



RS51 OS Image Upgrade SOP

from Android 8 (Oreo) to Android 11

Version 1.00



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CIPHERLAB CO., LTD.

Website: <http://www.CipherLab.com>

RELEASE NOTES

Version	Date	Notes
1.00	Jan. 12 th , 2022	Initial release

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PREREQUISITE

This chapter guides you all the things need to be done before upgrading the OS image of your RS51 mobile computer.

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1.1 PREREQUISITE FOR UPGRADING OS IMAGE

The following items are demanded for upgrading your RS51 mobile computer OS image from Android 8 (Oreo) to Android 11:

- **PC:**

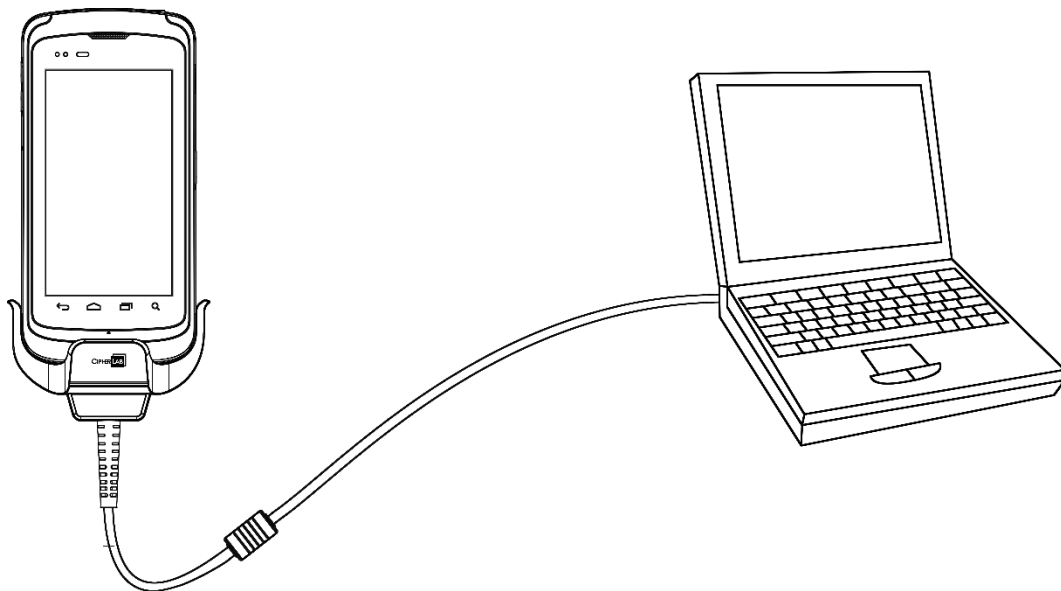
The operating system must be **Windows 10**.

Note:

The image download tool is incompatible with Windows 7 and Windows 8.

- **RS51 Snap-on Charging & Communication Cable**

Use RS51 snap-on cable to connect the PC with your device.






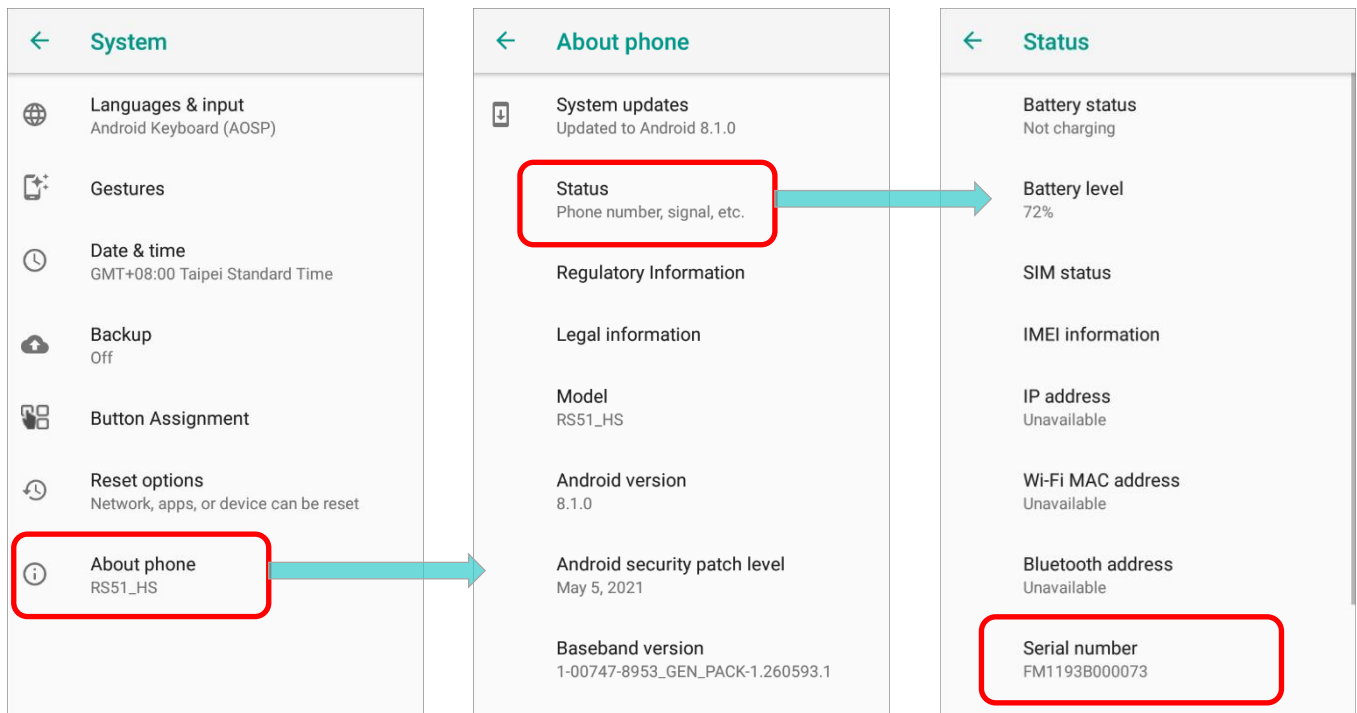
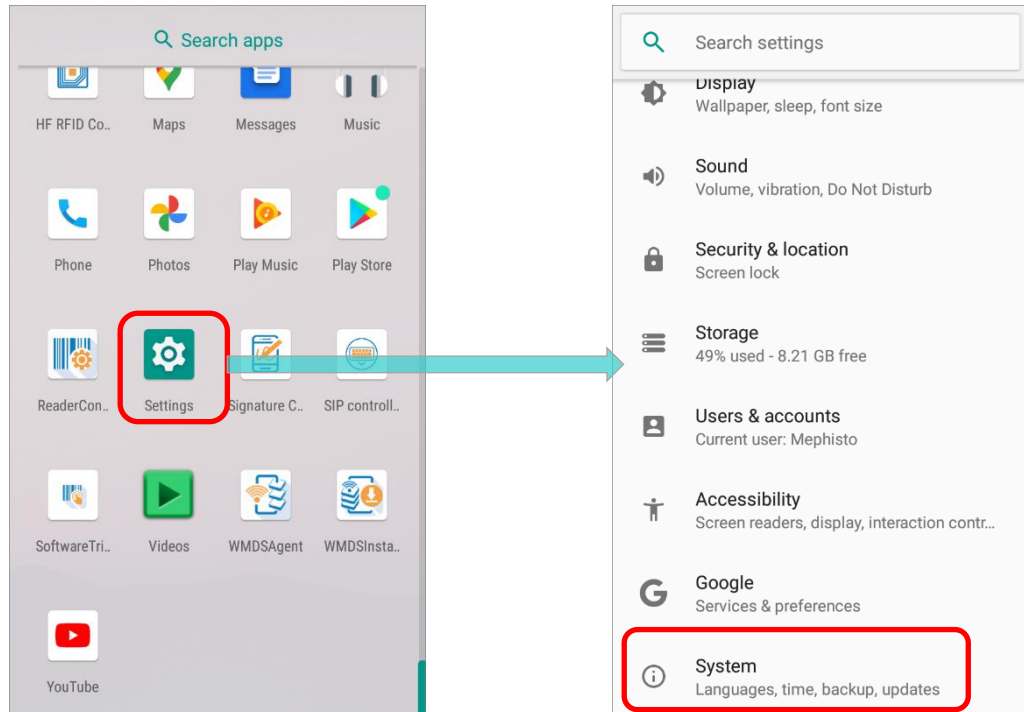
- **Activation Key:**

Please contact the sales representative and provide the representative with the **device Serial Number** and the **Software Part Number** of your RS51 mobile computer for acquiring the activation key.

i) Serial Number

To check the **Serial Number** of your device, please go to:

App Drawer | Settings  | **System**  | **About phone**  | **Status** ,
and swipe to find "Serial Number".



ii) **Software Part Number**

Please confirm the software part number of your RS51 mobile computer:

Model	Part Number
LTE GMS	A90W051GL0201
Wi-Fi Only GMS	A90W051GW0201
LTE RU	A90W051RL0201

■ **RS51 OS Image Upgrade Package:**

Once the information (device serial number, software part number, etc.) you provide is confirmed, you will get the upgrade package & the activation key from CipherLab.

The upgrade package contains the following:

- i) **Upgrade Tool** (RS51_OS_update_v1.XX.exe)
- ii) **RS51 Android 8 userdebug image** (RS51O_HS.userdebug.flatimage.7z)
- iii) **RS51 Android 11 userdebug image** (RS51R_HS.userdebug.flatimage.7z)
- iv) **RS51 Android 11 user image**

Important Notice:

After successfully upgrading the OS from Android 8 (Oreo) to Android 11, the RS51 mobile computer will reset to the factory default which means all the app data, the apps installed by yourself, and the MDM (Mobile Device Management) data will be erased. Thus, make sure to back up your important information stored on your device before proceeding OS upgrade.


THE SUPPORTED READER TYPE

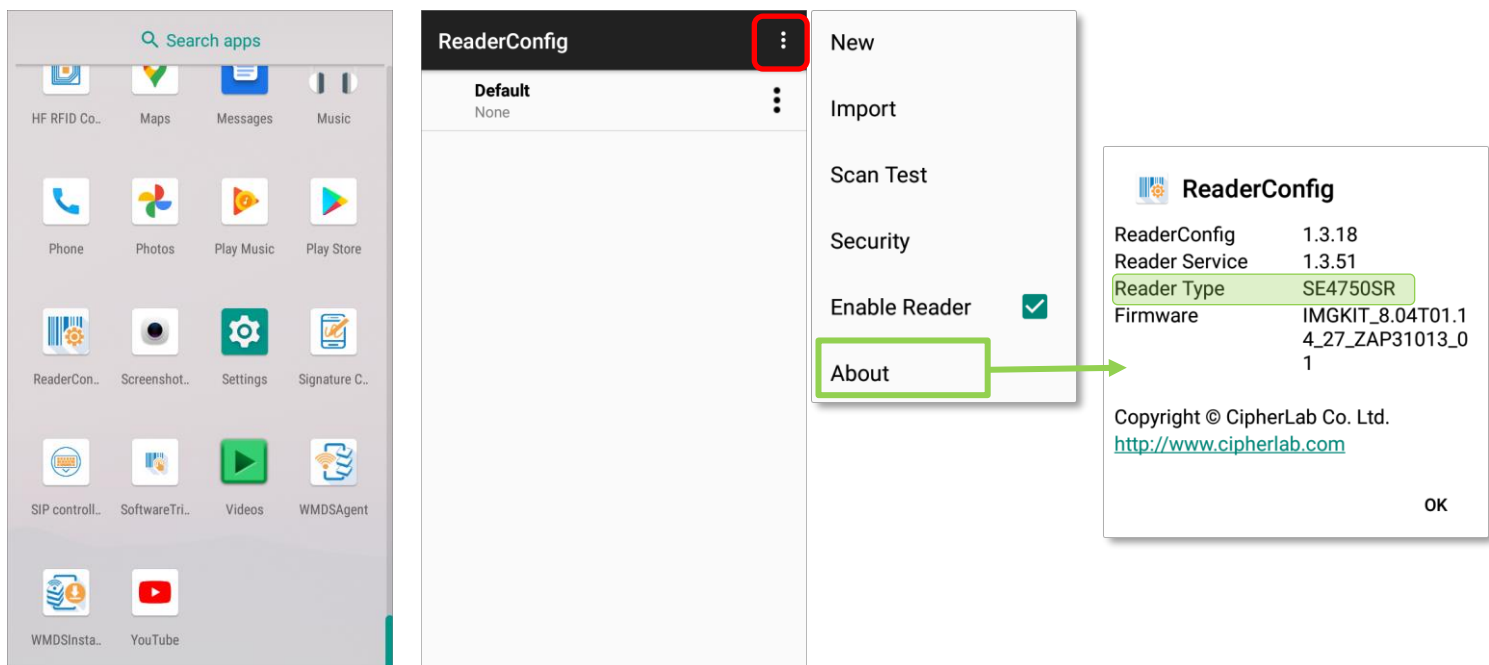
The RS51 Android 11 OS only support the following reader types:

- SE 4750MR
- SE 4750SR

On your device, go to **App Drawer** and tap on the built-in application “**ReaderConfig**” to check which reader your device integrates.



- 1) On **ReaderConfig** main screen, tap on **More** button  on the action bar.
- 2) Tap to select “**About**”.
- 3) Check your device reader type on the app information pop-up.



1.2 USB DRIVERS

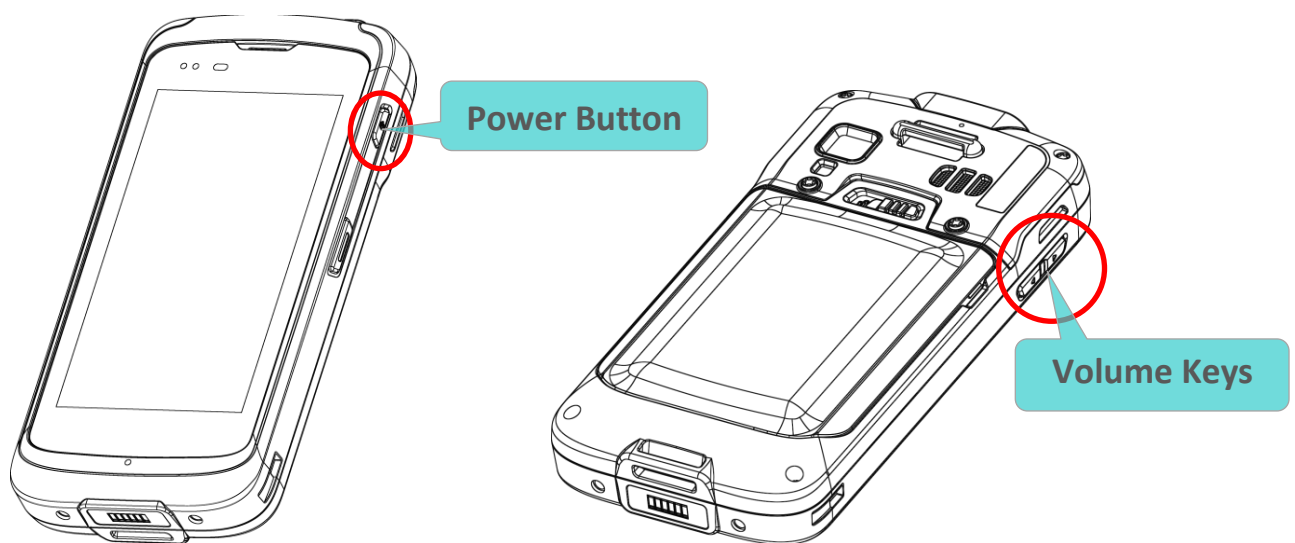
For successfully upgrading the OS image of your RS51 mobile computer, **USB Drivers** must be installed in your PC beforehand.

Depending on the operating system environment of your PC, the USB drivers may have been installed in your PC already.

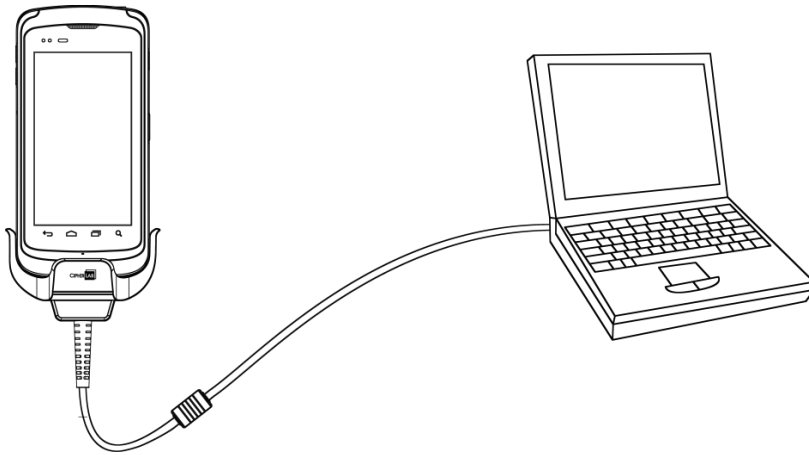
1.2.1 QUALCOMM USB DRIVER





CHECK WHETHER QUALCOMM USB DRIVER IS INSTALLED ON YOUR PC

- 1) Shut down the RS51 mobile computer, and then press **Volume Up Key**, **Volume Down Key** and **Power button** at the same time. The device will vibrate once.

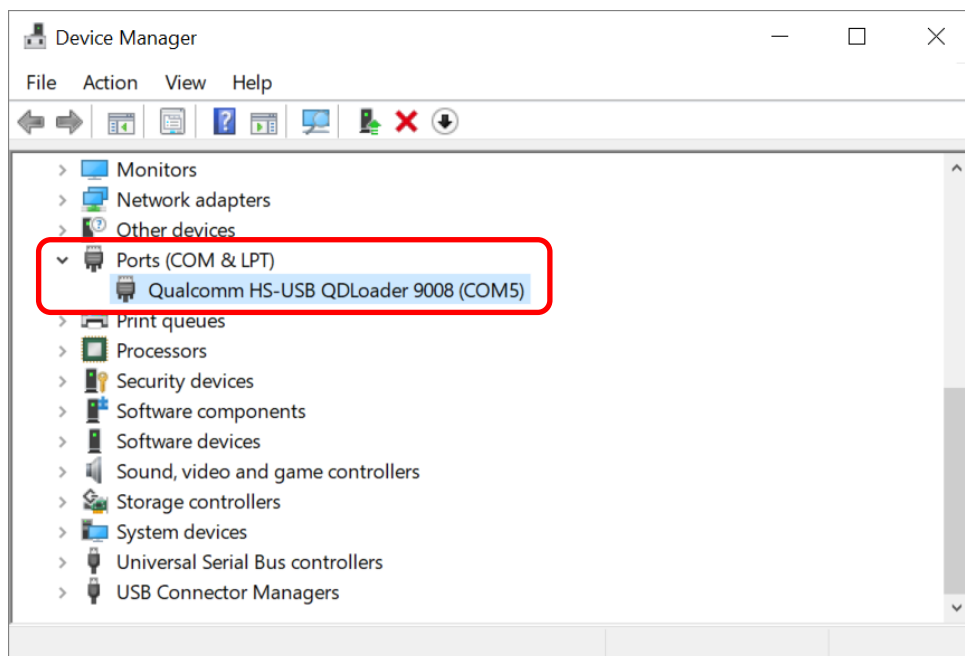


- 2) Connect the RS51 mobile computer with your PC with the supplied Snap-on cable.

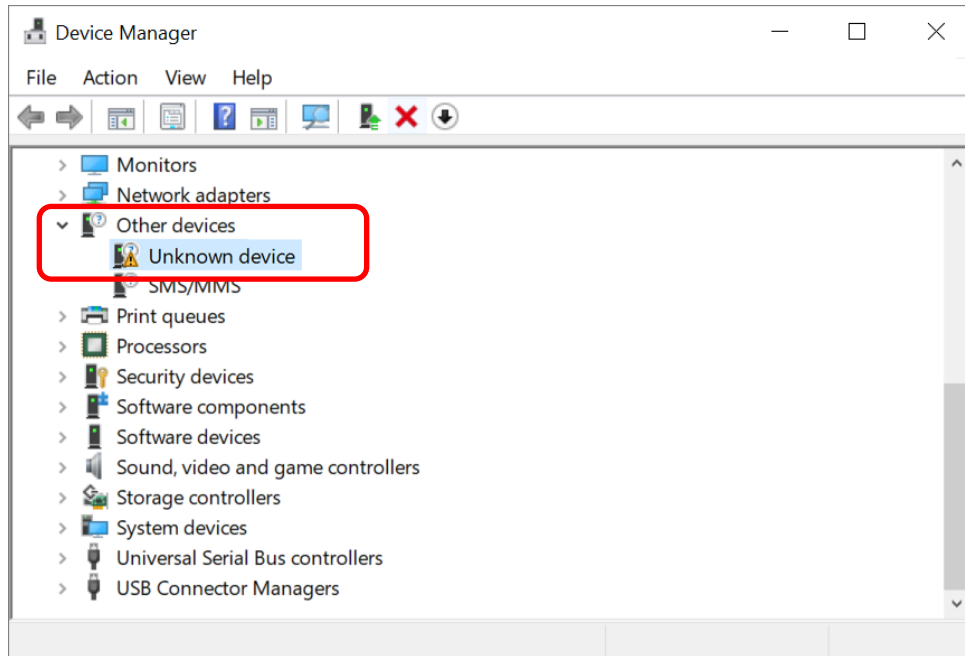


- 3) Go to **Control Panel**  | **Hardware & Sound**  | **Devices and Printers**  | **Device Manager**  on your PC to check whether it shows "**Qualcomm HS-USB QDLoader 9008**" under "**Ports**".

- **Qualcomm USB driver is installed**



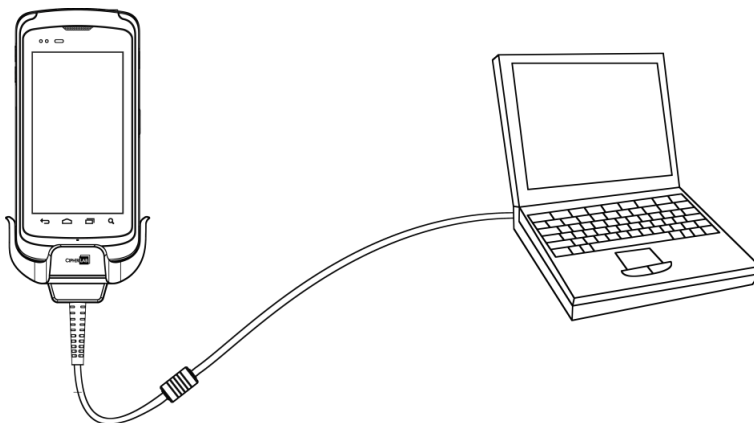
- **Qualcomm USB driver is NOT installed**



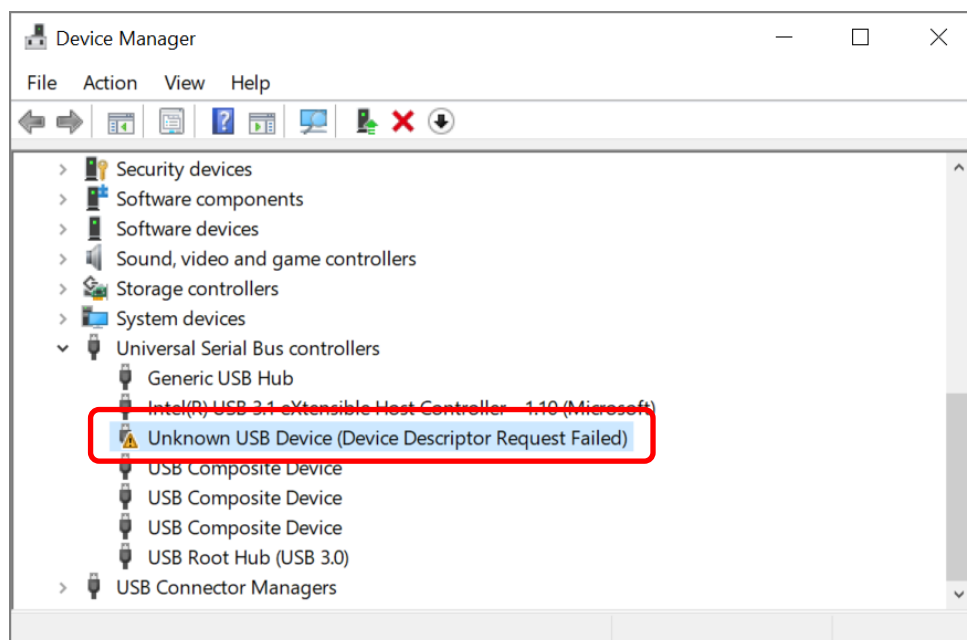
Note: The item shown on “Device Manager” may slightly different based on the operating system environment of your PC.

HOW TO INSTALL QUALCOMM USB DRIVER

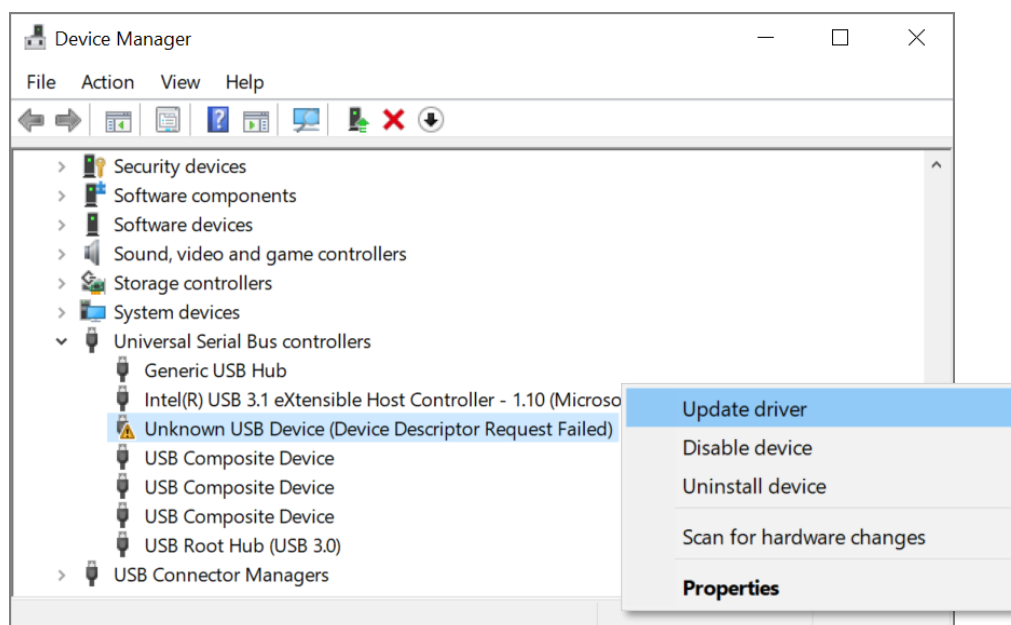
- 1) Power off your RS51 mobile computer, and press its **Volume Up Key**, **Volume Down Key**, and **Power Key** at the same time. Then connect the device with your PC by the sanp-on cable.



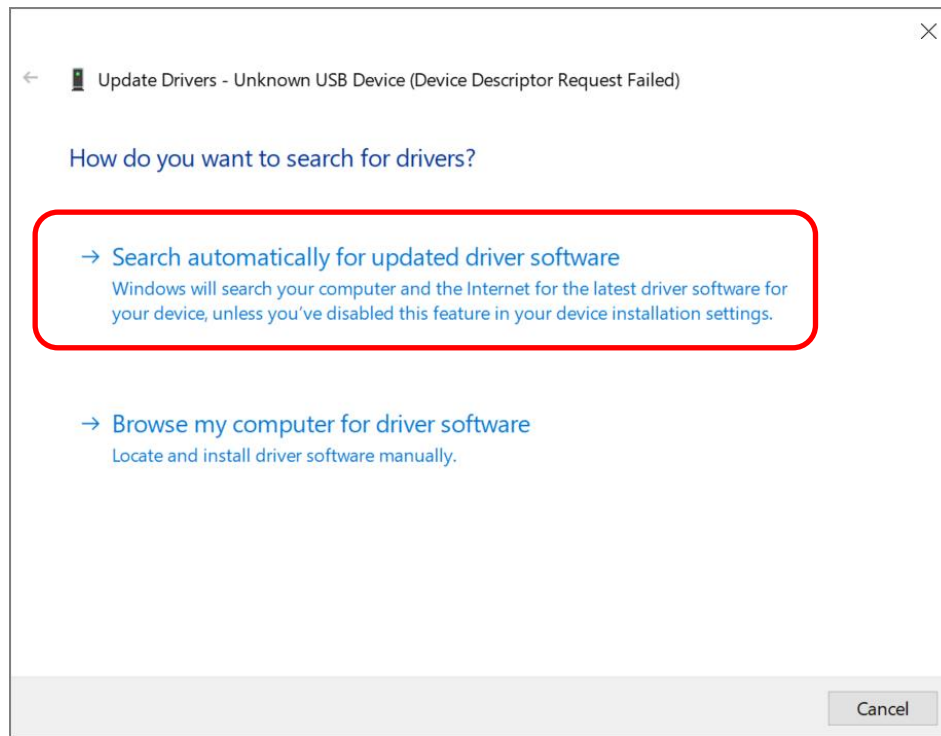
- 2) Access “**Device Manager**” on your PC, and find the unknown device which is with a yellow exclamation mark in front of the name.



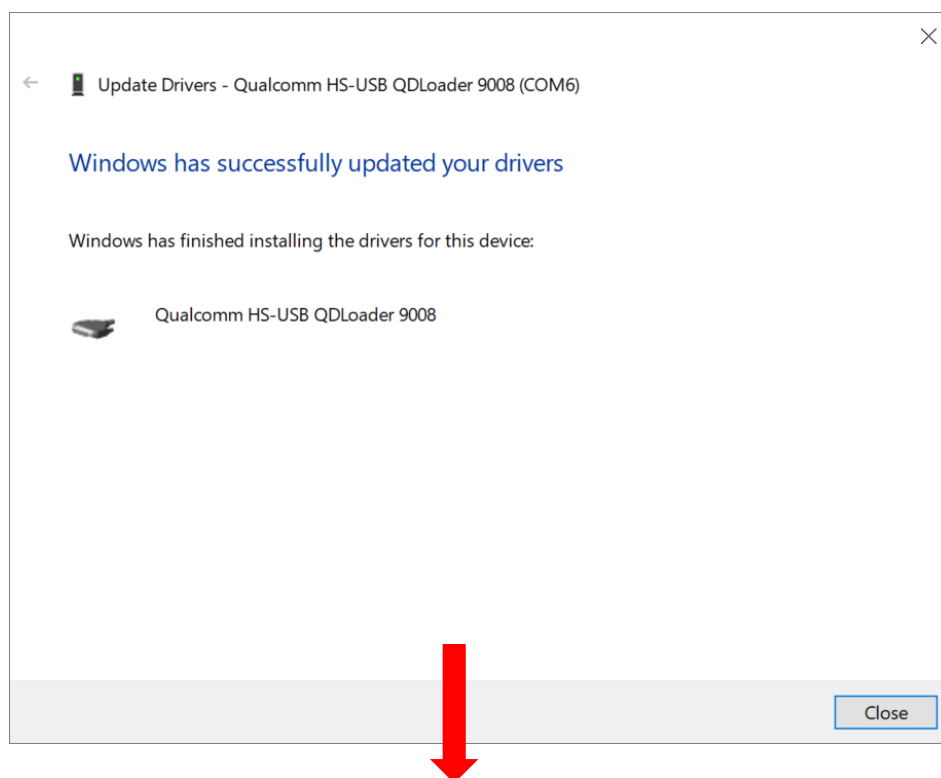
3) On **Device Manager**, click to open the setting menu and select “**Update driver**”.

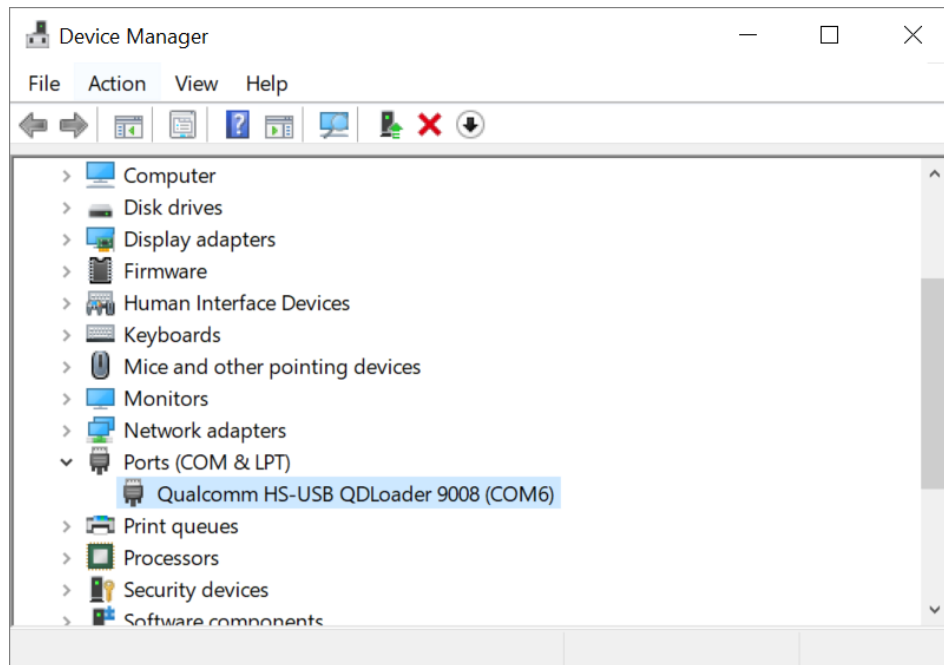


4) Select “**Search automatically for updated driver software**” to complete the update.



- 5) Once the driver is successfully installed, you will find this RS51 mobile computer is shown up as **"Qualcomm HS-USB QDLoader 9008"** under **"Ports"** on **Device Manager**.



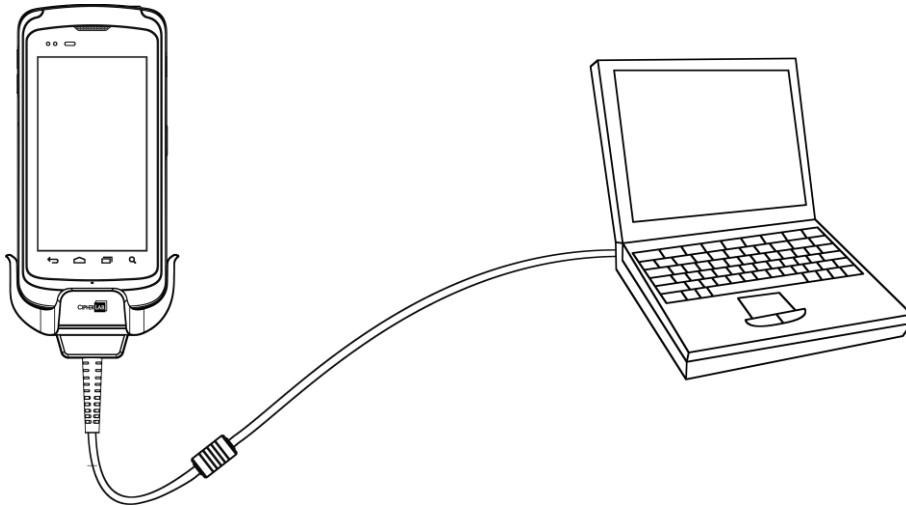


1.2.2 ADB DRIVER

CHECK WHETHER ADB DRIVER IS INSTALLED ON YOUR PC

To check whether ADB driver is installed on the PC, please follow the steps:

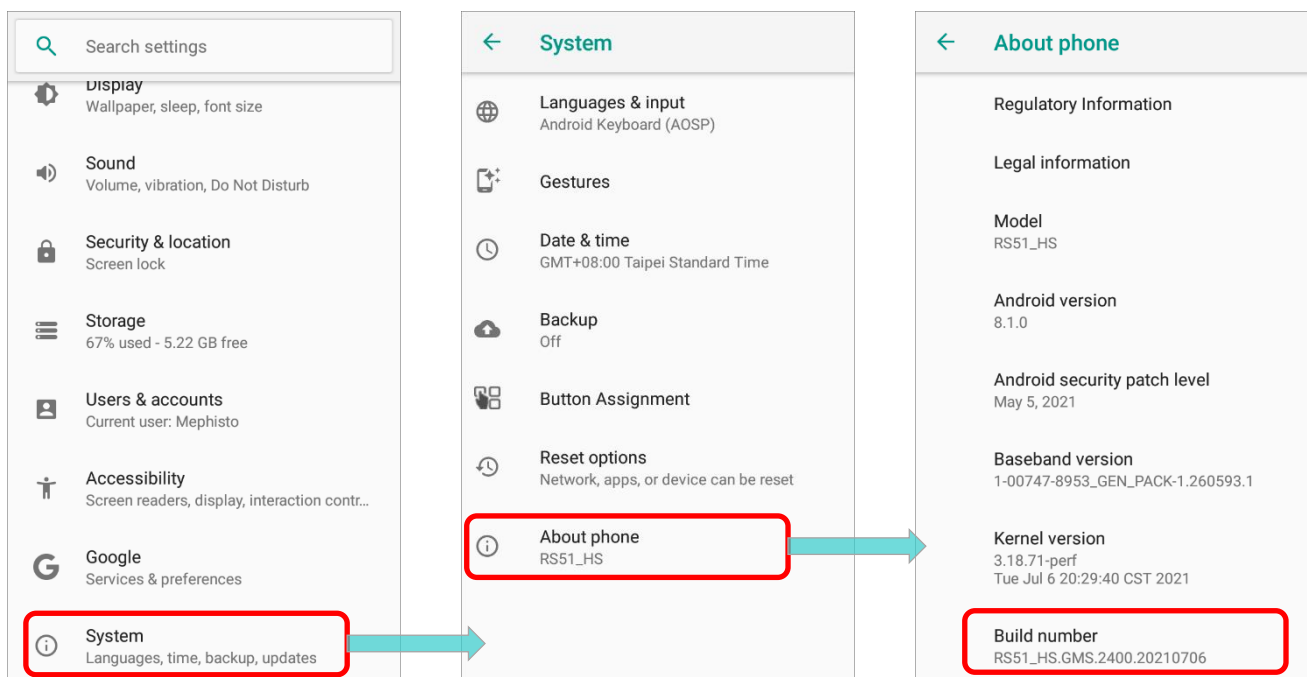
- 1) Power on your RS51 mobile computer, and connect it with your PC by the snap-on cable.



- 2) Enable debugging mode on your RS51 mobile computer as the steps below.

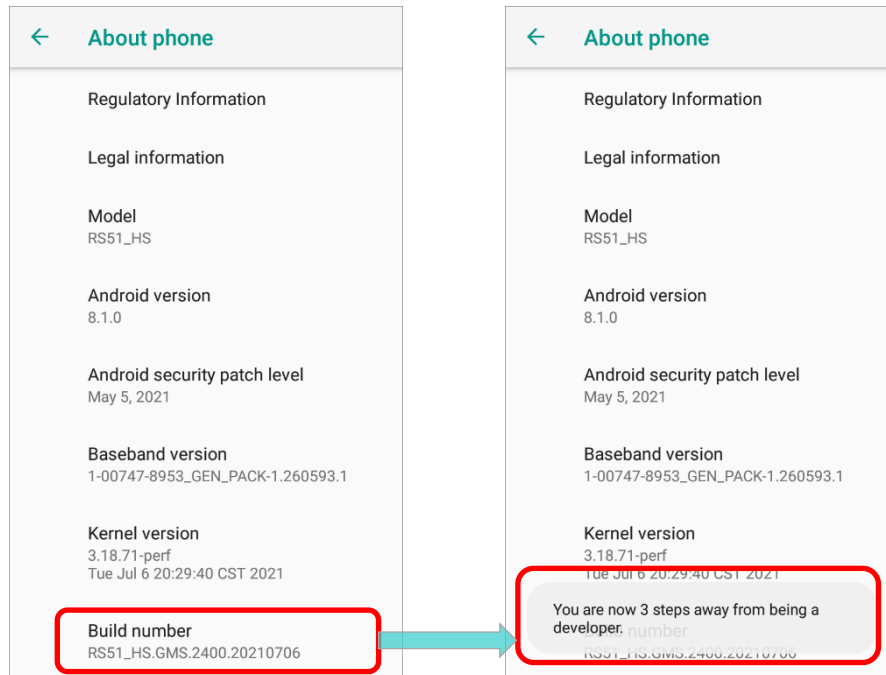
- **Step 1:**

Go to **App Drawer (All Apps)** | **Settings**  | **System**  | **About phone** 



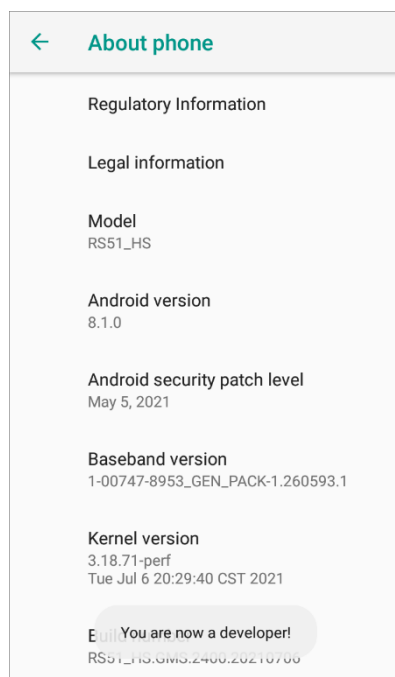
- **Step 2:**

Scroll to the bottom to find “**Build number**”, and tap on Build number 7 times to enter Developer mode. During the process, you’ll see a prompt with a countdown reading “**You are now X steps way from being a developer.**”



- **Step 3:**

When you see “**You are now a developer!**” showing up, you have succeeded in entering developer mode.

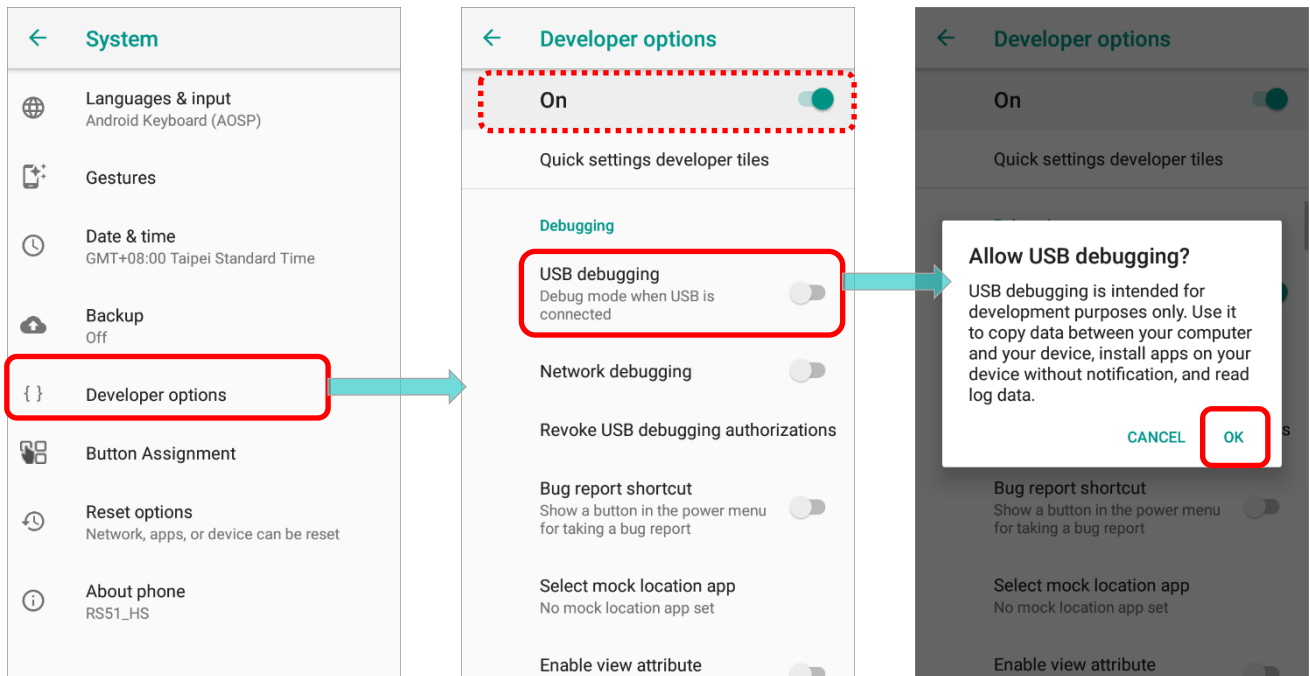






Step 4:

Return to **System** ⓘ and you'll find that now "**Developer options**" { } is revealed.

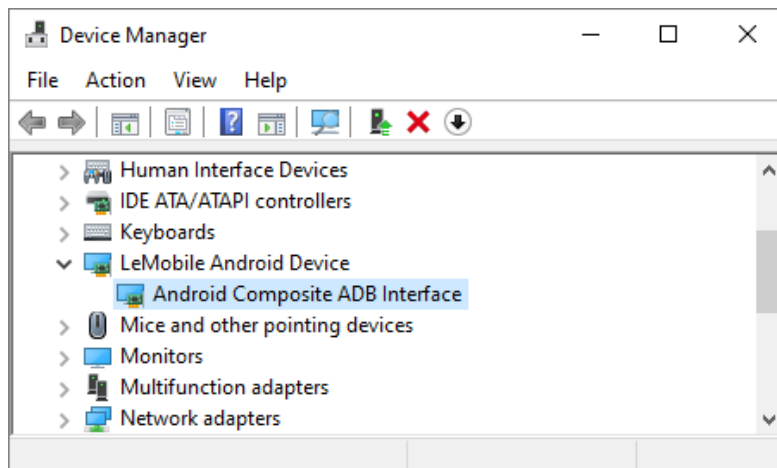
Tap to enter "**Developer options**" page, except of "**Developer options**" which has been on, swipe to find "**USB debugging**" which is under "**Debugging**" and switch it on.

Tap on "**OK**" on the confirmation window.

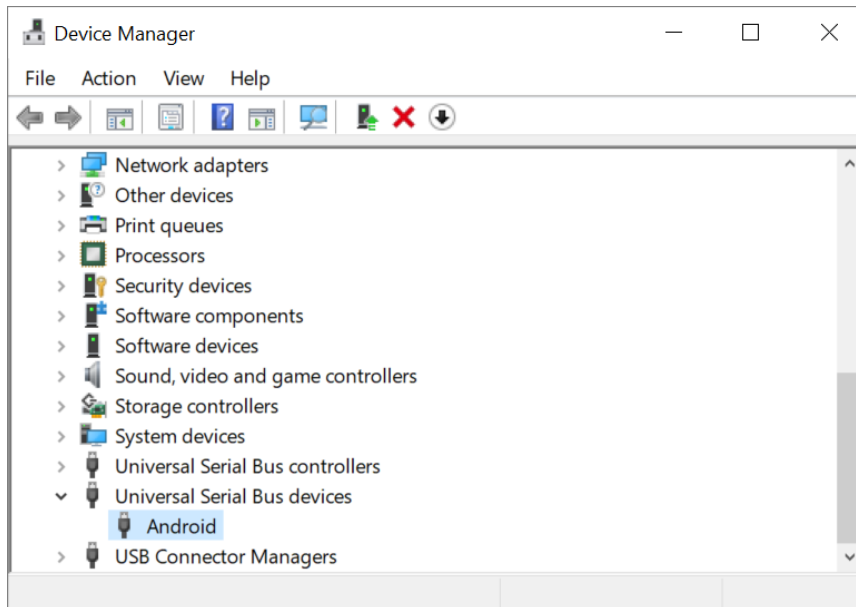


- 3) Go to **Control Panel**  | **Hardware & Sound**  | **Devices and Printers**  | **Device Manager**  on your PC to check whether **ADB Driver** has been installed in your PC.

ADB driver is installed



- **ADB driver is NOT installed**

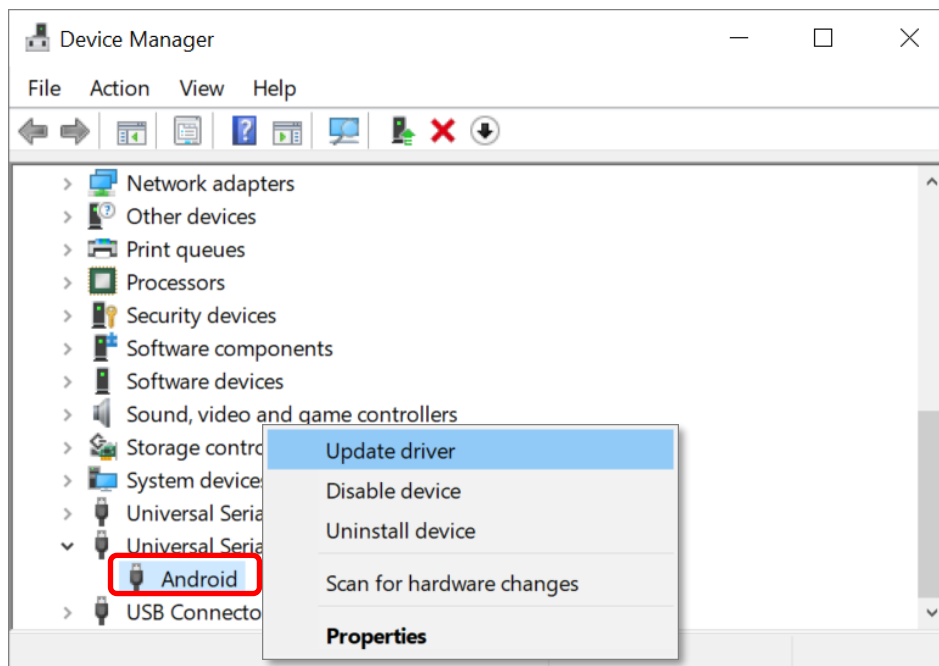


Note:

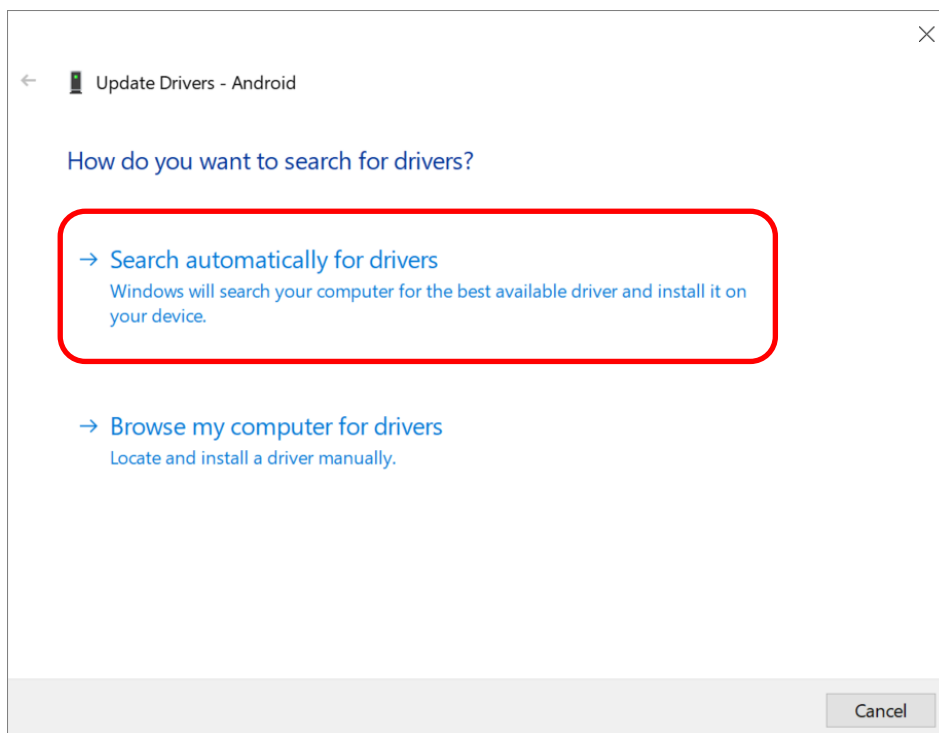
The item shown on “Device Manager” may slightly different based on the operating system environment of your PC.

HOW TO INSTALL ADB DRIVER

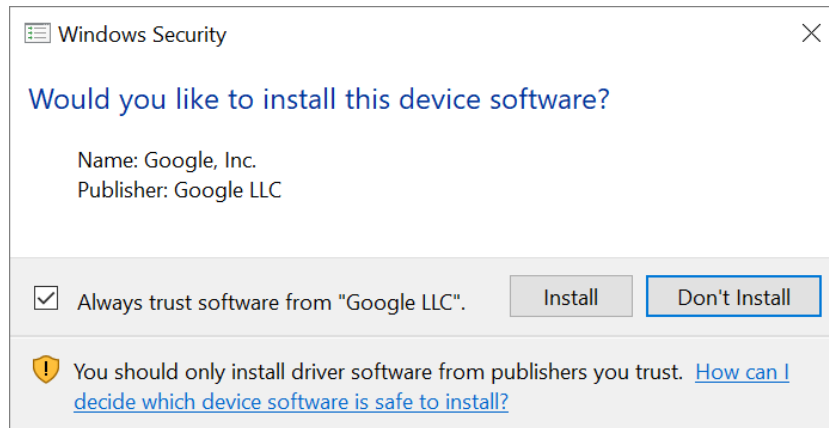
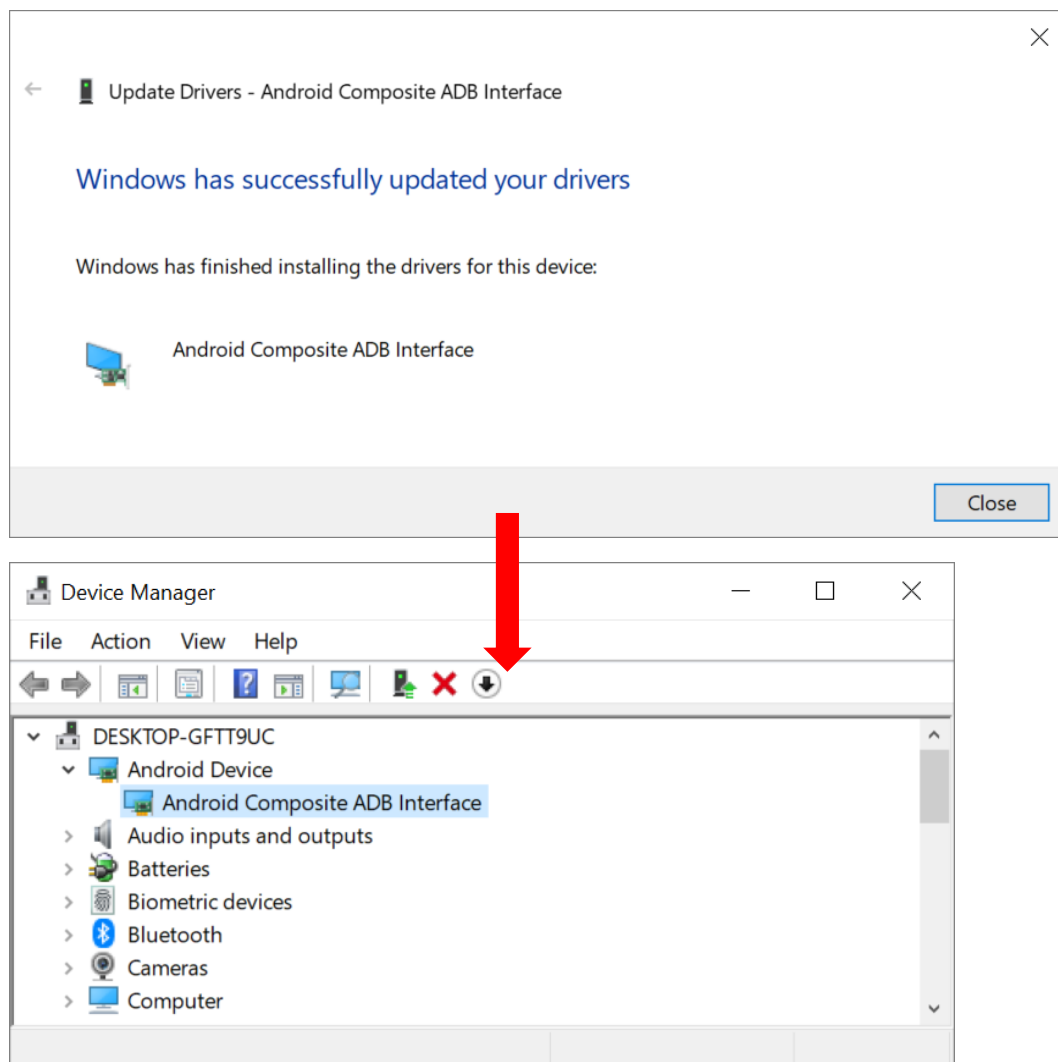
- 1) Continued from the steps above, find your RS51 device on **Device Manager**, and click to open its setting menu to select "**Update driver**".



- 2) Select the way you'd like to search for drivers:

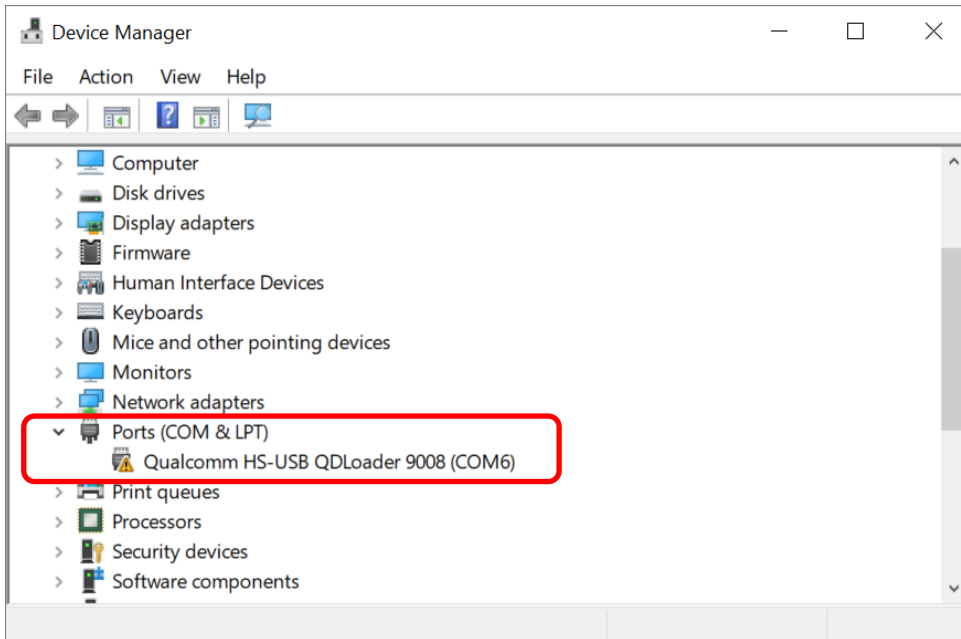


3) Confirm to install.

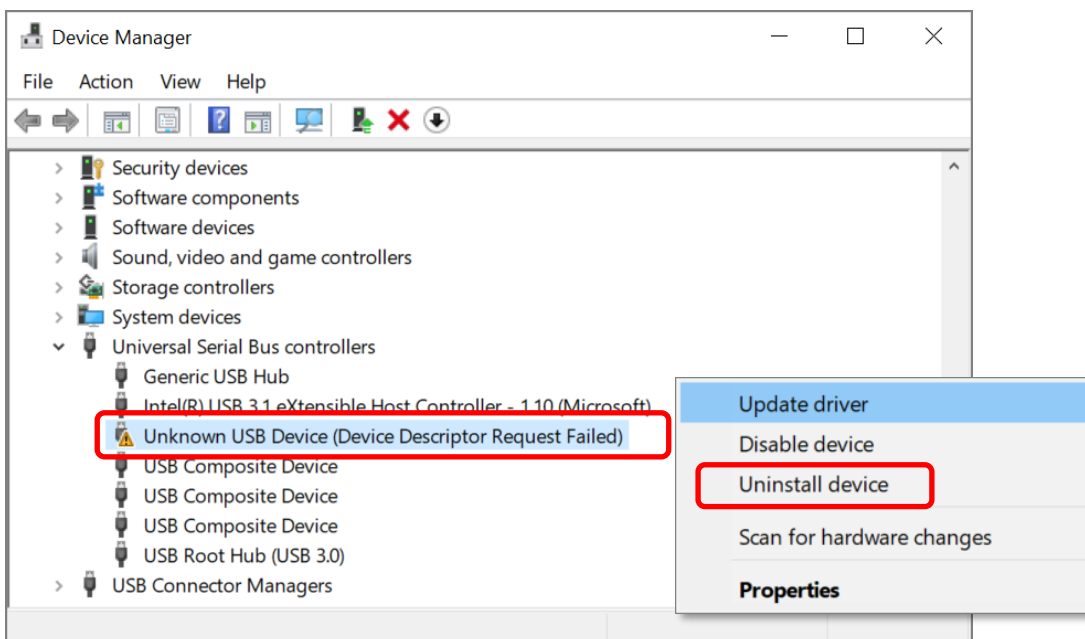
4) After successfully installing the driver, the RS51 mobile computer is shown up as **"Android Composite ADB Interface"** on **Device Manager**.

1.2.3 DRIVER INSTALLATION FAILED

If driver installation is failed, the item shown on **Device Manager** is with a yellow exclamation mark in front of the name.



Please click to open the setting menu and select “**Uninstall device**” to remove it, and then reinstall the driver(s) as the steps of [Qualcomm USB Driver](#) and [ADB Driver](#) describes.



OS IMAGE UPGRADE

This chapter will walk you through the steps of upgrading the OS image.

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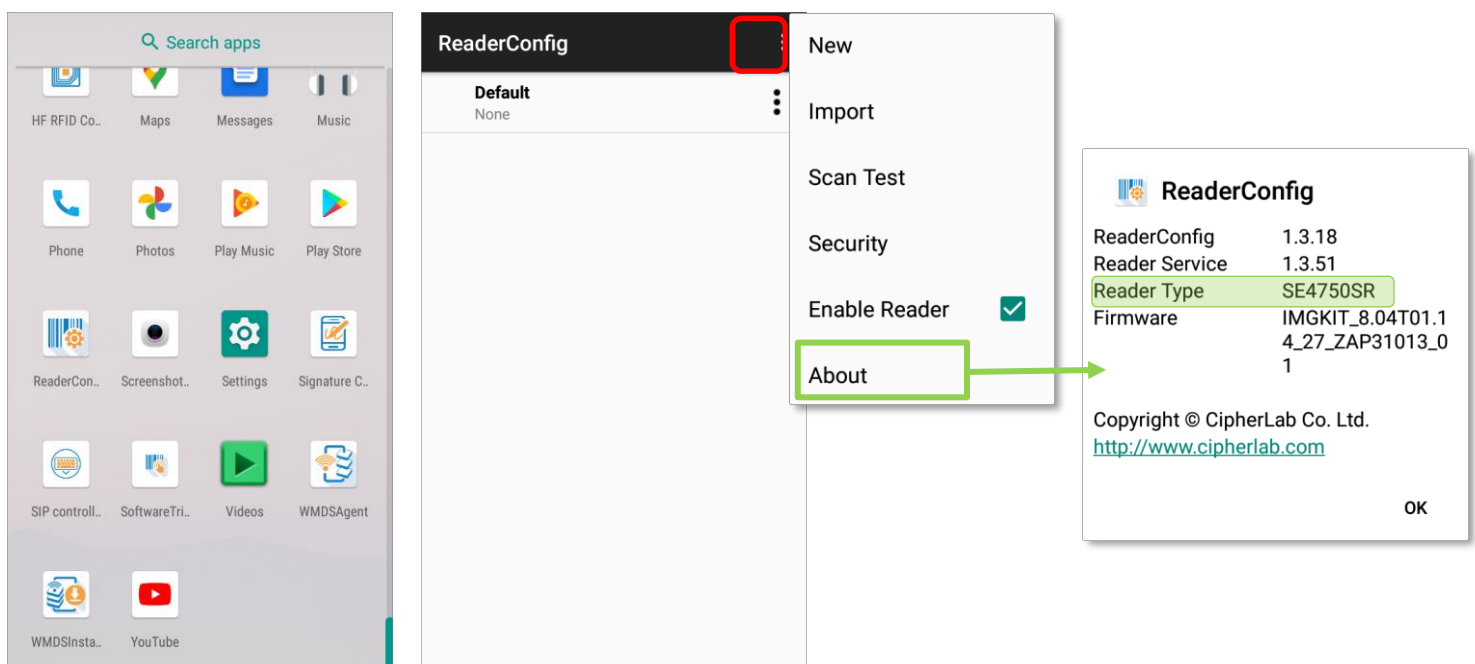
2.1 IMPORTANT NOTICE

Before proceeding OS upgrade, please check and confirm the followings:

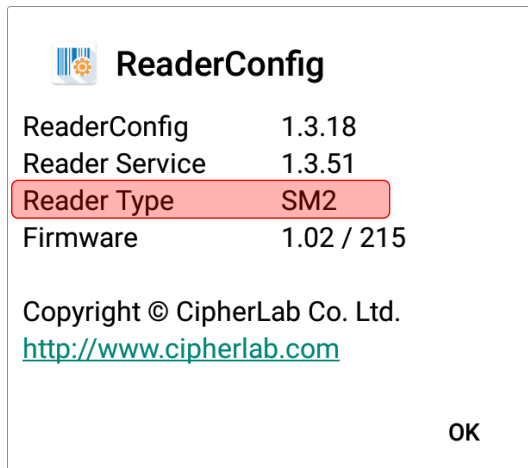
- The main battery power of the RS51 mobile computer is more than **50%**.
- All the required drivers are installed in your PC.
- Back up the user data and the app data & settings of your RS51 mobile computer.
- If your RS51 mobile computer is with **2GB RAM/ 16GB ROM**, make sure that its remaining RAM is more than **300MB** after running all applications.
- The barcode reader integrated on your RS51 mobile computer is NOT **SM2**.

To check which barcode reader the device equips with, please:

- 1) Access **App Drawer** | **ReaderConfig**  on your device to be upgraded.
- 2) Tap on **More** button  on the action bar, and select “**About**” to open app information pop-up.
- 3) Check your “**Reader Type**”.



RS51 Android 11 OS doesn't support the reader type "**SM2**". Please never try to upgrade the device equipped with SM2.



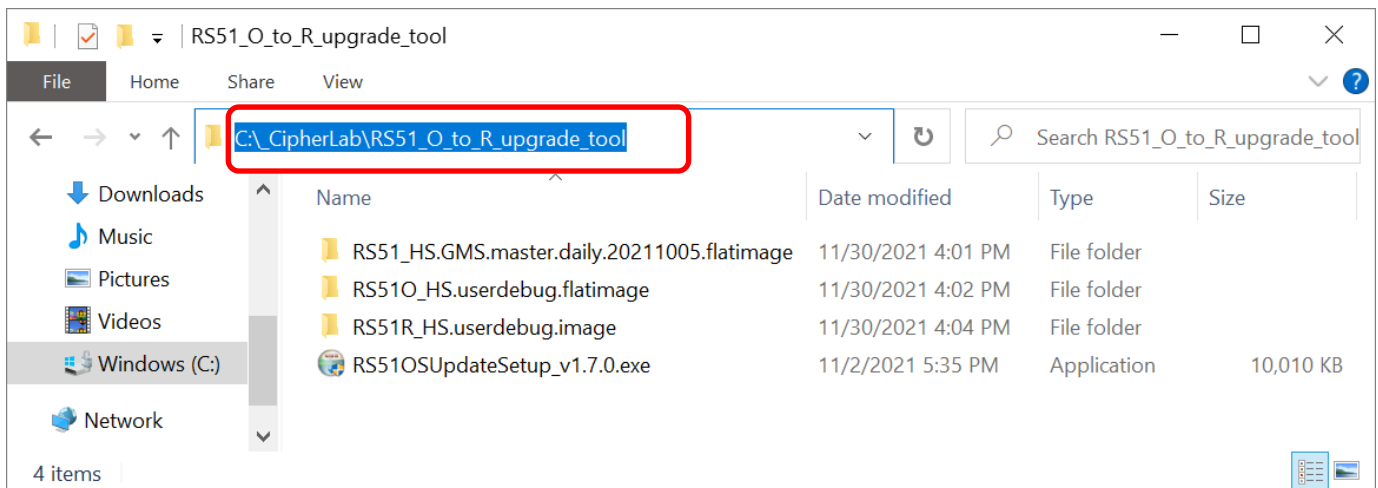
Note:

All the user data and app data & settings in your RS51 will be cleared after OS upgrade. Be sure to have the aforesaid items backed up in order to restore the settings on your device.

2.2 UPGRADE OS IMAGE

Please follow the steps below to upgrade the OS image of your RS51 mobile computer from **Android 8 Oreo** to **Android 11**:

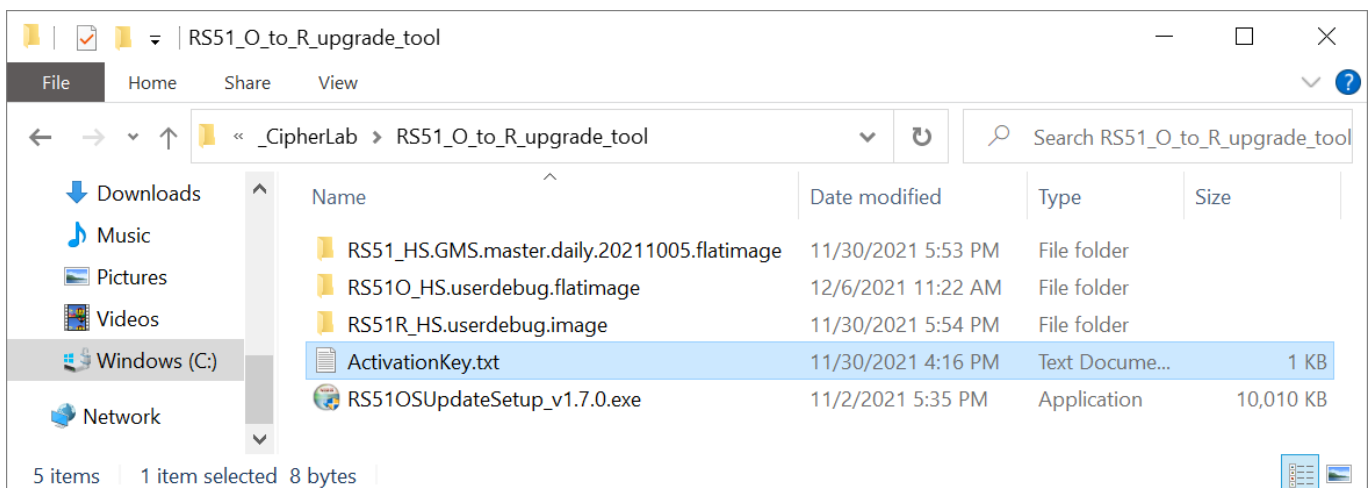
- 1) Uncompress all the zip files.
- 2) Make sure that the RS51 OS image upgrade tool is in the folder (and all its parent folders) is without any space in the folder name.



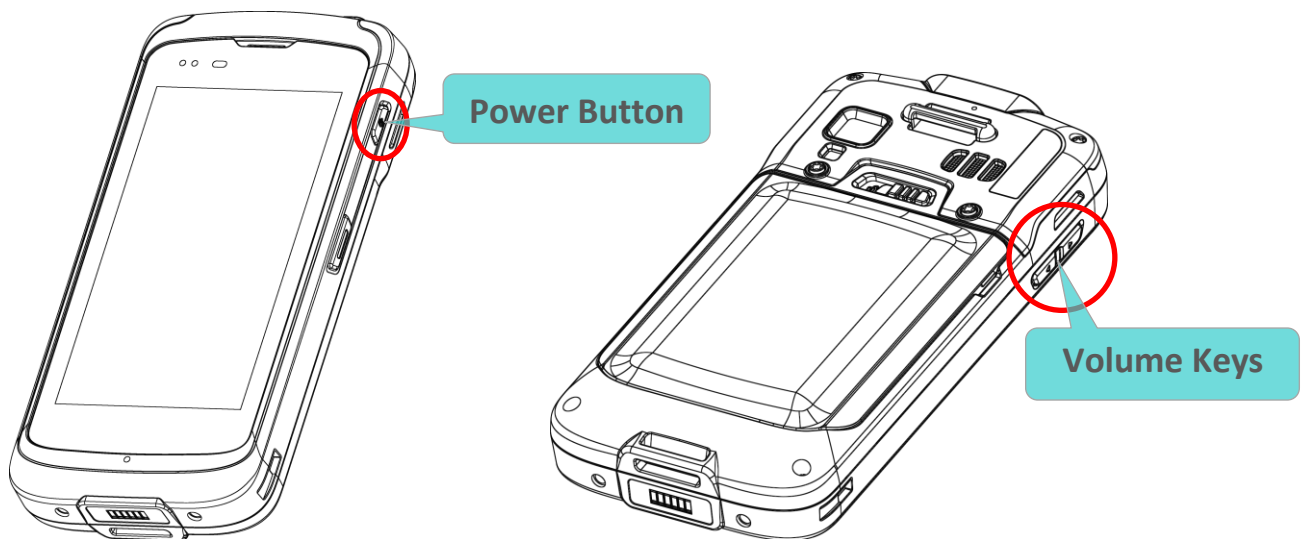
Note:

Executing OS upgrade fails if there's space in the pathname of the path to access the OS image file.

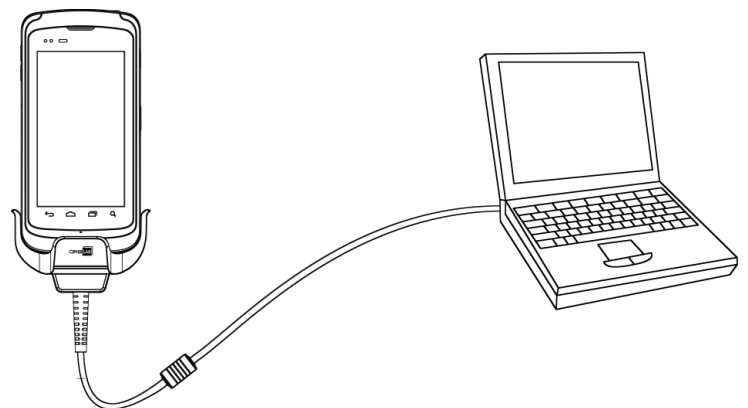
- 3) Put the "Activation Key" acquired from CipherLab into the folder where the Image Download Tool is located.



- 4) Power off your RS51 mobile computer, and then put it into “**Download Mode**” by pressing **Volume Up Key**, **Volume Down Key** and **Power button** at the same time.

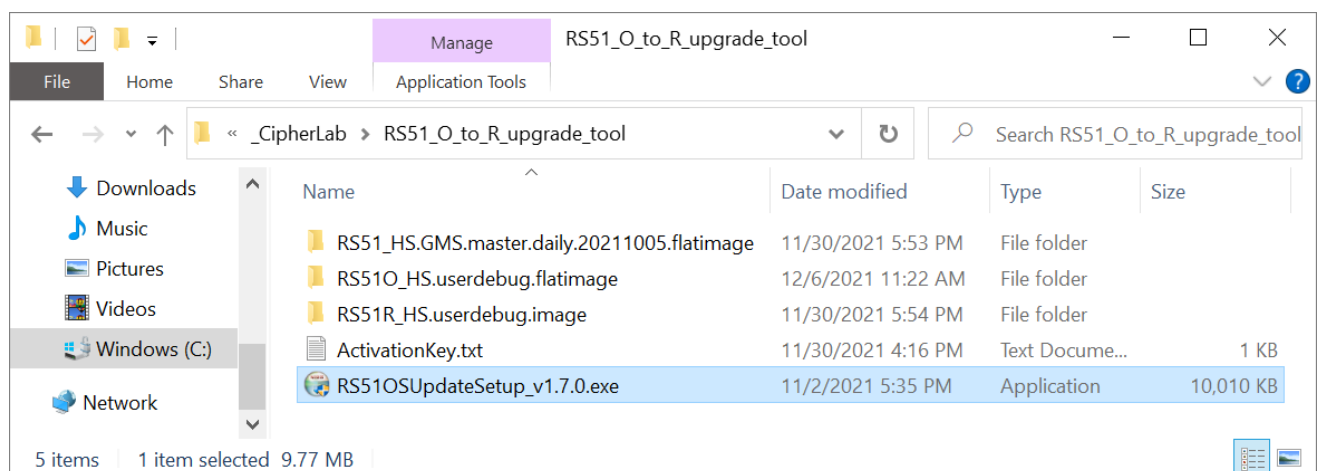


- 5) Connect the RS51 mobile computer with your PC by the snap-on cable.



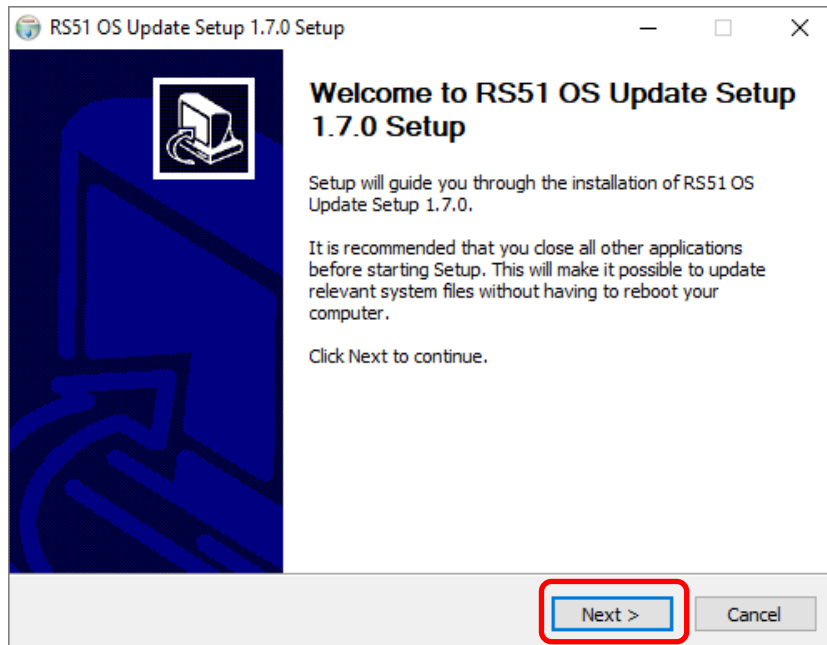
Note: It allows to upgrade only one device at a time.

- 6) Double-click on “**RS51OSUpdateSetup**” to run the executable file.

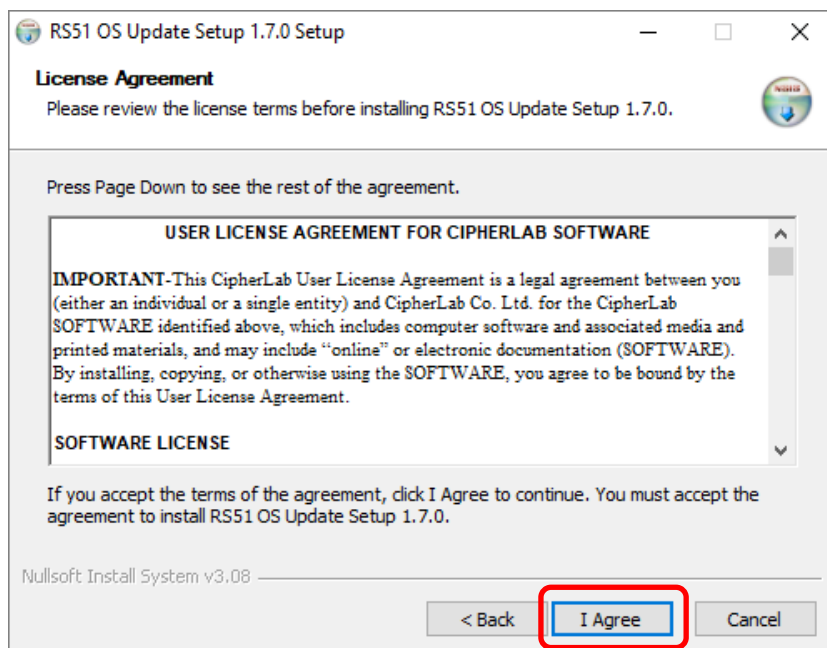


- 7) Follow the on-screen instructions to start the OS image upgrade progress, and it will take about 30 minutes to complete.

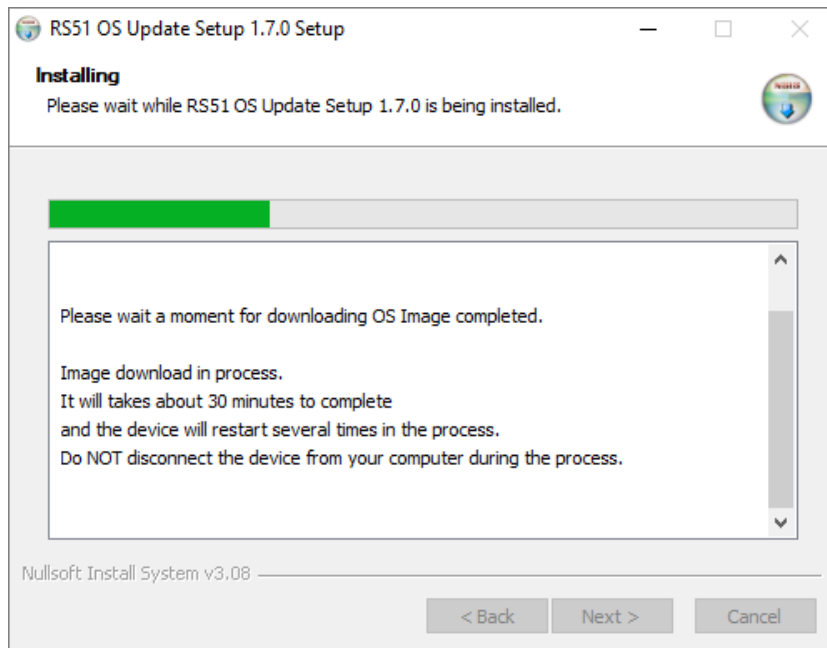
- **Step 1:** Click “Next” to start.



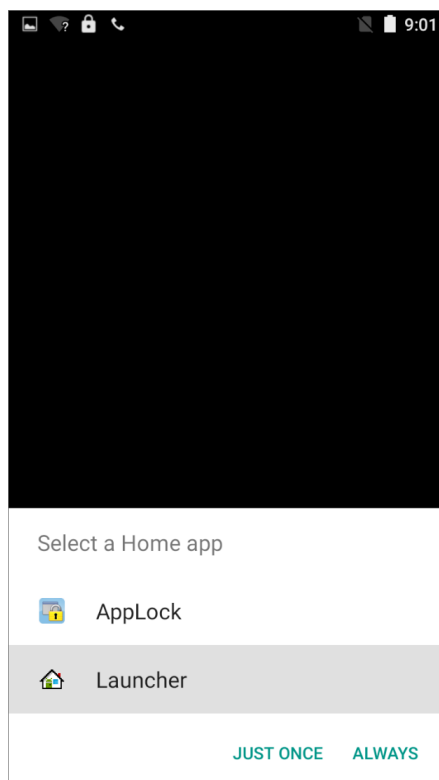
- **Step 2:** Agree on the License Agreement.



- **Step 3:** The installation is performing. It will takes about 30 minutes.



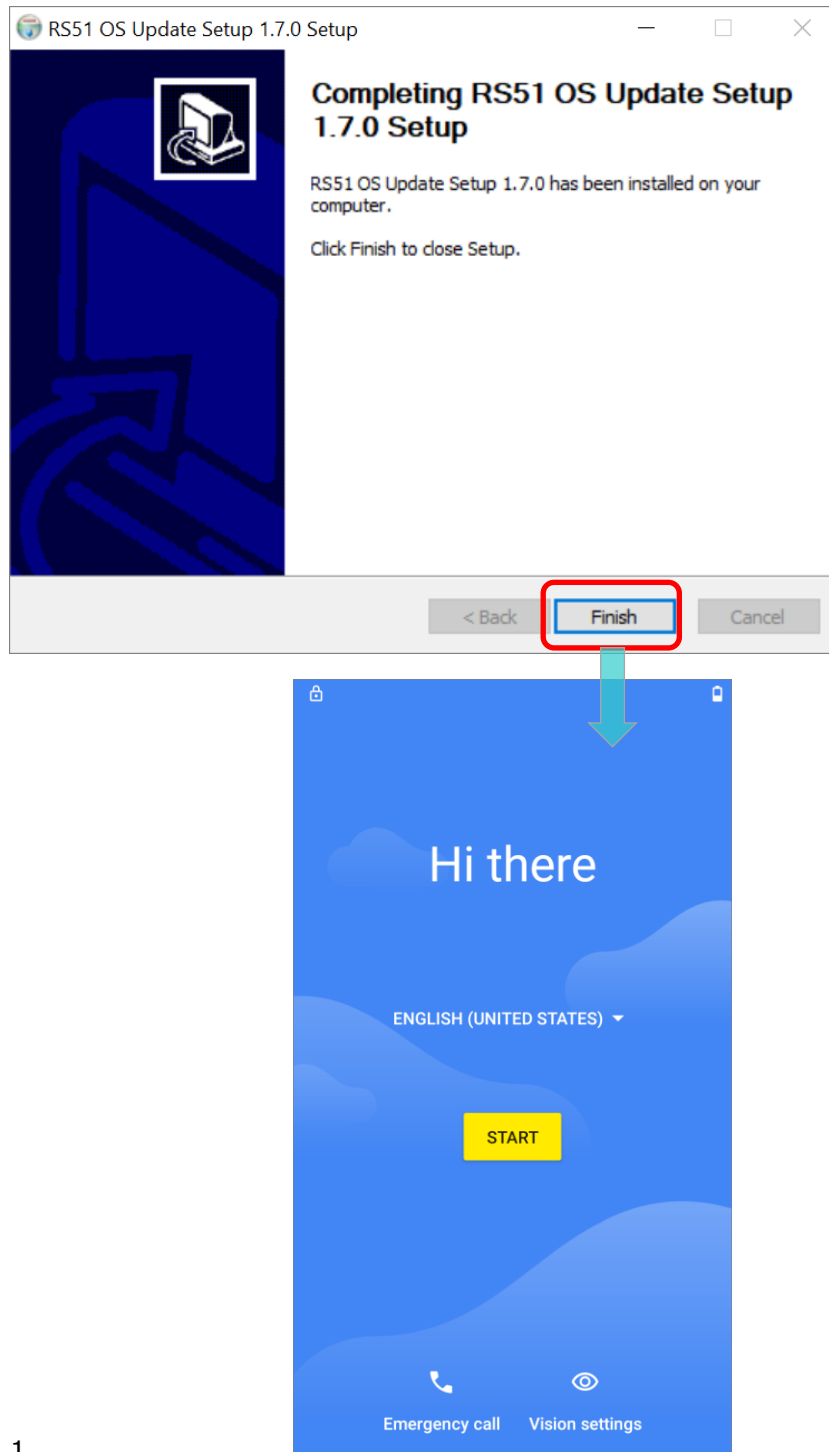
- **Step 4:** During the installation, the device will reboot for several times. If the device prompts the home selection screen, do not make any selection and simply leave the device alone.





Note:

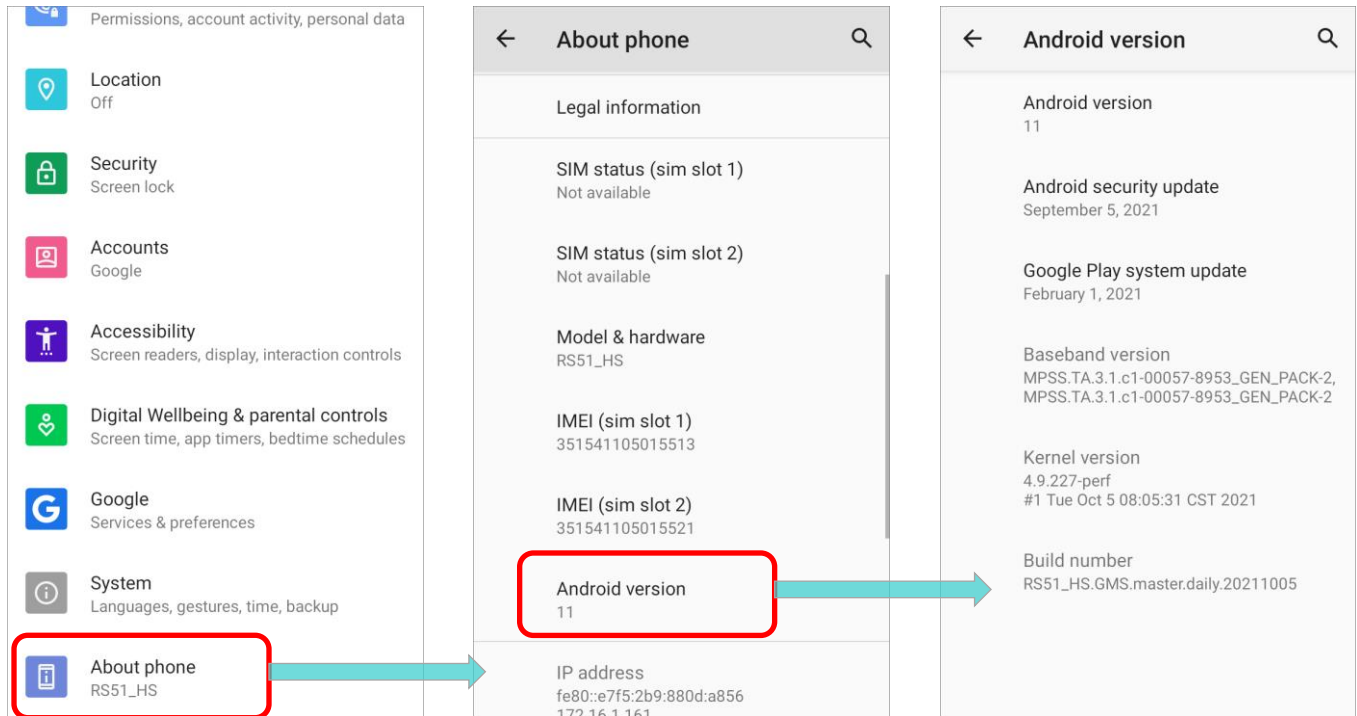
During the upgrade period, RS51 mobile computer screen gets into the splash screen. Please **DO NOT** disconnect the RS51 mobile computer from your PC or press any button on your RS51 mobile computer till the OS upgrade tool on-screen instruction shows that “Completing Image Download” and you click “Finish” button to exit.

- 8) Once it shows "**Completing Image Download**", the OS image upgrade is done. Click on "**Finish**" to close the window. The RS51 mobile computer will automatically reboot and "**Welcome Wizard**" shows up to run you through setting up your device.

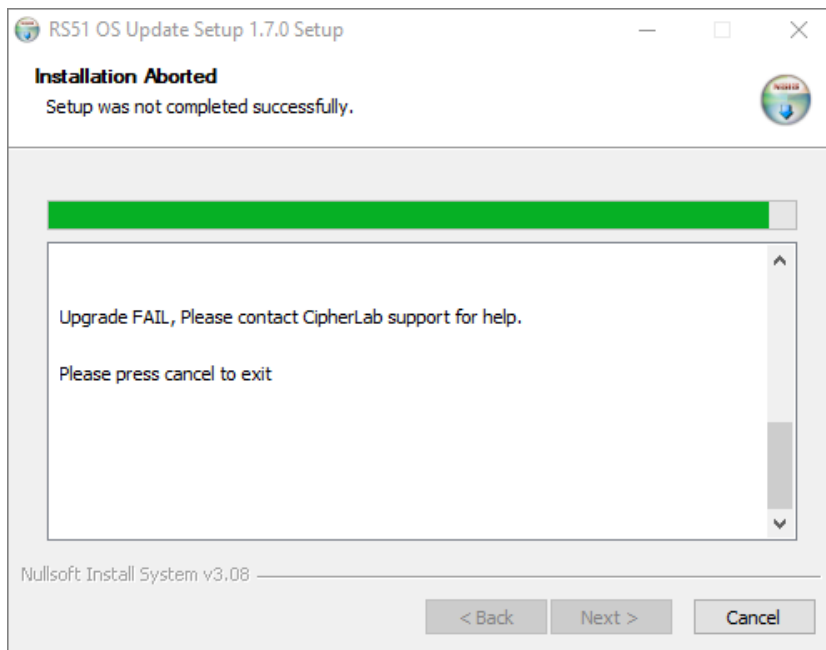


1

- 9) Now the OS image of RS51 mobile computer becomes Android 11. You can check it from **App Drawer (All Apps) | Settings  | About Phone  | Android version.**



2.3 UPGRADE FAILED



If it is failed to upgrade the OS image, please:

- 1) Check whether the required [USB drivers](#) are properly installed.
- 2) Contact with support@cipherlab.com.tw for help, and provide us your log.

The upgrade log will be saved in the same folder where the Image Upgrade Tool is located. The log will be saved as a .txt file with the file name format as below:

RS51_download_message_YYYYMMDDHHMMSS

