ARMPAC-6XXB Series

7”/10.1” Plastic Chassis Fanless Broadcom BCM2711, Quad core Cortex-A72 HMI

User Manual

Release Date	Revision
Mar. 2023	V1.0

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Revision History

Reversion	Date	Description
1.0	2023/03/13	Official Version

Warning!_____

This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, it may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Electric Shock Hazard – Do not operate the machine with its back cover removed. There are dangerous high voltages inside.

Caution
Risk of explosion if the battery is replaced with an incorrect type.
Batteries should be recycled where possible. Disposal of used batteries must be in accordance with local environmental regulations.

Disclaimer
This information in this document is subject to change without notice. In no event shall Aplex Technology Inc. be liable for damages of any kind, whether incidental or consequential, arising from either the use or misuse of information in this document or in any related materials.

Packing List

Accessories (as ticked) included in this package are:
☐ Adaptor ☐ Driver & manual CD disc ☐ Other._____(please specify)

Safety Precautions

Follow the messages below to prevent your systems from damage:

- Avoid your system from static electricity on all occasions.
- Prevent electric shock. Don‘t touch any components of this card when the card is power-on. Always disconnect power when the system is not in use.
- Disconnect power when you change any hardware devices. For instance, when you connect a jumper or install any cards, a surge of power may damage the electronic components or the whole system.

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Chapter 1 Getting Started

1.1 Features

- ARM based HMI
- Fanless design
- Flat front panel touch screen
- Raspberry Pi Computer Module 4, Quad Core Cortex-A72 Processor
- Onboard 4GB LPDDR4 DRAM
- Onboard 16GB/32GB eMMC Flash
- DC 24V power input w/ 3KV isolation

1.2 Specifications

	ARMPAC-607B(P)	ARMPAC-610B(P)
System		
CPU	Broadcom BCM2711, Quad core Cortex-A72 (ARM v8) 64-bit SoC @ 1.5GHz	
Memory	Onboard 4GB LPDDR4 DRAM	
External IO Port		
USB	1 x USB 2.0 via Vertical USB type-A connector (Master) 1 x USB download via micro USB (Slave only)	
Serial/Parallel	1 x Pitch 3.5mm 2x5pin Terminal Block(COM1_2) with: 1 x RS232(RX, TX, RTS, CTS)/2W RS485(D+, D-) (COM1), select via jumper 1 x RS232(RX, TX, RTS, CTS) (COM2)	
LAN	1 x GbE LAN, RJ45	
Power	DC24V±10% power input, w/3kV Isolation	
Option	Onboard Wifi/BT module 2.4GHz, 5.0 GHz IEEE 802.11 b/g/n/ac wireless Bluetooth 5.0, BLE	
RTC Battery		
RTC Battery	CR2032	
Switch		
Switch	2x2Pin Switch for Burning Mode & Boot Device Select (eMMC/USB Boot Mode)	
LED Indicator		
LED Indicator	1xPower LED	
Storage Space		
Storage	Onboard 16GB/32GB eMMC Flash	

	1 x Micro SD Slot	
Expansion		
Expansion Slot	1 x Mini-PCIe Slot full size for optional 4G module(EC25, w/SIM slot series) 1 x 2x8Pin Header for TB-508 series (2xUART[RX,TX],I2C,USB2.0[Via 1 to 4 USB2.0 Hub],3.3V,5V) 1 x Micro SIM slot for mPCIe	
Display		
Display Type	7” color TFT LVDS LCD	10.1” color TFT LCD
Resolution	800x480	1280x800
Max. Color	262K	TBD
Luminance	400	350
Contrast Ratio	400: 1	800: 1
Viewing Angle	140(H)/140(V)	170(H)/170(V)
Backlight Lifetime	20,000 hrs	30,000 hrs
Touch Screen – Projected Capacitive Type		
Interface	USB	
Light Transmission	88±2%	
Power		
Power Input	DC24V±10% power input, w/3kV Isolation	
Power Consumption	MAX: 7.7W (607B)	MAX: 15.4W (610B)
Mechanical		
Front Bezel Metal	Plastic/Panel Mount	
Rear Panel Metal	Plastic/VESA 75	Plastic/VESA 75
Chassis Color	Black C	
IP Rating	IP65 Front Panel	
Dimensions(mm)	204 x 150 x 46	269 x 189 x 49.5
Net Weight (Kg)	0.7	0.9
Environmental		
Operating Temperature	0~50℃ (-20~60℃ option)	
Storage Temperature	-30~70℃	
Humidity	10 to 90% @ 40℃, non-condensing	
Certification	CE / FCC Class A	
Operating System	Yocto Linux Kernal 5.x w/Chromium Browser ANDROID 10 above (Default)	

1.3 Dimensions

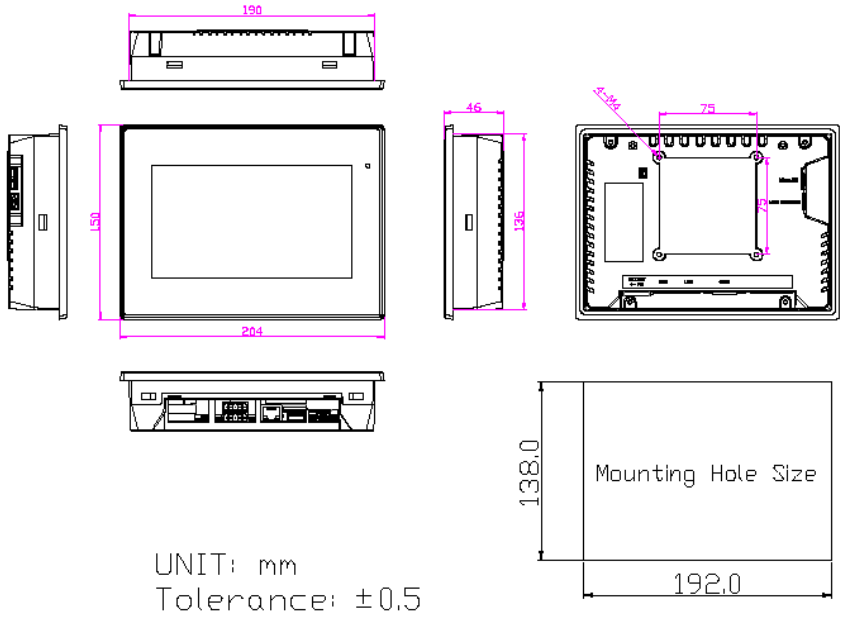


Figure 1.1: Dimensions of ARMPAC-607B(P)

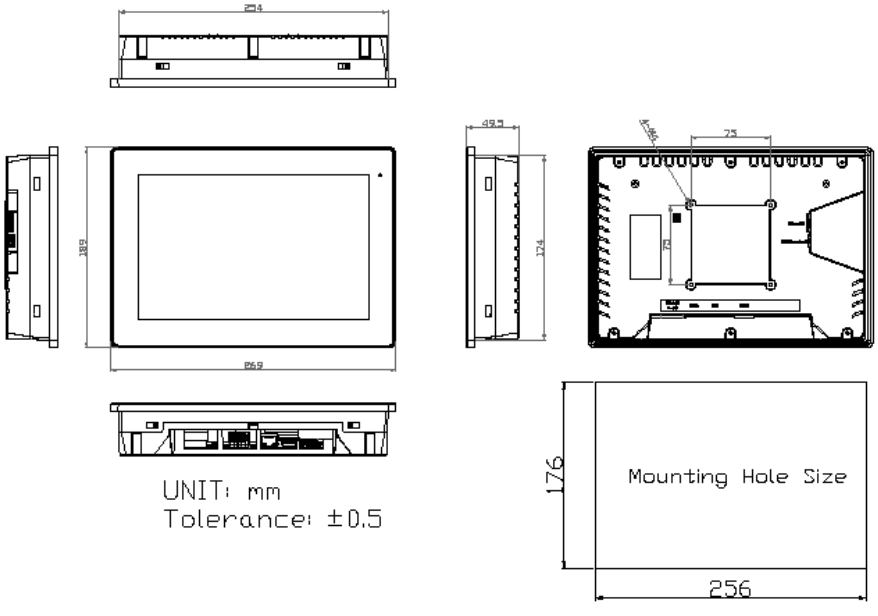


Figure 1.2: Dimensions of ARMPAC-610(P)

1.4 Brief Description of ARMPAC-6XXB

ARMPAC-6B series have 7”, and 10.1” in fanless designed ARM based HMI, which comes with flat front panel LED backlight touch designed. They are powered by Broadcom BCM2711 ARM Quad core Cortex-A72 processor, 4GB DDR3 onboard memory, and 16GB eMMC or 32GB eMMC NAND flash onboard. ARMPAC-6XXB series is DC 24V power input and IP66 compliant front panel. The 7”, and 10.1” model can be VESA 75 x 75 mounted. The chassis color is Black C for plastic design in 7” and 10.1”. Default projected capacitive touch screen supports 7H anti-scratch surface is ideal for use as PC-based controller for industrial automation & factory automation.

Figure 1.3: Front View of ARMPAC-6XXB Series

Figure 1.4: Rear View of ARMPAC-6XXB Series

1.5 VESA Mounting

The ARMPAC-6XXB series is designed to be VESA mounted as shown in Picture. Just carefully place the unit through the hole and tighten the given screws from the rear to secure the mounting.

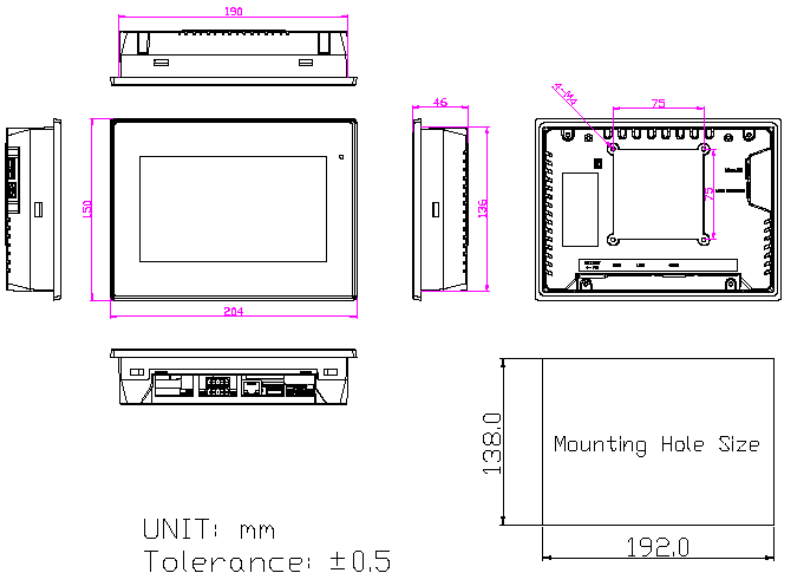
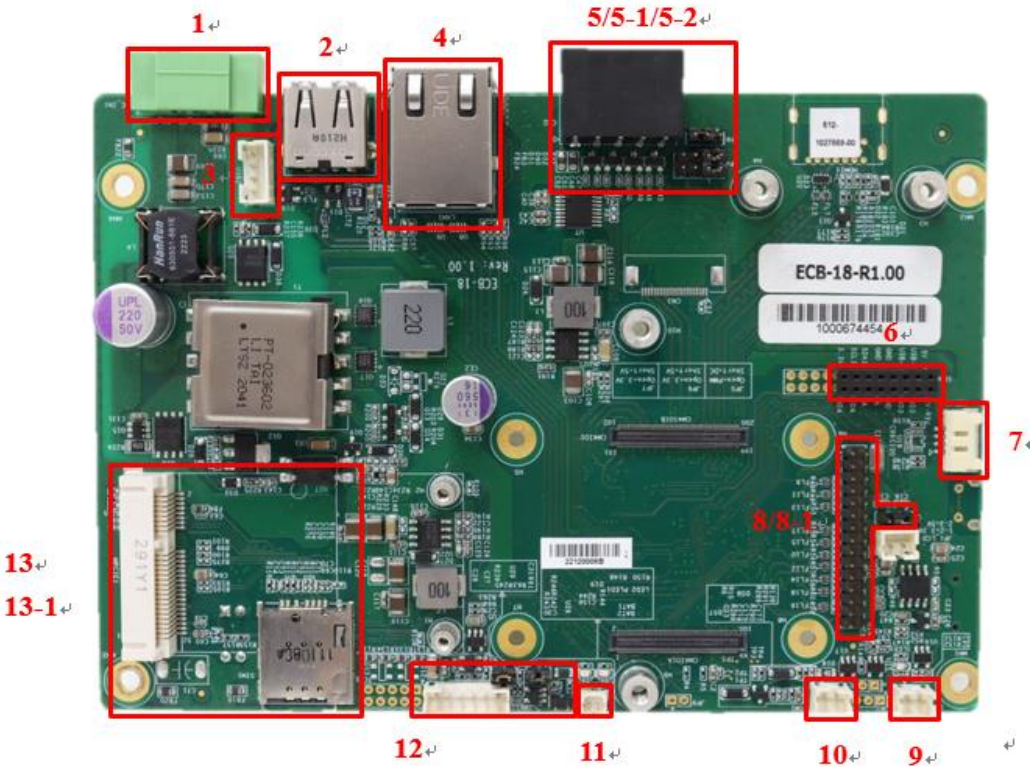
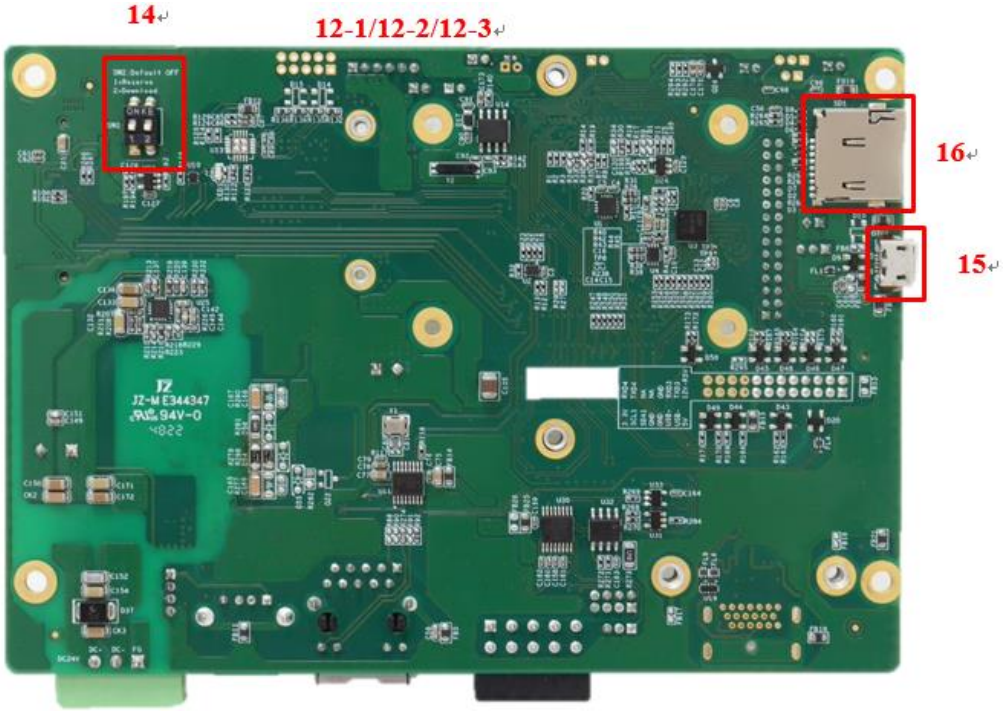


Figure 1.5: ARMPAC-6XXB Series VESA Mounting

Chapter 2 Hardware

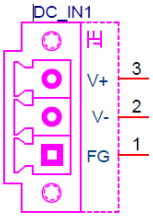
2.1 Motherboard Jumpers Setting and Connectors





1. DC_IN1:

(3.50mm Pitch 1x3 Pin Connector), For DC 24V system power input.



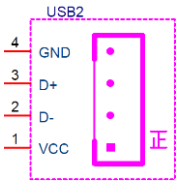
Pin#	Signals
1	FG
2	DC_IN-
3	DC_IN+

2. USB1:

(USB type A Port), Front USB connector, it provides a USB2.0 port, High-speed USB 2.0 allows data transfers up to 480 Mb/s, support USB full-speed and low-speed signaling.

3. USB2:

(2.0mm Pitch 1x4 Pin Wafer Header), It provides an internal USB2.0 port, High-speed USB 2.0 allows data transfers up to 480 Mb/s, support USB full-speed and low-speed signaling.



Pin#	Signals
1	5V_VCC
2	D-
3	D+
4	GND

4. LAN1:

(RJ45 Connector), Front LAN port. It provides a standard GbE RJ45 Ethernet port.

RJ45 LED Status

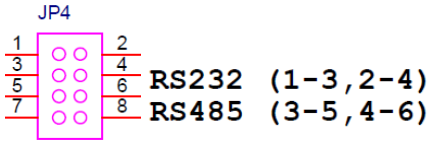
	Speed(LED1)	Link/Activity(LED2)
10	Off	Yellow Blinking
100	Yellow Solid	
GbE	Yellow Blinking	

5. CN2:

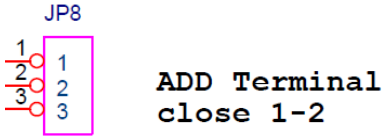
(3.50mm Pitch 2x5 Pin Terminal Block), Provides 2xCOM, including 1x4-wired RS232/2-wired RS485 and 1x4-wired RS232.

Pin#	COM1(RS232)	COM1(RS485)	COM2(RS485/CAN)
1			GND
2	GND		
3			CAN_H
4	CTS		
5			CAN_L
6	RTS		
7			485-
8	TX	485-	
9			485+
10	RX	485+	

5-1. JP4 (2x4 Pin Jumper), For 4-wired RS232/2-wired RS485 select.



5-2. JP8 (1x3 Pin Jumper), For RS485 add terminal.



6. CON1

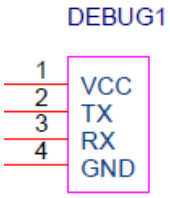
(2.00mm Pitch 2x8 Female Header), Connector for TB-508 series I/O expansion boards.

Signals	Pin#	Pin#	Signals
5V_VCC	1	2	12V_VCC
USB_D-	3	4	UART3_TXD
USB_D+	5	6	UART3_RXD

GND	7	8	GND
GND	9	10	
SDA1	11	12	
SCL1	13	14	UART4_TXD
3.3V_VCC	15	16	UART4_RXD

7. DEBUG1

.



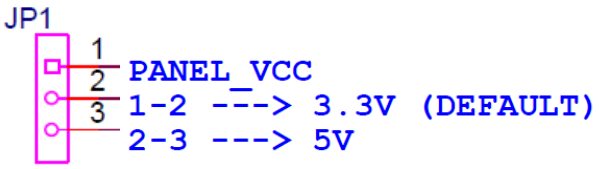
Pin#	Signals
1	3.3V_VCC
2	UART0_TX
3	UART0_RX
4	GND

8.CN1：

(2.00mm Pitch 2x15 Pin Male Header), Provides 18/24bits dual channel LVDS, support up to 1920x1080@60fps.

Signals	Pin#	Pin#	Signals
LCD_VCC (3.3V/5V select via JP1)	1	2	LCD_VCC (3.3V/5V select via JP1)
LCD_VCC (3.3V/5V select via JP1)	3	4	GND
GND	5	6	GND
TXA0-	7	8	TXA0+
TXA1-	9	10	TXA1+
TXA2-	11	12	TXA2+
GND	13	14	GND
TXAC-	15	16	TXAC+
TXA3-	17	18	TXA3+
TXB0-	19	20	TXB0+
TXB1-	21	22	TXB1+
TXB2-	23	24	TXB2+
GND	25	26	GND
TXBC-	27	28	TXBC+
TXB3-	29	30	TXB3+

8-1. JP1 (1x3 Pin Jumper), For LVDS VCC 3.3V/5V select.



9. CN4

(2.00mm Pitch 1x2 Pin Wafer Header), For power LED.

Pin#	Signals
1	PWR_LED
2	GND

10. PSW1

(2.00mm Pitch 1x2 Pin Wafer Header), For external power switch.

Pin#	Signals
1	Power ON/OFF
2	GND

11. BAT1/2 (Co-lay)

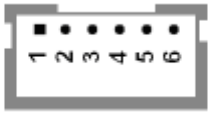
(2.00mm Pitch 1x2 Pin Wafer Header/1.25mm Pitch 1x2 Pin Wafer Header_Default)

For RTC battery.

Pin#	Signals
1	VRTC_R
2	GND

12. INVT1:

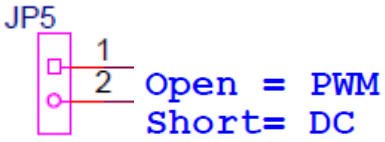
(2.0mm Pitch 1*6 box Pin Header), Backlight power & control.



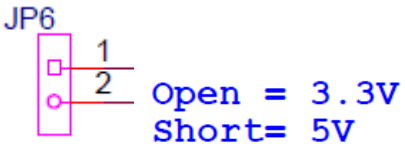
Pin#	Signals
1	12V_VCC
2	12V_VCC
3	GND
4	GND

5	BKLT_EN
6	BKLT_CTRL

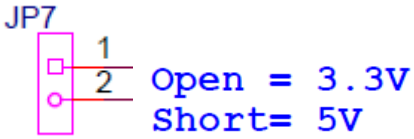
12-1. JP5 (1x3 Pin Jumper), For LCM backlight control mode select.



12-2. JP6 (1x3 Pin Jumper), For LCM backlight control 3.3/5V select.



12-3. JP7 (1x3 Pin Jumper), For LCM backlight enable 3.3/5V select.



13. MPCIE

Standard mini PCIe socket with 1xMicro SIM slot (13-1). Support full-sized expansion cards.

14. SW2

For boot mode select (eMMC/OTG device).

15. OTG1

Micro-USB connector for USB download mode.

16. SD1

Micor SD slot support up to 32GB.

Chapter 3 Software images

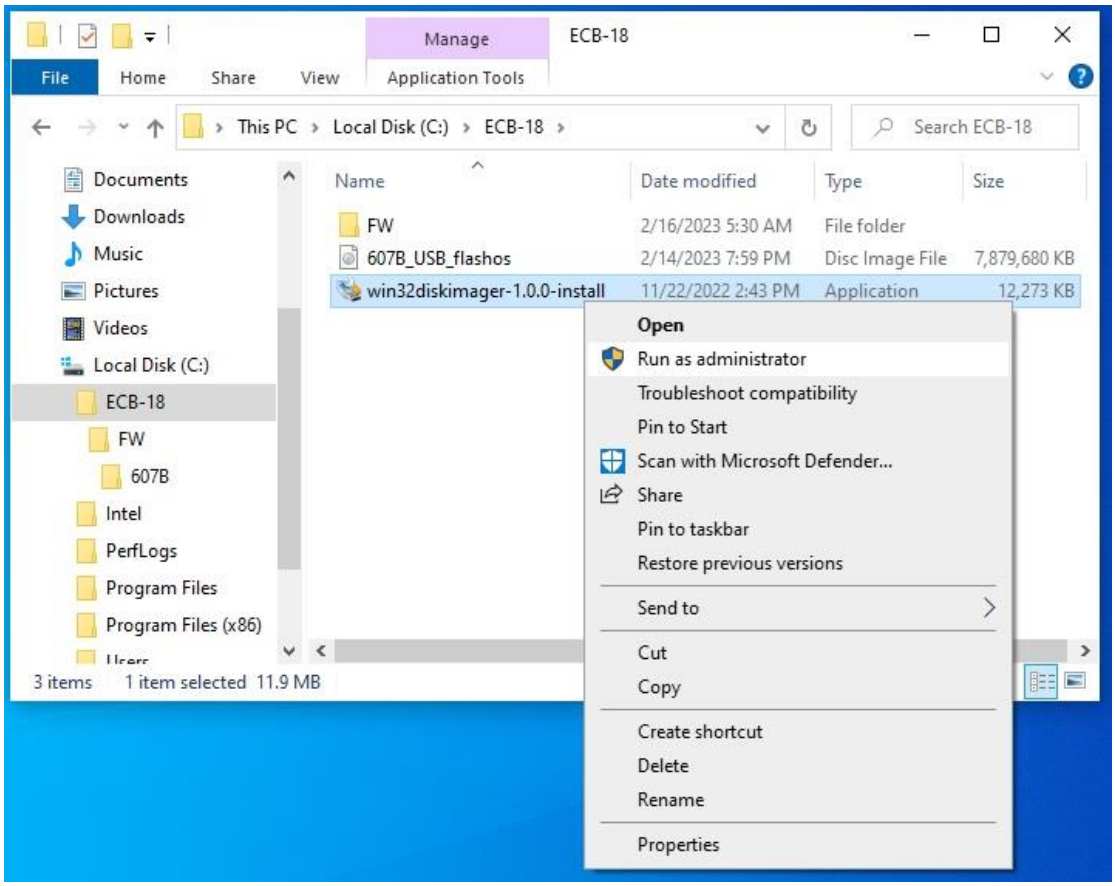
3.1 Update Linux for ARMPAC-607BP/610BP

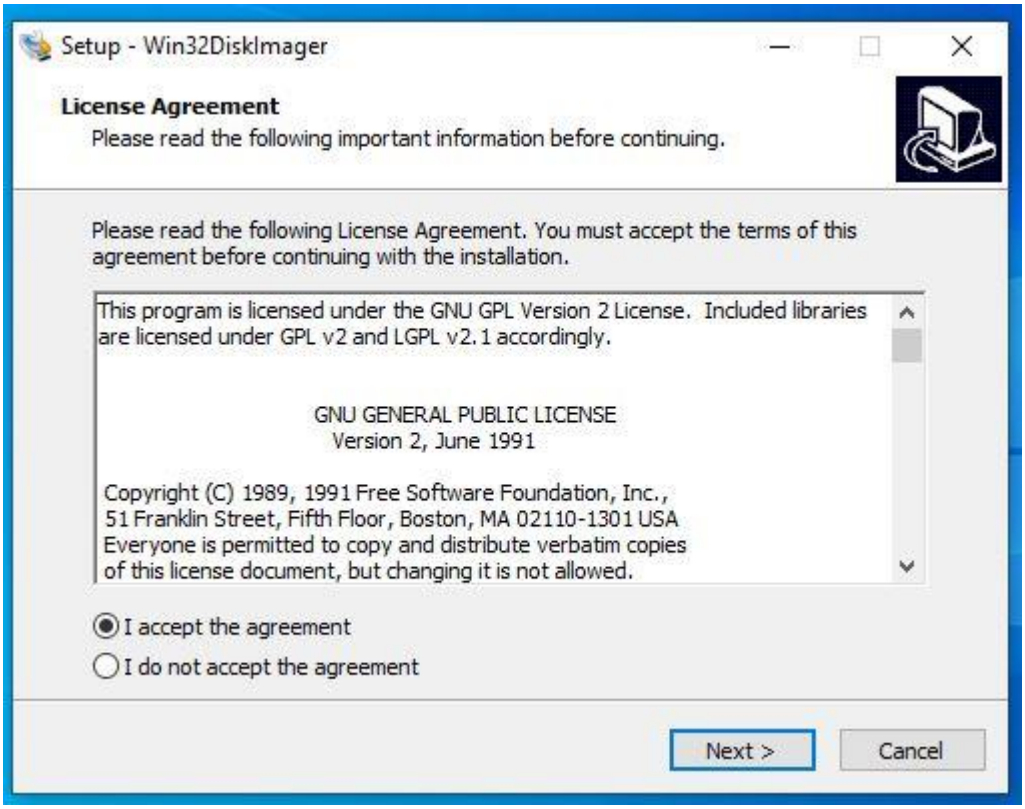
1. To upgrade the Yocto Linux firmware, you must have three files as below and prepare a 16 GB above USB flash disk for installation.

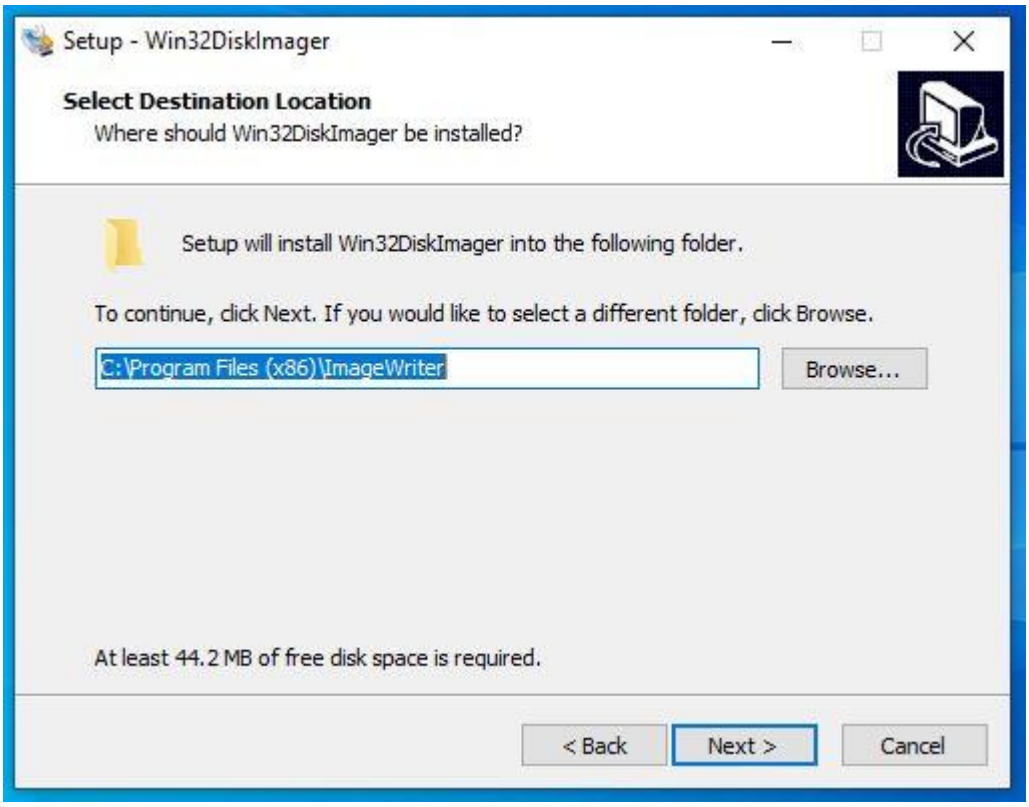
   File 1: win32diskimager-1.0.0-install.exe
   Make USB boot image disk tool.
   File 2: 607B_usb_flashos.img or 610B_usb_flasgos.img
   Bootable USB flash disk image file (Linux).
   File 3: core-image-base-raspberrypi4-64.img
   Yocto Linux FW image file (607B and 610B are different).

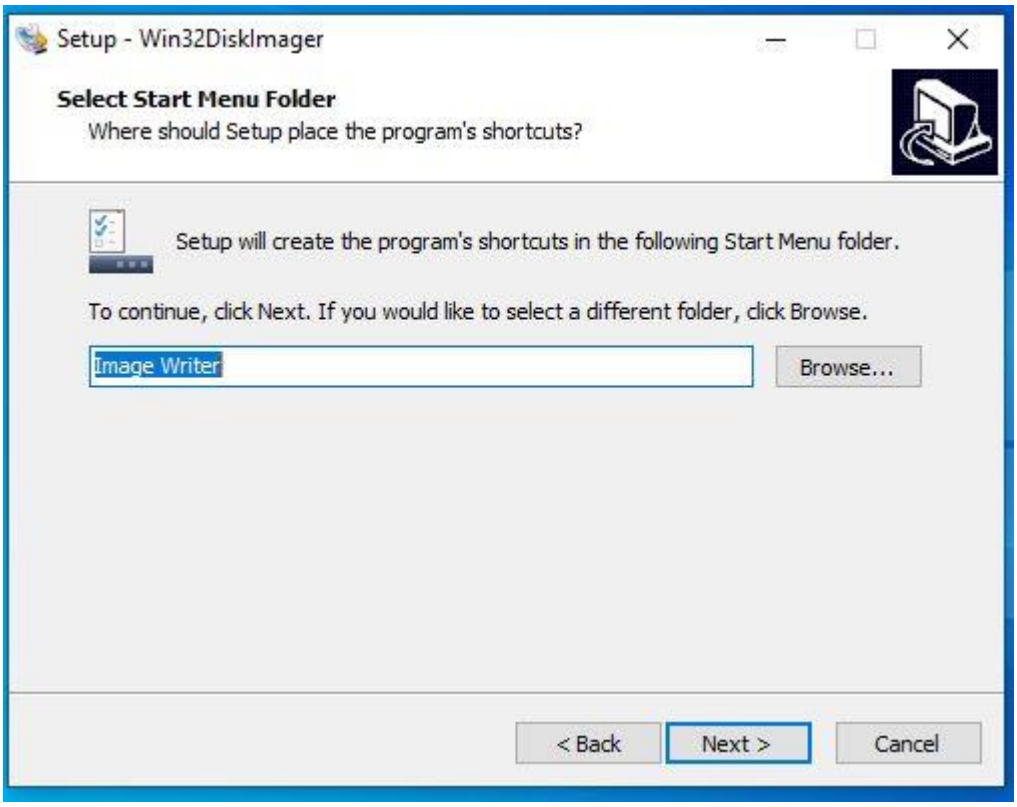
Step 1. → File1: win32diskimager-1.0.0-install.exe.

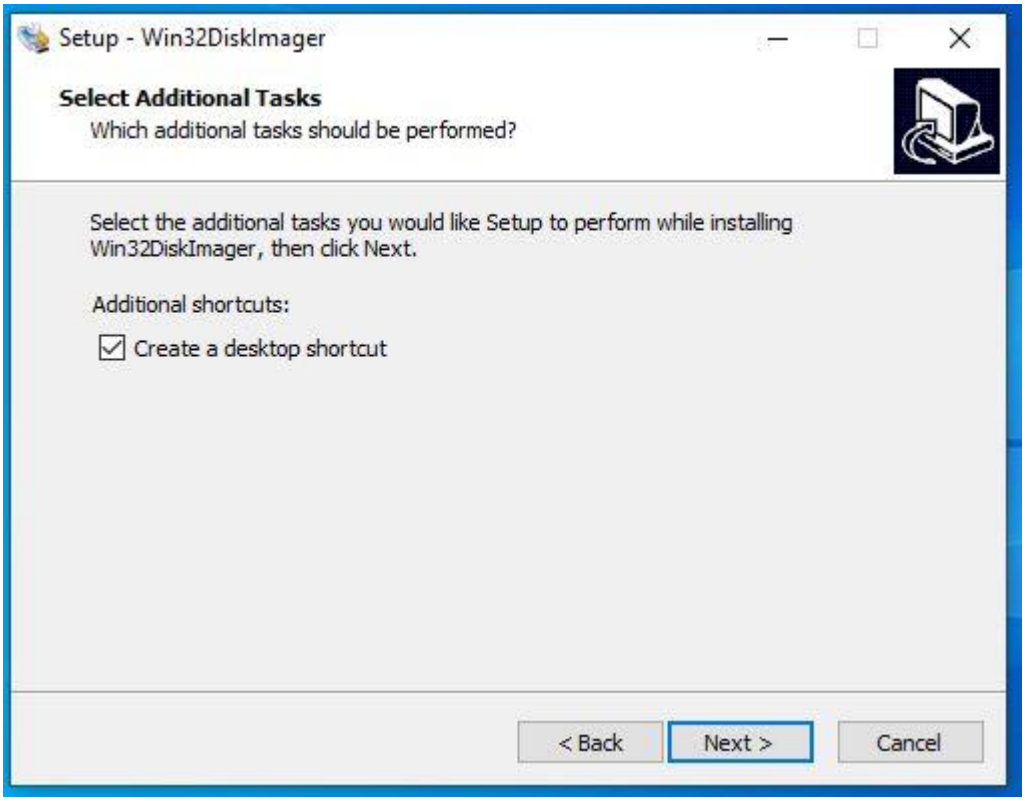
1) Install **win32diskimager-1.0.0-install.exe**

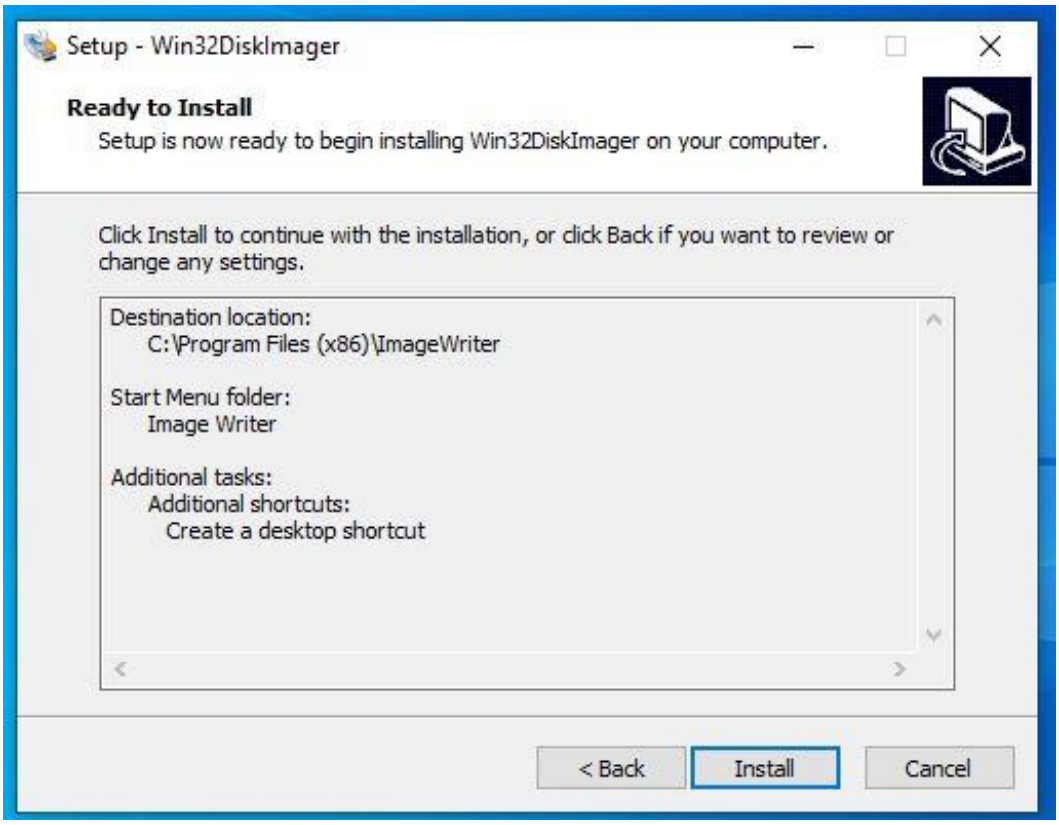



Setup - Win32DiskImager
License Agreement
Please read the following important information before continuing.
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.
This program is licensed under the GNU GPL Version 2 License. Included libraries are licensed under GPL v2 and LGPL v2.1 accordingly.
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991
Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
I accept the agreement
I do not accept the agreement
Next >
Cancel


Setup - Win32DiskImager
Select Destination Location
Where should Win32DiskImager be installed?
Setup will install Win32DiskImager into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\Program Files (x86)\ImageWriter
Browse...
At least 44.2 MB of free disk space is required.
< Back
Next >
Cancel


Setup - Win32DiskImager
Select Start Menu Folder
Where should Setup place the program's shortcuts?
Setup will create the program's shortcuts in the following Start Menu folder.
To continue, click Next. If you would like to select a different folder, click Browse.
Image Writer
Browse...
< Back
Next >
Cancel

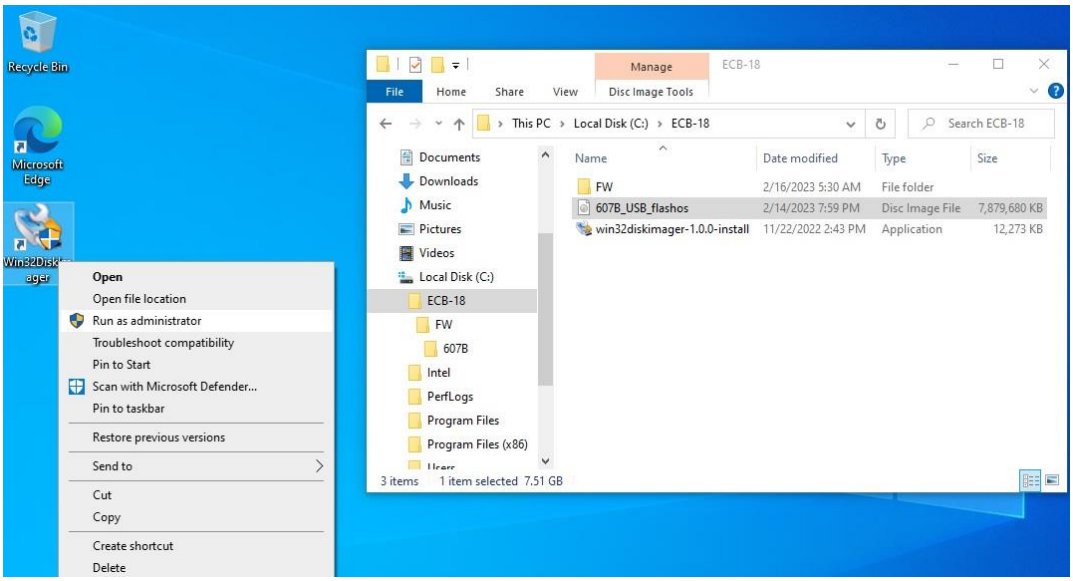

Setup - Win32DiskImager
Select Additional Tasks
Which additional tasks should be performed?
Select the additional tasks you would like Setup to perform while installing Win32DiskImager, then click Next.
Additional shortcuts:
Create a desktop shortcut
< Back
Next >
Cancel


Setup - Win32DiskImager
Ready to Install
Setup is now ready to begin installing Win32DiskImager on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination location:
C:\Program Files (x86)\ImageWriter
Start Menu folder:
Image Writer
Additional tasks:
Additional shortcuts:
Create a desktop shortcut
< Back
Install
Cancel

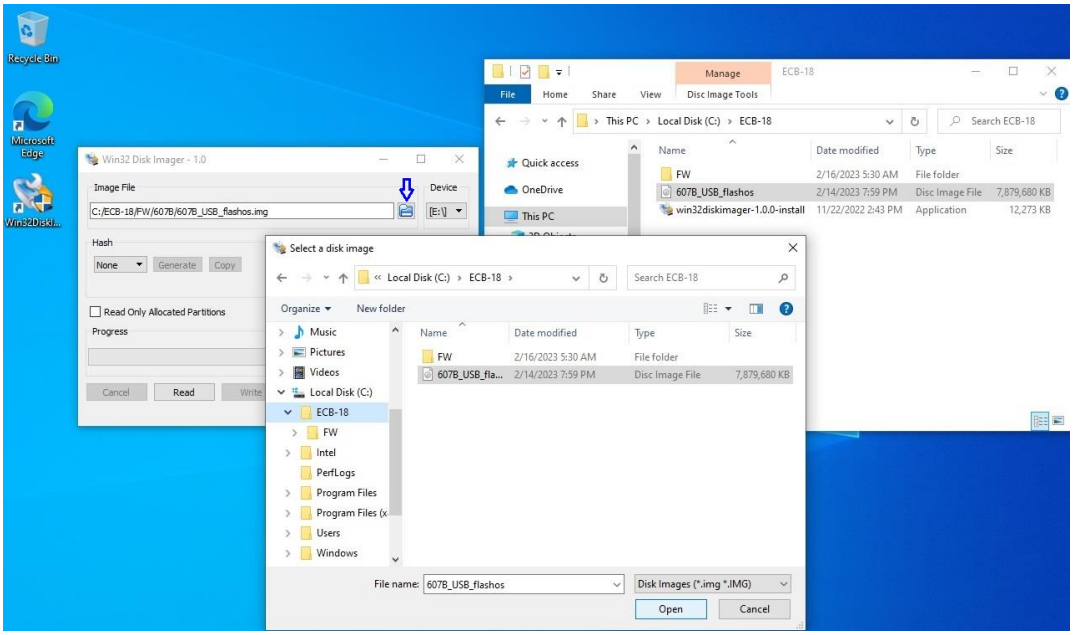

Win32Diskl...
Setup - Win32DiskImager
Completing the Win32DiskImager Setup Wizard
Setup has finished installing Win32DiskImager on your computer. The application may be launched by selecting the installed shortcuts.
Click Finish to exit Setup.
View README.txt
Launch Win32DiskImager
Finish

Step 2. → File2: 607B_usb_flashos.img or 610B_usb_flasgos.img

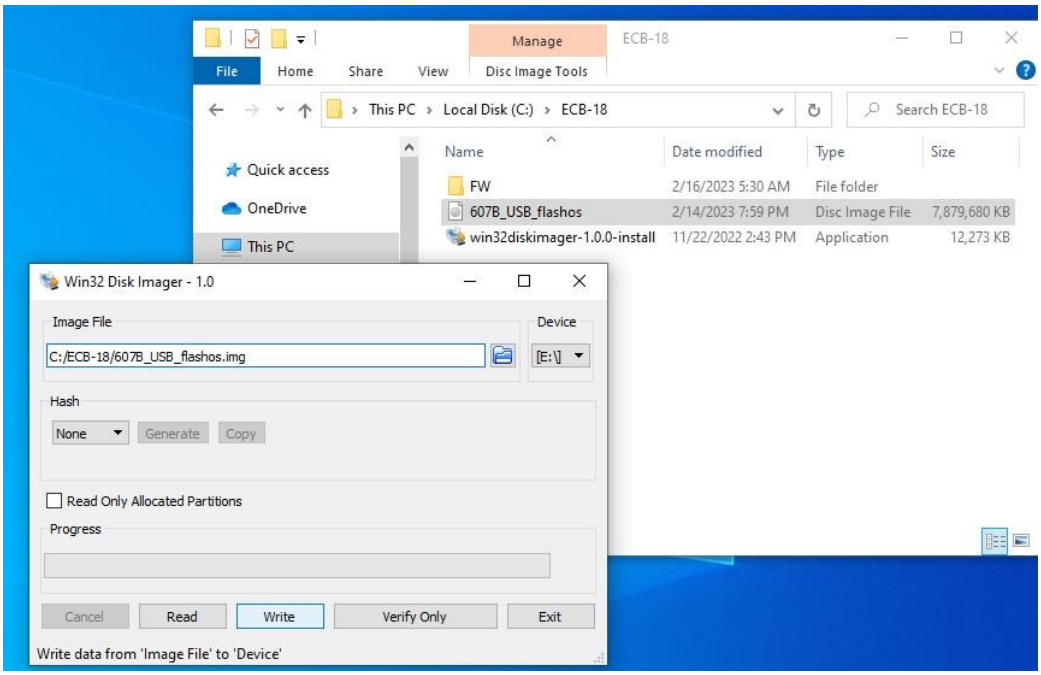
1) **Run "Win32diskimager" APP to make Linux USB boot disk.**



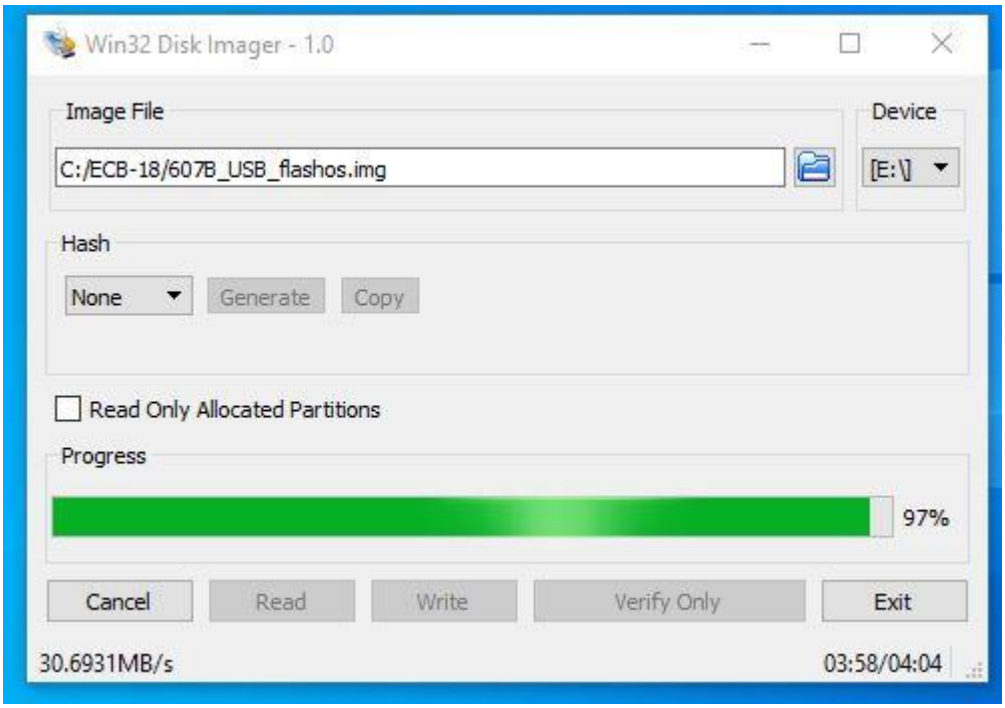
2) Select source file: **607B_usb_flashos.img or 610B_usb_flasgos.img**



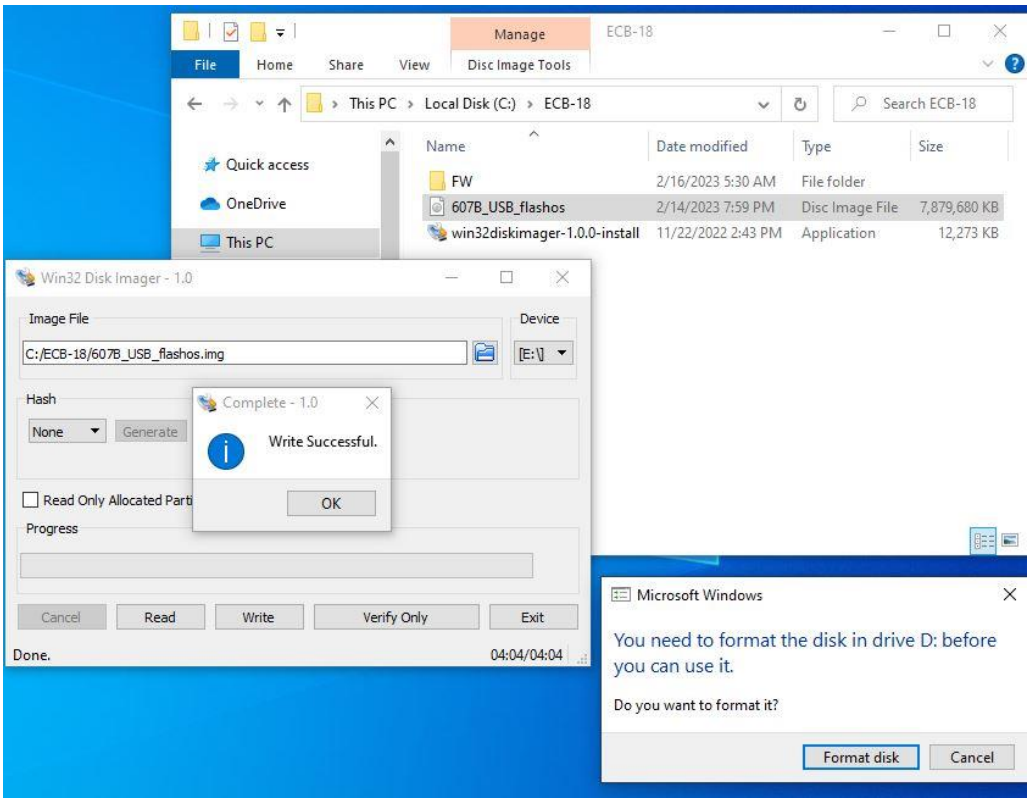
3) Select “Write”



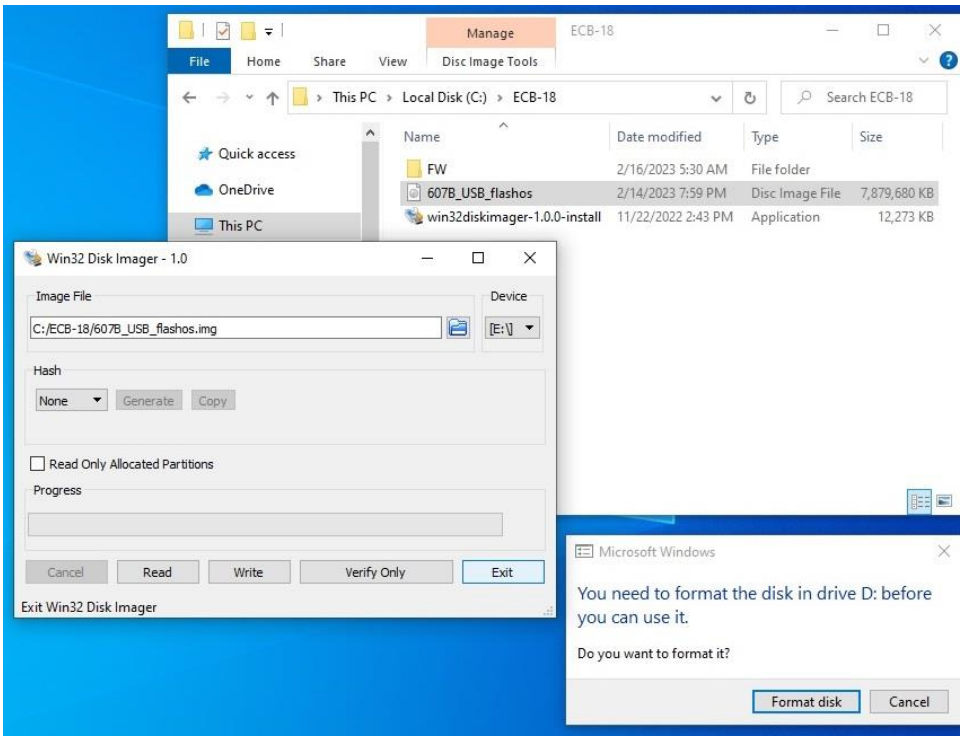
4) Select “Yes”


Win32 Disk Imager - 1.0
Image File
C:/ECB-18/607B_USB_flashos.img
Device
[E:\]
Hash
None
Generate
Copy
Read Only Allocated Partitions
Progress
97%
Cancel
Read
Write
Verify Only
Exit
30.6931MB/s
03:58/04:04

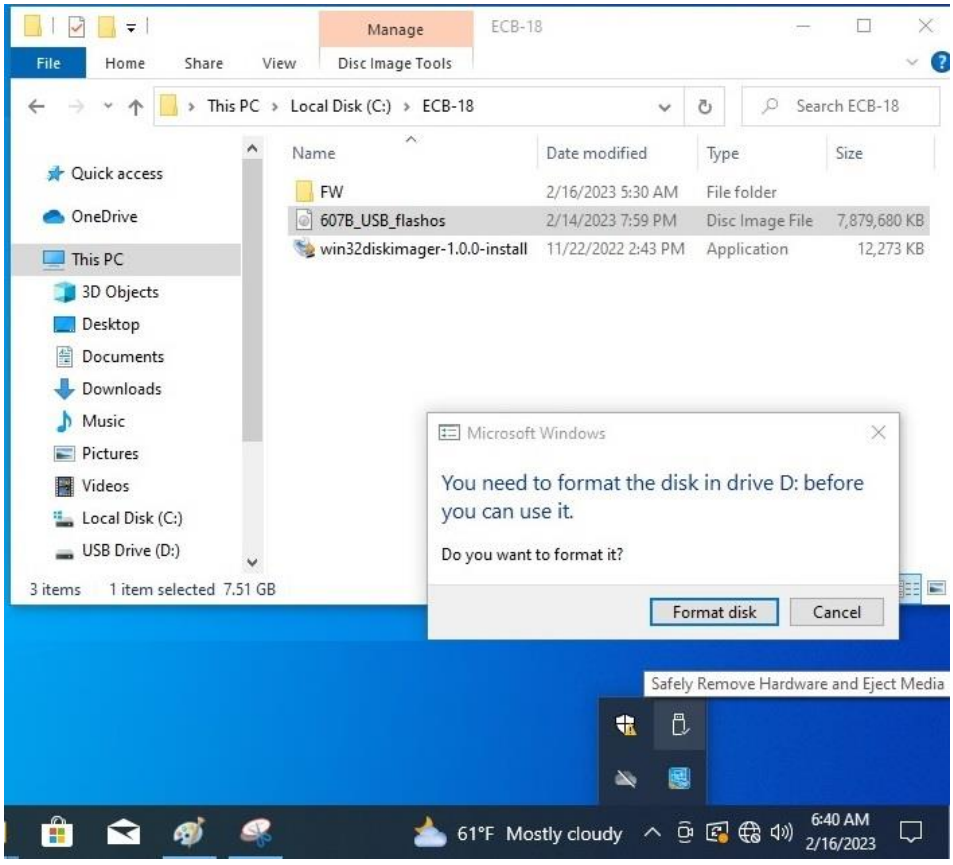
5) Select “OK”

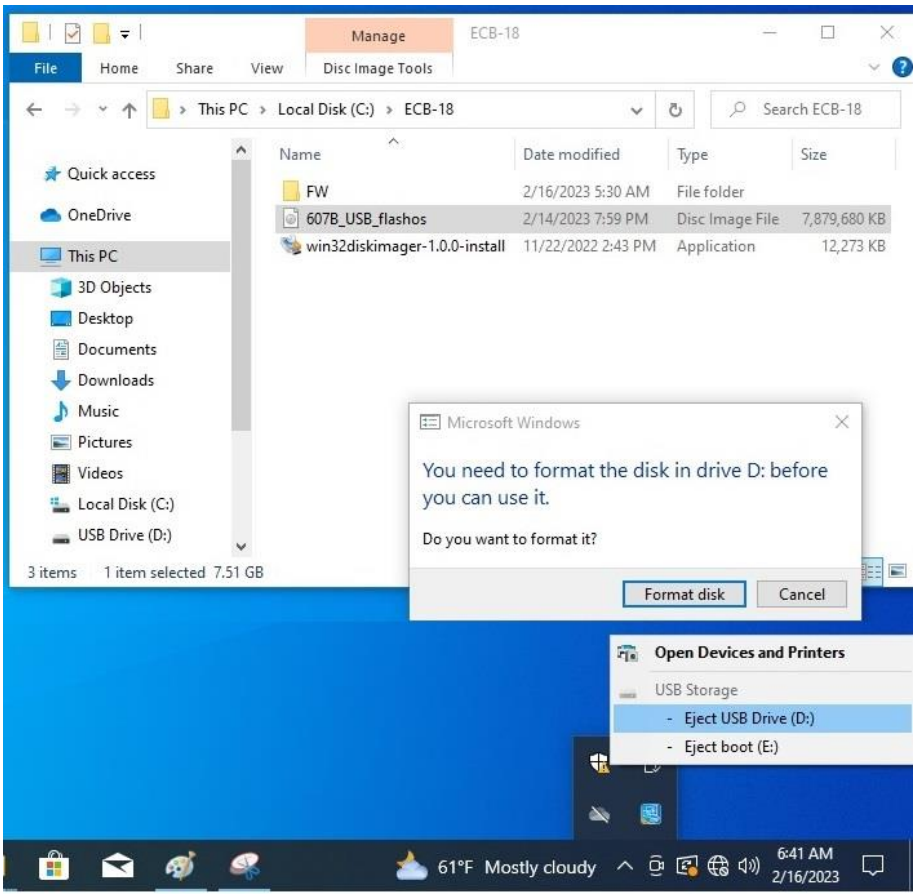

Manage
ECB-18
File
Home
Share
View
Disc Image Tools
This PC
Local Disk (C:)
ECB-18
Search ECB-18
Quick access
OneDrive
This PC
Name
Date modified
Type
Size
FW
2/16/2023 5:30 AM
File folder
607B_USB_flashos
2/14/2023 7:59 PM
Disc Image File
7,879,680 KB
win32diskimager-1.0.0-install
11/22/2022 2:43 PM
Application
12,273 KB
Win32 Disk Imager - 1.0
Image File
C:/ECB-18/607B_USB_flashos.img
Device
[E:\]
Hash
None
Generate
Complete - 1.0
Write Successful.
OK
Read Only Allocated Parti
Progress
Cancel
Read
Write
Verify Only
Exit
Done.
04:04/04:04
Microsoft Windows
You need to format the disk in drive D: before you can use it.
Do you want to format it?
Format disk
Cancel

6) Select “Exit”



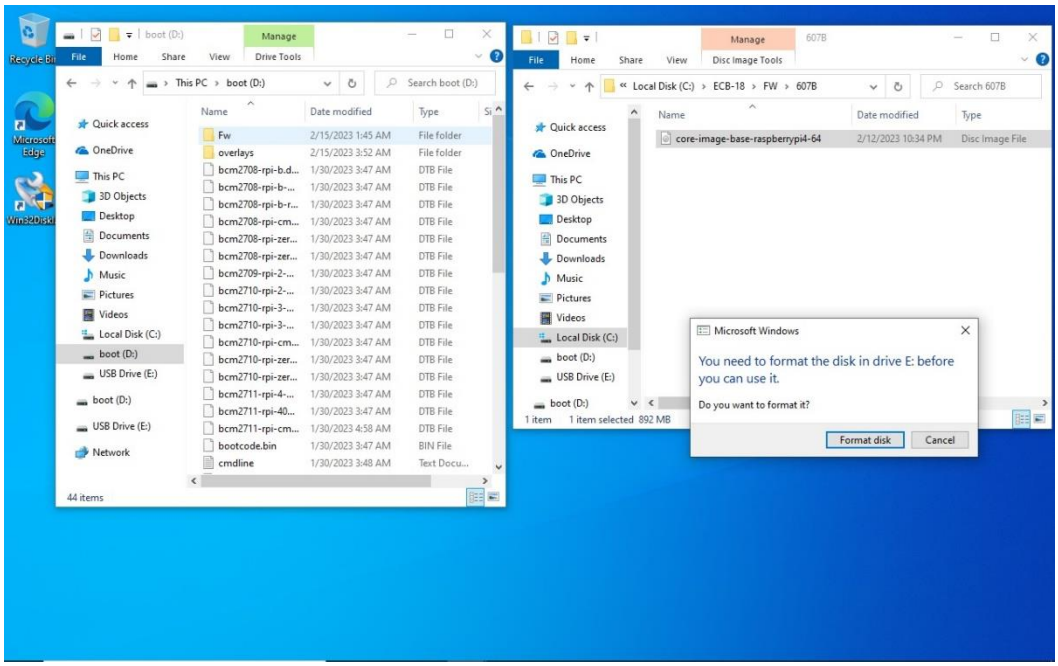
7) Safely Remove USB Disk



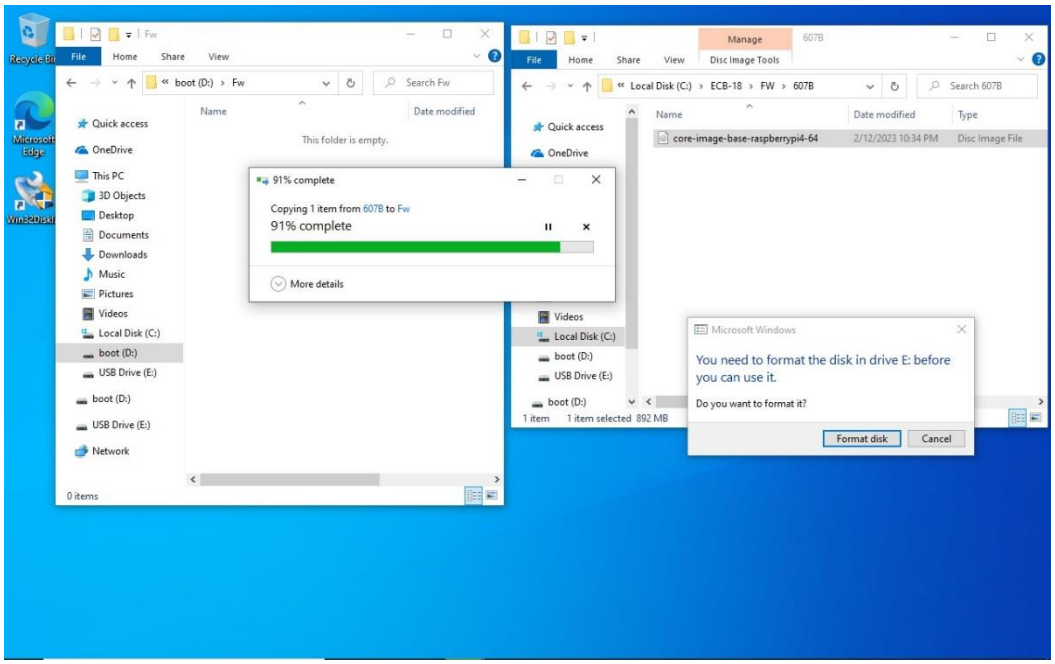

Manage
ECB-18
File
Home
Share
View
Disc Image Tools
This PC › Local Disk (C:) › ECB-18
Search ECB-18
Quick access
OneDrive
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
USB Drive (D:)
Name
Date modified
Type
Size
FW
2/16/2023 5:30 AM
File folder
607B_USB_flashos
2/14/2023 7:59 PM
Disc Image File
7,879,680 KB
win32diskimager-1.0.0-install
11/22/2022 2:43 PM
Application
12,273 KB
3 items
1 item selected 7.51 GB
Microsoft Windows
You need to format the disk in drive D: before you can use it.
Do you want to format it?
Format disk
Cancel
Open Devices and Printers
USB Storage
Eject USB Drive (D:)
Eject boot (E:)
61°F Mostly cloudy
6:41 AM
2/16/2023

Step 3. → File3: core-image-base-raspberrypi4-64.img

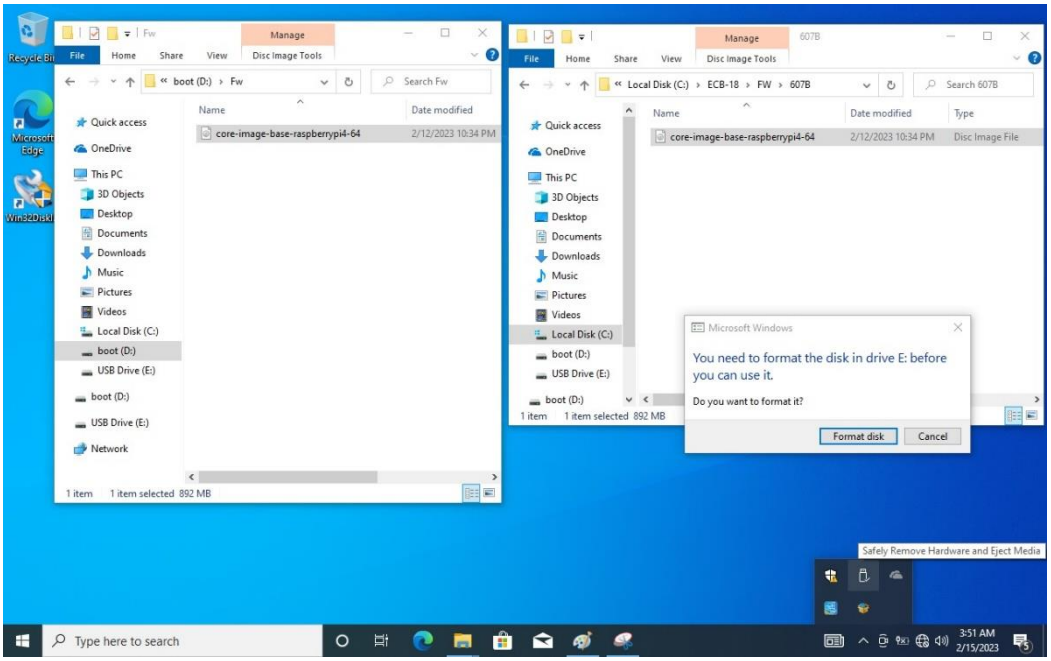
1) Plug-in USB boot disk to copy FW file.



2) Copy "**core-image-base-raspberrypi4-64.img**" file to USB boot disk "FW" folder.



3) Make USB boot image finished, then safely remove USB Disk.



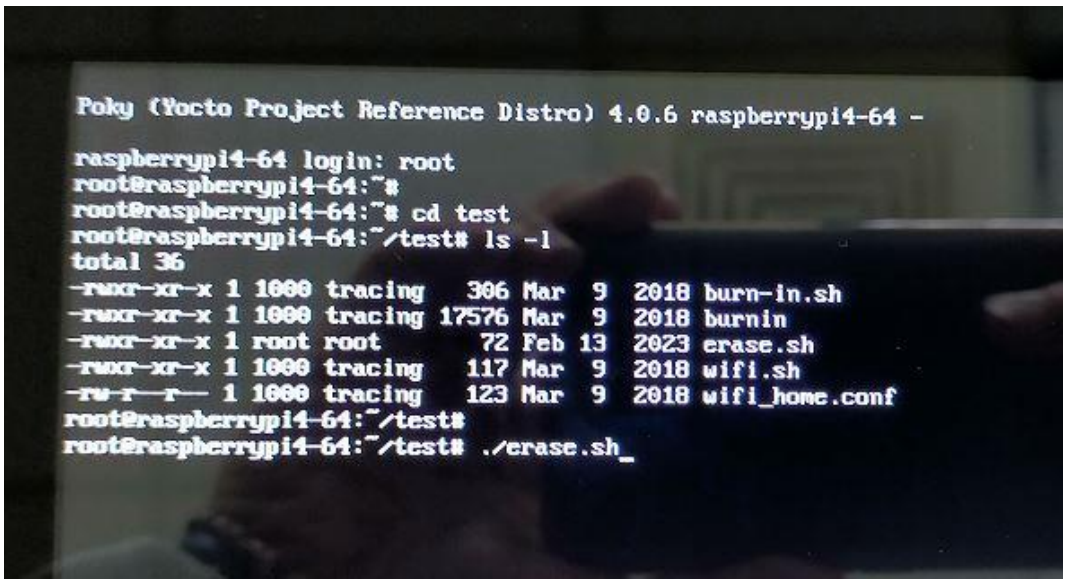
1. Key-in below command to erase the EMMC data.

   login: **root**

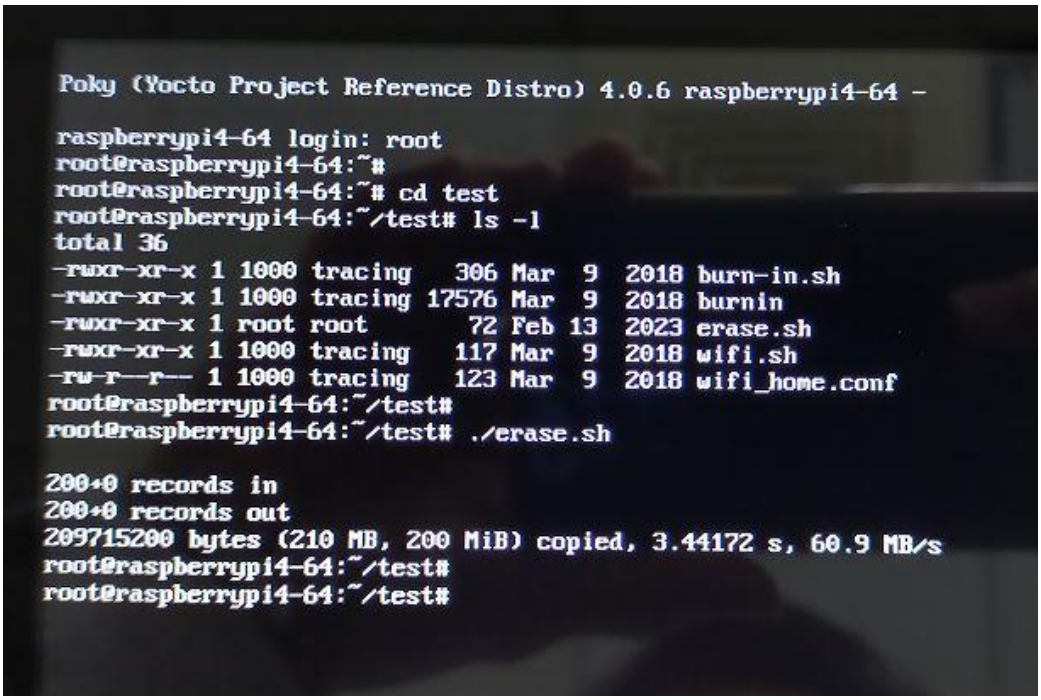
   # **cd test**

   # **ls -l**

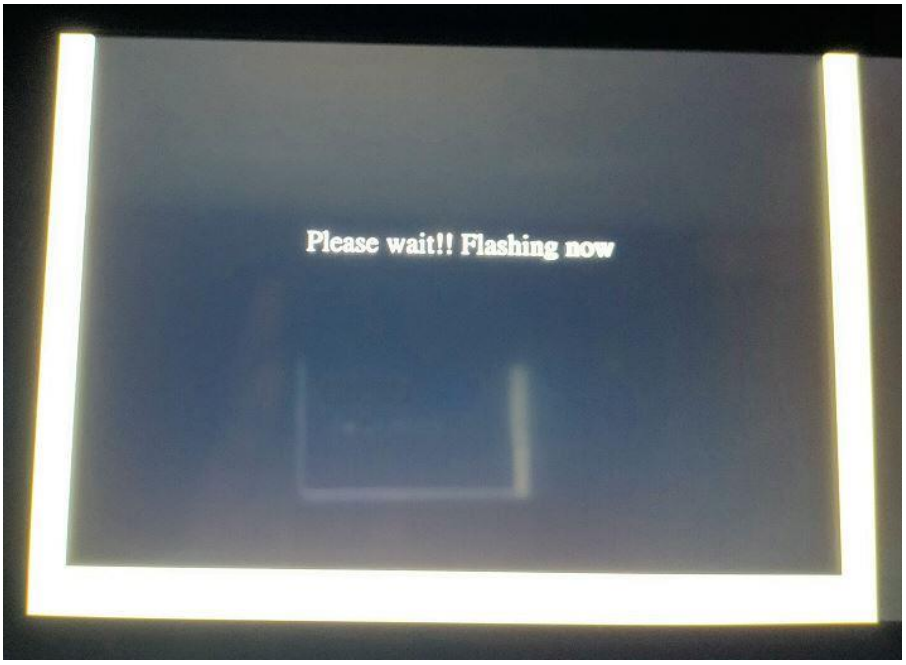
   # **./erase.sh**



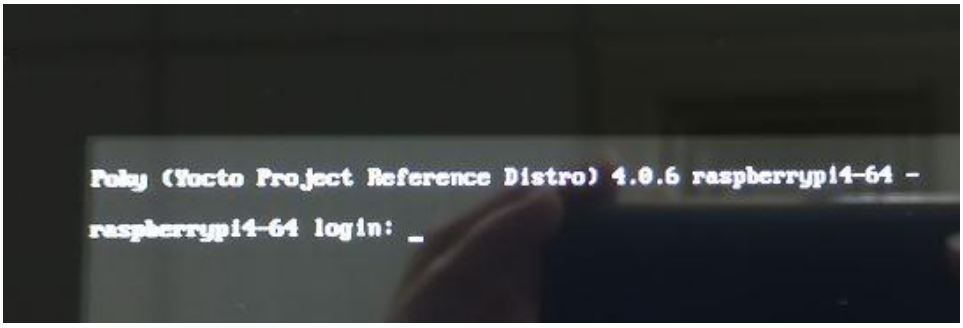
Erase successfully, Please Power Off.



2. Plug-in USB boot disk to ARMPAC-607BP/610BP, then power on.

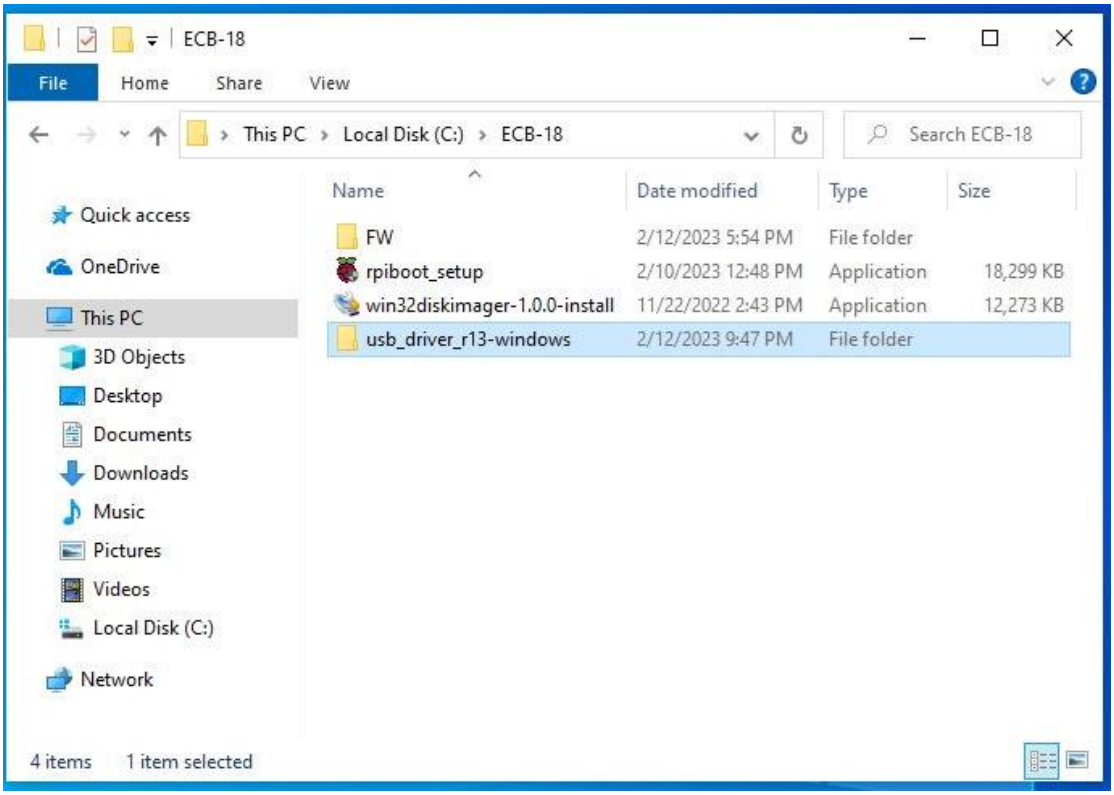


3. Yocto Linux have been updated successfully!!



3.2 Update Android Firmware

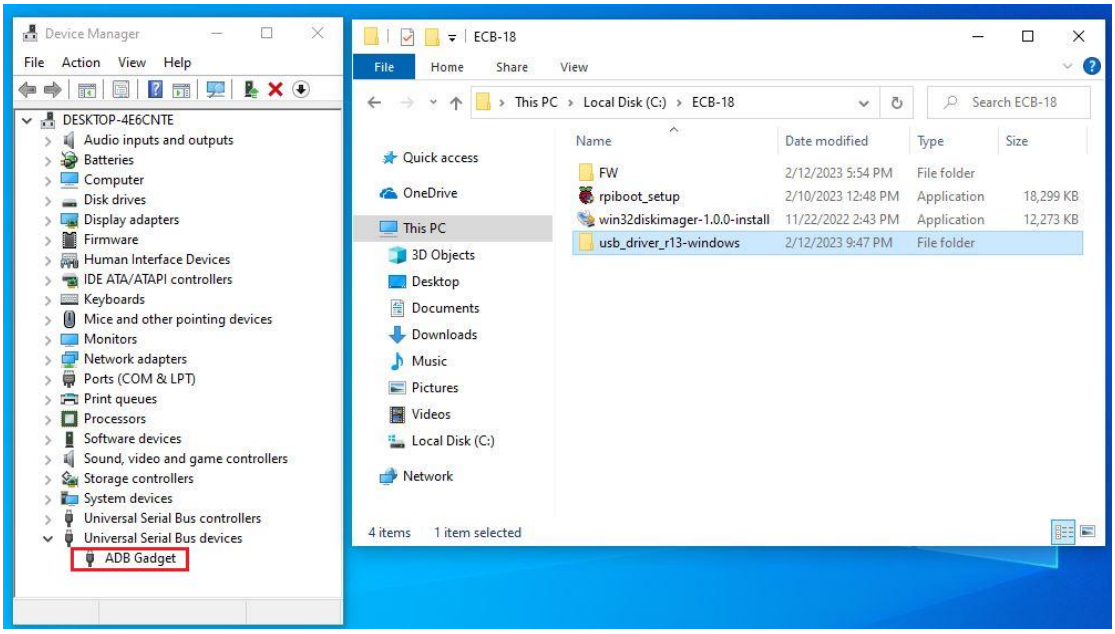
To update Android firmware, there must be four files as shown below.



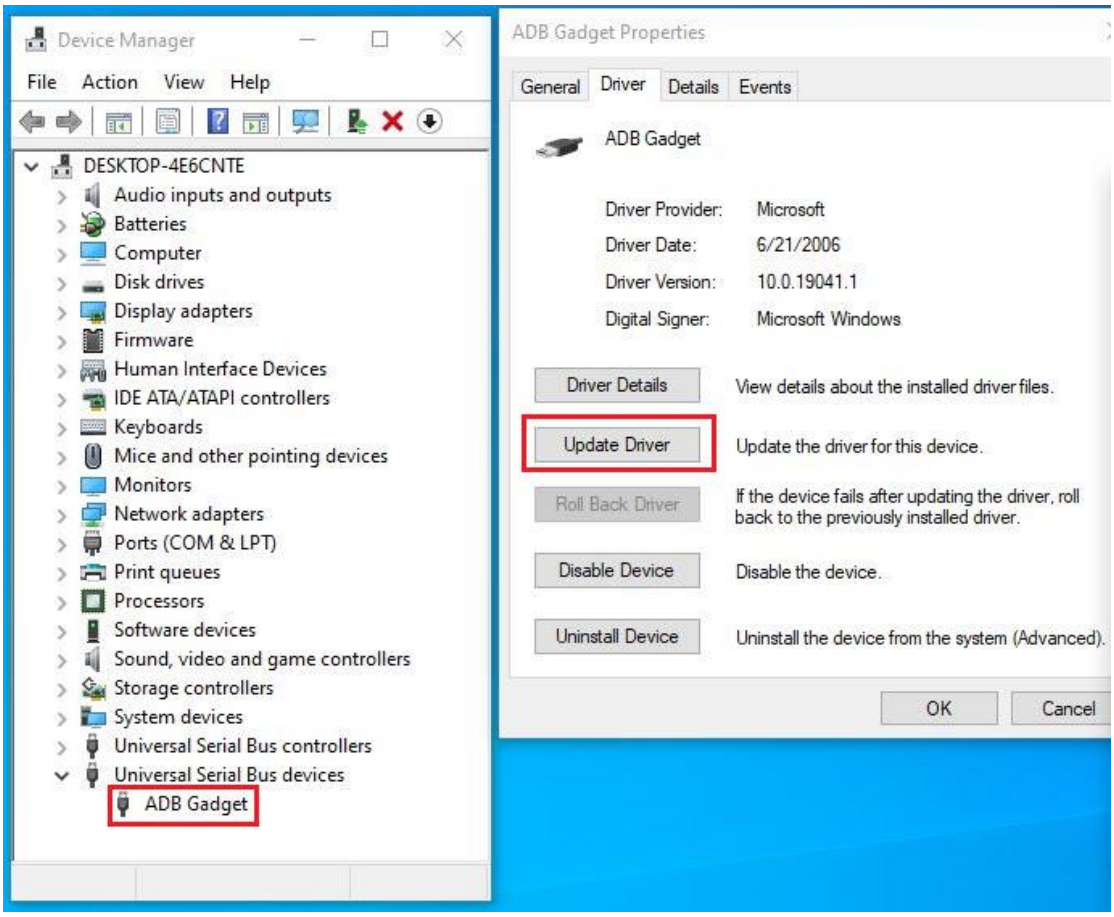
1. **File1: usb_driver_r13-windows.zip**
   Google USB Driver (ADB Interface Driver).
2. **File2: win32diskimager-1.0.0-install.exe**
   Make FW boot partition image tool.
3. **File3: rpiboot_setup.exe**
   Connection eMMC tool.
4. **File4: FW image files**
   Erase eMMC File & update utility & Android Firmware Files

Step 1. → File1: usb_driver_r13-windows.zip

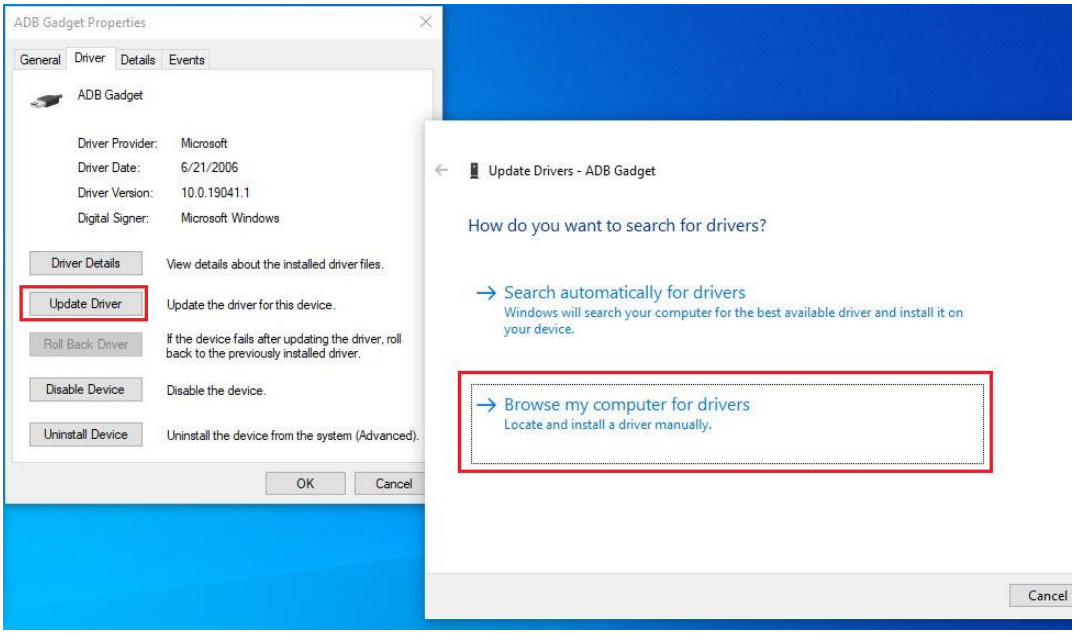
1) Connect Micro USB Cable from ARMPAC-607BP/610BP to your desktop/laptop and Install ADB Interface Driver.



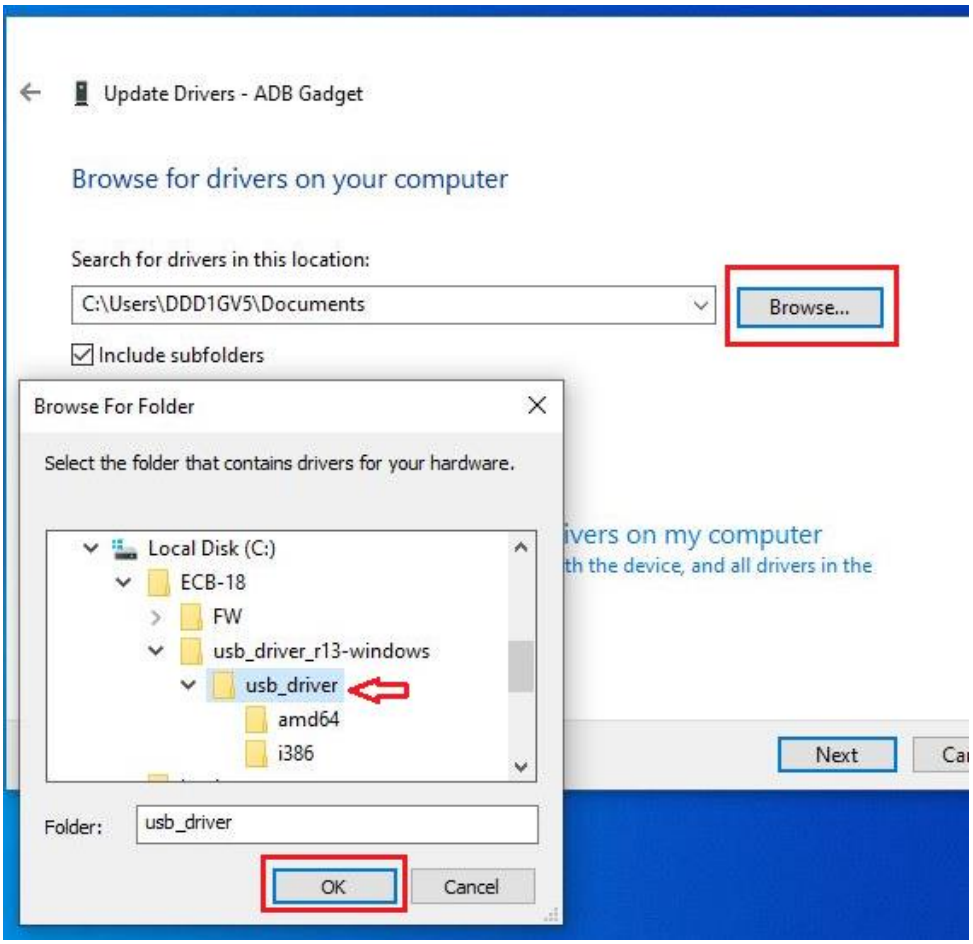
2) Double click “ADB Gadget” to “Update Driver”.



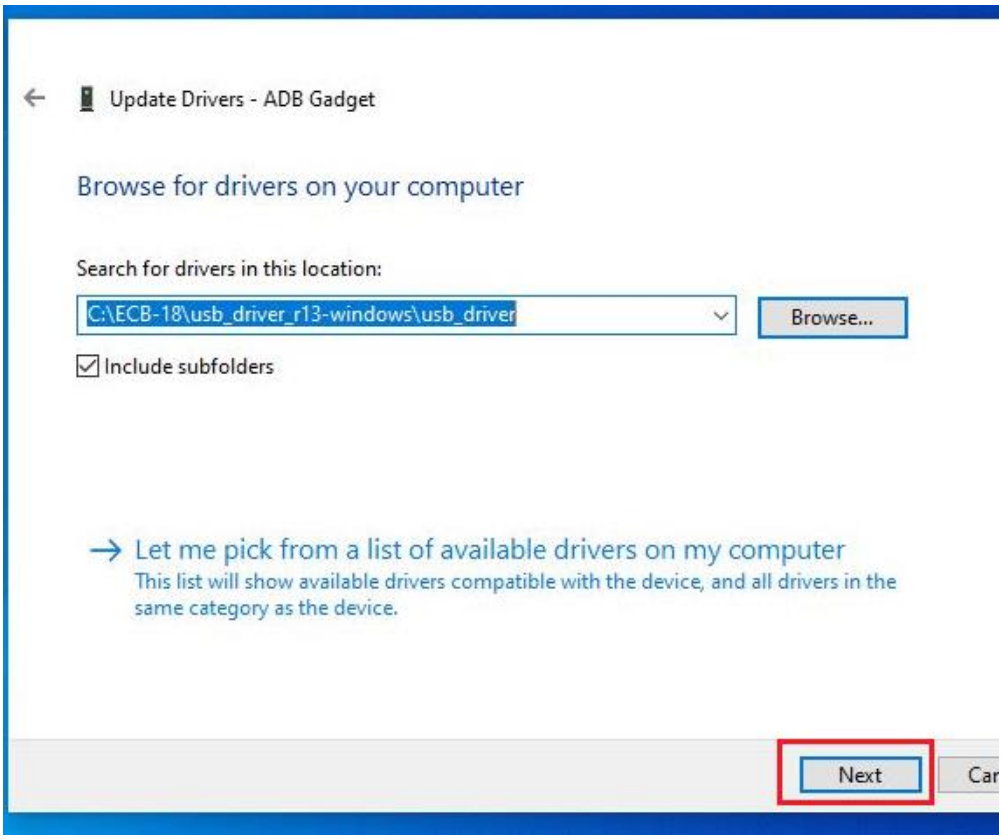
3) Select “Browse my computer for driver software” to locate and install driver software.

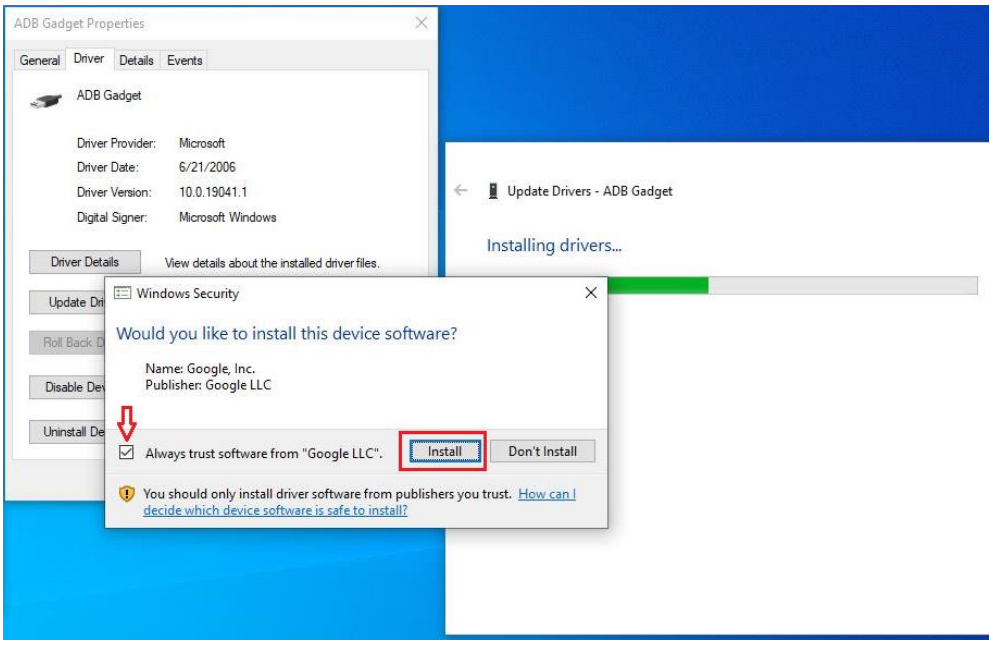


4) Click “Browse” to \usb_driver_r13-windows\usb_driver\

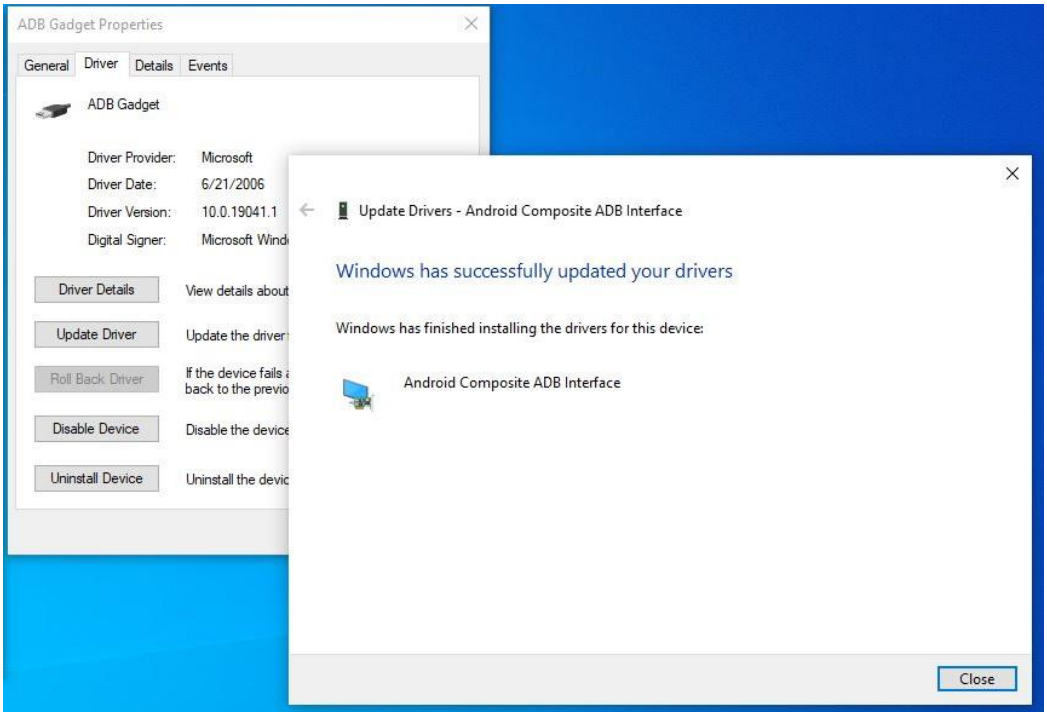


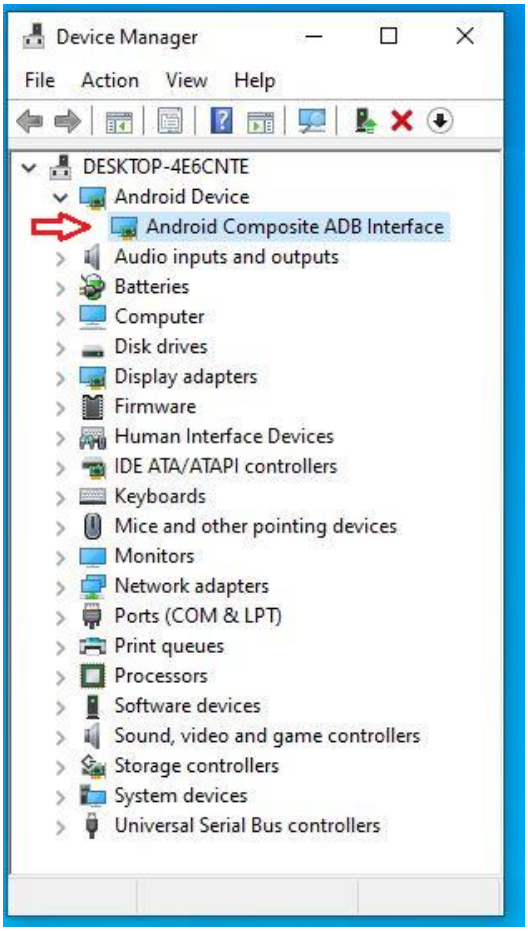
5) Click “Browse” to \usb_driver_r13-windows\usb_driver\





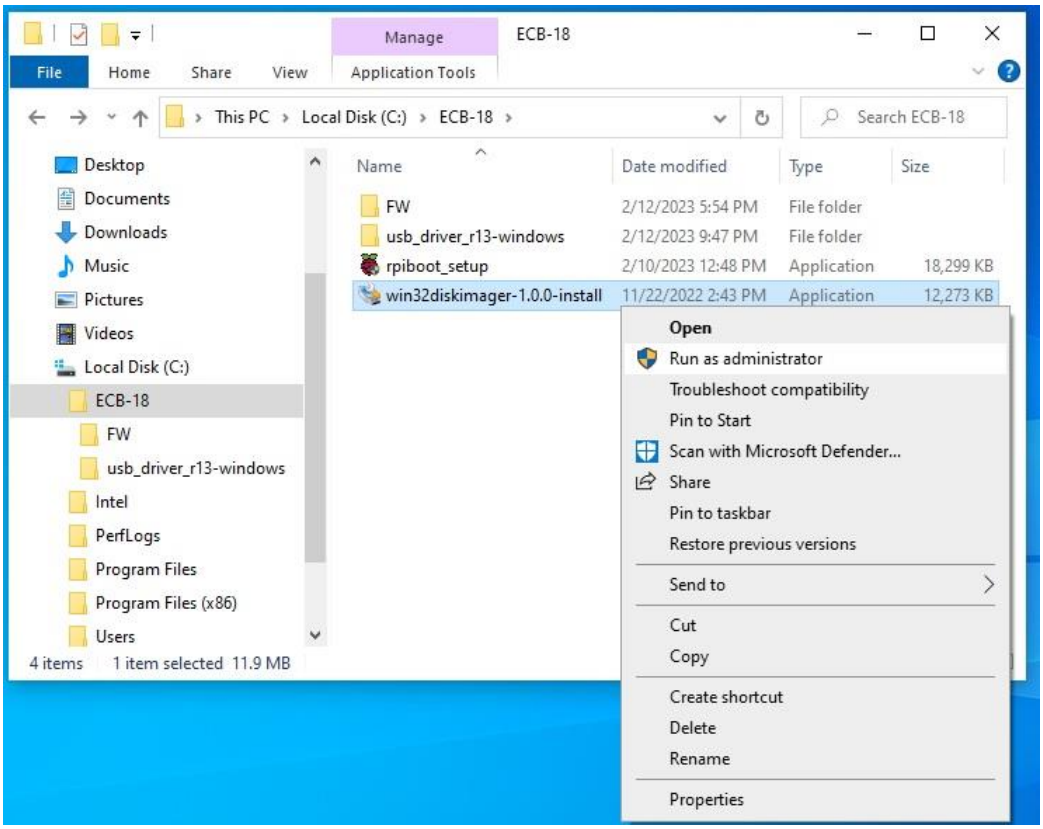
6) Click “Close” to complete the driver installation.

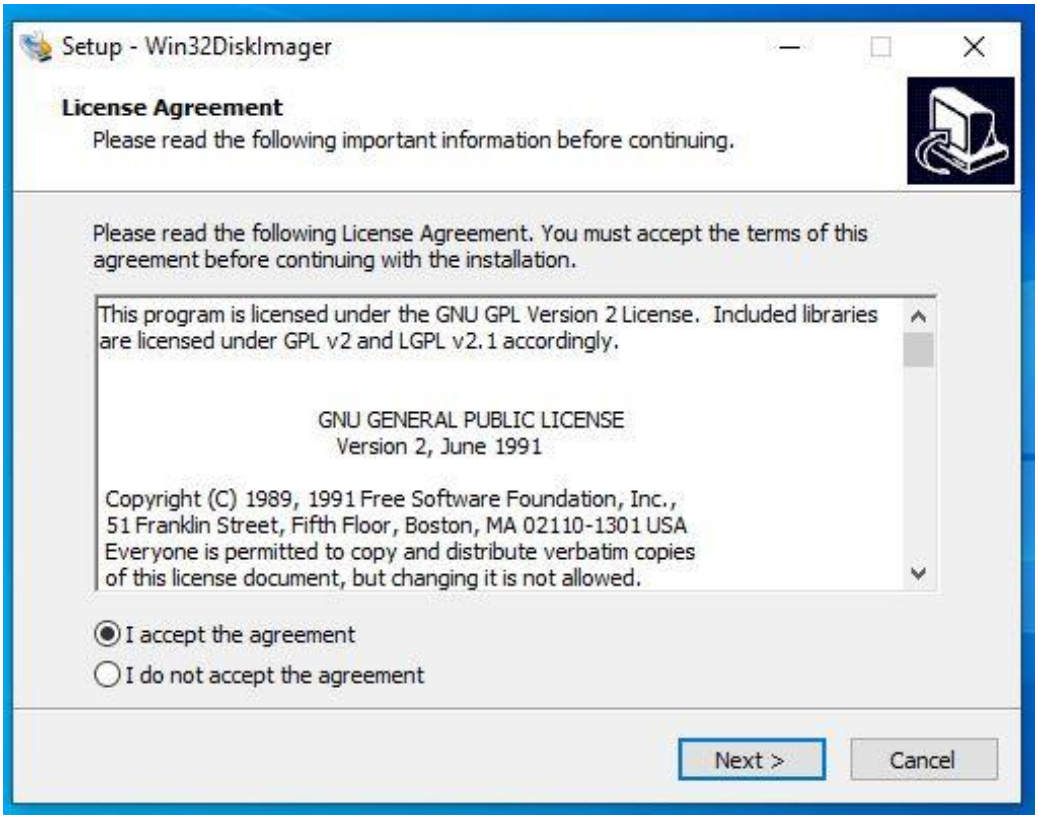


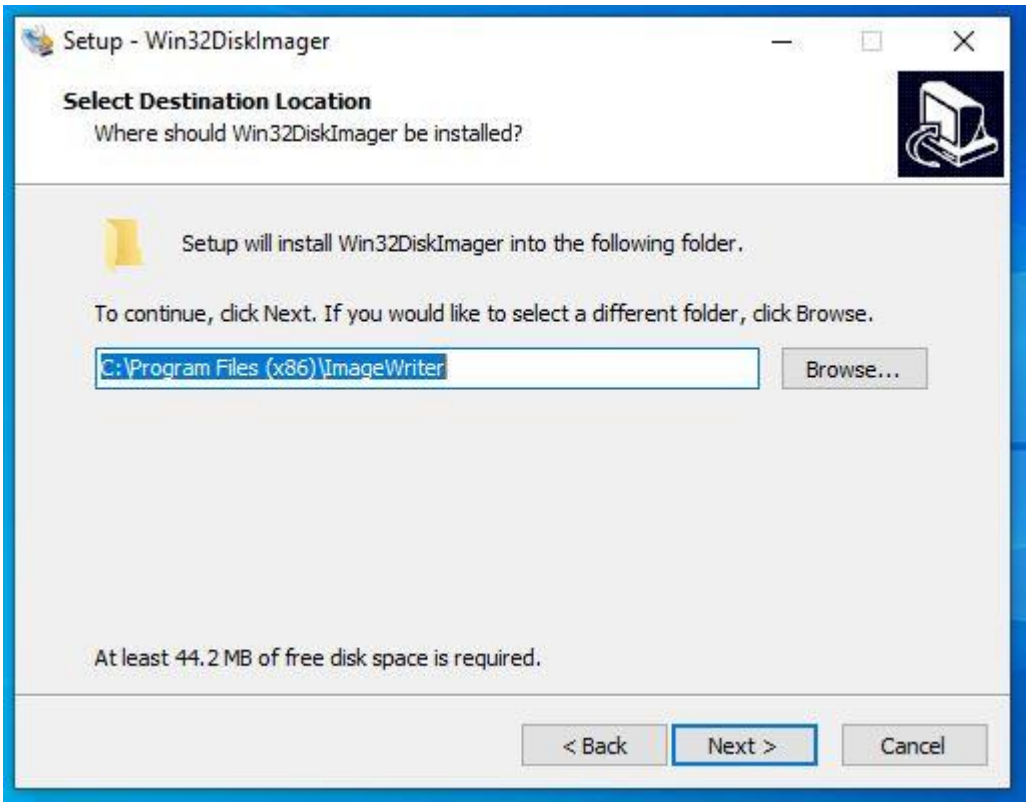


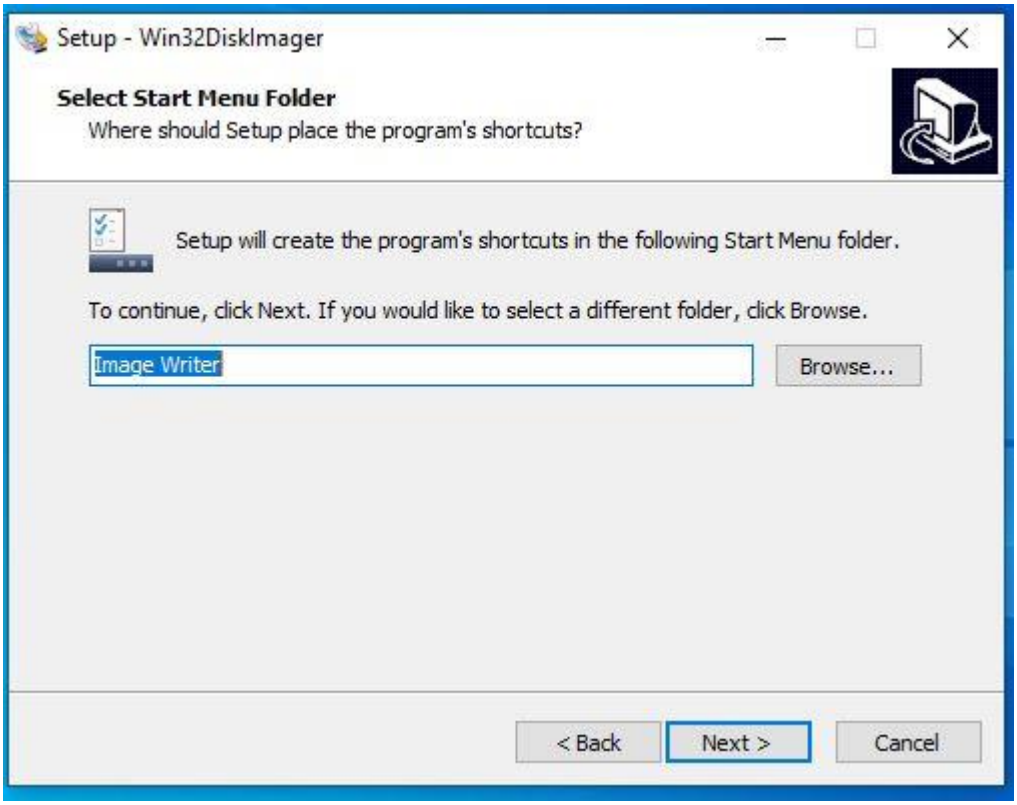
Step 2. → File2: win32diskimager-1.0.0-install.exe

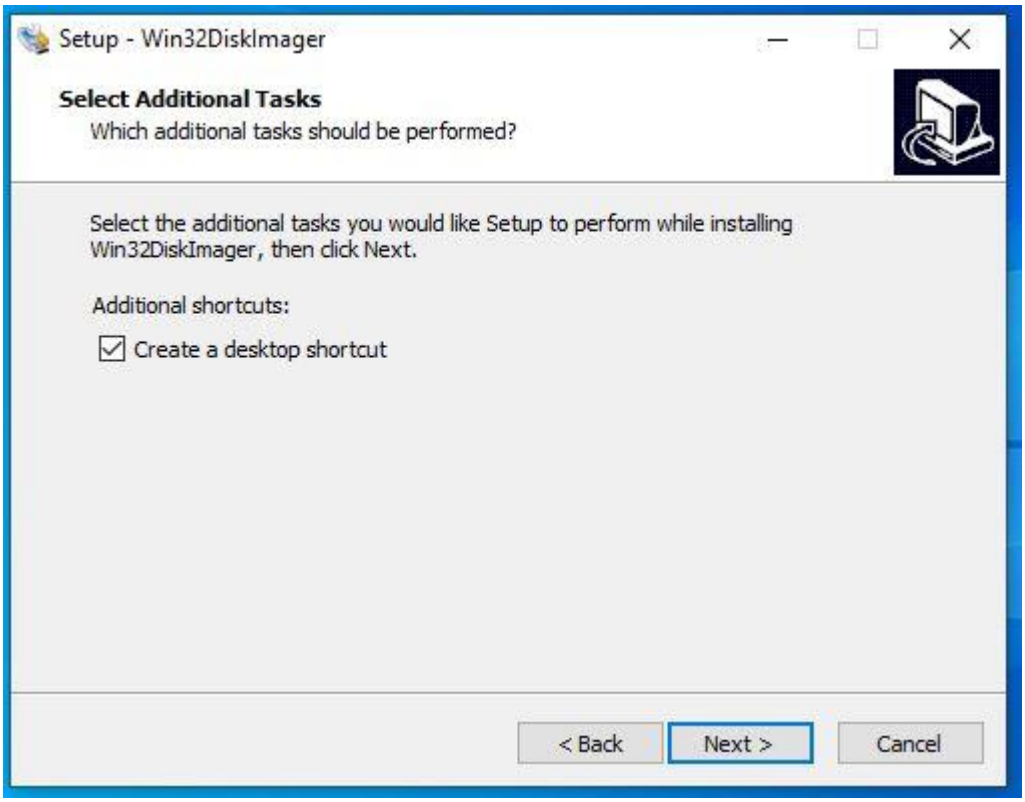
1) Install "**win32diskimager-1.0.0-install.exe**".

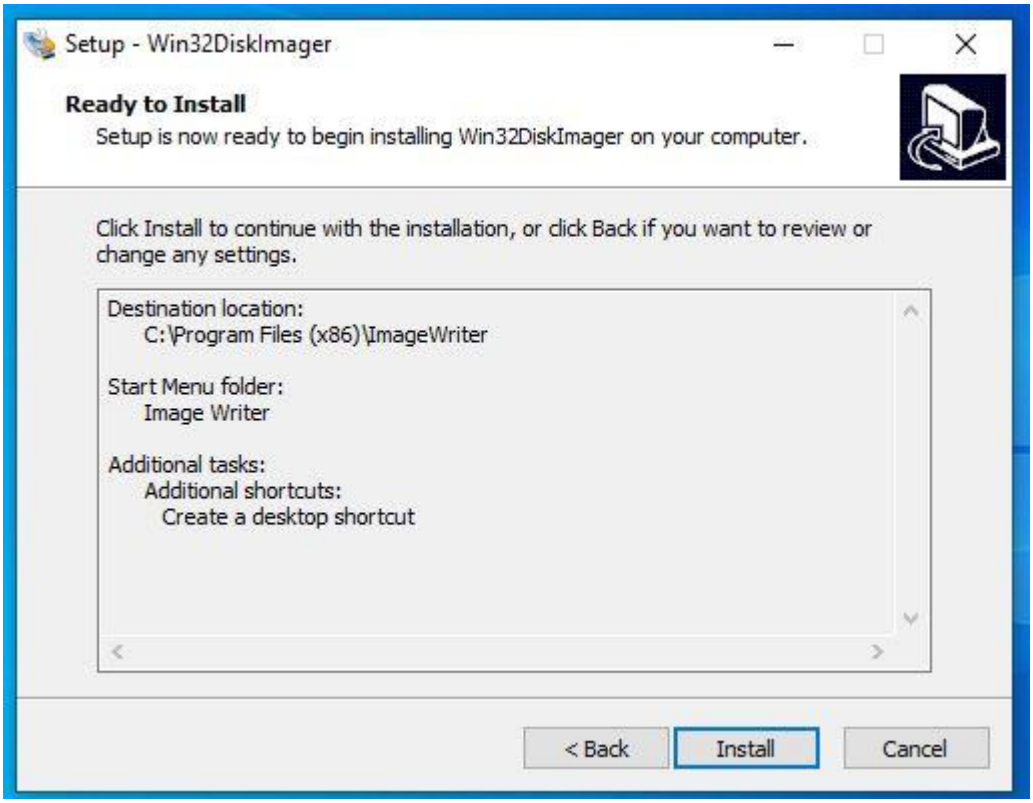





Setup - Win32DiskImager
Select Destination Location
Where should Win32DiskImager be installed?
Setup will install Win32DiskImager into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\Program Files (x86)\ImageWriter
Browse...
At least 44.2 MB of free disk space is required.
< Back
Next >
Cancel


Setup - Win32DiskImager
Select Start Menu Folder
Where should Setup place the program's shortcuts?
Setup will create the program's shortcuts in the following Start Menu folder.
To continue, click Next. If you would like to select a different folder, click Browse.
Image Writer
Browse...
< Back
Next >
Cancel

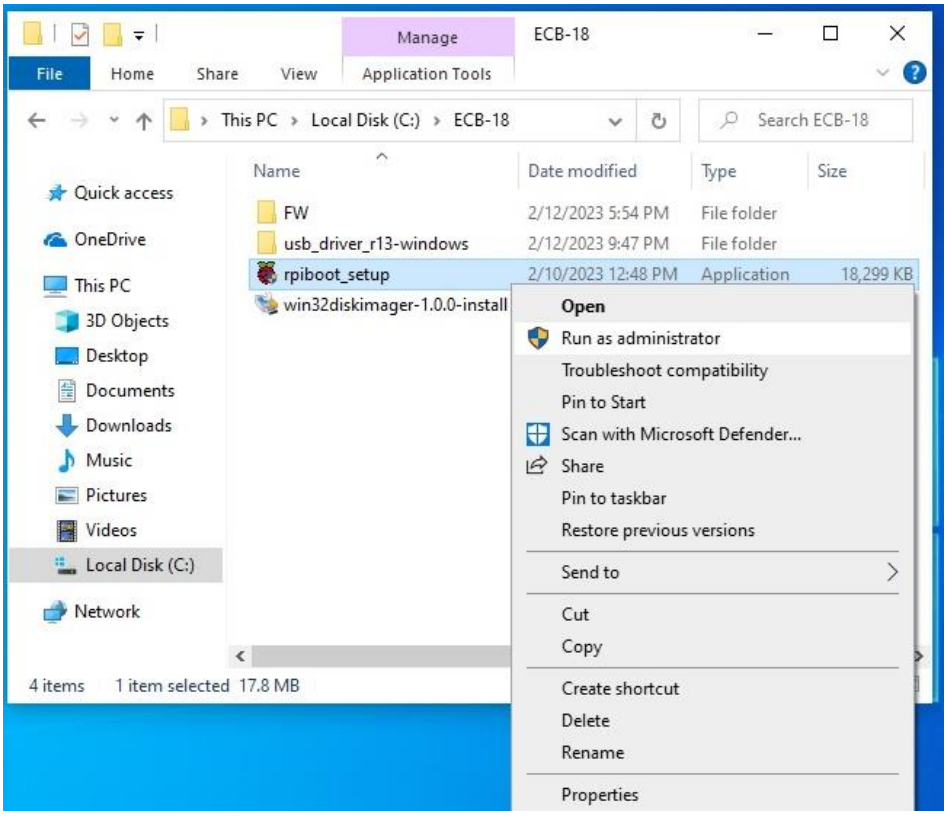

Setup - Win32DiskImager
Select Additional Tasks
Which additional tasks should be performed?
Select the additional tasks you would like Setup to perform while installing Win32DiskImager, then click Next.
Additional shortcuts:
Create a desktop shortcut
< Back
Next >
Cancel

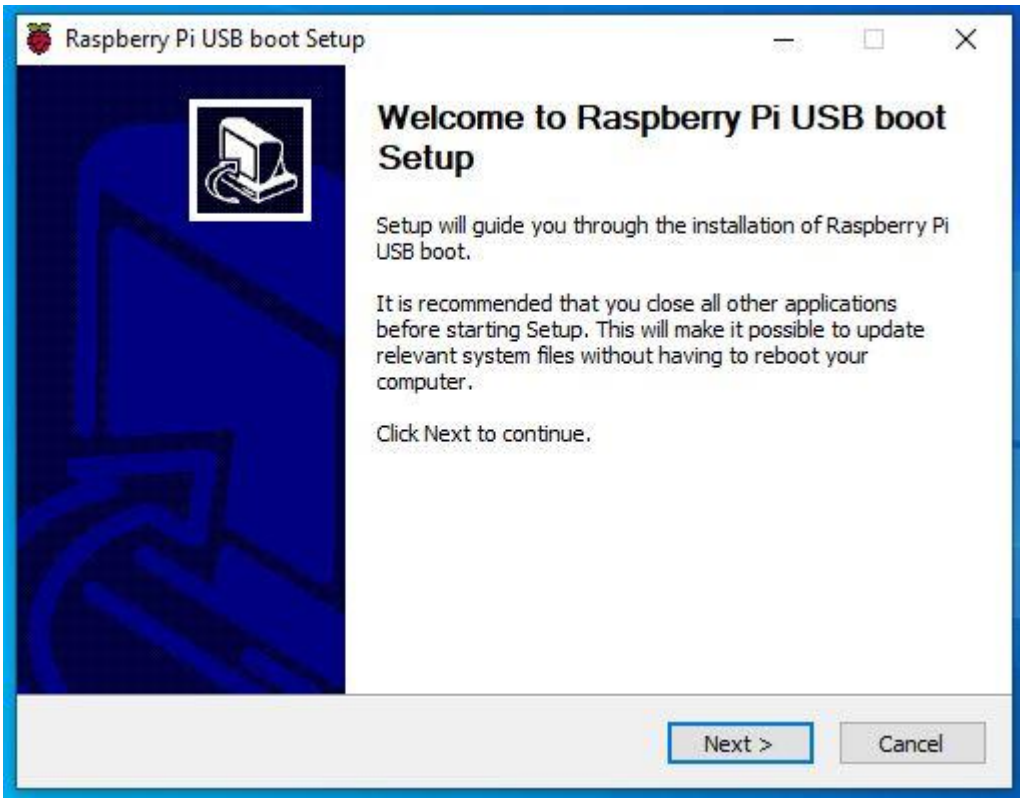

Setup - Win32DiskImager
Ready to Install
Setup is now ready to begin installing Win32DiskImager on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination location:
C:\Program Files (x86)\ImageWriter
Start Menu folder:
Image Writer
Additional tasks:
Additional shortcuts:
Create a desktop shortcut
< Back
Install
Cancel

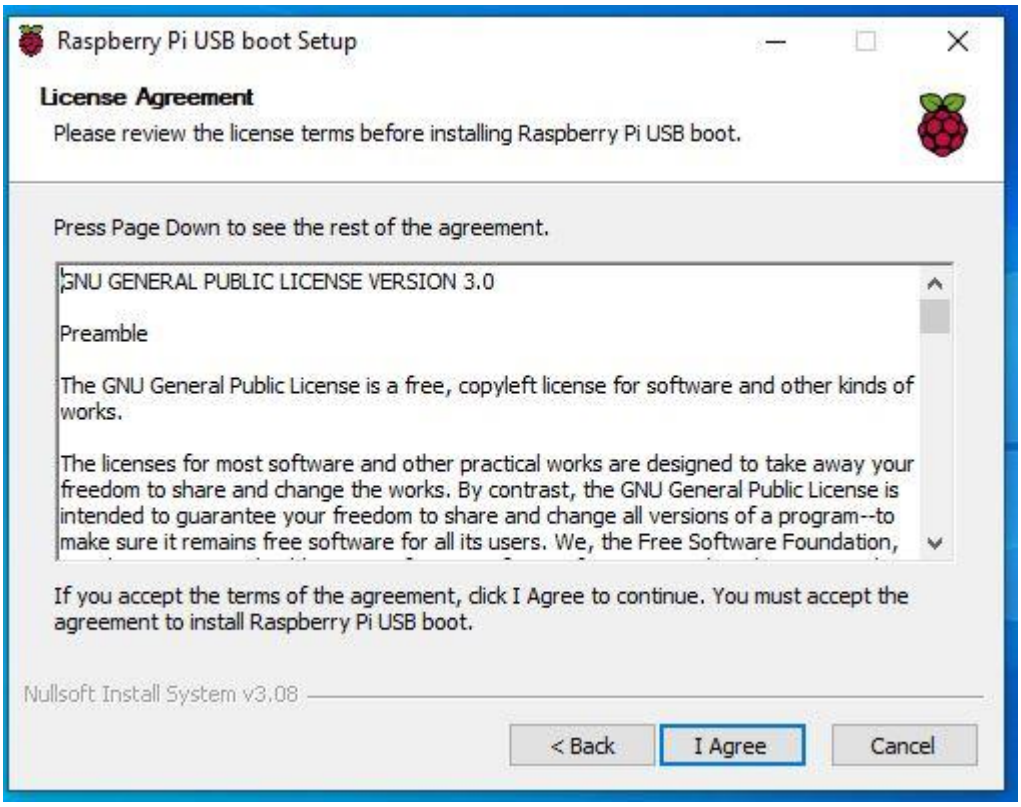

Win32Diskl...
Setup - Win32DiskImager
Completing the Win32DiskImager Setup Wizard
Setup has finished installing Win32DiskImager on your computer. The application may be launched by selecting the installed shortcuts.
Click Finish to exit Setup.
View README.txt
Launch Win32DiskImager
Finish

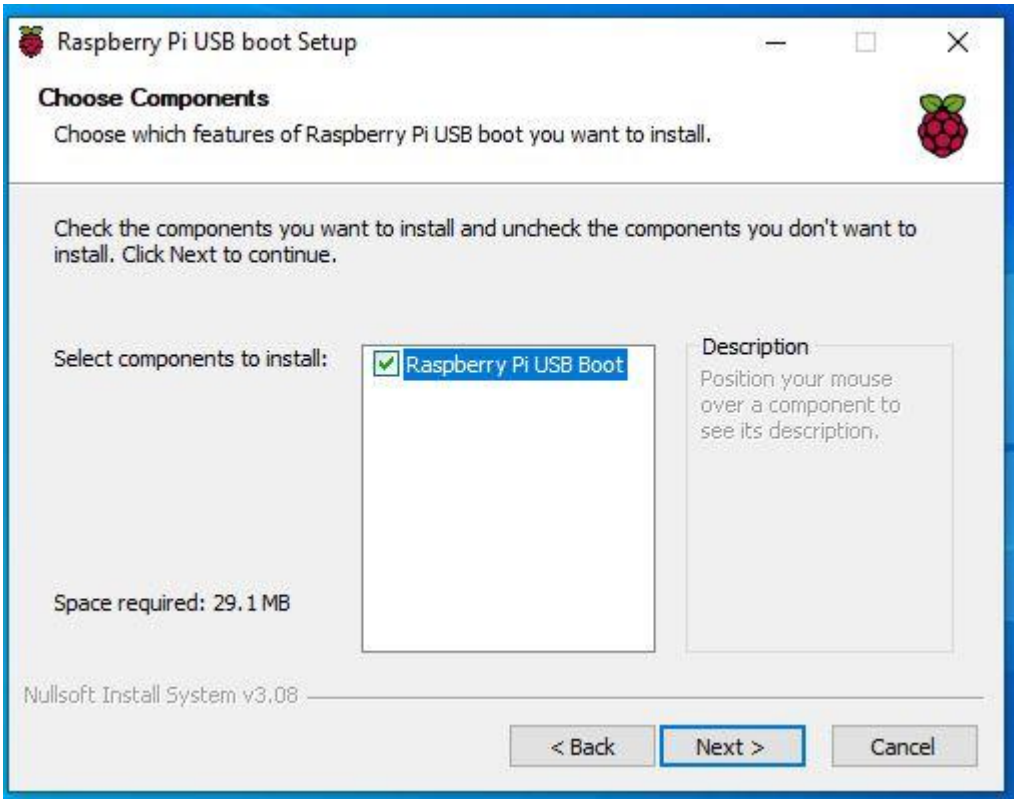
Step 3. → File3: rpiboot_setup.exe

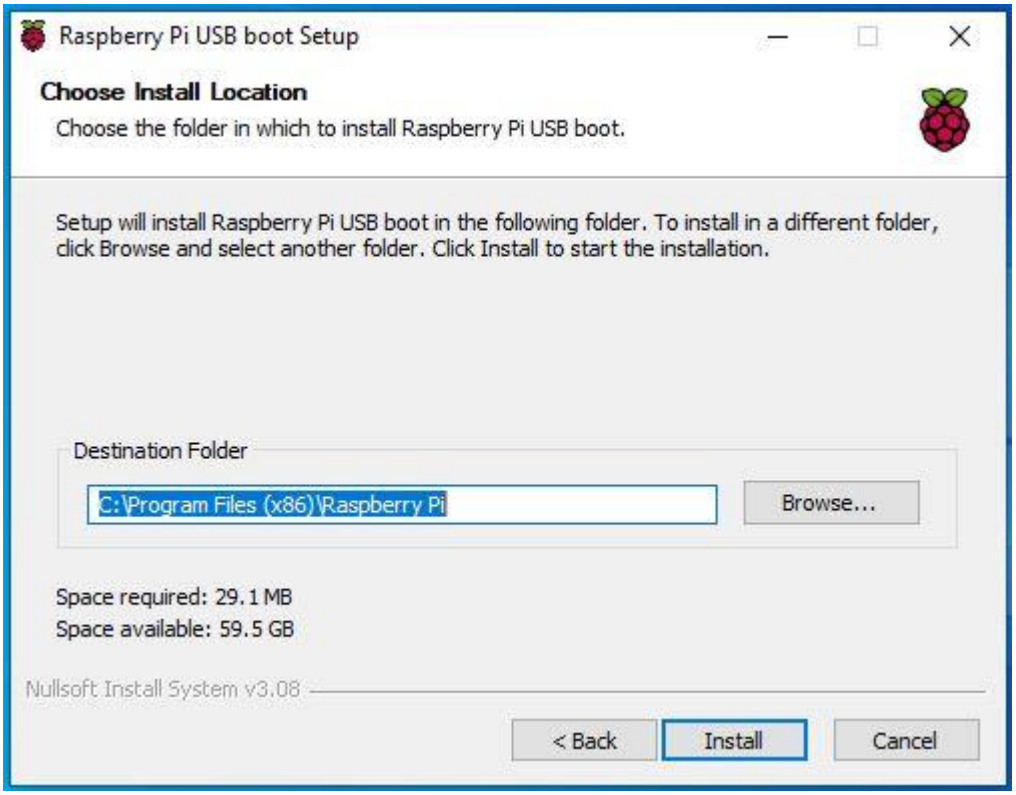
1) Install "rpiboot_setup.exe".

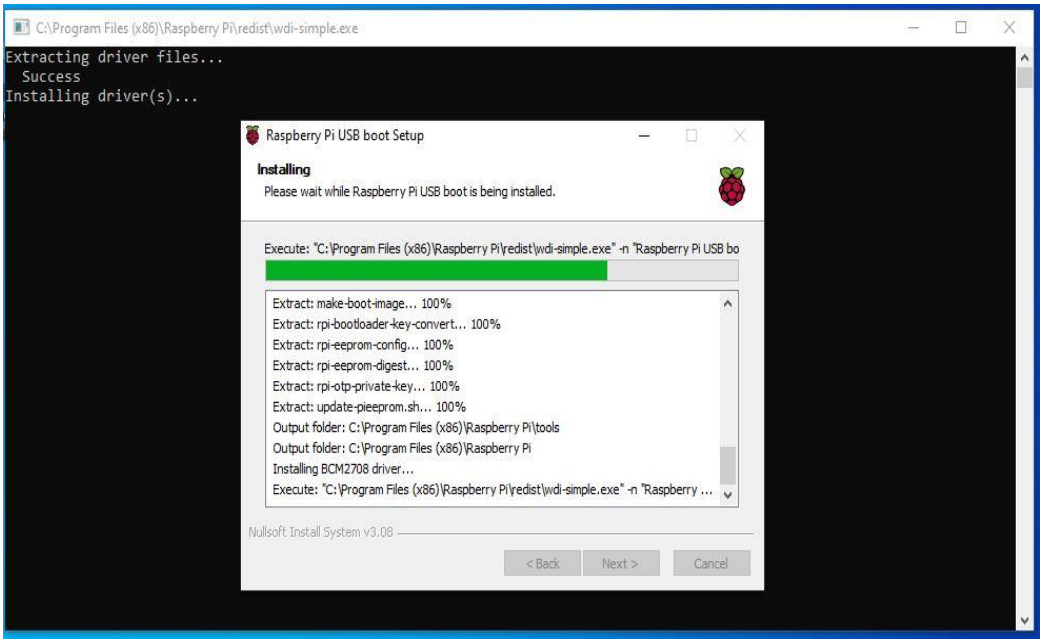


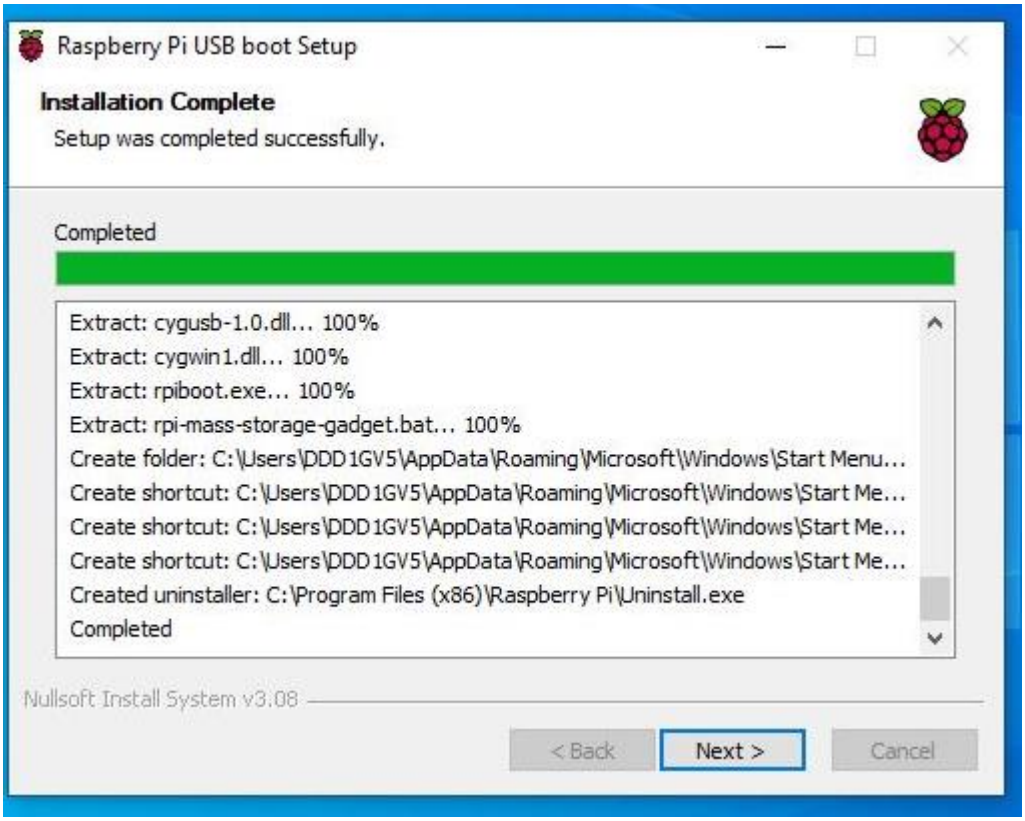


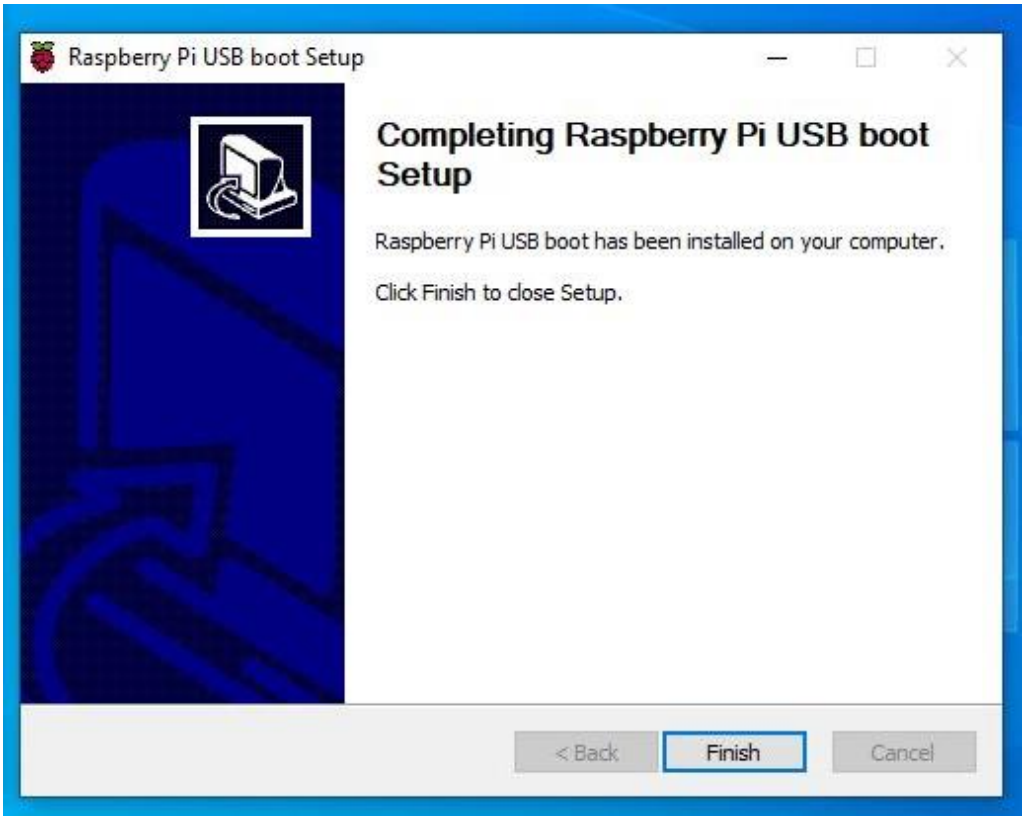

Raspberry Pi USB boot Setup
License Agreement
Please review the license terms before installing Raspberry Pi USB boot.
Press Page Down to see the rest of the agreement.
GNU GENERAL PUBLIC LICENSE VERSION 3.0
Preamble
The GNU General Public License is a free, copyleft license for software and other kinds of works.
The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation,
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install Raspberry Pi USB boot.
Nullsoft Install System v3.08
< Back
I Agree
Cancel


Raspberry Pi USB boot Setup
Choose Components
Choose which features of Raspberry Pi USB boot you want to install.
Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.
Select components to install:
Raspberry Pi USB Boot
Description
Position your mouse over a component to see its description.
Space required: 29.1 MB
Nullsoft Install System v3.08
< Back
Next >
Cancel


Raspberry Pi USB boot Setup
Choose Install Location
Choose the folder in which to install Raspberry Pi USB boot.
Setup will install Raspberry Pi USB boot in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.
Destination Folder
C:\Program Files (x86)\Raspberry Pi
Browse...
Space required: 29.1 MB
Space available: 59.5 GB
Nullsoft Install System v3.08
< Back
Install
Cancel

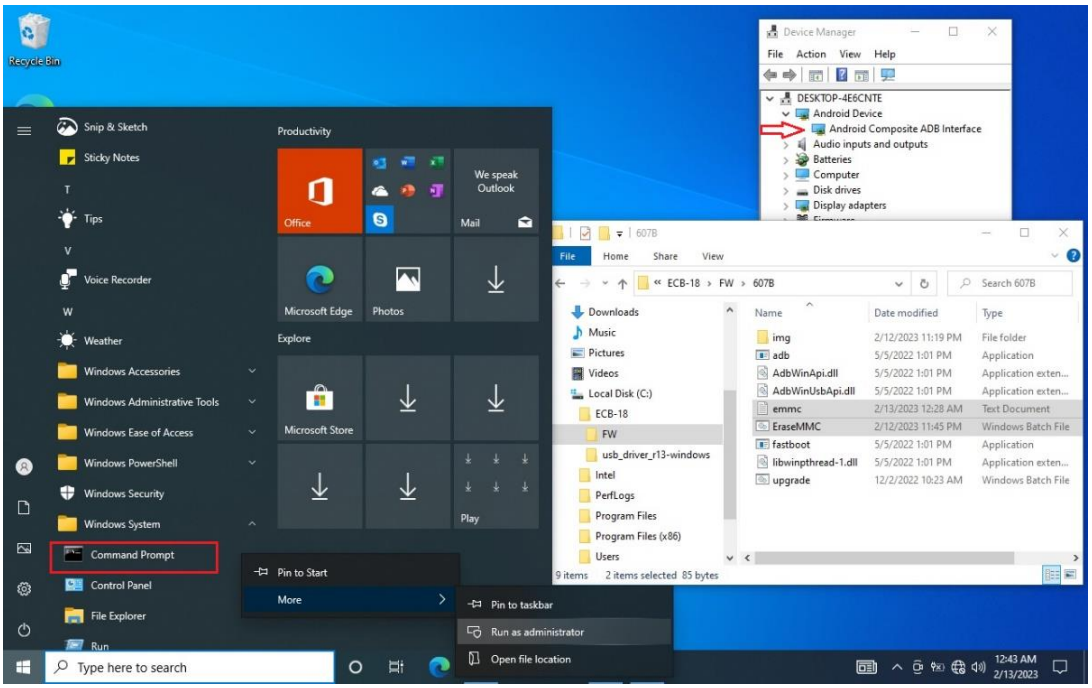

C:\Program Files (x86)\Raspberry Pi\redist\wdi-simple.exe
Extracting driver files...
Success
Installing driver(s)...
Raspberry Pi USB boot Setup
Installing
Please wait while Raspberry Pi USB boot is being installed.
Execute: "C:\Program Files (x86)\Raspberry Pi\redist\wdi-simple.exe" -n "Raspberry Pi USB bo
Extract: make-boot-image... 100%
Extract: rpi-bootloader-key-convert... 100%
Extract: rpi-eeprom-config... 100%
Extract: rpi-eeprom-digest... 100%
Extract: rpi-otp-private-key... 100%
Extract: update-pieeprom.sh... 100%
Output folder: C:\Program Files (x86)\Raspberry Pi\tools
Output folder: C:\Program Files (x86)\Raspberry Pi
Installing BCM2708 driver...
Execute: "C:\Program Files (x86)\Raspberry Pi\redist\wdi-simple.exe" -n "Raspberry ...
Nullsoft Install System v3.08
< Back
Next >
Cancel


Raspberry Pi USB boot Setup
Installation Complete
Setup was completed successfully.
Completed
Extract: cygusb-1.0.dll... 100%
Extract: cygwin1.dll... 100%
Extract: rpiboot.exe... 100%
Extract: rpi-mass-storage-gadget.bat... 100%
Create folder: C:\Users\DDD1GV5\AppData\Roaming\Microsoft\Windows\Start Menu...
Create shortcut: C:\Users\DDD1GV5\AppData\Roaming\Microsoft\Windows\Start Me...
Create shortcut: C:\Users\DDD1GV5\AppData\Roaming\Microsoft\Windows\Start Me...
Create shortcut: C:\Users\DDD1GV5\AppData\Roaming\Microsoft\Windows\Start Me...
Created uninstaller: C:\Program Files (x86)\Raspberry Pi\Uninstall.exe
Completed
Nullsoft Install System v3.08
< Back
Next >
Cancel

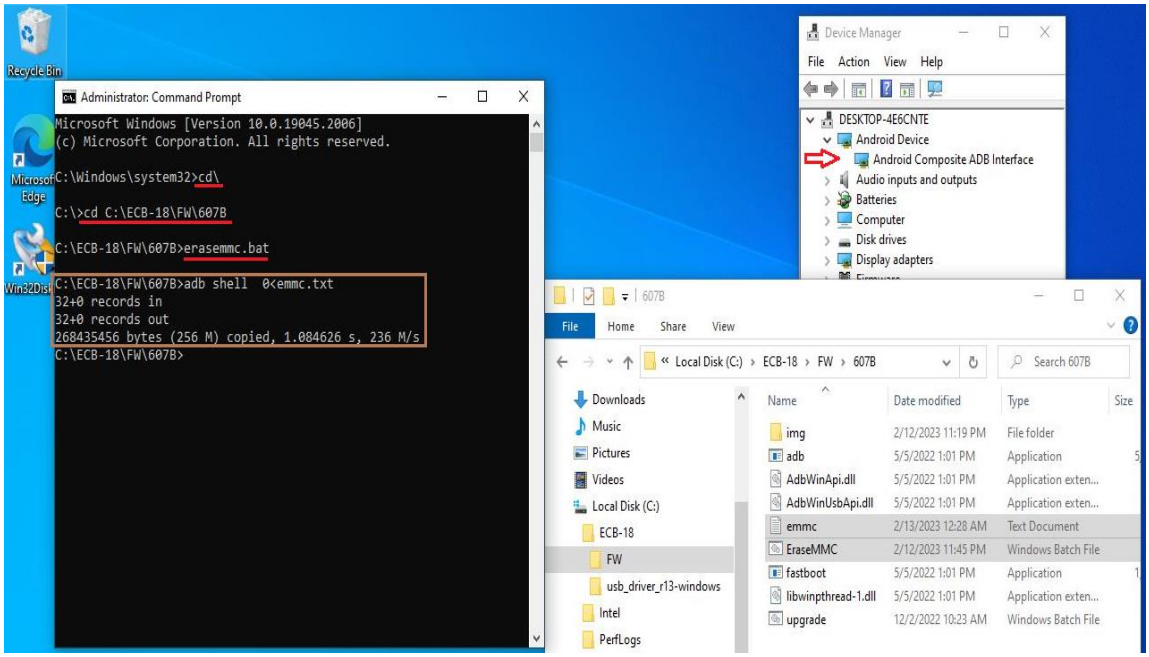

Raspberry Pi USB boot Setup
Completing Raspberry Pi USB boot Setup
Raspberry Pi USB boot has been installed on your computer.
Click Finish to close Setup.
< Back
Finish
Cancel

Step 4. → File4: FW image files (Erase eMMC)

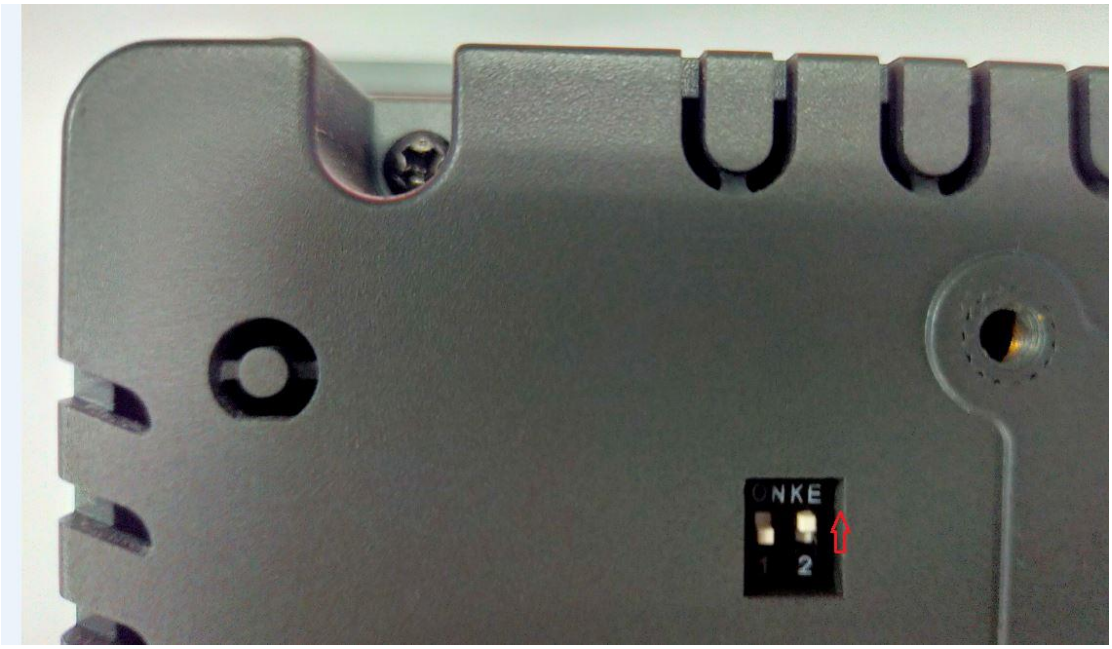
1) Connect Micro USB Cable from ARMPAC-607BP/610BP to your desktop/laptop.
2) Run “Command Prompt”



3) Change the path to the FW placement directory
4) Key-in “EraseMMC.bat”

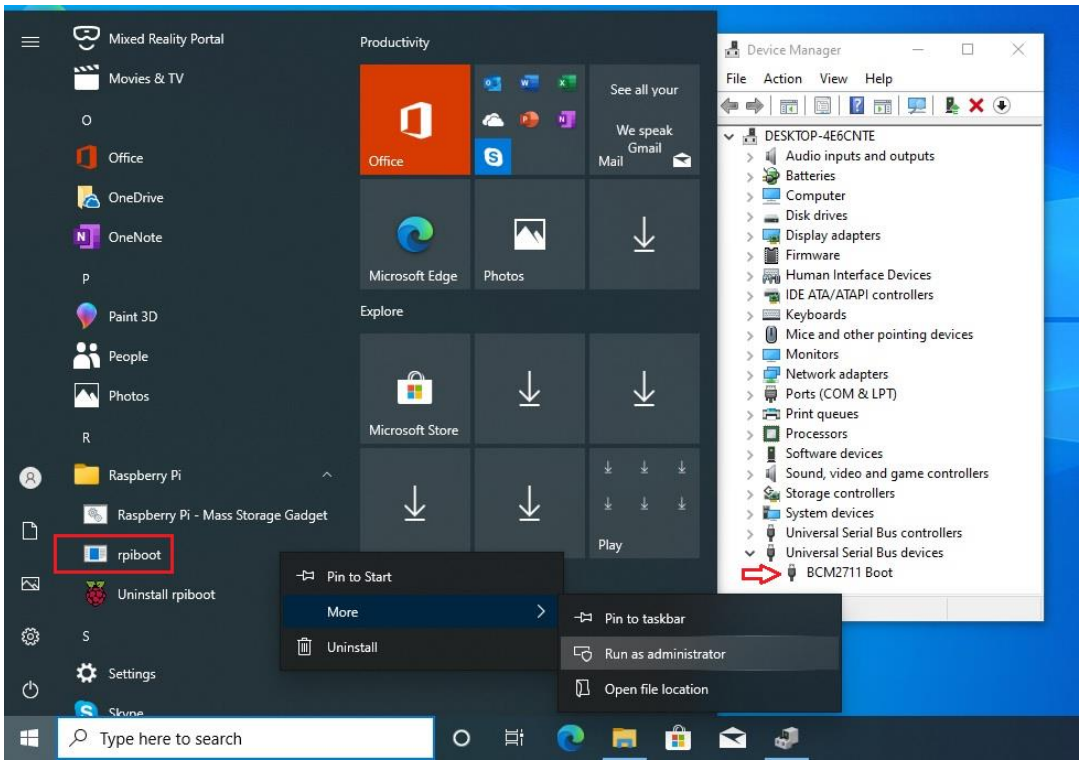


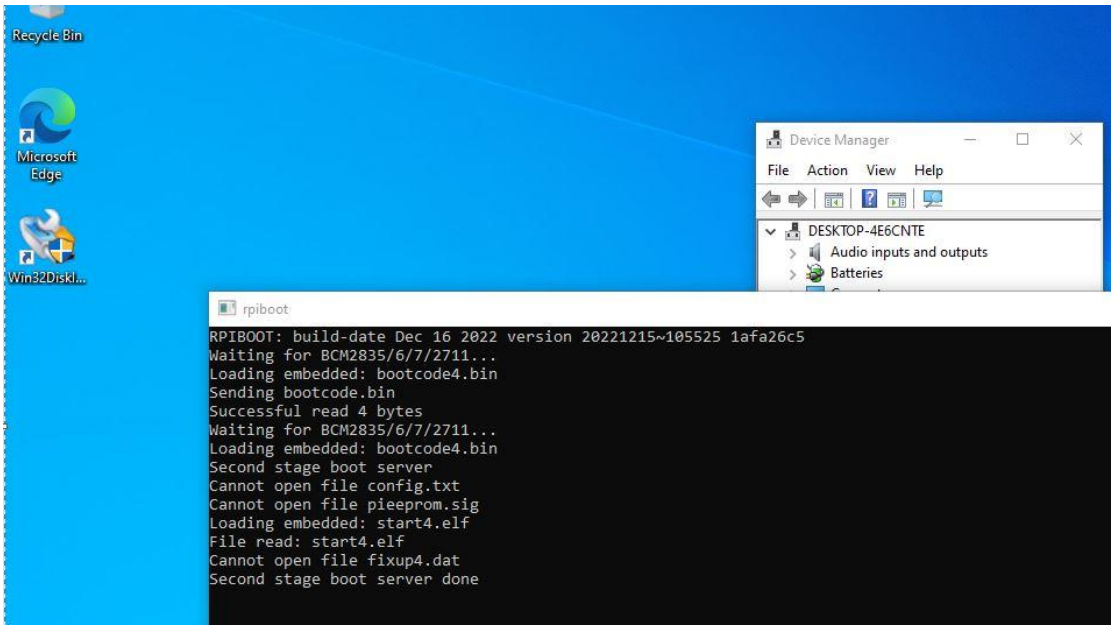
5) Power off, then change Dip-Switch 2 to **ON** (Download Mode).


ONKE
1 2

Step 5. → Run "rpiboot" utility to connect eMMC.

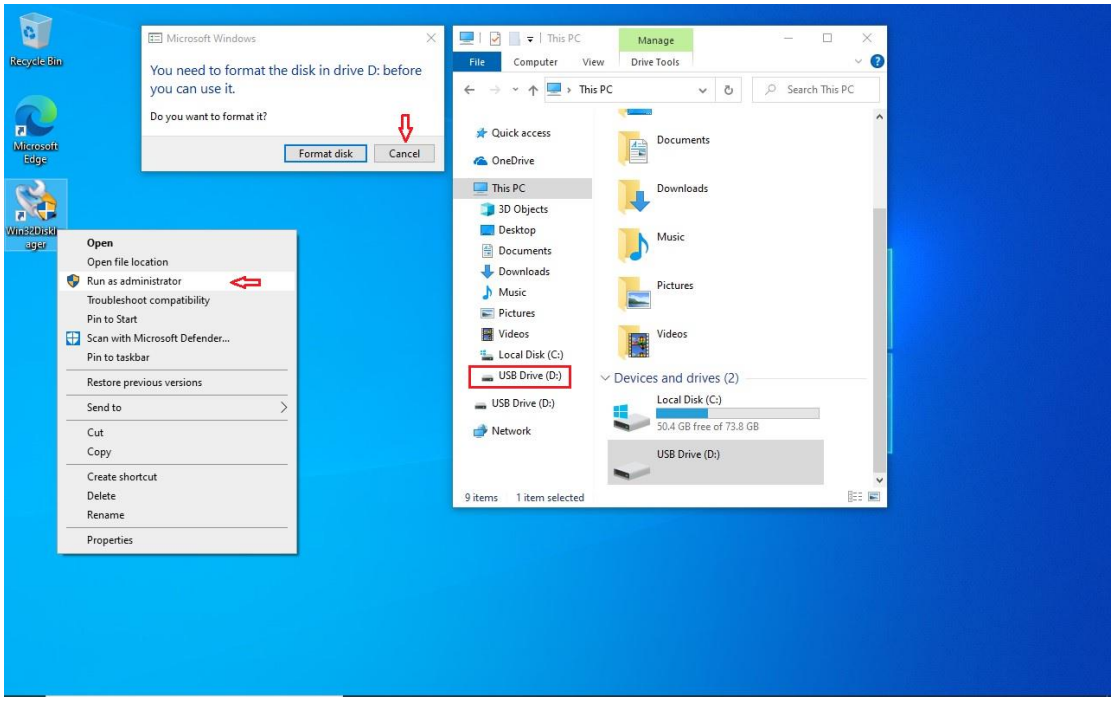
1) Connect Micro USB Cable from ARMPAC-607BP/610BP to your desktop/laptop.
2) Power on ARMPAC-607BP/610BP.
3) Run "**rpiboot**" utility



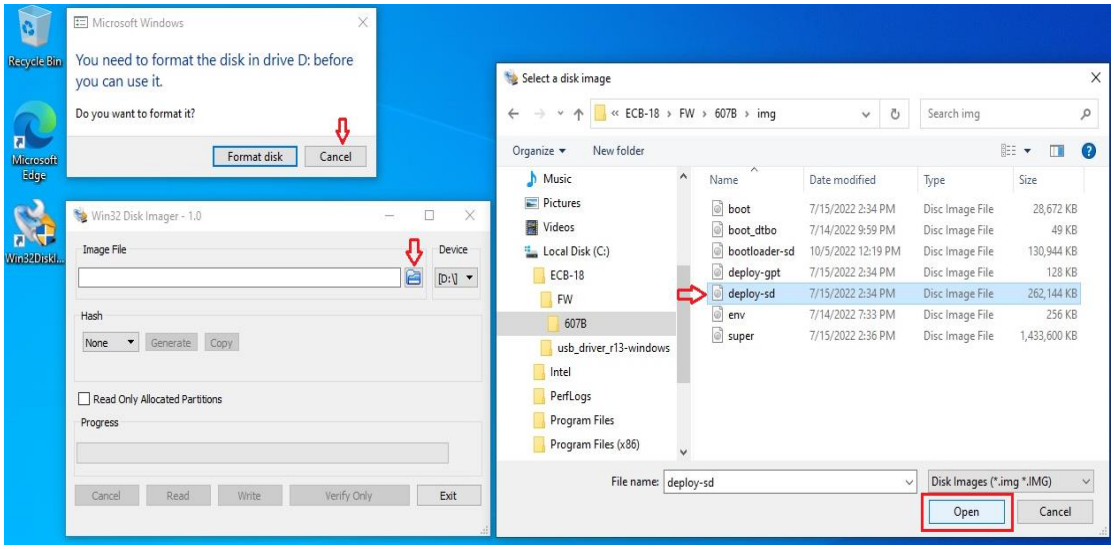


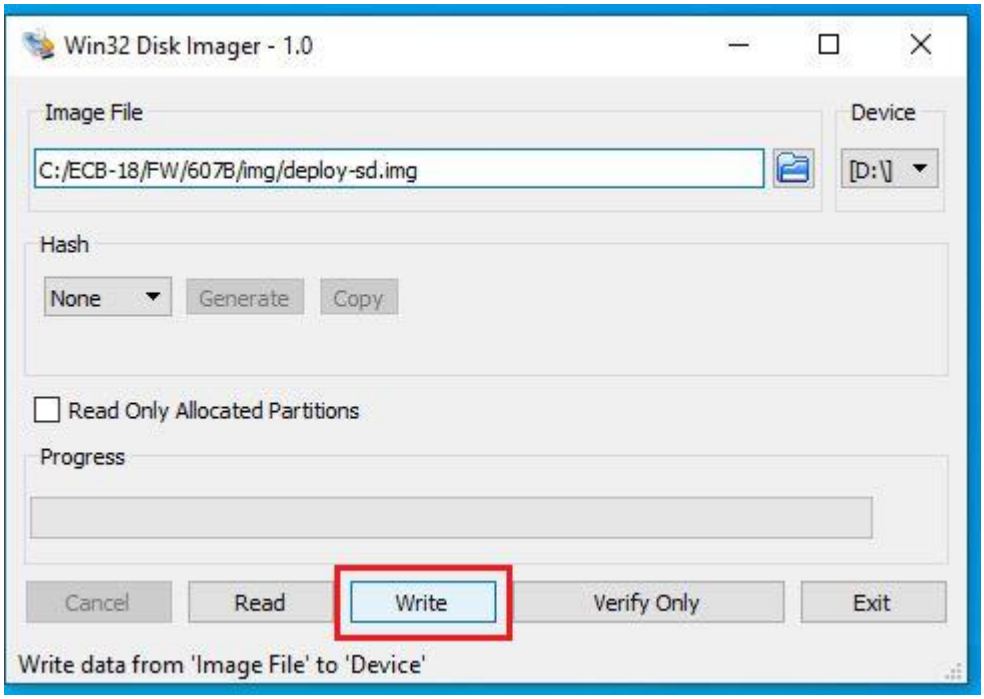
4) If there is more than one “USB Driver”, it means that eMMC is connected.

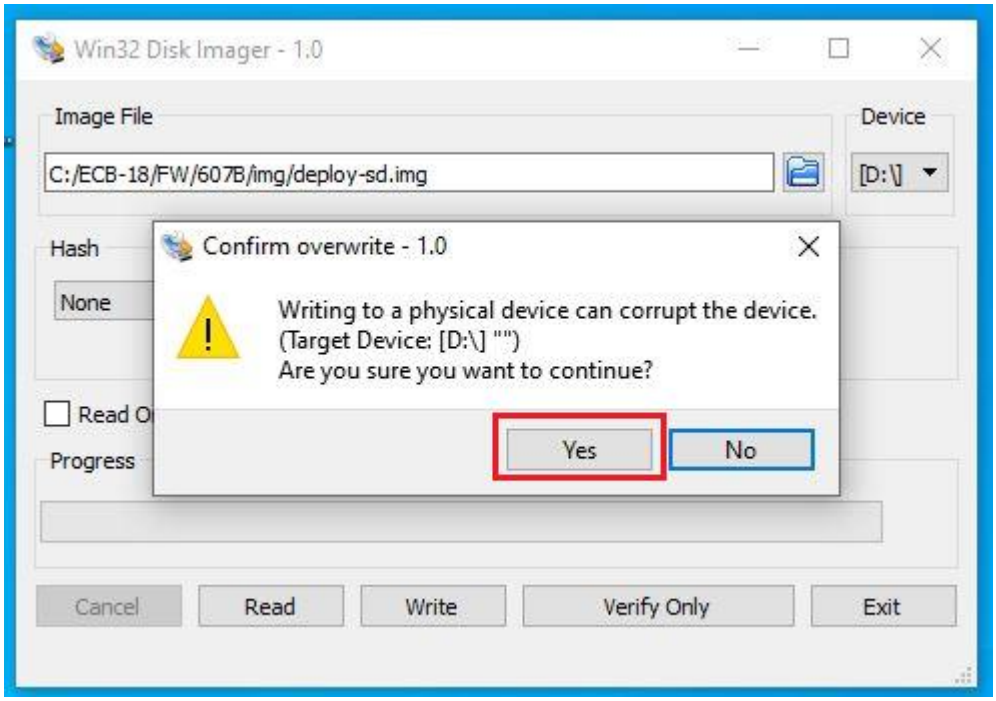
5) Run “Win32diskimager” APP

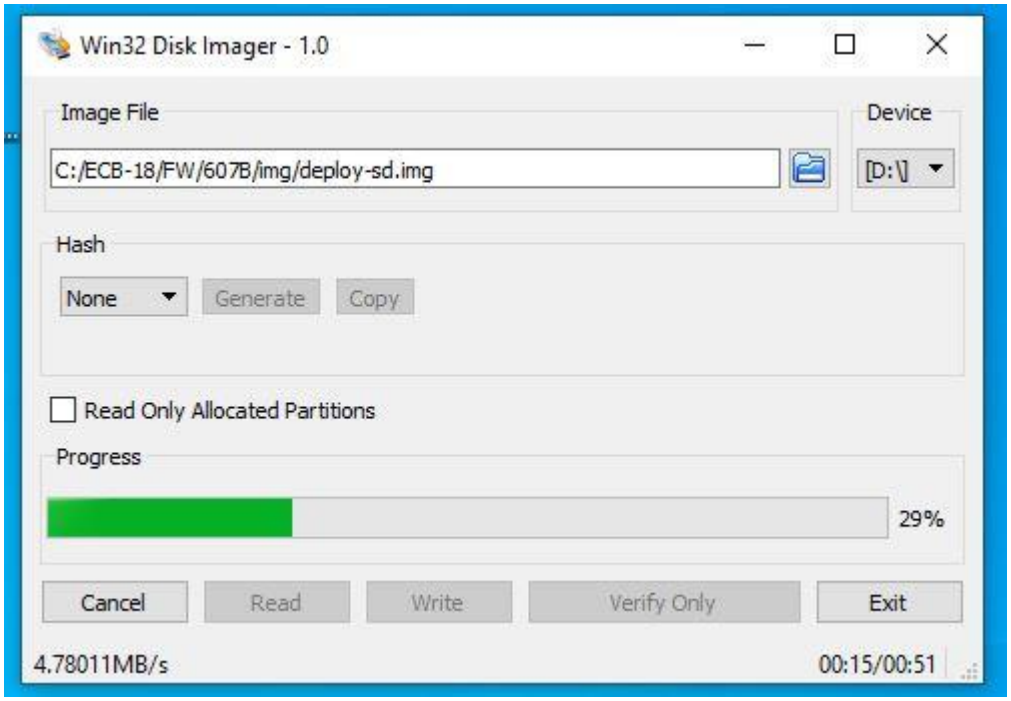


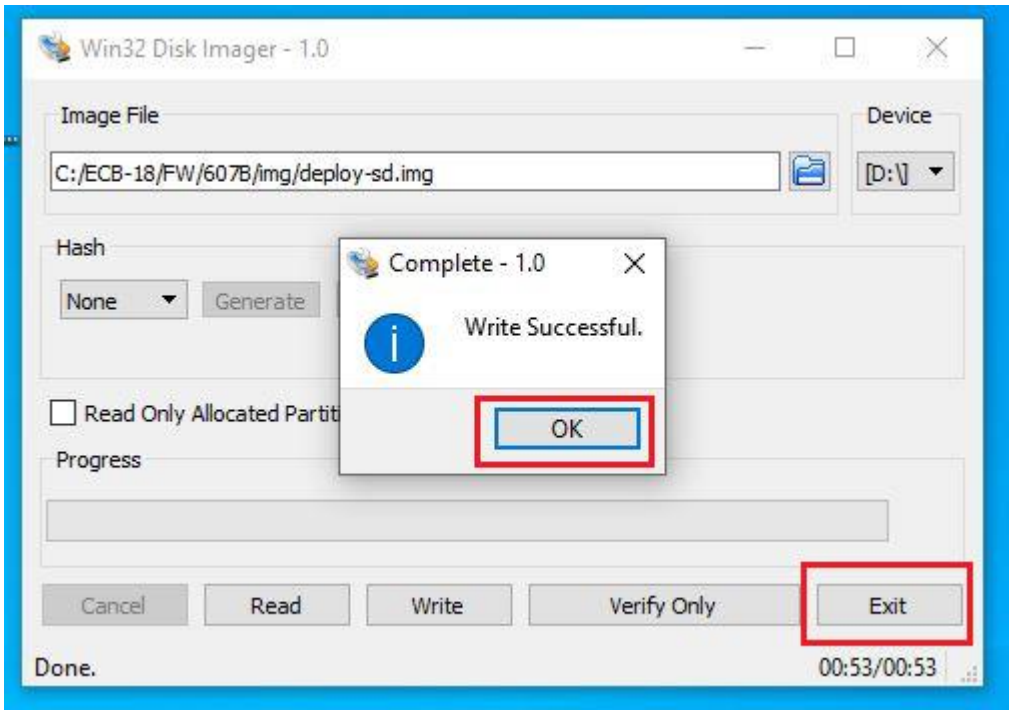
6) Select source file: “ /FW/6XXB/img/deploy-sd.img ”




Win32 Disk Imager - 1.0
Image File
C:/ECB-18/FW/607B/img/deploy-sd.img
Device
[D:\]
Hash
None
Generate
Copy
Read Only Allocated Partitions
Progress
Cancel
Read
Write
Verify Only
Exit
Write data from 'Image File' to 'Device'


Win32 Disk Imager - 1.0
Image File
C:/ECB-18/FW/607B/img/deploy-sd.img
Device
[D:\]
Hash
None
Confirm overwrite - 1.0
Writing to a physical device can corrupt the device.
(Target Device: [D:\] "")
Are you sure you want to continue?
Yes
No
Progress
Cancel
Read
Write
Verify Only
Exit

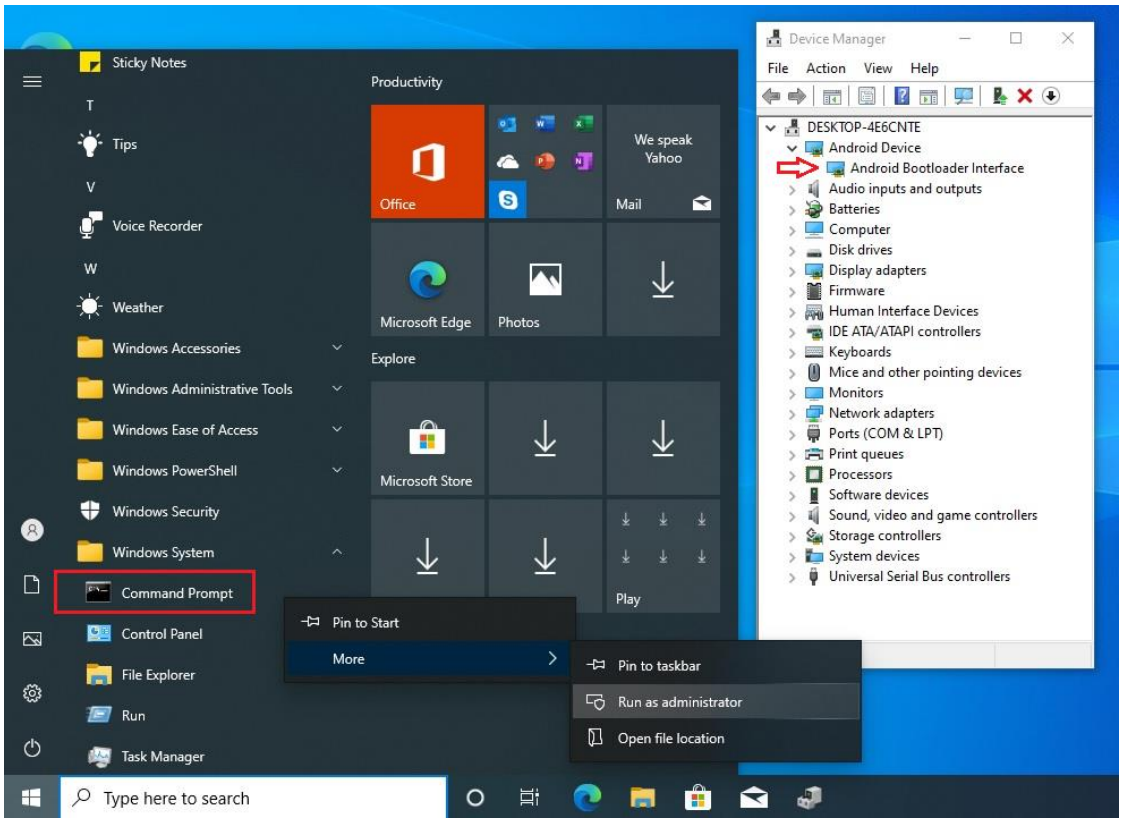

Win32 Disk Imager - 1.0
Image File
C:/ECB-18/FW/607B/img/deploy-sd.img
Device
[D:\]
Hash
None
Generate
Copy
Read Only Allocated Partitions
Progress
29%
Cancel
Read
Write
Verify Only
Exit
4.78011MB/s
00:15/00:51


Win32 Disk Imager - 1.0
Image File
C:/ECB-18/FW/607B/img/deploy-sd.img
Device
[D:\]
Hash
None
Generate
Complete - 1.0
Write Successful.
OK
Read Only Allocated Partit
Progress
Cancel
Read
Write
Verify Only
Exit
Done.
00:53/00:53

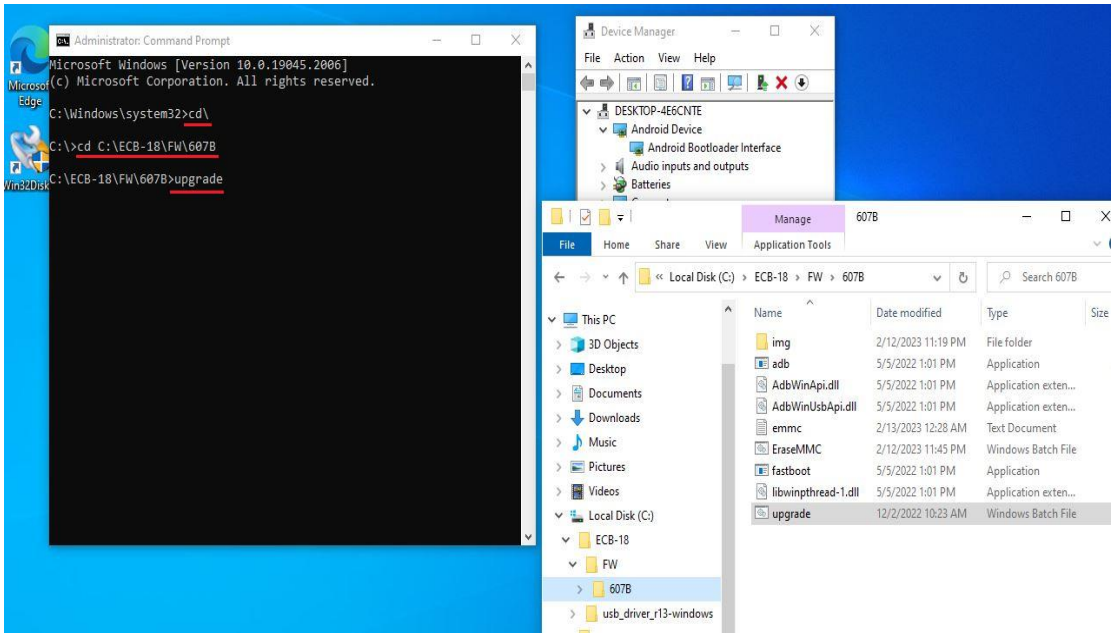
7) Power Off, then change Dip-Switch 2 to **Off** (Normal Mode)

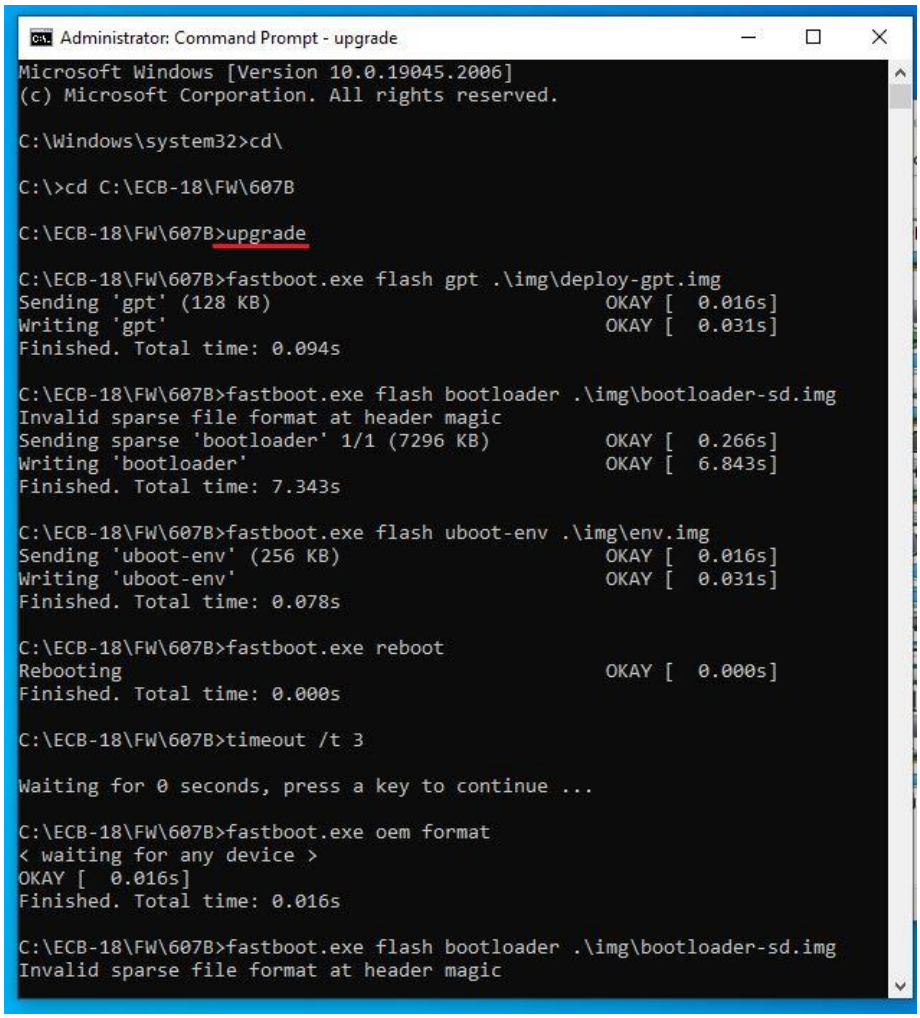
Step 6. → FW image files (Upgrade Android FW)

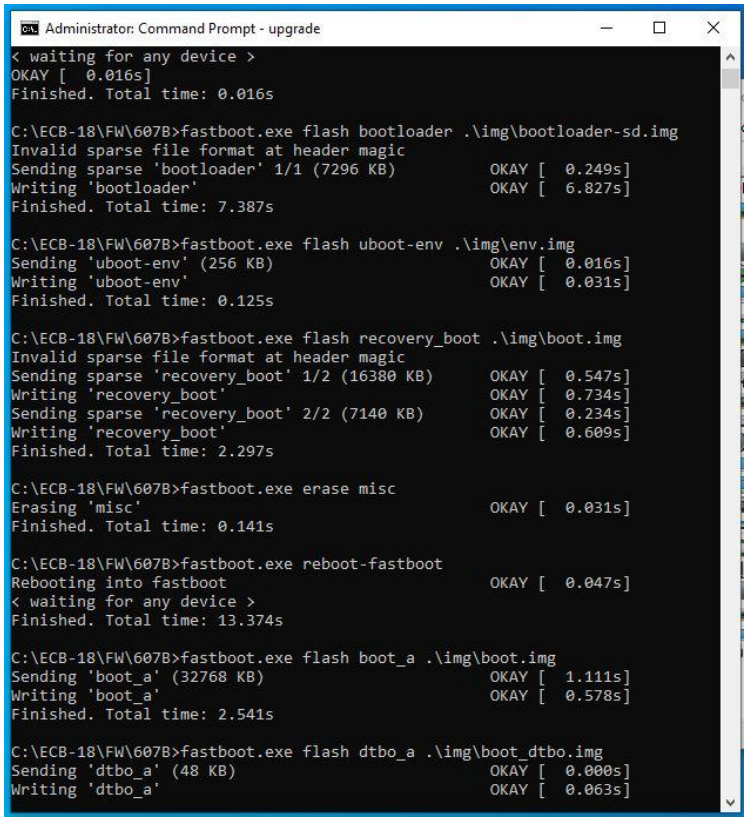
1) Connect Micro USB Cable from ARMPAC-607BP/610BP to your desktop/laptop.
2) Power on ARMPAC-607BP/610BP.
3) Run “Command Prompt”



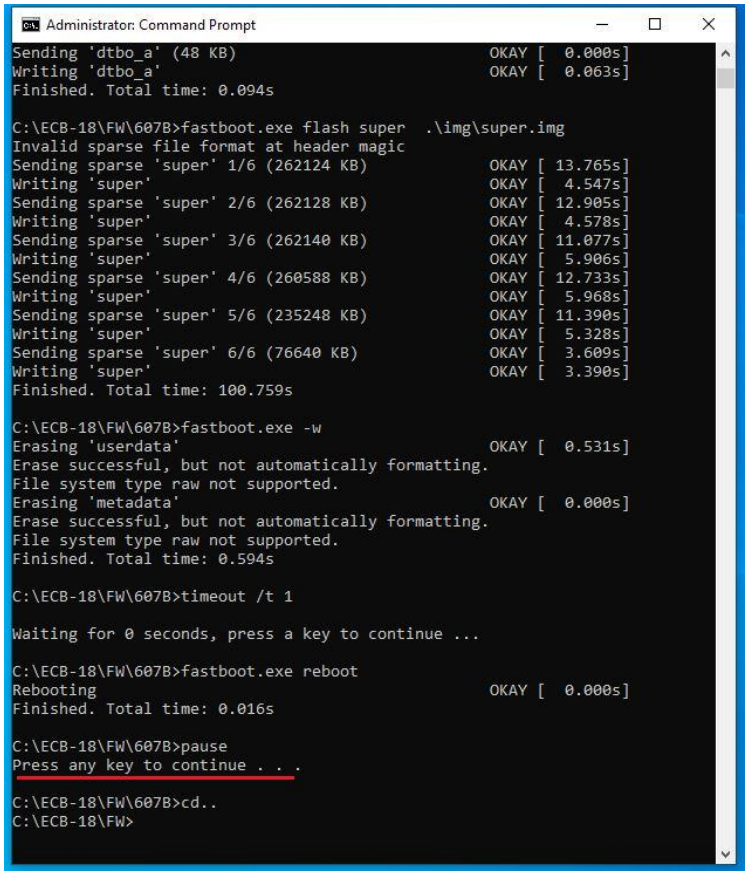
4) Change the path to the FW placement directory
5) Key-in “upgrade.bat”



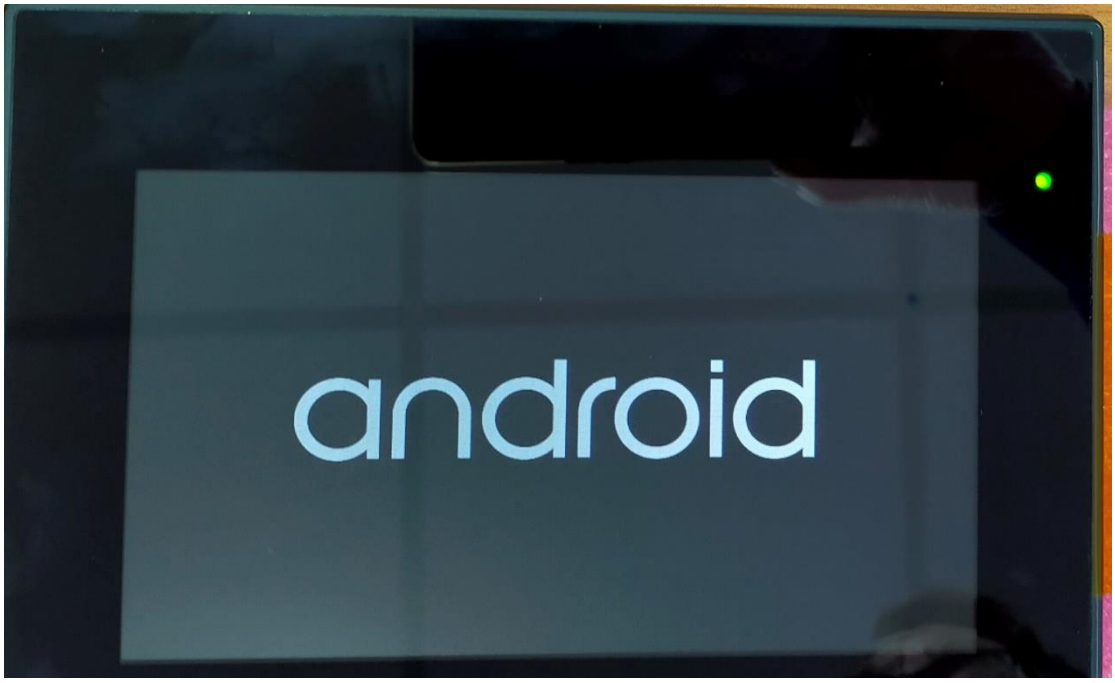

Administrator: Command Prompt - upgrade
Microsoft Windows [Version 10.0.19045.2006]
(c) Microsoft Corporation. All rights reserved.
C:\Windows\system32>cd\
C:\>cd C:\ECB-18\FW\607B
C:\ECB-18\FW\607B>upgrade
C:\ECB-18\FW\607B>fastboot.exe flash gpt .\img\deploy-gpt.img
Sending 'gpt' (128 KB) OKAY [0.016s]
Writing 'gpt' OKAY [0.031s]
Finished. Total time: 0.094s
C:\ECB-18\FW\607B>fastboot.exe flash bootloader .\img\bootloader-sd.img
Invalid sparse file format at header magic
Sending sparse 'bootloader' 1/1 (7296 KB) OKAY [0.266s]
Writing 'bootloader' OKAY [6.843s]
Finished. Total time: 7.343s
C:\ECB-18\FW\607B>fastboot.exe flash uboot-env .\img\env.img
Sending 'uboot-env' (256 KB) OKAY [0.016s]
Writing 'uboot-env' OKAY [0.031s]
Finished. Total time: 0.078s
C:\ECB-18\FW\607B>fastboot.exe reboot
Rebooting OKAY [0.000s]
Finished. Total time: 0.000s
C:\ECB-18\FW\607B>timeout /t 3
Waiting for 0 seconds, press a key to continue ...
C:\ECB-18\FW\607B>fastboot.exe oem format
< waiting for any device >
OKAY [0.016s]
Finished. Total time: 0.016s
C:\ECB-18\FW\607B>fastboot.exe flash bootloader .\img\bootloader-sd.img
Invalid sparse file format at header magic

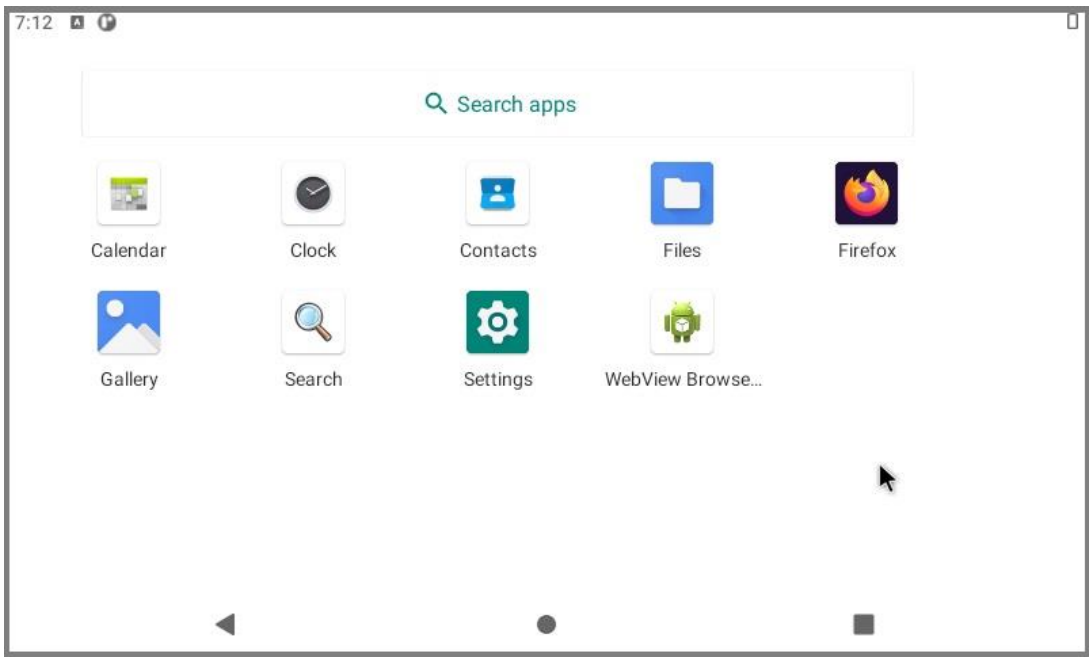


Please any key to Countinue…….



6) When firmware has been updated successfully, The screen will show the "**android**" word and enter to Android OS desktop.





7) Please remove Micro USB Cable from ARMPAC-607BP/610BP.

Notes:

USB Download Port: When connecting this product to the HOST PC by a micro-USB cable, the USB HUB will be disabled, so these 3 USB host connectors TYPE-A (USB1), Touch (USB3) and m-PCIE 4G/LTE module (USB2) will not work.

Download Tools info:

Download "**rpiboot_setup.exe**"
https://github.com/raspberrypi/usbboot/raw/master/win32/rpiboot_setup.exe

Download **"win32diskimager-1.0.0-install.exe**"
https://osdn.net/projects/sfnet_win32diskimager/downloads/Archive/win32diskimager-1.0.0-install.exe/

Download the "**Google USB Driver ZIP File**" (usb_driver_r13-windows.zip)
https://developer.android.com/studio/run/win-usb