CipherLab
User Guide

CipherLab OS Image Download Tool

RS51
RK95

Version 1.00

CIPHERLAB

CIPHERLAB CO., LTD.

Website: http://www.CipherLab.com

RELEASE NOTES

Version	Date	Notes
1.00	Feb. 18th, 2020	Initial release

CONTENTS

5

PREREQUISITE

This chapter guides you all the things need to be done before upgrading the OS image of your RK95 or RS51 mobile computer, and the steps of installing ADB Driver on your PC.

IN THIS CHAPTER

1.1 PREREQUISITE FOR UPGRADING OS IMAGE

OS image upgrade helps optimize your devices' performance and functionality. Before proceeding the upgrade, you need:

▶ **PC:**

The operating system should be **Windows 7**, **Windows 8,** or **Windows 10**.

▶ *Snap-on Charging and Comm. Cable or Charging & Comm. Cradle:*

Please use the supplied **Snap-on Charging and Comm. Cable** or **Charging & Comm. Cradle** to connect the PC with your device.

RS51 Snap-on Charging and Comm. Cable
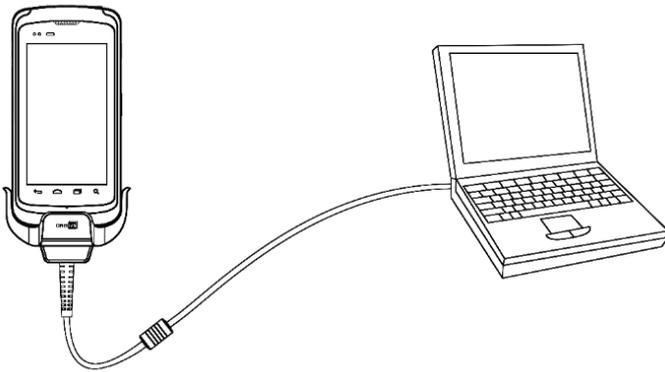
RS51 Charging & Comm. Cradle
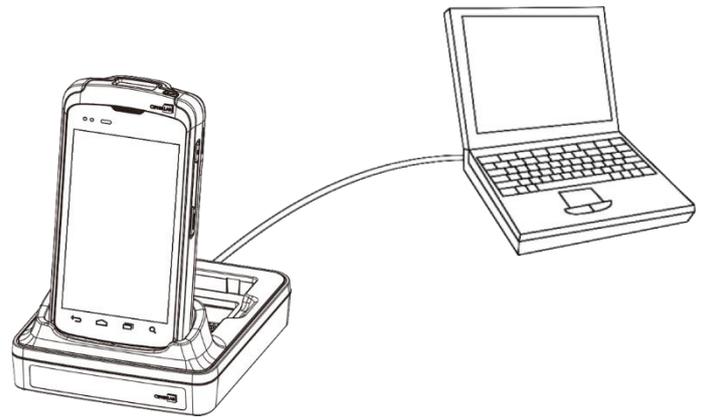
RK95 Snap-on Charging and Comm. Cable
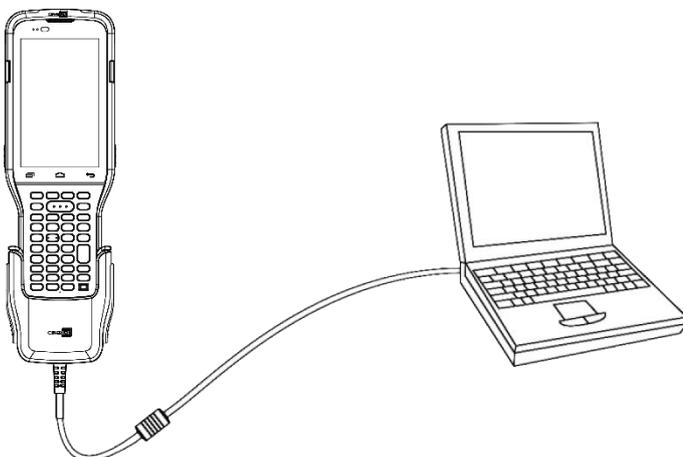
RK95 Charging & Comm. Cradle
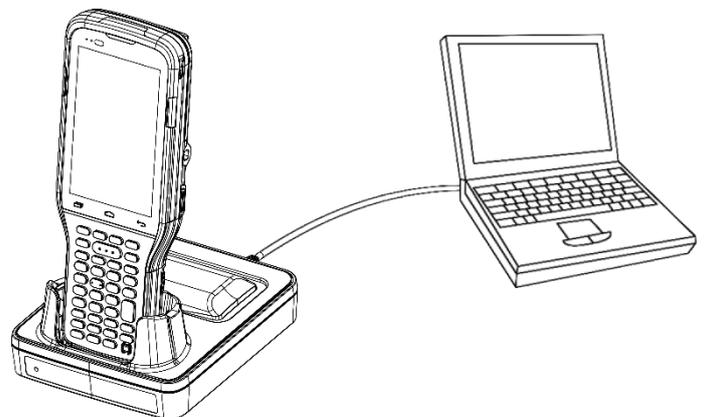
▶ *ADB Driver:*

Please download it from https://developer.android.com/studio/run/win-usb.

▶ *CipherLab OS Image Download Tool & RS51/RK95 OS Image File*

Fetch **CipherLab Download Tool** and **the latest RS51/RK95 OS image** from GoBetween. (Please download the GoBetween desktop or mobile device application, or launch the GoBetween Lite web application from the following site: http://ccs.cipherlab.com/ .)

1.2 INSTALLING ADB DRIVER

Please follow the steps to install **ADB Driver**:

1.2.1 CHECK WHETHER ADB DRIVER IS INSTALLED IN YOUR PC

To check whether **ADB Driver** has been installed in your PC:

1) Power on your device, and connect it with your PC by the supplied Snap-on Charging and Comm. Cable or Charging & Comm. Cradle.

2) Enable debugging mode on your RS51/RRK95 mobile computer. The exact location of "**build number**" may differ depending on your device model. The following takes RS51 mobile computer for example:
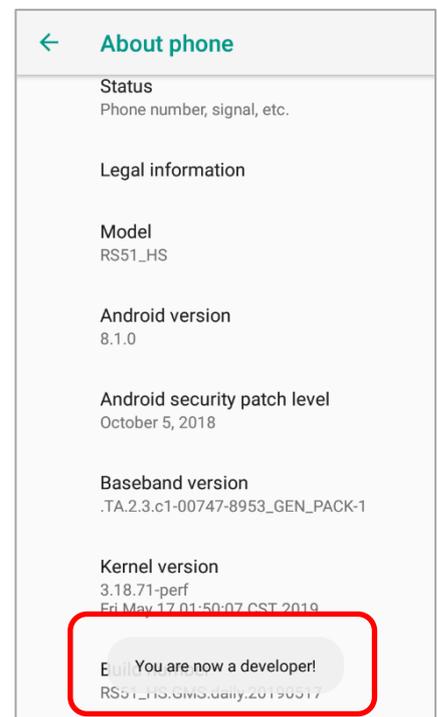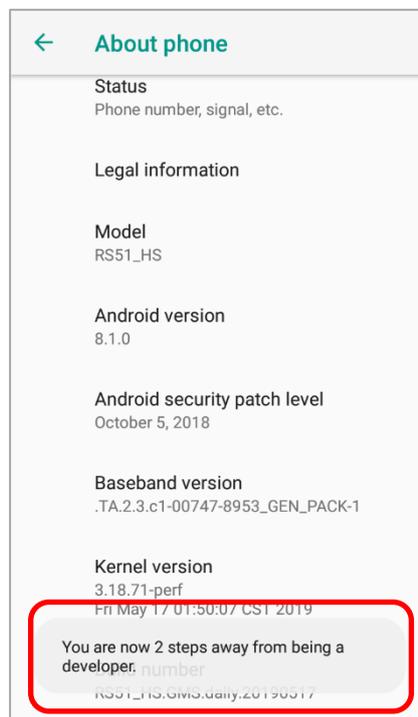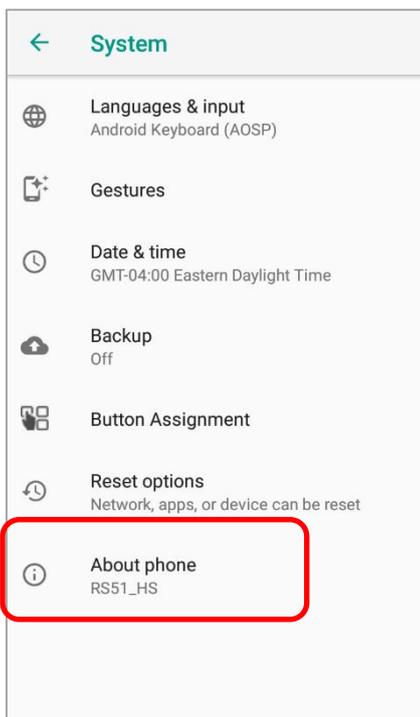

Step 1:
Go to App Drawer (All Applications)
| Settings 🔧 | Systems ⓘ
|About phone ⓘ
| Build number.

Step 2:
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.
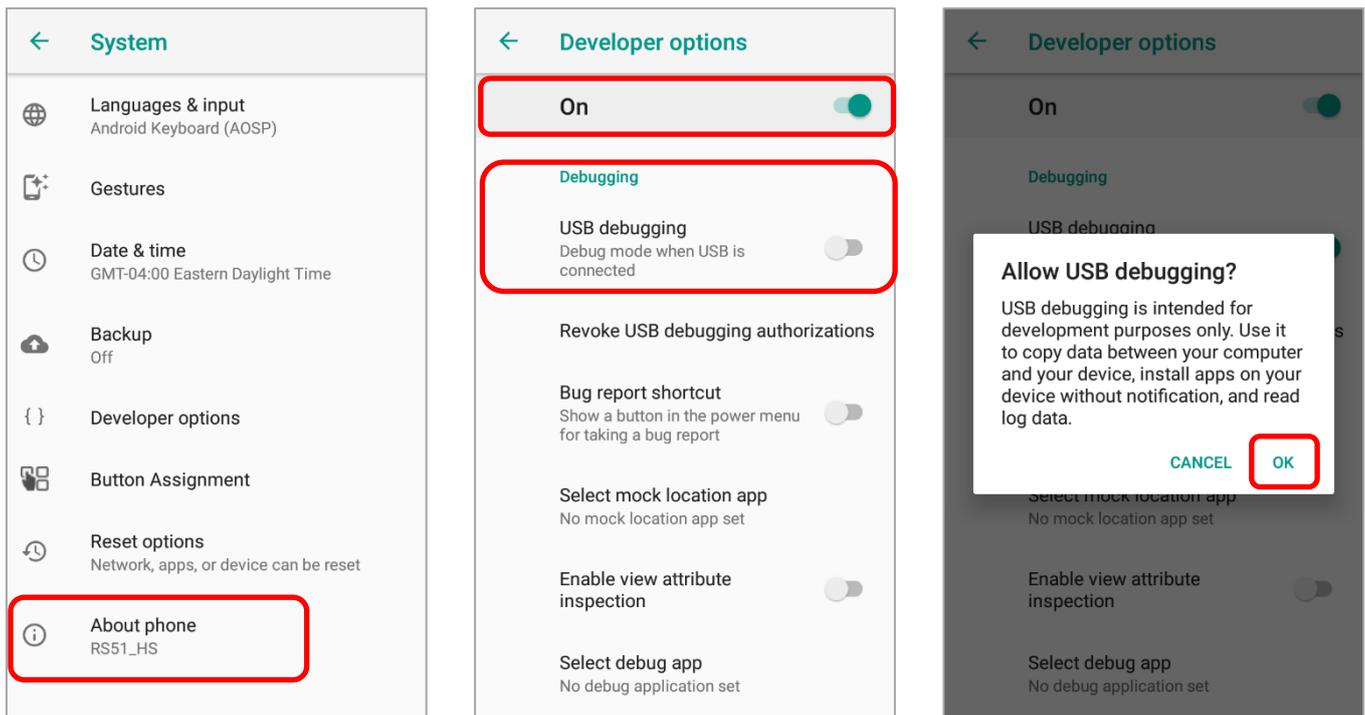
Step 4:

Return to Settings and tap on " { }   Developer options", switch both Developer options and USB debugging to "On" , and tap on "OK" on the confirmation window.

3) Go to "**Control Panel**" → "**Device Manager**" in your PC to check whether **ADB Driver** has been installed in your PC.
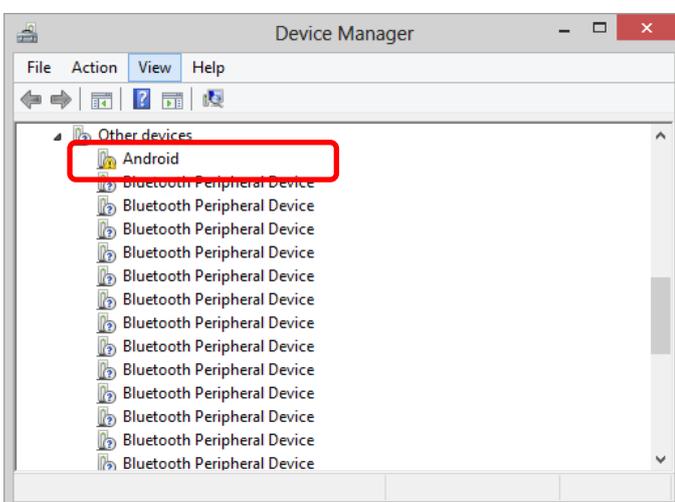
ADB Driver is not installed   **ADB Driver is installed**
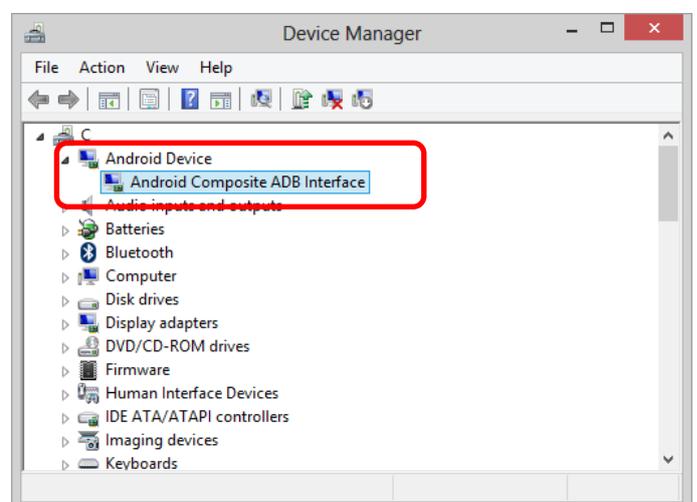
1.2.2 INSTALL ADB DRIVER

1) Acquire the **Google USB Drivers** from https://developer.android.com/studio/run/win-usb

2) Go to "**Control Panel**" → "**Device Manager**", and find your connected device (which is shown up as an unknown Android device). Click on it to open the settings menu and select "**Update Driver Software**".
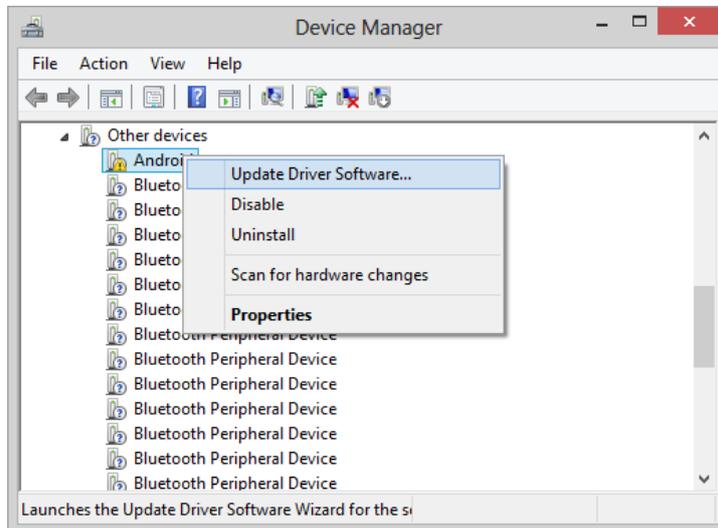
3) Please update **ADB Driver** manually.
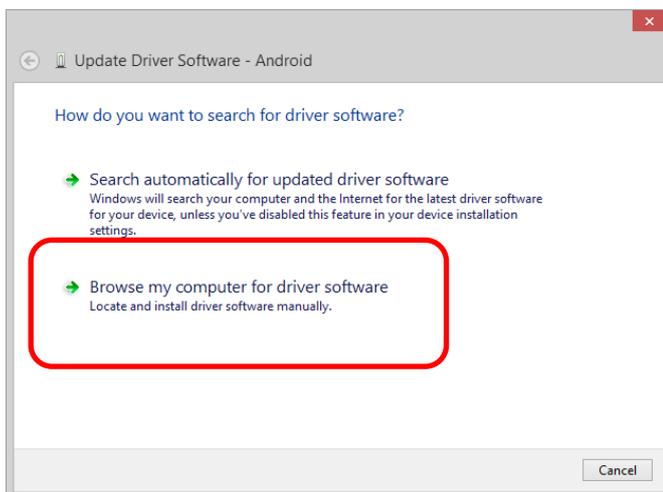
Step 1:
Choose "Browse my computer for driver software".
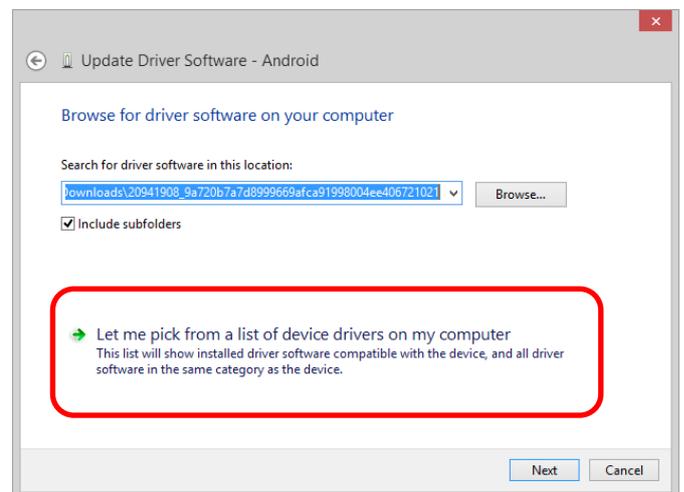
Step 2:
"Let me pick from a list of device drivers on my computer".
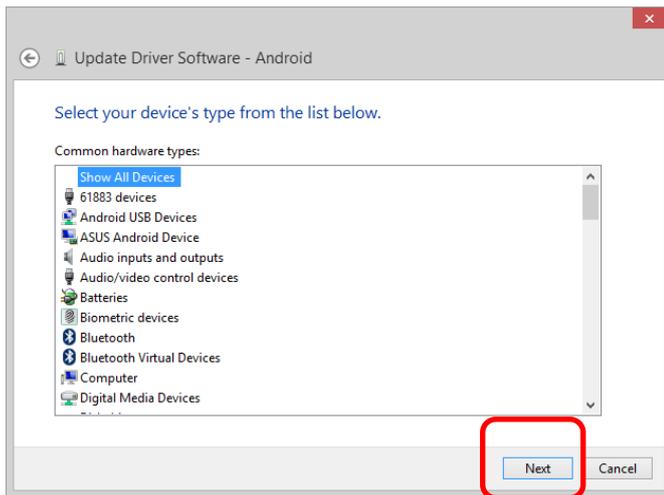
Step 3:
Directly click on "Next".
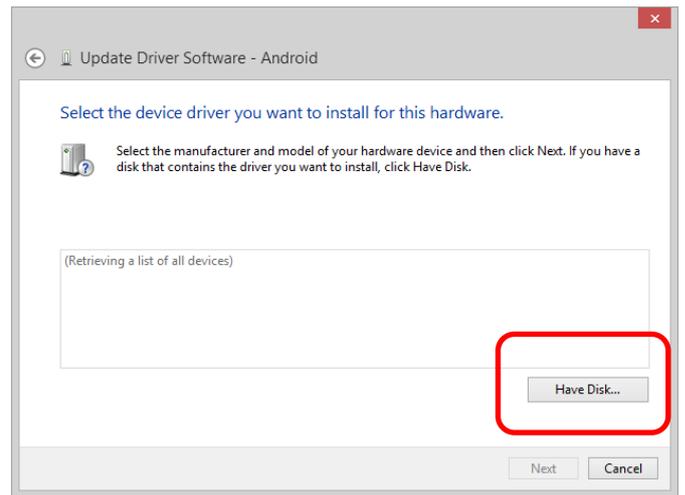
Step 4:
Click on "Have Disk".
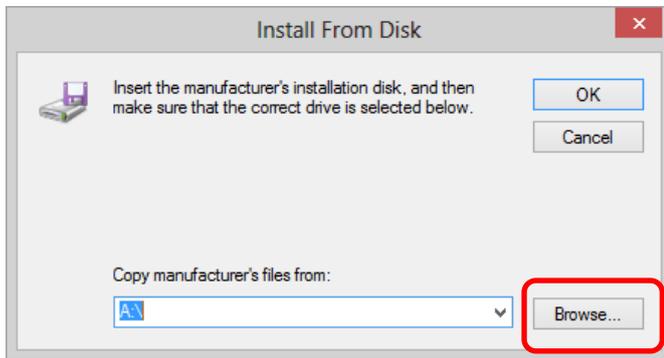
Step 5:
Click "Browse" to select the folder you unziped from the "latest_usb_driver_windows" you downloaded .
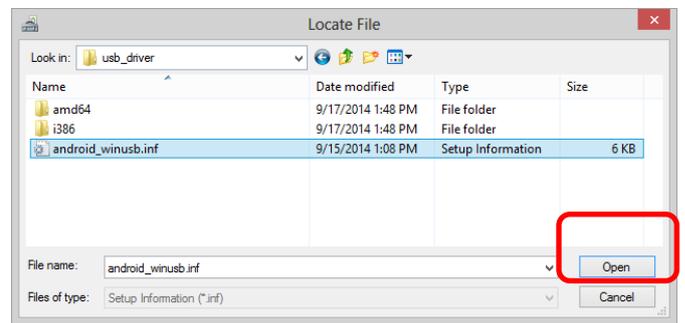
Step 6:
Select the "android_winusb.inf" file to open.
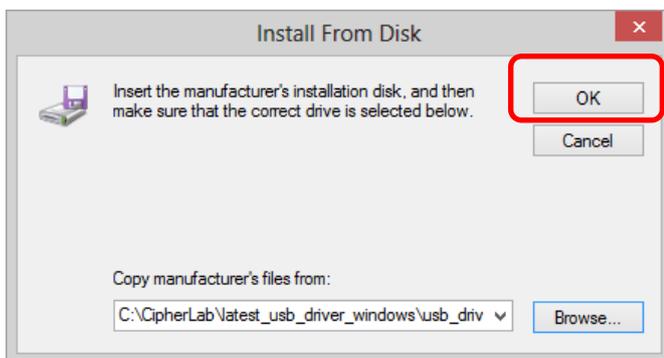
Step 7:
Click on "OK" to install.
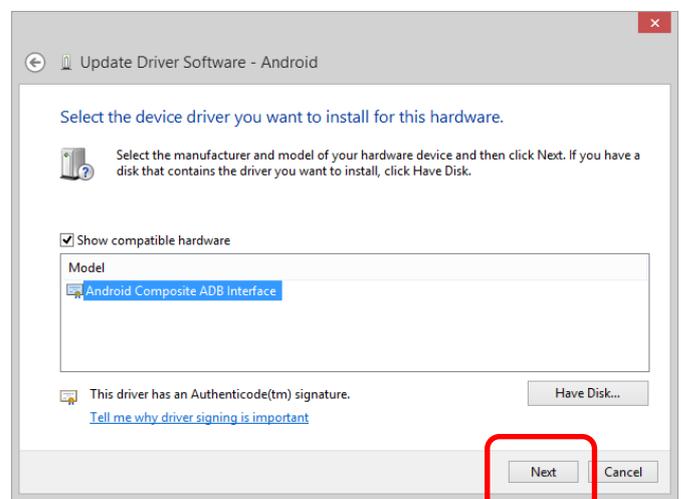
Step 8:
Select ADB Interface and click on Next".

Step 9:
Click on "Install" on the "Windows Security" confirmation window.
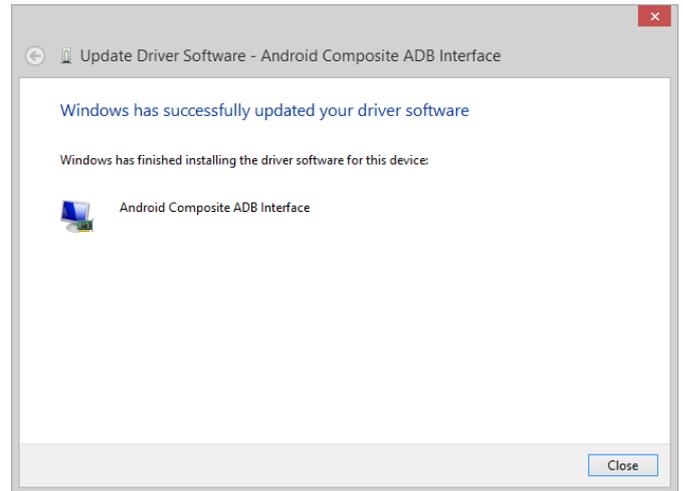
Step 10:
ADB Interface installation is complete.

4) Go to "**Control Panel**" → "**Device Manager**", and you will find the unknow Android device is now become "**Android ADB Interface**" under "**Android Device**".
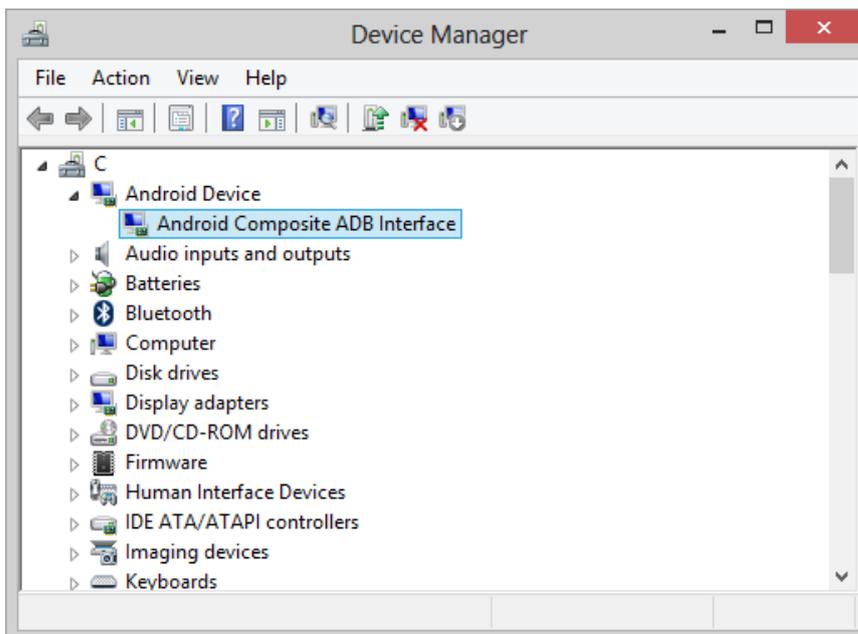
Note:

The aforementioned steps may slightly different depending on the operating system environment of your PC.

OS IMAGE UPGRADE

This chapter will walk you through the steps of upgrading the OS image through CipherLab Download Tool, and all the prerequisites before OS image upgrade.

IN THIS CHAPTER

2.1 CIPHERLAB DOWNLOAD TOOL

Acquire **CipherLab Download Tool** from GoBetween and uncompress the zip file. In the folder you uncompressed, please find these 2 files:
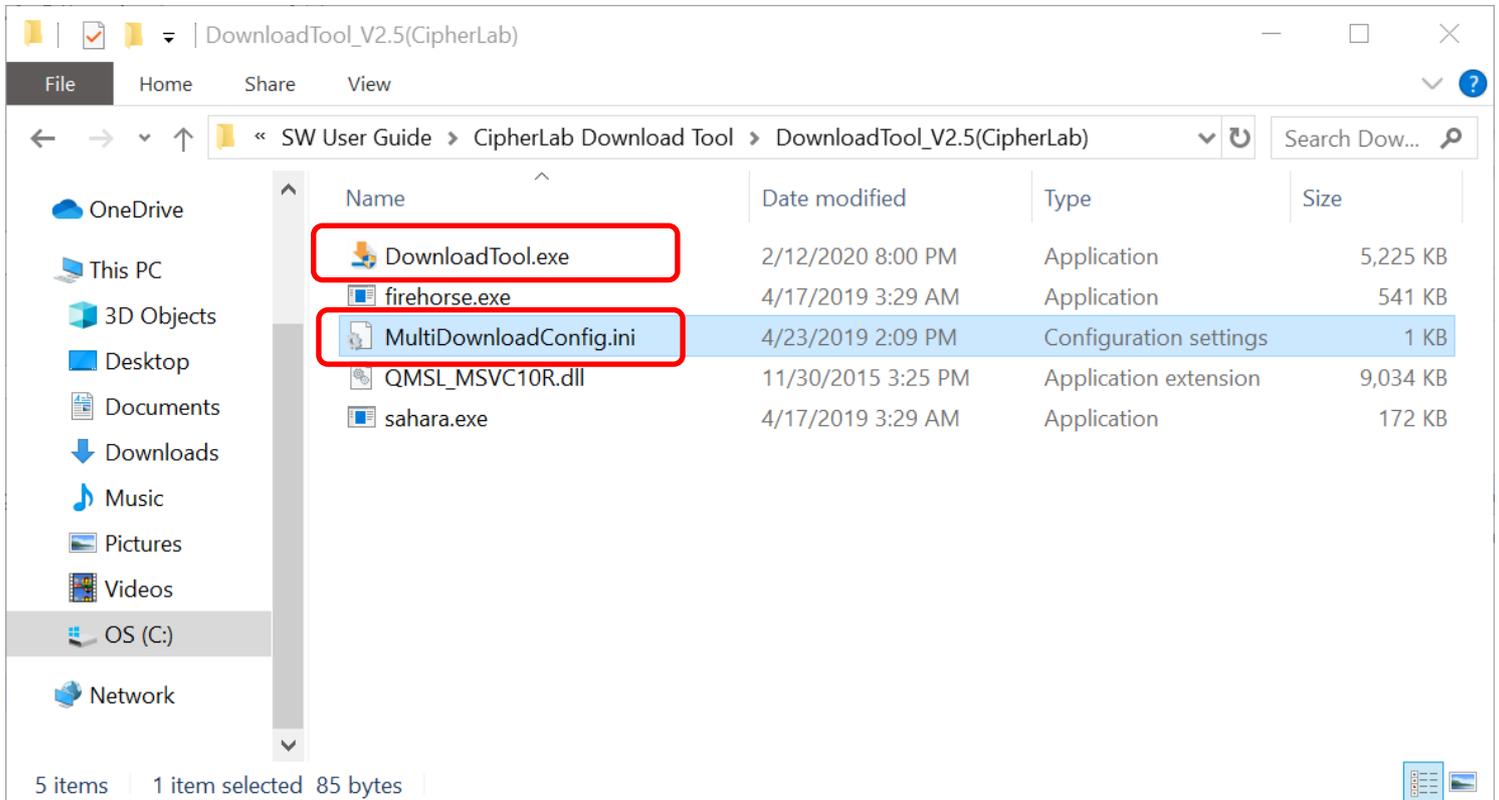
▶ **MultiDownloadConfig.ini**

The Initialization file which stores the settings of upgrading your mobile computer in **EDL (Emergency Download)** mode.

▶ **DownloadTool.exe**

This executable file is for upgrading the OS image of your device. Double clicking the executable file to run it.

Note:

Download the GoBetween desktop or mobile device application, or launch the GoBetween Lite web application from the following site: http://ccs.cipherlab.com/ .

MULTIDOWNLOADCONFIG.INI FILE SETTINGS

When updating the OS image, the device must be in EDL (Emergency Download) mode. The file "**MultiDownloadConfig.ini**" is for configuring the status your device should be in for upgrading the OS image.
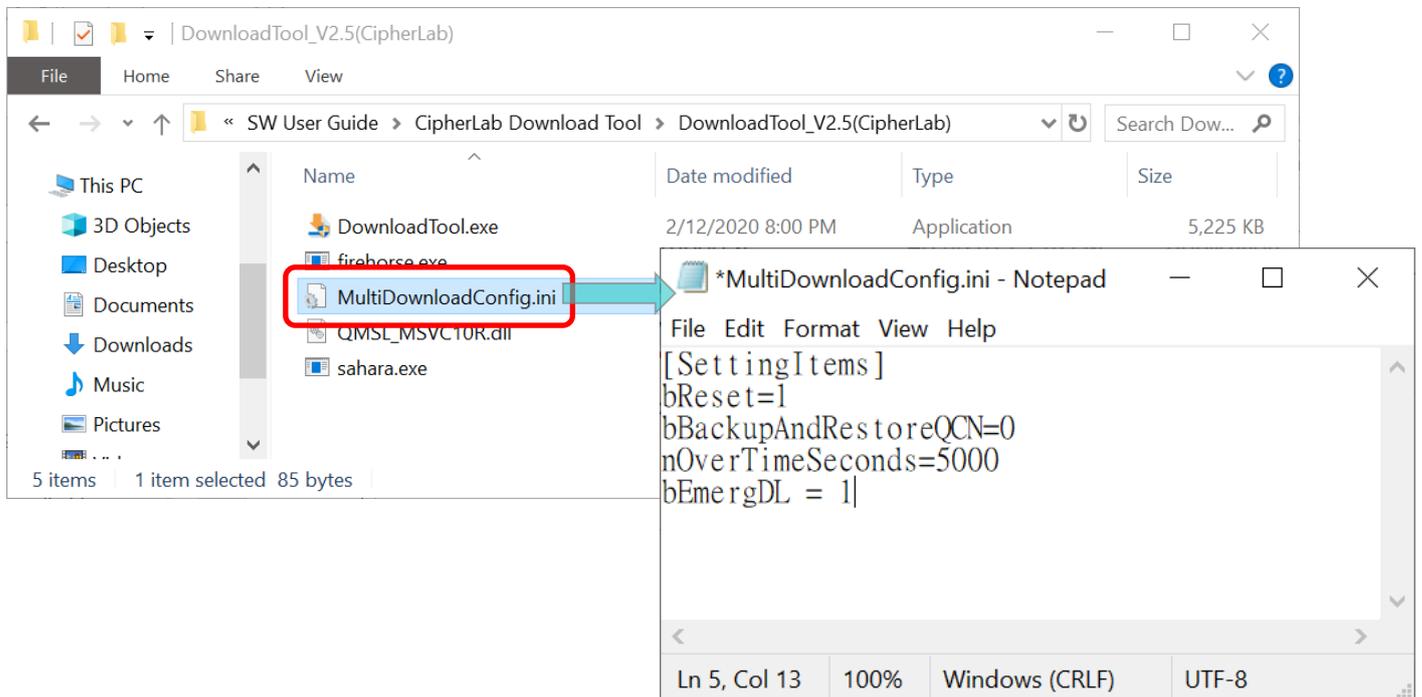
To check/change the configuration:

1) Click "**MultiDownloadConfig.ini**" to open it.
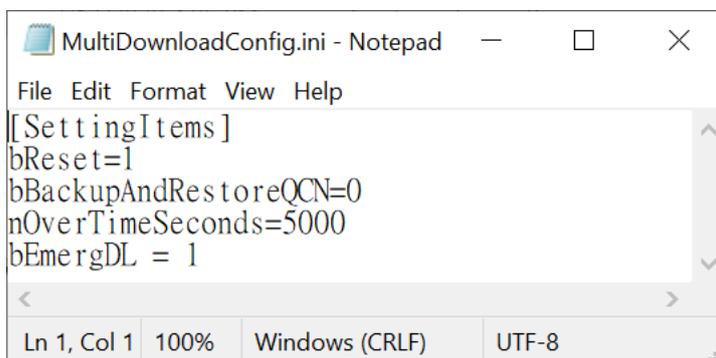
2) Find the property "**bEmergDL**" whose value is either "**1**" or "**0**".
   Make sure its value is **1** which specifies the device should be in EDL mode when proceeding OS upgrade.

3) If the value is **0**, please manually input the value **1** for "**bEmergDL**" to specify the device status, and save the file to complete changing the configuration.

DOWNLOADTOOL.EXE

"**DownloadTool.exe**" provides the functions as below:
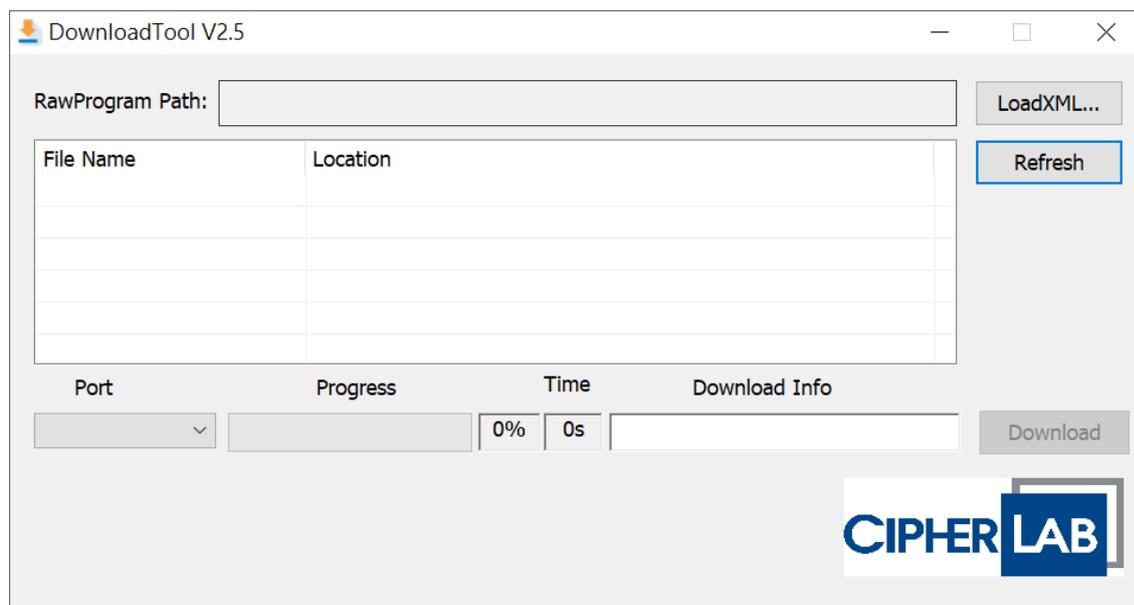
| Item	Description
RawProgram Path	Showing the path to access the OS image file in the PC.
LoadXML	To browse and locate the OS image file.
Refresh	To detect the communication port again.
Port	Showing the detected Qualcomm HS-USB QDLoader 9008 port.
Progress	Showing the OS upgrade progress bar and the percentage complete value.
Time	Showing the elapsed time since the OS upgrade is started.
Download Info	Showing the OS upgrade status. Please pay attention to this area for the status during OS upgrade process.
Download	To start to download the OS image to your device and upgarde.

Note:

Heed the status information of "Download Info" on DownloadTool.exe screen. If it shows any error, please re-execute OS upgrade as the steps Section 2.2.2 or Section 2.2.3 describe.

2.2 UPGRADE THE OS IMAGE

To upgrade the OS of your device, you have to put your device into EDL mode and connect the it with the PC by the supplied Snap-on Charging and Comm. Cable or Charging & Comm. Cradle.

2.2.1 HOW TO ENTER EDL MODE

Please follow the steps to put your mobile computer into **EDL (Emergency Download) mode**:

FOR RS51 MOBILE COMPUTER

1) Make sure the RS51 mobile computer is powered off.

2) Press the Volume Up Key , Volume Down Key and Power Button at the same time, and the device will vibrate once.
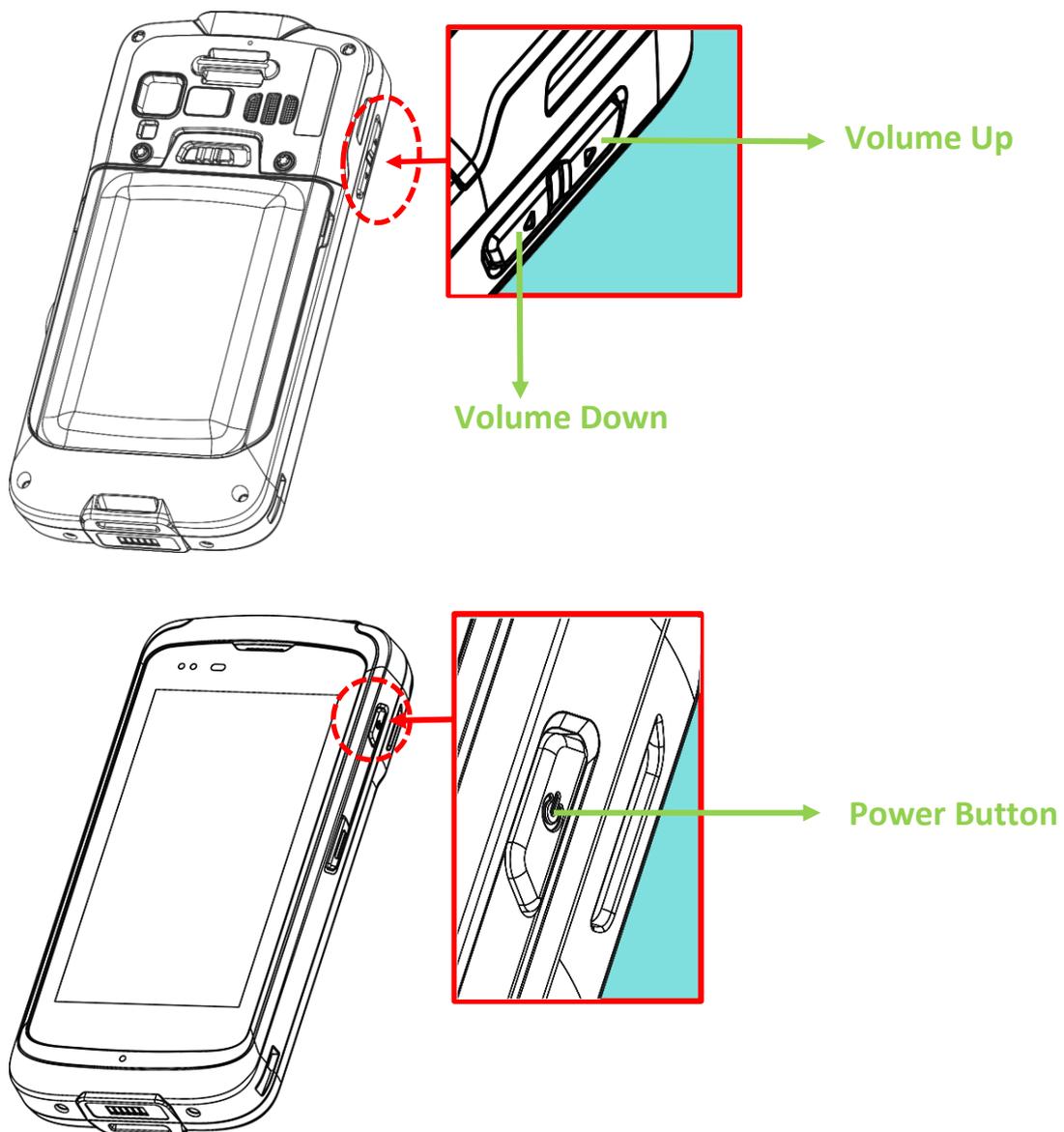
3) Now the device is in EDL mode. Please connect it with the PC by RS51 Snap-on Charging and Comm. Cable or RS51 Charging & Comm. Cradle.
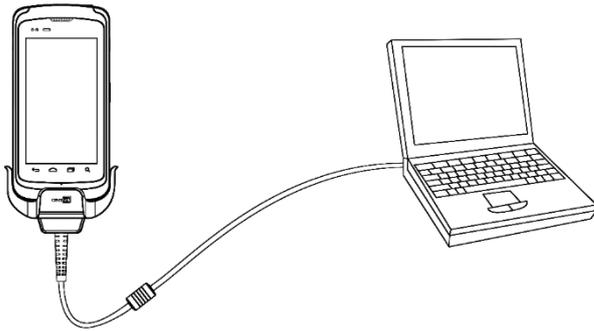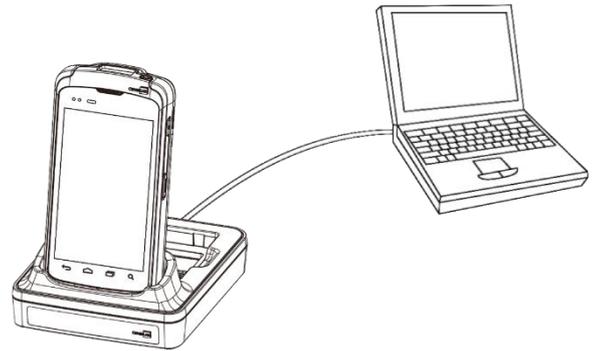

RS51 Snap-on Charging and Comm. Cable   **RS51 Charging & Comm. Cradle**

FOR RK95 MOBILE COMPUTER

1) Press the two **Scan Keys** on both sides and **Power Key** at the same time till the device vibrates once.

Scan Key (Right)

Scan Key (Left)

Power Key
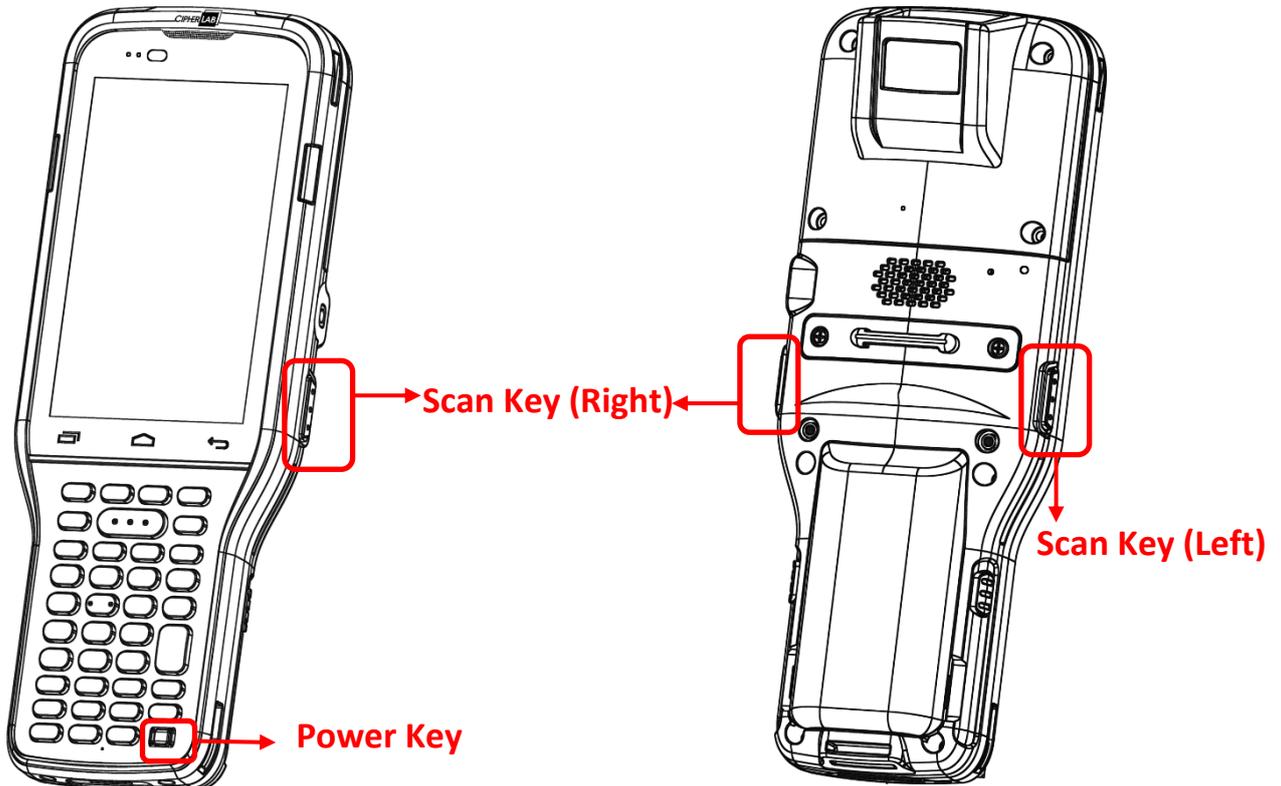
2) The device is in EDL Mode now. Please connect your RK95 mobile computer with your PC by the RK95 Snap-on Charging and Comm. Cable or RK95 Charging & Comm. Cradle.
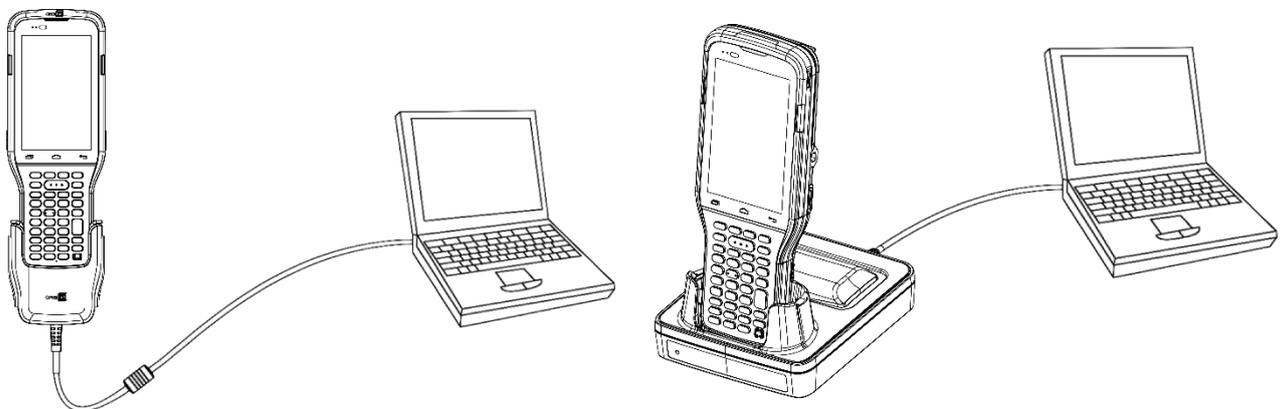

RS51 Snap-on Charging and Comm. Cable   **RS51 Charging & Comm. Cradle**

Note: The figures above are RK95 mobile computer 38-key model without camera.

2.2.2   UPGRADE RS51 OS IMAGE IN EDL MODE

To upgrade the OS image of the RS51 mobile computer:

1) Run the executable file "**DownloadTool.exe**".
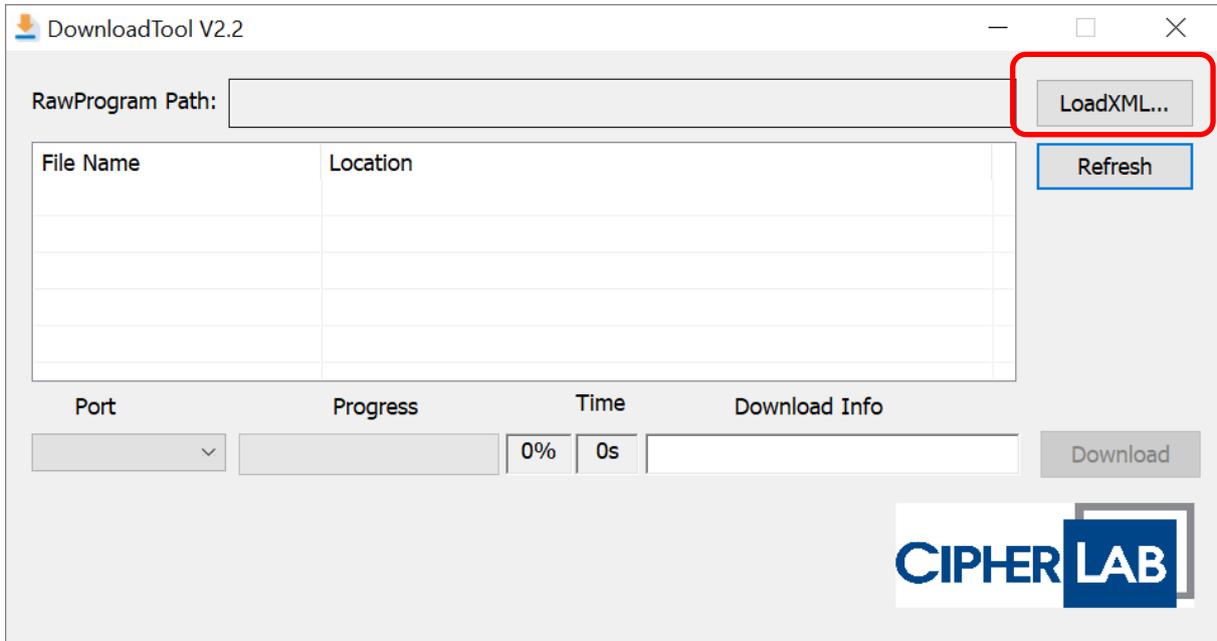

2) Click "**LoadXML…**" to browse the OS image saved in the PC, and choose the file "**rawprogram0_Split.xml**".
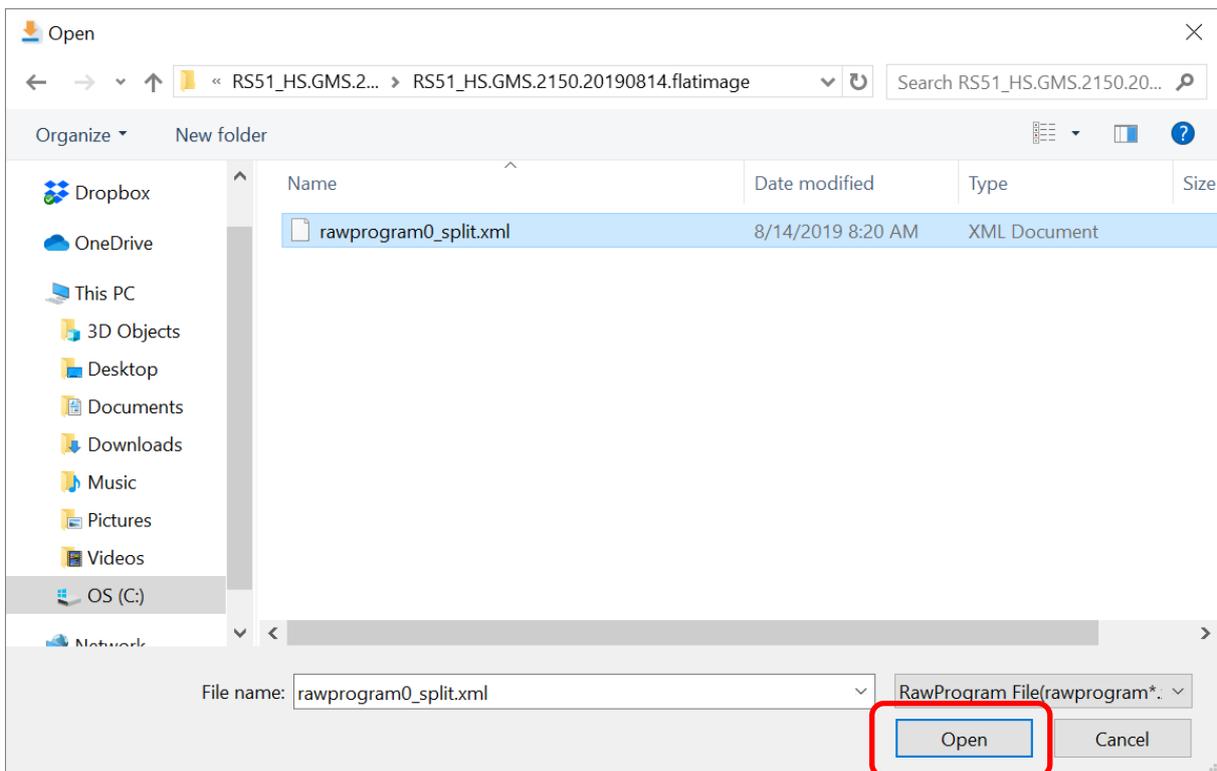
3) If the RS51 mobile computer is correctly connected to the PC, the field "**Download Info**" shows "**READY**" while it remains as blank if the device is not correctly connected to the PC.

The device is not correctly connected:
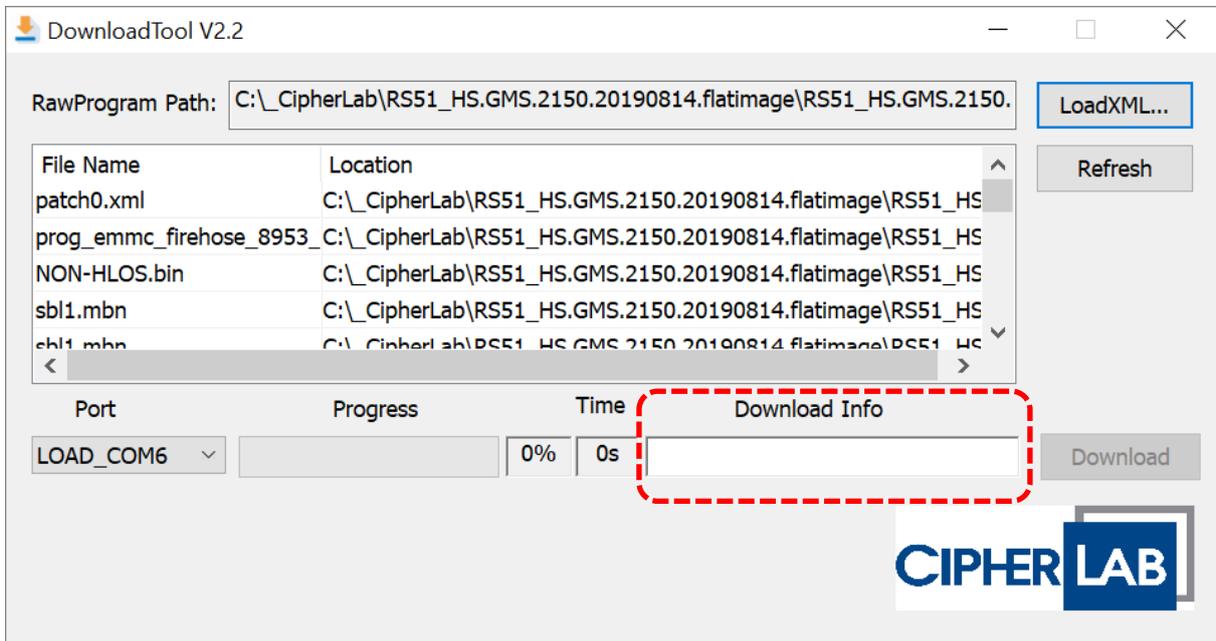
### The device is properly connected:
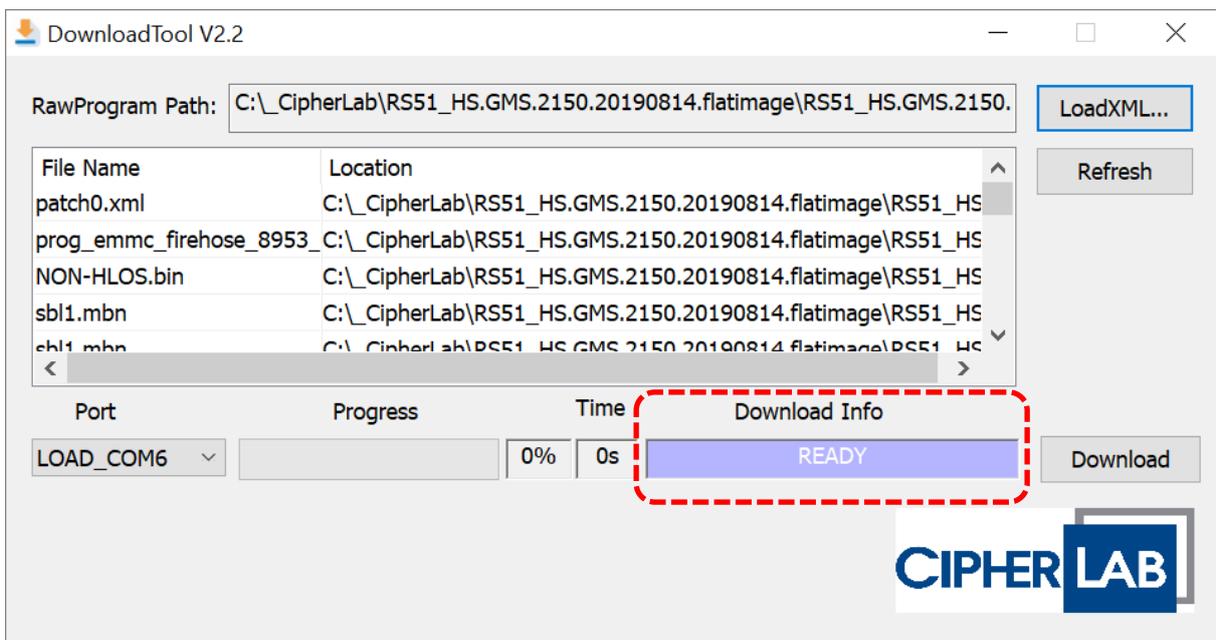
Note:

If it shows blank in the "Download Info" field and the RS51 mobile computer is appropriately connected to the PC, you may:

i)   Click on "Refresh" button to detect the port again.
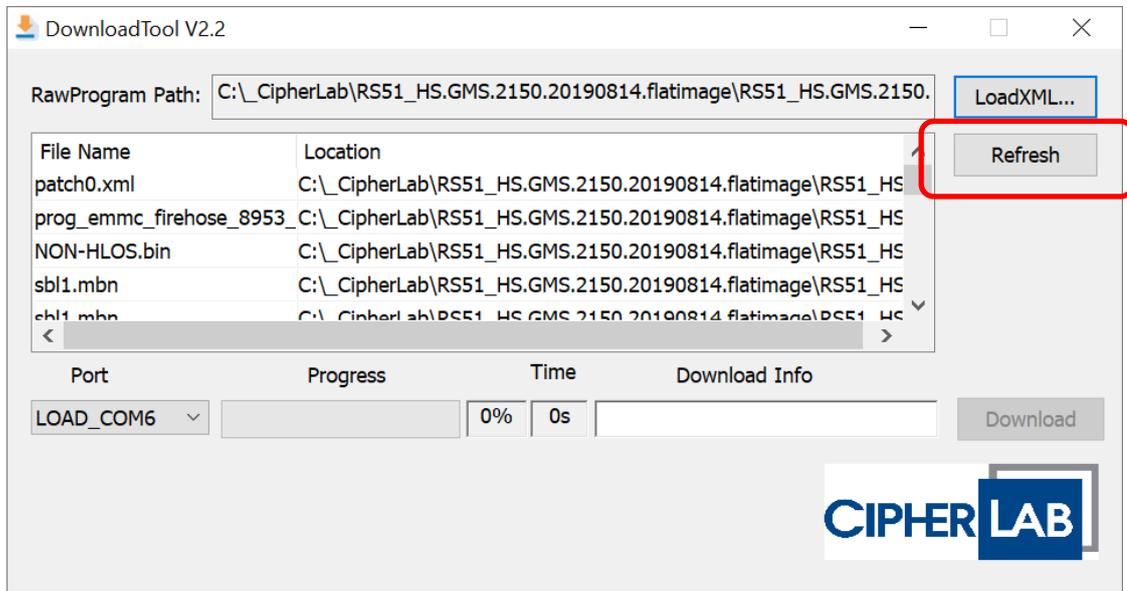

ii)   **Unplug the Snap-on Charging and Comm. Cable or Charging & Comm. Cradle, and plug it to the USB port of the PC again.**

iii)   **Check whether ADB driver is installed in the PC. If not, please follow the steps describe in "Install ADB Driver" to install it.**

iv)   **Check the file "MultiDownloadConfig.ini" and make sure the value of "bEmergDL" is "1".**

4) Once the "**Download Info**" shows "**READY**", click on "**Download**" button to start to execute RS51 OS upgrade:
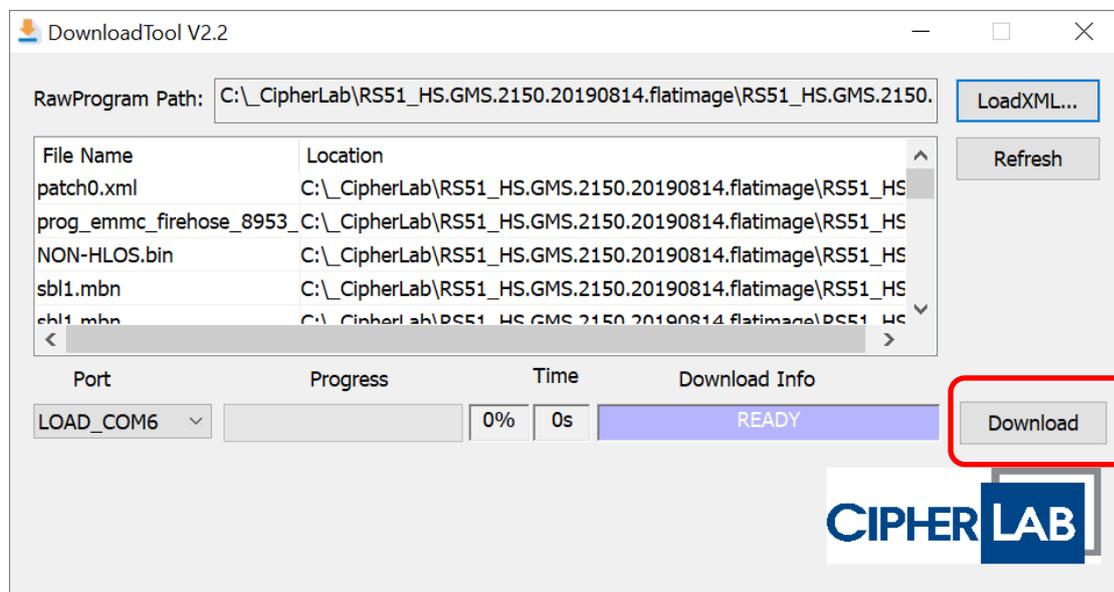
5) The upgrade starts. You can keep track of the progression through the **Progress** bar and the percentage complete value.
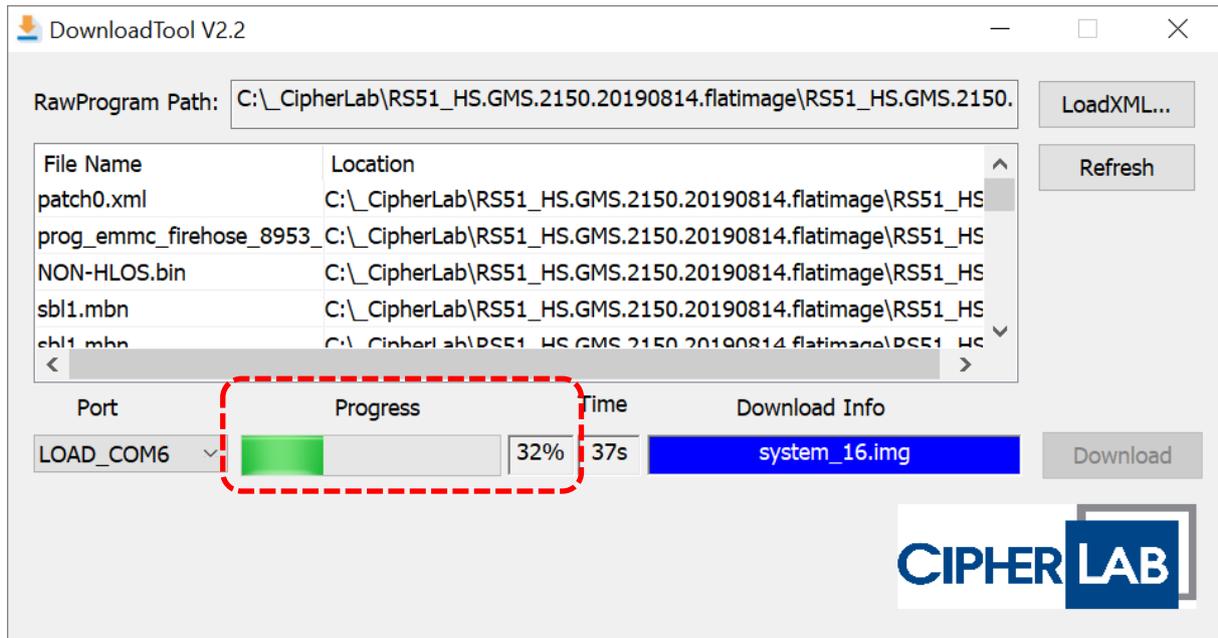
6) "**Download Info**" status turns to be "**PASS**" which indicates OS upgrade is complete, and within few seconds, your RS51 mobile computer will automatically boot up.
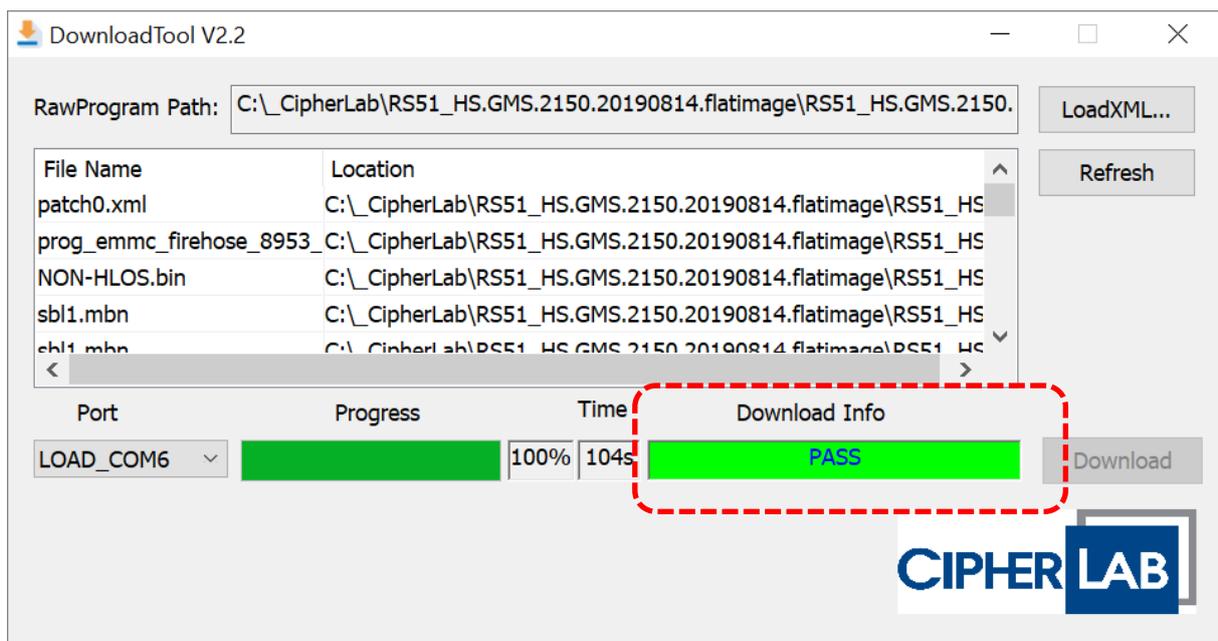
7) The Welcome wizard appears to run you through setting up the environment. Follow the on-screen instructions to finish the initial setup, and the Home app screen shows up. The OS upgarde is completed for the device with **RAM 2GB and ROM 16GB**.
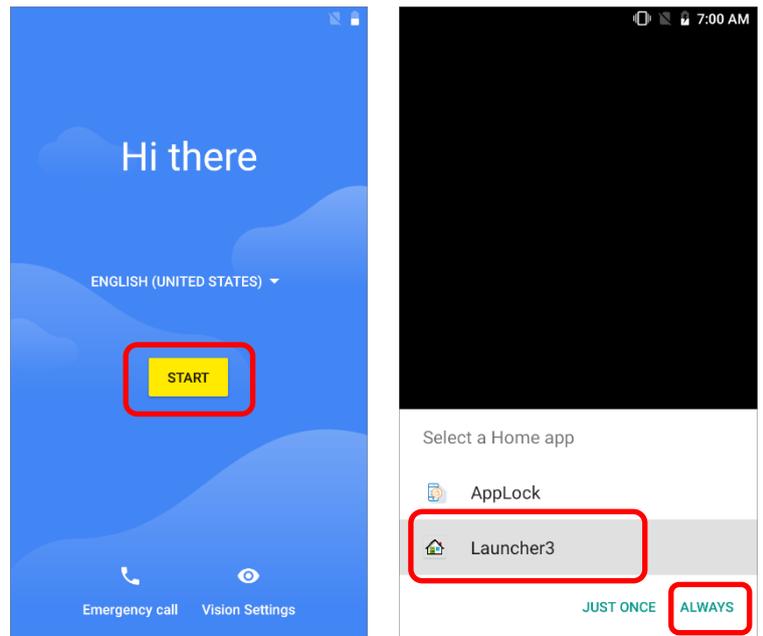
8) If your device is with **RAM 4GB and ROM 32GB**, you need to proceed factory reset after Home app screen shows up.

Please go to to *App Drawer (All Apps)* | *Settings* ⚙ | *System* ⓘ | *Reset option* 🕐 | *Erase all data (factory reset)*. Confirm the action by tapping on the buttons and input the verification code (Please contact with support@cipherlab.com.tw to obtain your verification code), and tap OK to perform a factory reset.
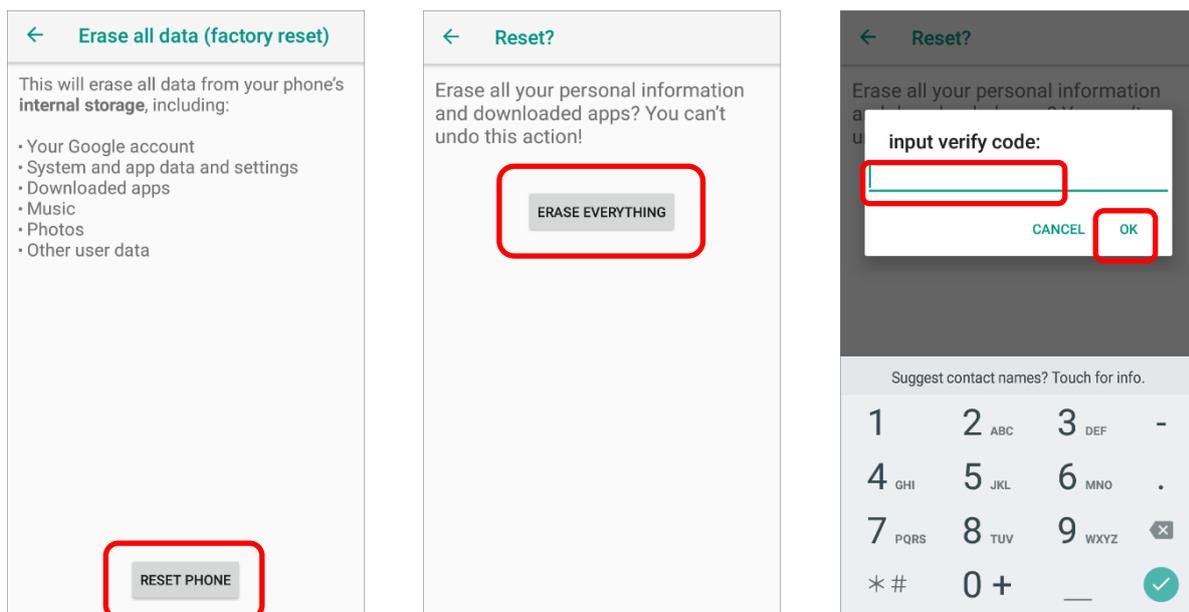
9) The Welcome wizard appears again, and once the initial setup is completed and the Home app screen shows up, the OS upgarde is completed for the device with **RAM 4GB and ROM 32GB**.

2.2.3 UPGRADE RK95 OS IMAGE IN EDL MODE

After putting your RK95 mobile computer into EDL mode and correctly connected the device with your PC, you can start to upgrade the OS image by Cipherlab Download Tool:

1) Run the executable file "**DownloadTool.exe**" on your PC.
   Make sure you properly connect the RK95 mobile computer with your PC so that the field "**Download Info**" shows "**READY**". If not, the field remains as blank.

   **The device is not correctly connected:**
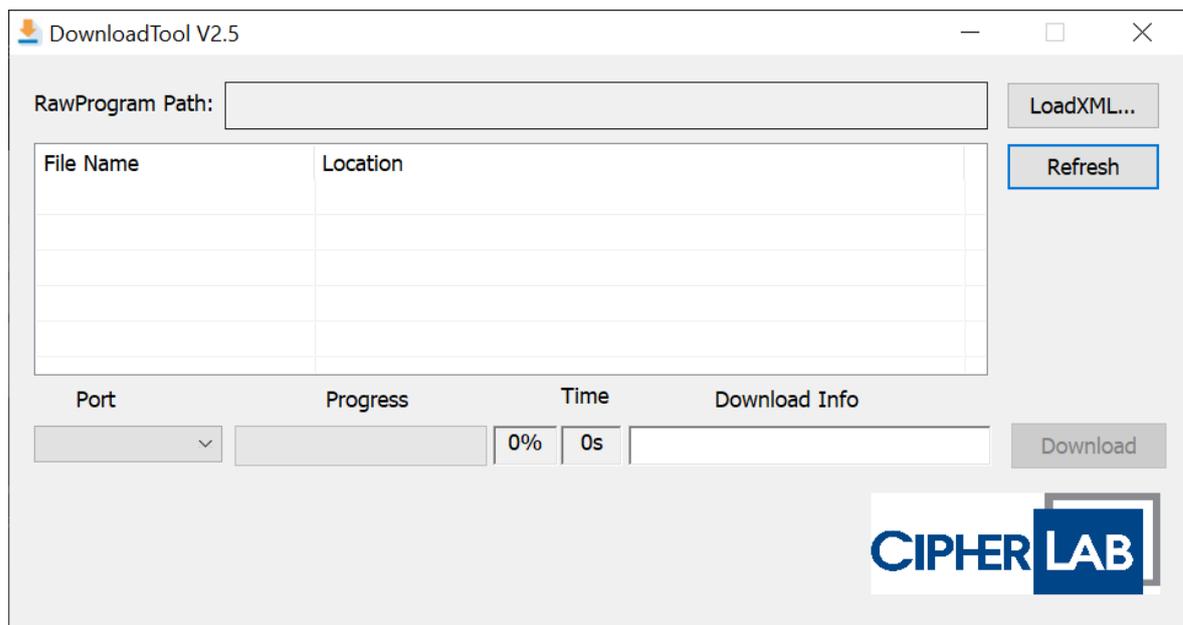
   The device is properly connected:
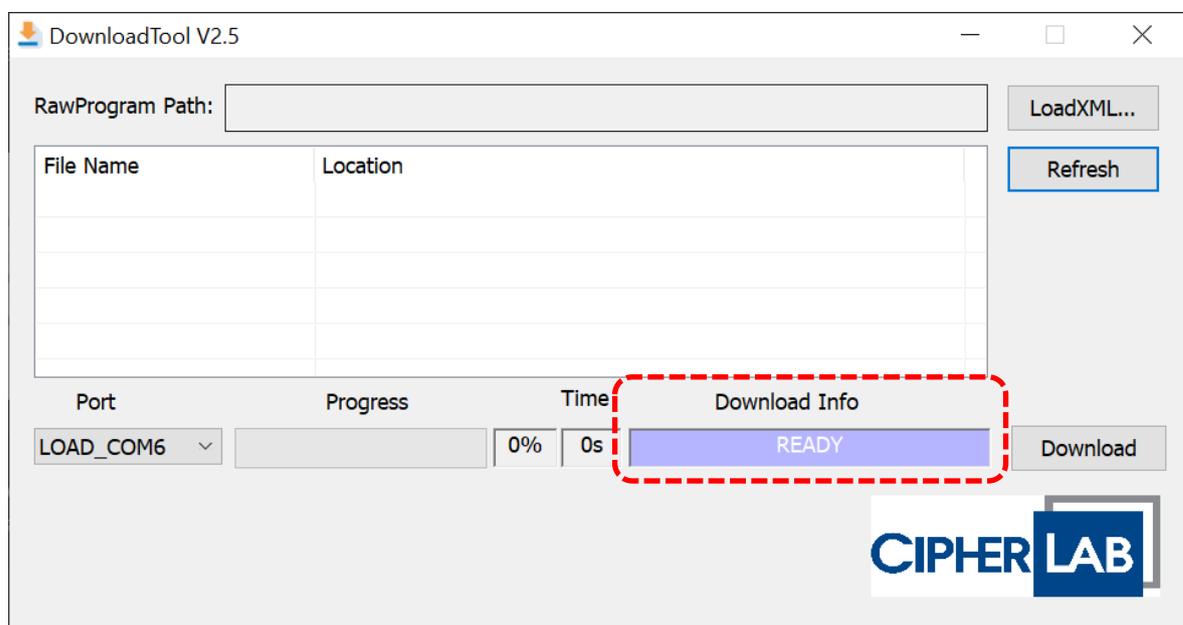
2) Click "**LoadXML…**" to browse the latest RK95 OS image saved in your PC, and then choose the file "**rawprogram0.xml**" to open.
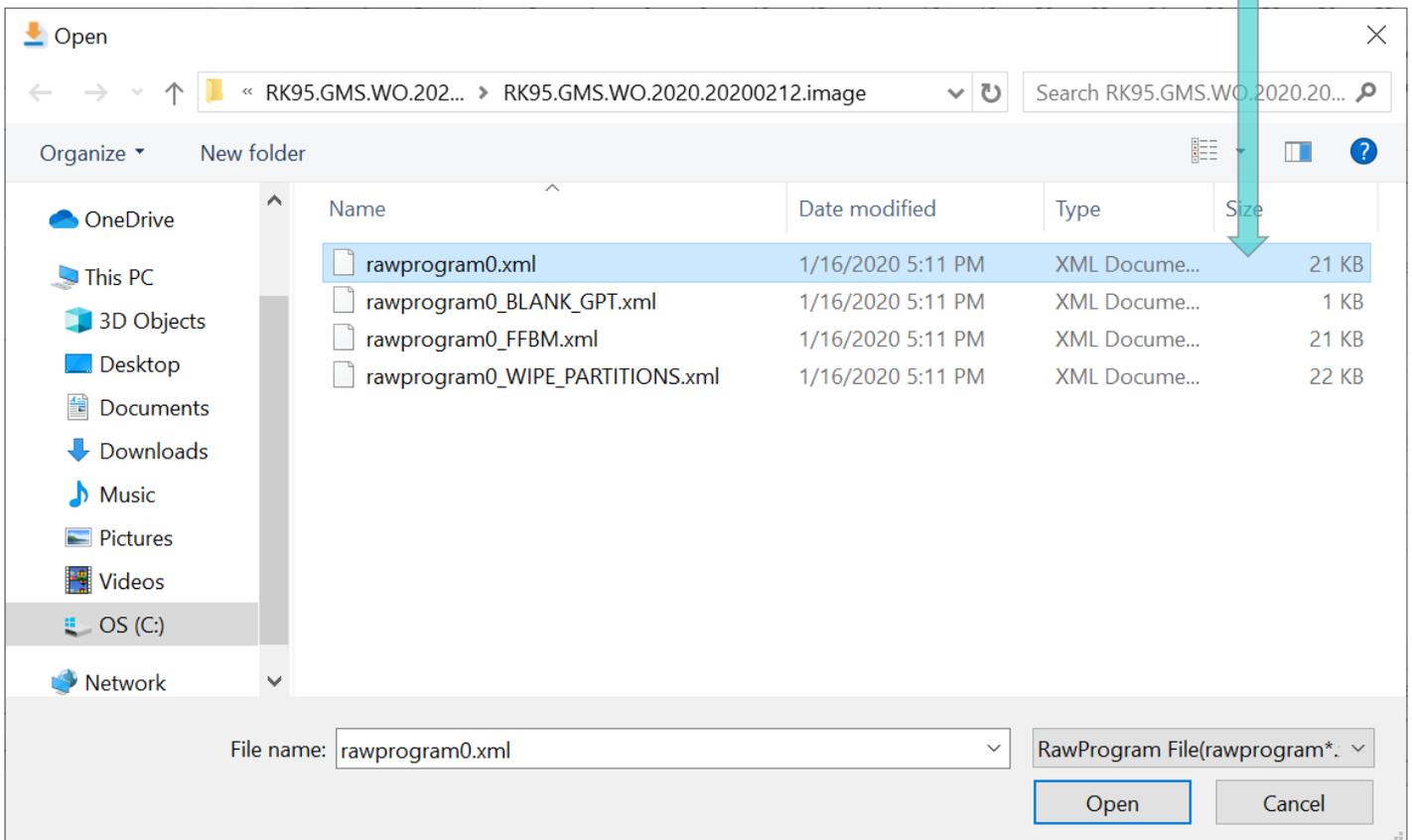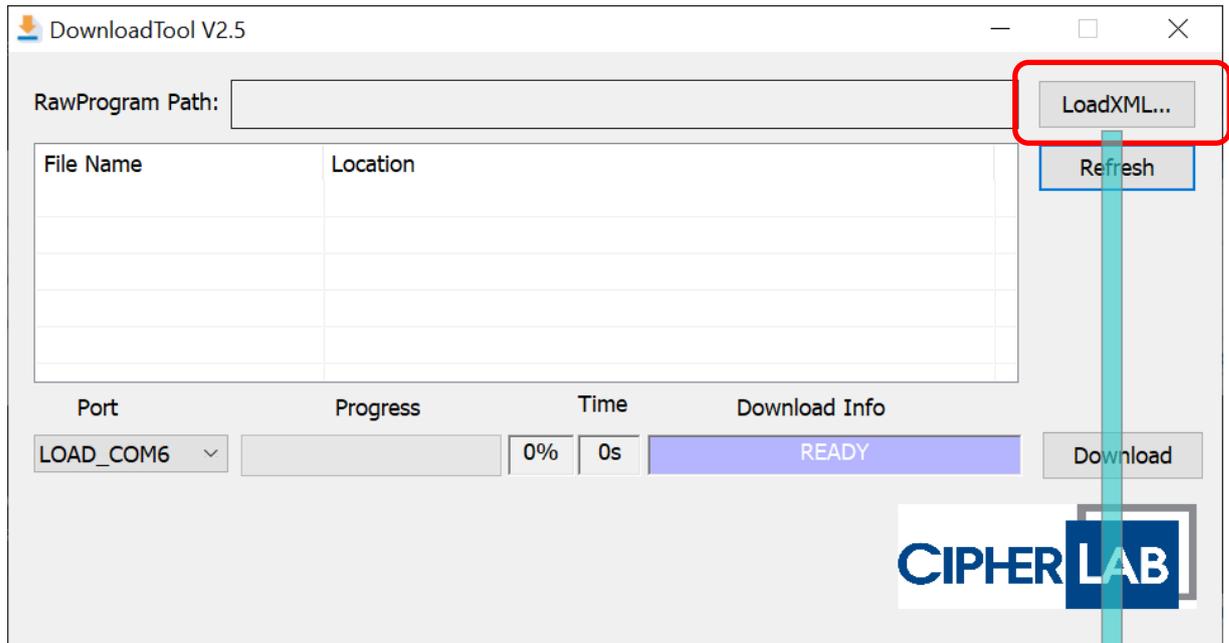
3) After "**rawprogram0.xml**" is loaded and the "**Download Info**" shows "**READY**", click on "**Download**" button to start to execute RK95 OS upgrade:
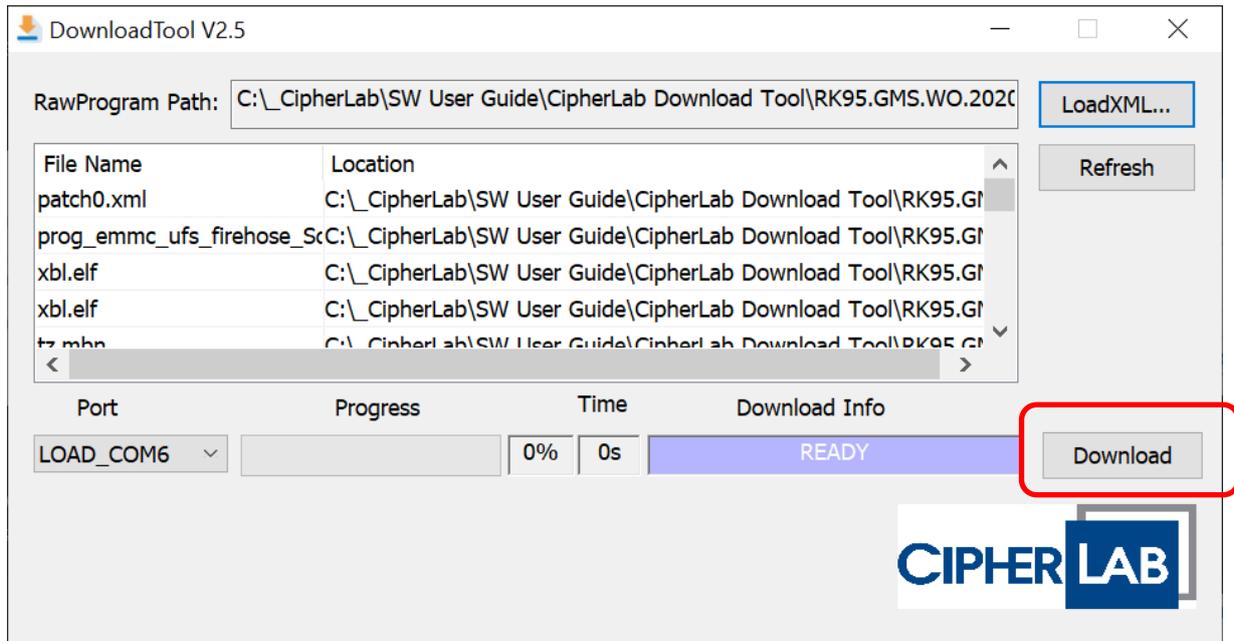

Note:

If it shows blank in the "Download Info" field and the RK95 mobile computer is appropriately connected to the PC, you may:

i)   Click on "Refresh" button to detect the port again.
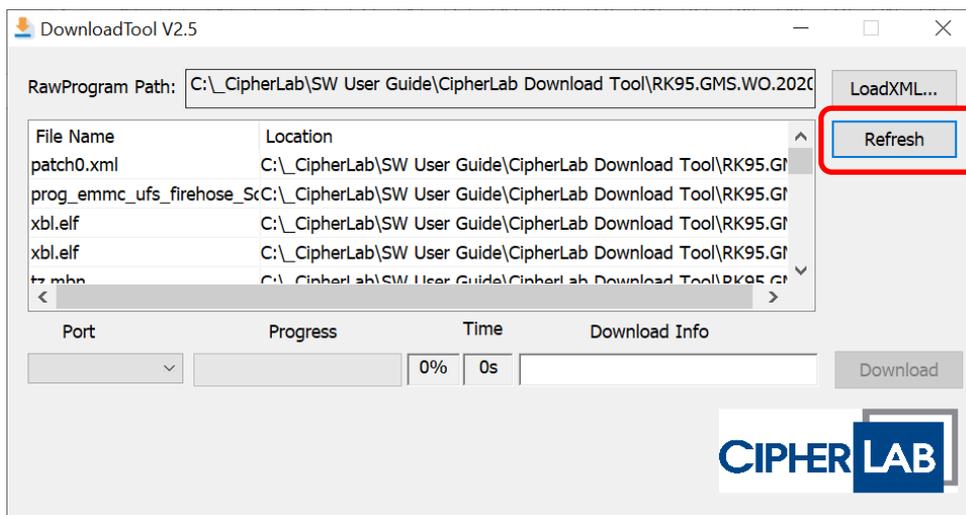
ii)   Unplug the Snap-on Charging and Comm. Cable or Charging & Comm. Cradle, and plug it to the USB port of the PC again.

iii)   **Check whether ADB driver is installed in the PC**. If not, please follow the steps describe in "**Install ADB Driver**" to install it.

iv)   Check the file "**MultiDownloadConfig.ini**" and make sure the value of "bEmergDL" is "**1**".

4) The upgrade starts. You can keep track of the progression through the **Progress** bar and the percentage complete value.
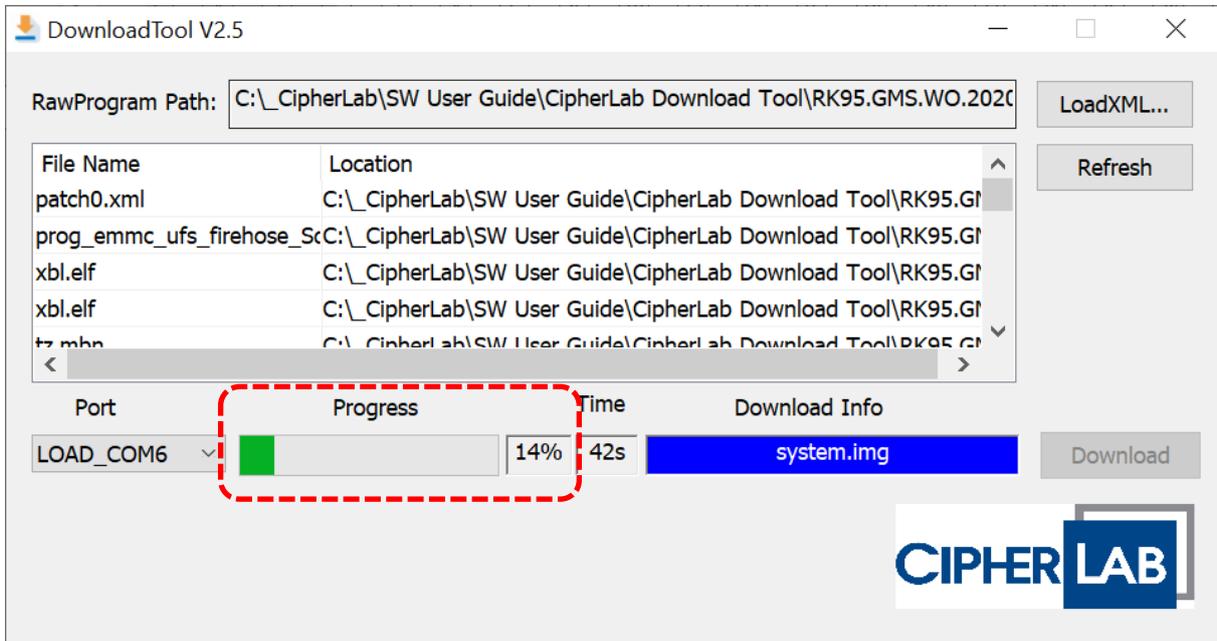
5) "**Download Info**" status turns to be "**PASS**" which indicates OS upgrade is complete, and within few seconds, your RK95 mobile computer will automatically boot up.

6) The Welcome wizard appears to run you through setting up the environment. Follow the on-screen instructions to finish the initial setup.