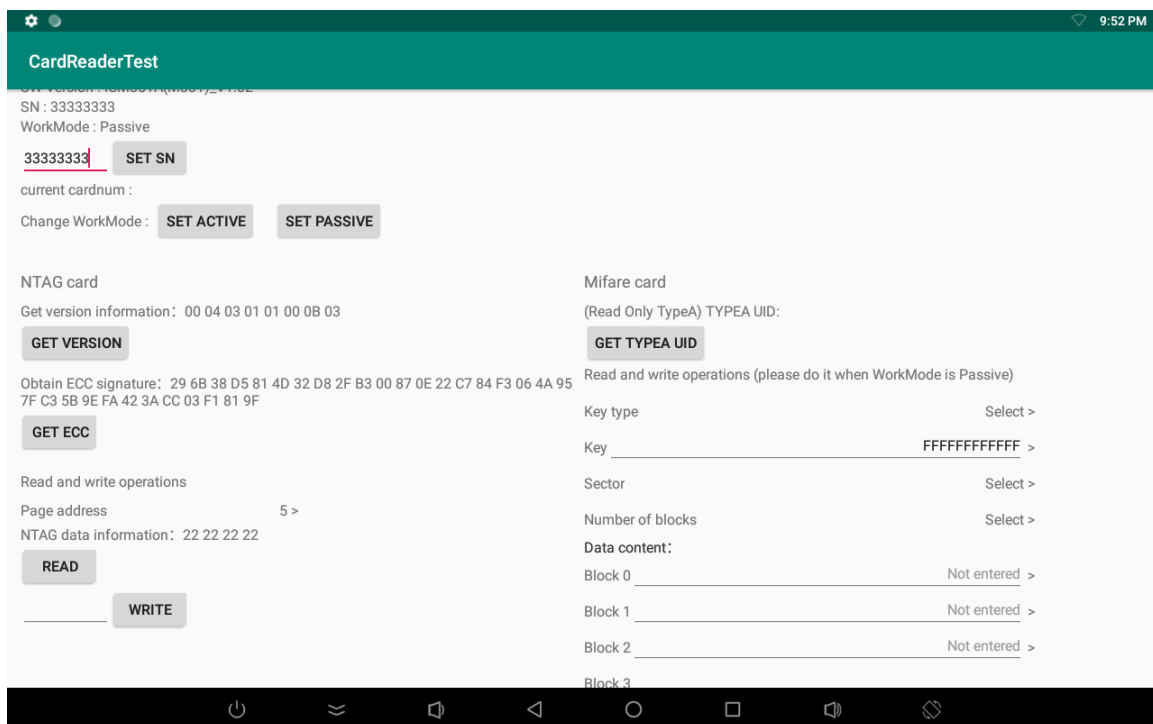


Figure 2

After selecting the page address, Write, successful writing, the result will be displayed on the page. As shown in Figure 3:

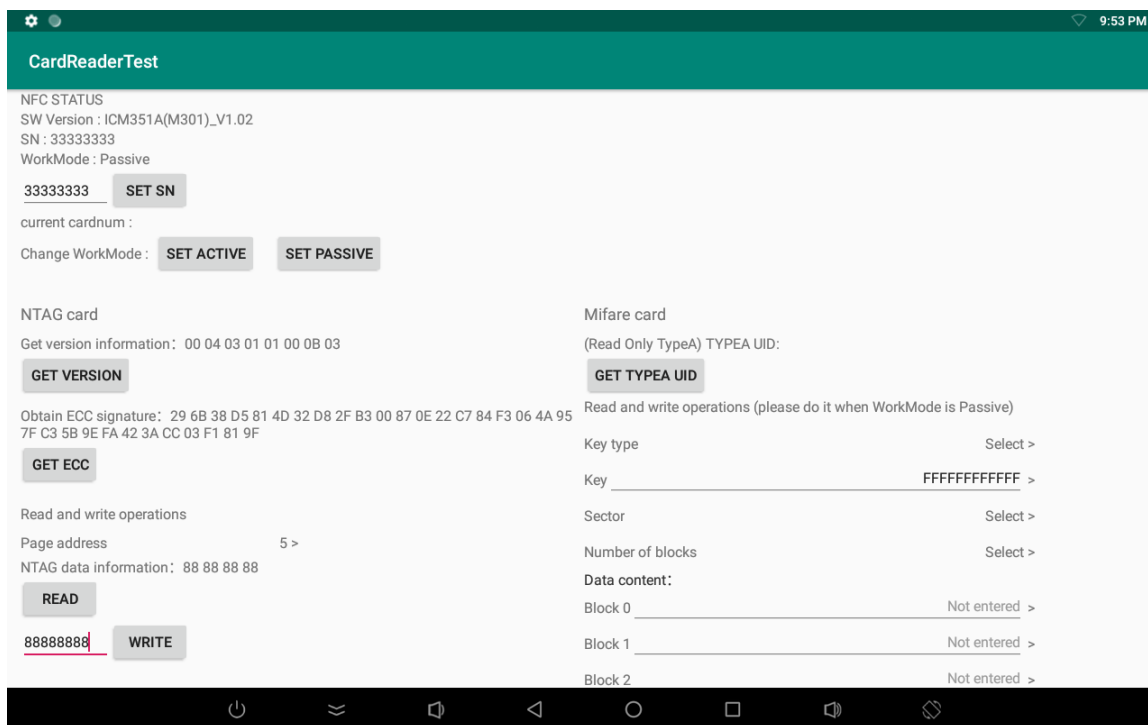


Figure 3

5.1.3 Mifare Card Operation (other card types are not supported)

Please obtain the keys of different key types of the tested Mifare card for testing.

The factory-set key of all key types of Mifare card is FFFFFFFFFFFFFF.

Note: All operations of Mifare card need to be in WorkMode is operated in Passive mode.

Block 0 in sector 0 is readable but not writable.

When the number of blocks is 4, the third block is a cipher block also cannot be written.

Read and write operations

Read Mifare information:

Select the key type, number of sectors and blocks, and enter the key (the default key has been displayed, and it needs to be modified if the test card is different). As shown in Figure 4:

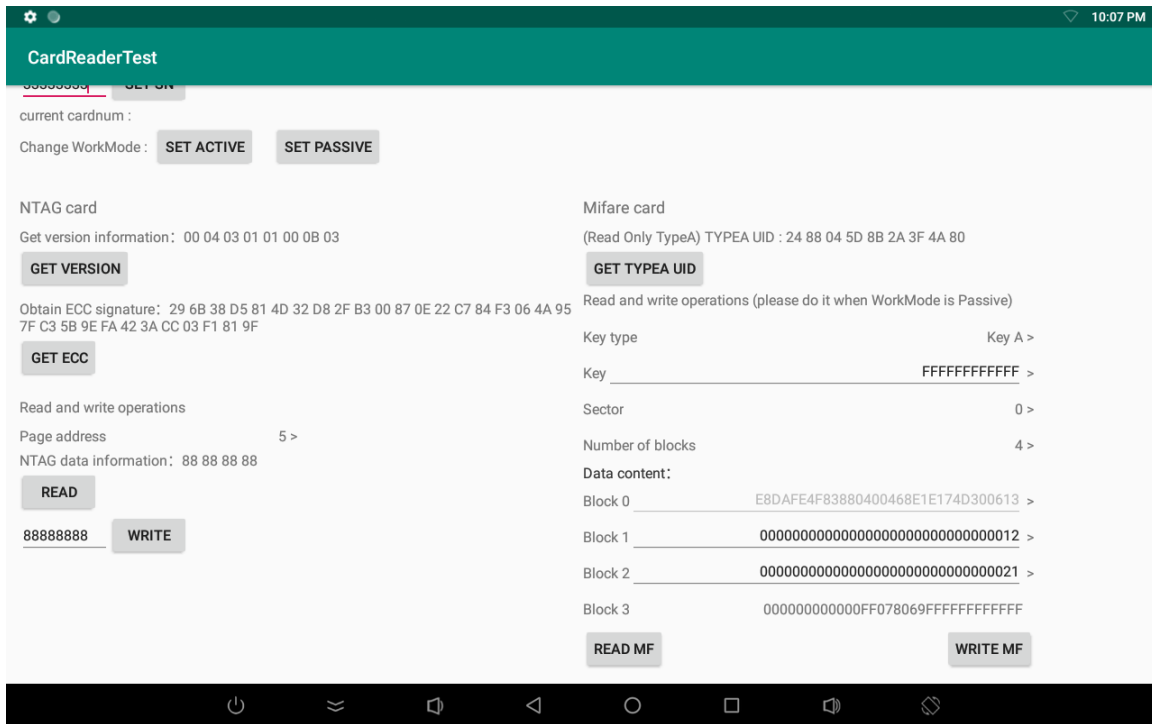


Figure 4

Write Mifare information:

In addition to the data in the read operation, the corresponding block data type needs to be filled in. The type is a hexadecimal number and is 32 bits. As shown in Figure 5:

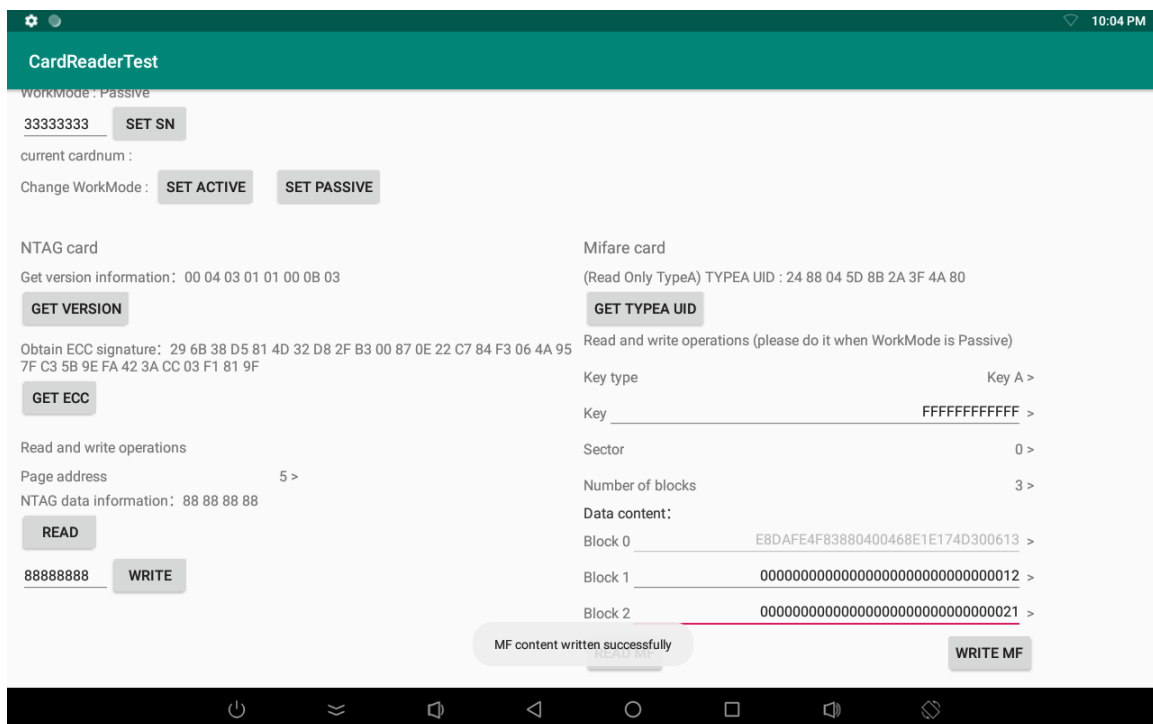


Figure 5

5.2 Project API Description

If WorkMode is Active, the thread will be started to read the device node file information regularly.

Passive, Get on request.

ICM351aManager.java class method description:

Determine whether the data acquisition is successful. `bt[6]==0x00` means data is successfully requested.

```
boolean checkReceiveData(byte[] bt);
```

5.2.1 Equipment Related Operations

- Get the device software version number:
`void getDeviceVersion();`
- Set the factory serial number of the device:8-bit character
`void setSN(String snString);`
Note: After the setting is successful, it will be displayed on the page
- Obtain the factory serial number of the device
`void getDeviceSn();`
- Get working mode
`void getWordModel();`
- Set the working mode (active and passive mode)
`void setWordModel(WORKMODE model);`
Note: In the active mode, the NFC card number is automatically recognized and displayed on the interface

5.2.2 NTAG Card Operation

- Get version information:
`void getNtagVersion();`
- Read Ntag specific ECC signature
`void getNtagEcc();`
- Read Ntag block information

```
void getNtagInfo(String pageStr);
```

- NTAG block information writing

```
void writeNtagInfo(String ntagInfo, String pageStr);
```

- Obtain the UID of the TypeA card:

```
void getTypeAUid();
```

5.2.3 Mifare Card Operation

Read and write operations need to be in WorkMode is the Passive mode.

- Read Mifare sector information

```
void readMflInfo(int keyMode, String key, int area, int num);
```

- Change the data information of the sector

```
void writeMflInfo(int keyMode, String key, int area, int num, byte[] writeStream);
```

Appendix

Declaration of the Presence Condition of the Restricted Substances Marking

設備名稱：觸控電腦 Equipment name: Touch Panel PC		型號（型式）：IC-100P-AA1 Type designation (Type): IC-100P-AA1				
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 Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr ⁺⁶)	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
塑膠零件 Plastic Parts	○	○	○	○	○	○
金屬零件 Metal Parts	—	○	○	○	○	○
線纜和電纜組件 Cable component	—	○	○	○	○	○
液晶面板 LCD Panel	—	○	○	○	○	○
觸控式螢幕面板 Touch Panel	—	○	○	○	○	○
電路板總成 PCBA	—	○	○	○	○	○
軟體(光碟片等) Software	○	○	○	○	○	○
<p>Note 1 : “Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition. °</p> <p>Note 2 : “○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.</p> <p>Note 3 : The “—” indicates that the restricted substance corresponds to the exemption.</p>						