Hi-Target

Surveying the World,Mapping the Future

Qpad X9 Pro High-precision Rugged Tablet User Manual

Manual Revision

Revision Date	Revision Level	Description
Nov. 2024	1	Qpad X9 Pro User Manual

Qpad X9 Pro

High-precision
Rugged Tablet

Preface

Introduction

Welcome to use the Hi-Target Qpad X9 Pro High-precision GIS Tablet. This introduction describes how to use this product.

Tips for Safe Uses

Notice: The contents here are about special operations and so they need your special attention. Please read them carefully.

Exclusions

Before using the product, please read these operating instructions carefully, as they will help you to use it better. Hi-Target assumes no responsibility if you fail to operate the product according to the instructions, or operate it wrongly because you misunderstand the instructions.

Hi-Target is committed to constantly perfecting product functions and performance, as well as improving service quality, and reserves the right to change these operating instructions without notice.

We have checked the contents of the instructions and the software & hardware, without eliminating the possibility of deviation. The pictures in the operating instructions are for reference only. In the case of non-conformity with the products, the products shall prevail.

Technology and Service

If you have any technical issues, please call Hi-Target technology department for help, and we will answer your question.

Contents

Chapter 1

Hardware

This chapter contains:

- Introduction
- Hardware Instructions
- Specifications & Accessories

1.1 Introduction

Compact and portable, the Qpad X9 Pro integrates the high-precision GNSS RTK algorithm to provide users with a consumer-grade smart tablet experience for GIS data collection in various industries.
It's rugged with exquisite design and structure to achieve industrial-grade protection that can withstand tough environments, greatly facilitates data management and application in the field.

1.2 Appearance

Figure 1-1 Device Front

① External antenna ② Front camera ③ Screen ④ Power key

⑤ Volume down ⑥ Volume up ⑦ Extended function key F1 ⑧ Menu ⑨ Home

⑩ Back ⑪ Extended function key F2

Figure 1-2 Back of the device

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① High precision module ②Rear camera and LED flash ③NFC ④Car charging port

⑤Battery cover lock A ⑥ Battery cover lock B ⑦3.5 mm Headset ⑧Type-C Interface

Figure 1-3 Battery compartment(Without high precision module)

① High precision module docking port ② SD Card slot ③ SIM Card slot

④ Device label ⑤ Battery lock

1.3 Charging

Use the standard type-C data cable and adapter to connect the tablet to the power socket;
If the tablet is charging when it is turned on, when the battery status icon in the status bar changes to 100%, it indicates that the charging has been completed.

Tips for battery using:

- If the battery has not been used for a long time or the battery power is exhausted, it may not be able to power on when charging. This is a normal situation, please charge the battery for a while before turning it on.
- The battery can be charged repeatedly, but the battery is a consumable product. If the operation time of the tablet is greatly reduced after normal charging, suggest replacing a new battery.
- If the tablet is working for a long time, especially in a high temperature environment, it's normal the surface may heat up.
- Using data services will consume more power and shorten standby time.
- The battery charging time varies with temperature conditions and battery usage.
- When the power of the tablet is low, the tablet will pop up a prompt. When the battery power is too low, the tablet will automatically shut down.

Power on

• Press and hold the power button for 3 seconds to enter the boot interface, release the button, the system interface will automatically load.

• Short press the power button for 1 second to enter the sleep state, short press the power button again for 1 second to wake up the system.

Power off

Long press the power button for 3 seconds, a prompt will pop up, click "Power off" to turn off the instrument.

Figure 1-4 Main interface

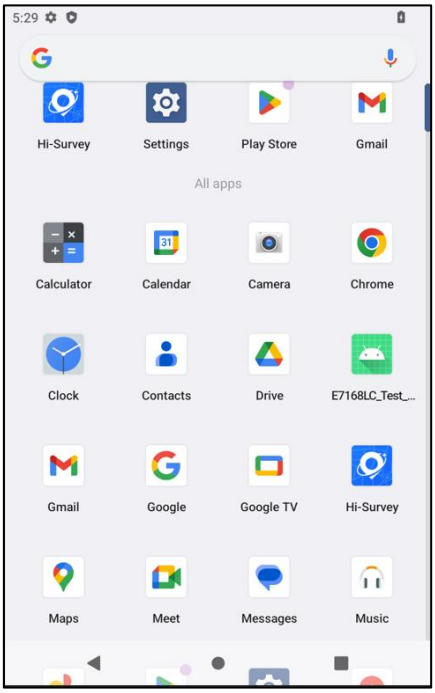

Figure 1-5 Menu interface

1.4 Screen and Volume

Lock screen

- Manually lock the screen: Press the power button.
- Automatically lock the screen: When the tablet is not in use for the set sleep time, it will automatically lock the screen.

Unlock screen

Press the power button to wake up the screen, and then slide your finger up to unlock the screen.

Adjust screen brightness

Go Settings → Display → Brightness Level.

- Turn on the Adaptive brightness button, and the tablet screen will automatically adjust the brightness according to the intensity of the light.
- Drag the slider left and right to manually adjust the screen brightness. Drag the slider to the left to darken the screen; drag the slider to the right to brighten the screen.

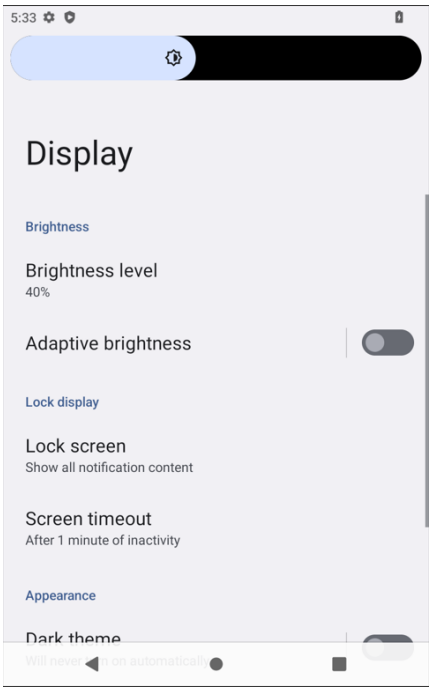

Figure 1-6 Display

Adjust volume

There are 2 methods to adjust volume:

- Go Settings - Sound, drag the slider left and right to manually adjust the sound volume. Drag the slider to the left to decrease the volume; drag the slider to the right to increase the volume.
- Click volume up/down physical key, and click the icon at the bottom of volume bar to adjust volume for different functions..

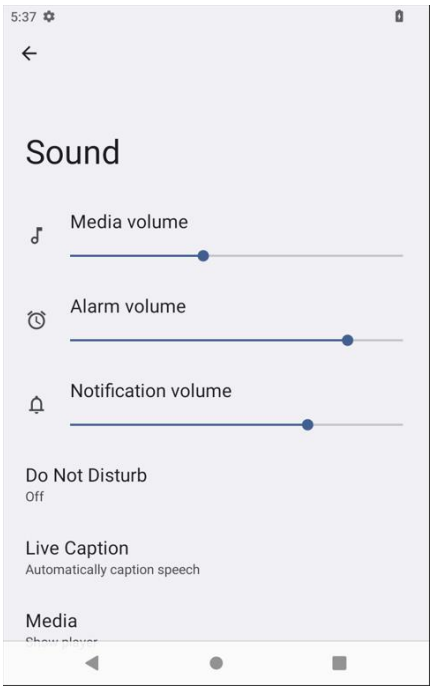

Figure 1-7 Sound Setting

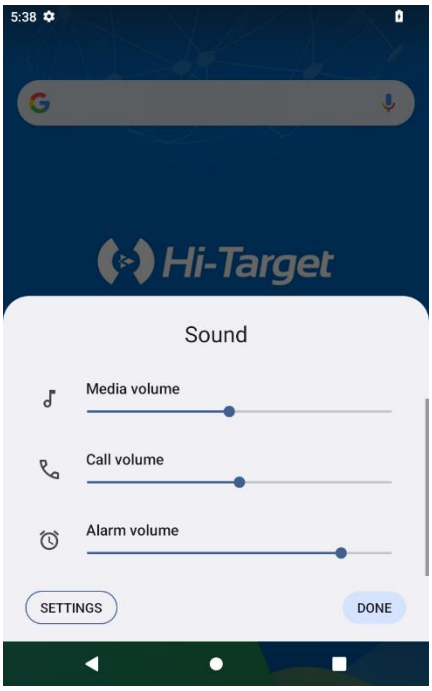

Figure 1-8 Physical volume button

1.5 Communication settings

Turn on mobile data

The mobile data will be turned on when SIM card is inserted. Can go Settings → Network & Internet →SIMs, click the Mobile data button to turn off the mobile data.

Wi-Fi & Bluetooth

Click *Settings* → *Network & Internet* to open or close the Wi-Fi option. When opening the Wi-Fi option, users can choose the available network to connect.

Click *Settings* → *Connected devices* to open or close the Bluetooth option. When opening the Bluetooth option, users can choose the available device to pair.

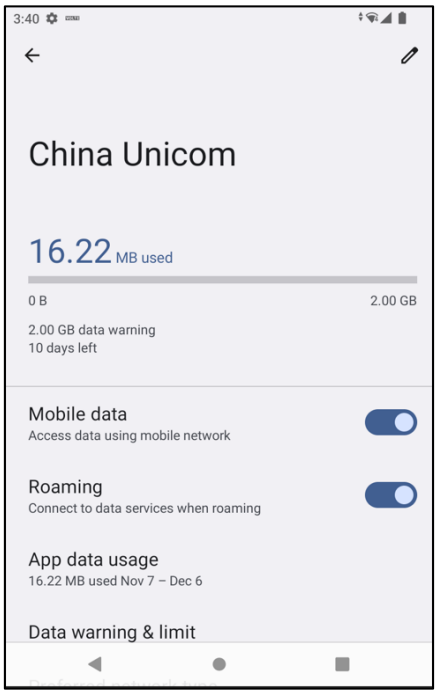

Figure 1-9 Mobile data

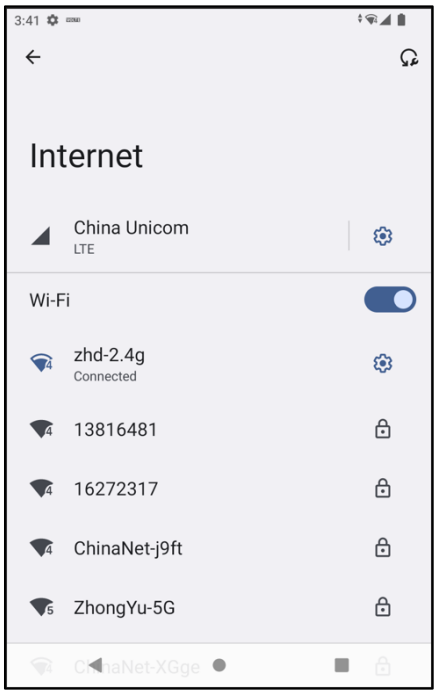

Figure 1-10 WIFI Switch

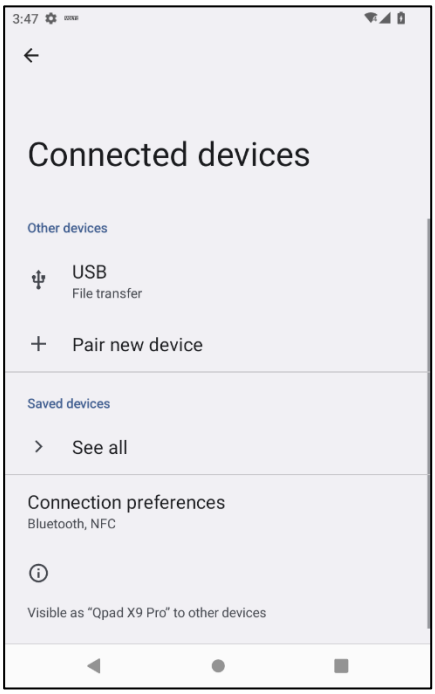

Figure 1-11 Bluetooth Switch

1.6 Location

Click *Settings* →*Location* to enable or disable the location service for tablet.
You can also go *App location permissions* to set location permission for your applications.

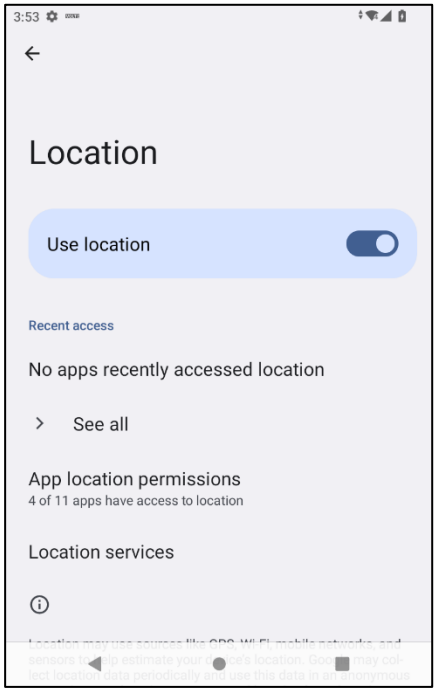

Figure 1-12 Security & location

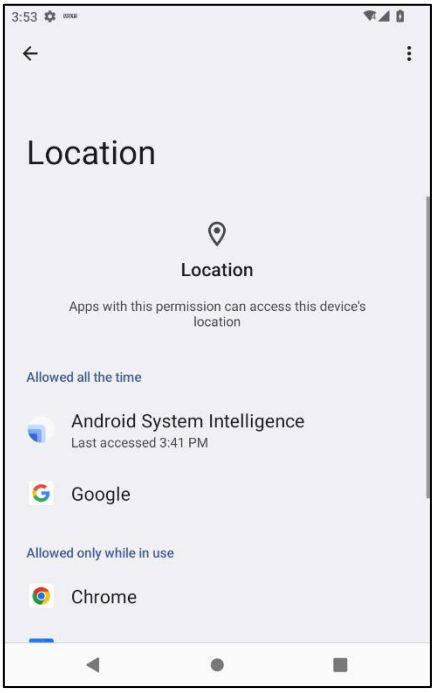

Figure 1-13 Location interface

1.7 Data Transfer

Connect the device with PC by the USB cable, then drop down the notification bar and click Tap for more option. Choose *File Transfer* in the USB Preferences to transfer data.

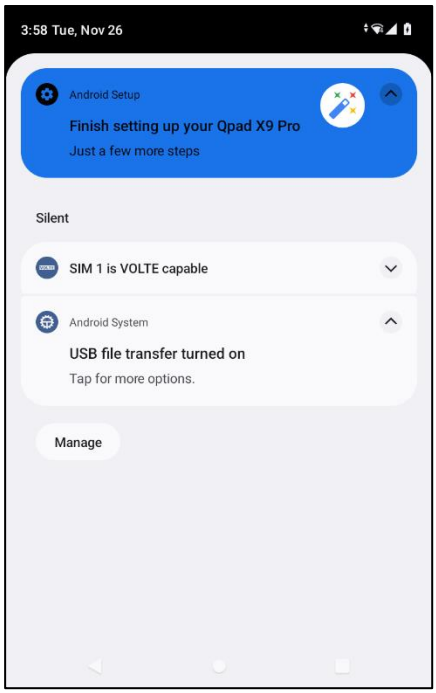

Figure 1-14 USB Notification bar

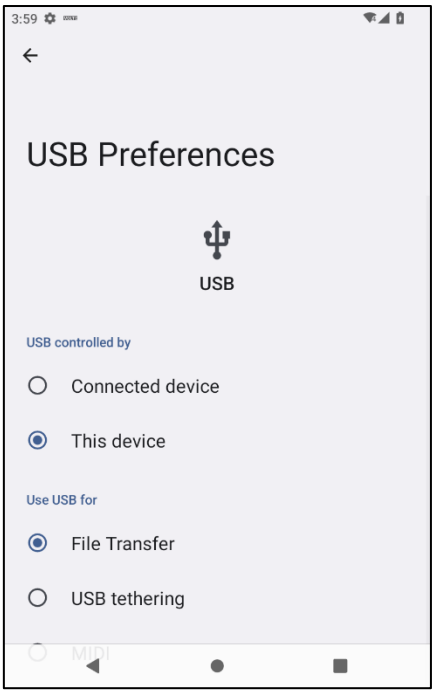

Figure 1-15 USB Preferences

1.8 Specifications

Table 1-3-1 Specifications

Product Model		QPad X9 Pro
GNSS Feature	Positioning Technology	GPS: L1C/A, L1C, L2P (Y), L2C, L5 BDS: B1I, B2I, B3I, B1C, B2a, B2b GLONASS: L1, L2 Galileo: E1, E5a, E5b, E6* QZSS: L1, L2, L5, L6* SBAS: L1, L5
	Channel	1408
	SBAS	< 1m HRMS
	PPP	20cm HRMS
	RTK	2cm Horizontal,
Configuration	OS & Processor	Android 13, 2.0GHz, 8 core high speed processor
	Storage	RAM 6GB, ROM 128GB, supported SD Card 256GB
	Display	8 inches, touchable screen
	Resolution	1280×800, 800 nit, readable under the sun
	Camera	16M pixels rear camera, 8M pixels front camera, auto focus, highlight LED flash
	Built-in Sensor	L-sensor, G-sensor, electronic compass, gyroscope
Communication	USB	USB 2.0, Type-C, OTG function
	SIM Card	Nano SIM card slot
	Network Type	GSM: 850/900/1800/1900 WCDMA: B1/B2/B4/B5/B8/B19 LTE-TDD: B34/B38/B39/B40/B41 LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B17/ B18/B19/B20/B25/B26/B28
	Wi-Fi	IEEE 802.11 a/b/g/n/ac/e/i/r (Dual Band 2.4 & 5 GHz)
	Bluetooth	Bluetooth 5.0, BLE
	NFC	Support
Battery	Capacity	Removeable , 3.8V 8200mAh(31.16Wh)
	Quick Charge	Support
Physical	Size	235 x 146 x 14.5 mm
	Weight	610g (with battery)
	Temperature	Working:－20℃～＋60℃ Storage:－40℃～＋70℃
	Dustproof & Waterproof	IP67, anti 1.2m free drop

Chapter 2

Hi-Survey

This chapter contains:

- Software Introduction
- Device Connection
- Register
- Rover Setting
- Data Transmission
- Mock Position

2.1 Software Introduction

The Hi-Survey software is installed on the Android tablet, and the correction service can be set to enable tablet to achieve professional-level GNSS positioning accuracy and obtain centimeter-level positioning information. Abundant functions are included in software to meet user's requirements on surveying, like Detail Survey, Stake, Road and GIS module. Please contact with Hi-Target technical support for Hi-Survey User manual for details. The function mentioned in the following are mainly some basic settings for Qpad X9 Pro high precision tablet.

2.2 Device connection

The software starts and enters the Device Connection interface.

The connection can be made by *Bluetooth, WIFI, Built-in GPS, Demo* and else. For QPad X9 Pro, here should select *Built-in GPS*, change *Model* to *T2 Pro* and connect. After the connection is done, you can see the satellite info from menu.

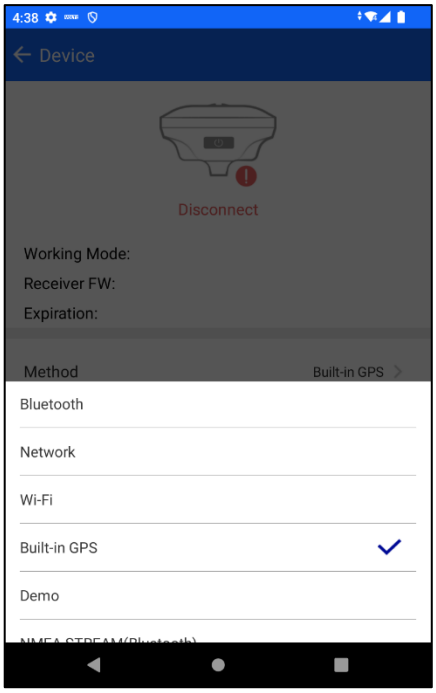

Figure 2-1 Device

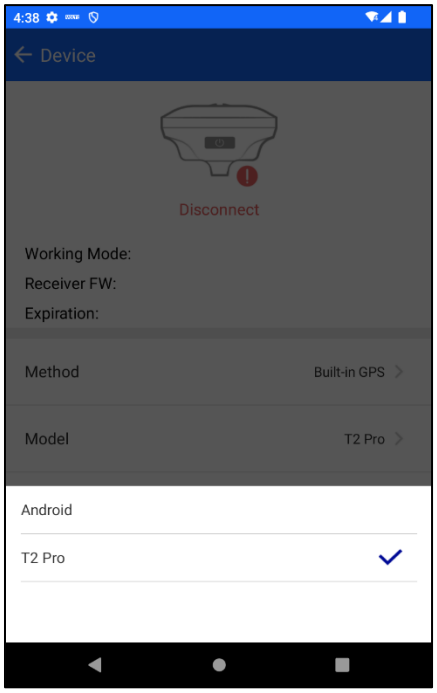

Figure 2-2 Model selection

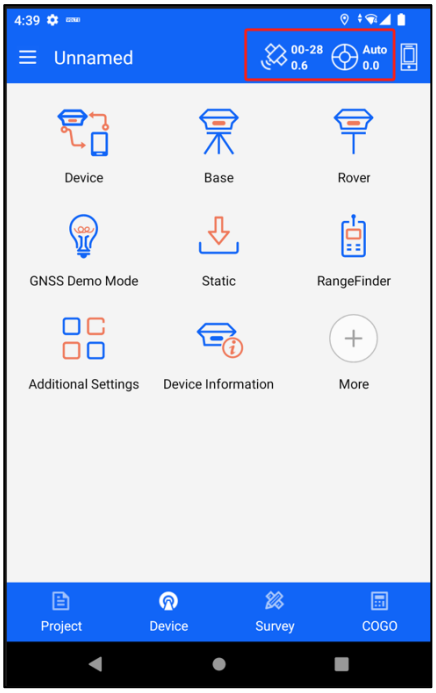

Figure 2-3 Satellite info

2.3 Register

Go *About →App Register* to enter the Registration interface. After confirming that the input is correct, click Register to complete the registration process. Software will also ask for registration in your first installation.

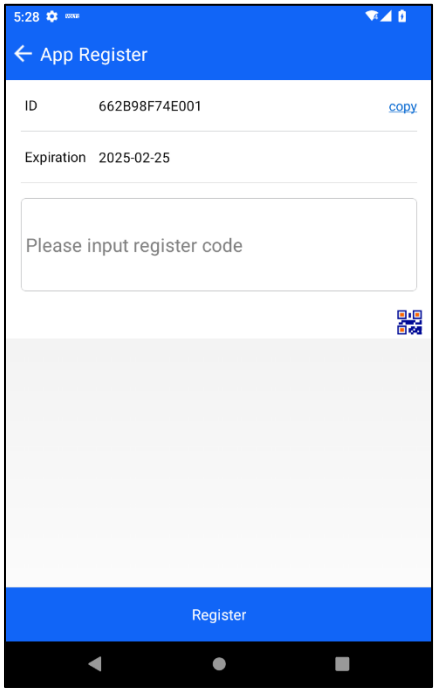

Figure 2-4 Software registration

2.4 Rover Setting

Enter the *Rover* interface from *Device*. The software supports two types of data link for connection: Data Collector Internet and PPP.

Data Collector Internet: Choose CORS as protocol, then input your local CORS account and click set.

PPP: Choose PPP mode and click set, use in somewhere without network.

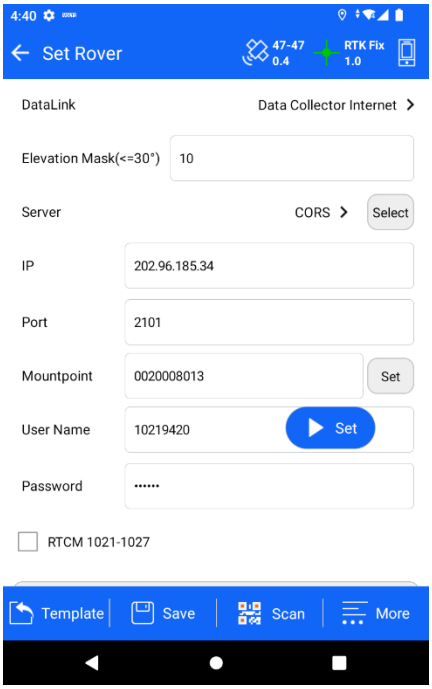

Figure 2-5 Data Collector Internet

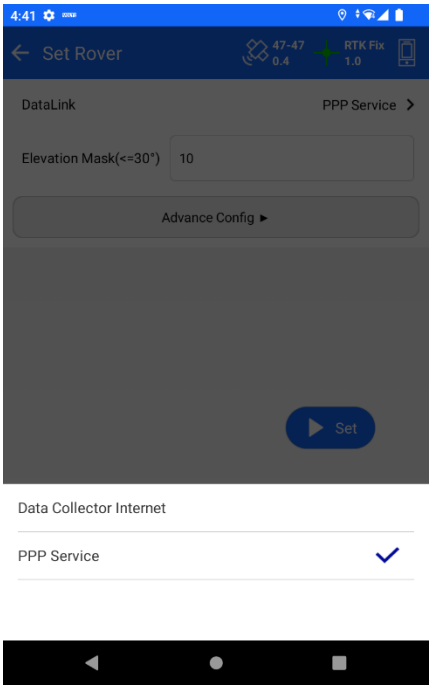

Figure 2-6 PPP

2.5 Data Transmission

Go *Device-Additional Settings-Data Transmission* to transfer data to 3rd party software via TCP protocol. After inputting port number, Hi-Survey will start transferring position, and the software which supports receiving data via TCP protocol will load the GPS info. Here QFields for QGIS is used to test.

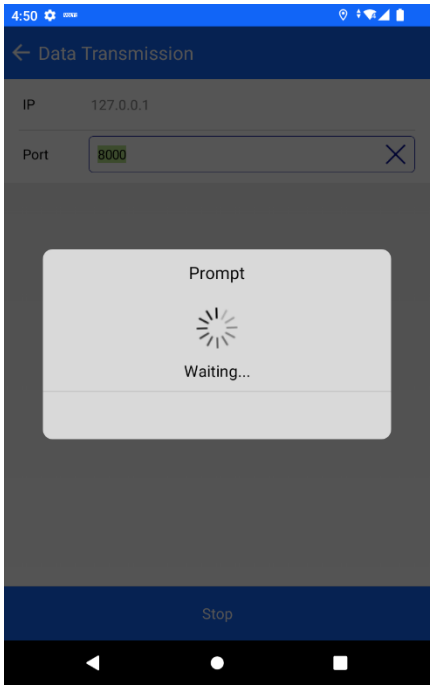

Figure 2-7 Data Transmission

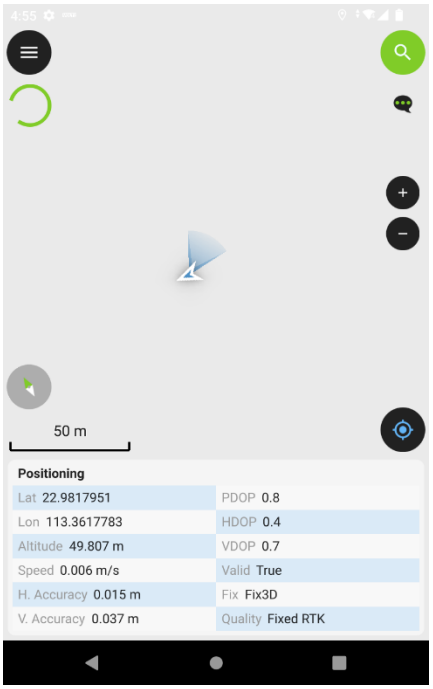

Figure 2-8 GPS information in QFields

2.6 Mock Position

Go *Setting-System-Developer Option-Select Mock position app* and choose Hi-Survey, Hi-Survey will also support mock position to 3rd party software. Here QFields for QGIS is used to test.

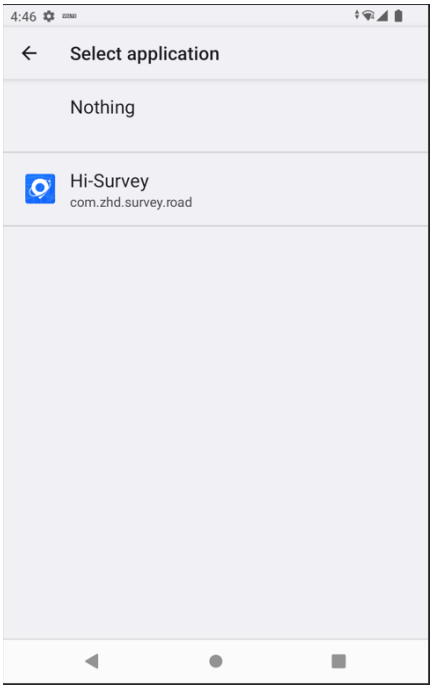

Figure 2-9 Mock application

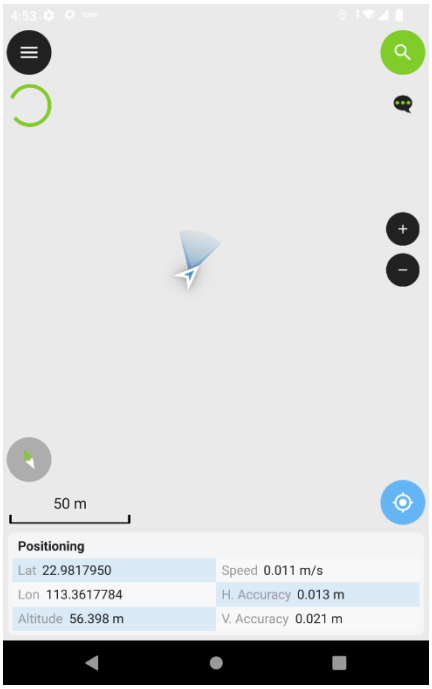

Figure 2-10 Position info in QFields

Chapter 3

Common used option

This chapter contains:

- Developer option
- USB Debugging
- Camera Shortcut switch
- Factory reset

3.1 Developer option

Developer Option is hidden in new tablet. Need user to open by self. Go *Settings-About Tablet-Build number* and click *Build number* for several times, then you will find the *Developer option* from *System.*

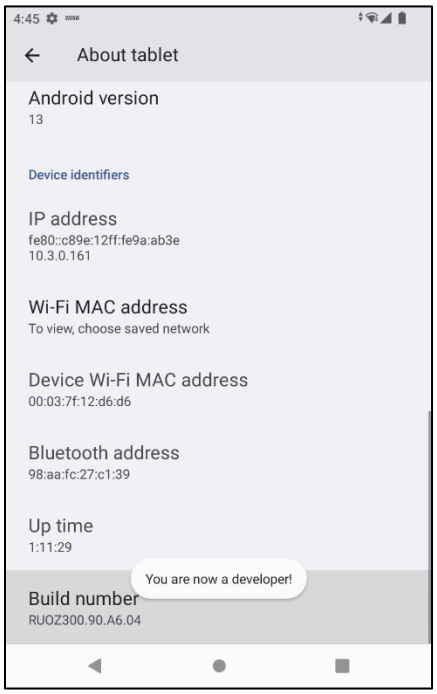

Figure 3-1 Enable Developer option

3.2 USB Debugging

Go Developer Option-USB Debugging to enable, usually used when you need to copy bug report or log from tablet by adb commands. If tablet with other type-C cable is not recognized by PC, can try to open the switch to solve.

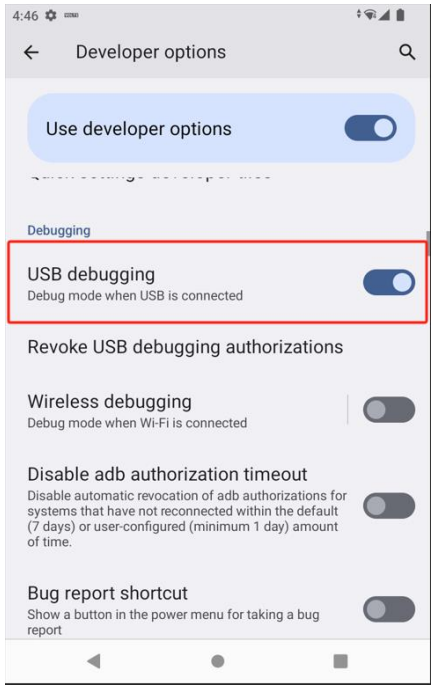

Figure 3-2 USB Debugging

3.3 Camera shortcut switch

If tablet is easy to open camera function when you boot it by pressing power key, that's because the shortcut of twice click on power key is used. Can go *Settings-System-Gestures-Quickly open camera* and turn off the shortcut key.

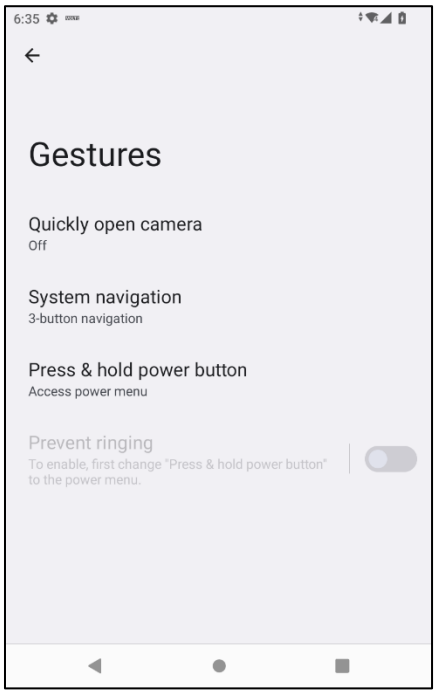

Figure 3-3 Camera Shortcut switch

3.4 Factory reset

Go *Settings-System-Reset options*, choose *Erase all data* to make a factory reset. Need to make a factory reset every time you upgrade system firmware by USB cable, otherwise the ROM storage of tablet will be display wrong.

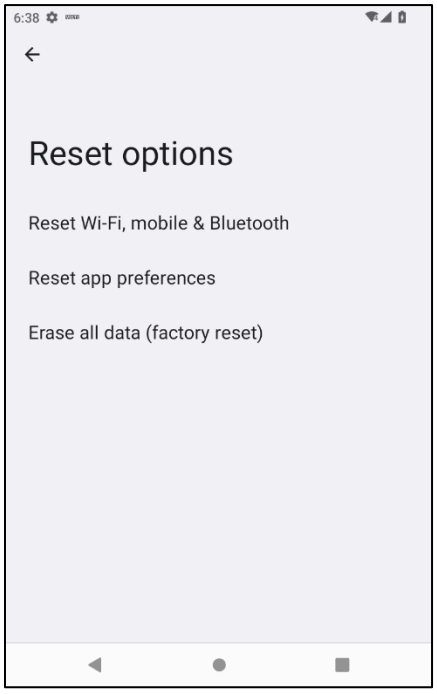

Figure 3-4 Factory reset

Chapter 4

Firmware Upgrade

This chapter contains:

- Environment Configuration
- Firmware Upgrade
- Notice

4.1 Environment Configuration

Before upgrading system firmware for Qpad X9 Pro tablet, we need to install environment and driver so that flash tool can work normally.

1) Install Qualcomm driver" QUD.WIN.1.1 Installer_10065.1.zip"

Figure 4-1 Driver Installation

2) Install QPST tool" qpst.win.2.7_installer_00483.3.zip"

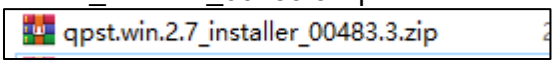

Figure 4-2 QPST Installation

4.2 Firmware Upgrade

1) Run the QFIL upgrade tool, start from QPST-BIN path.

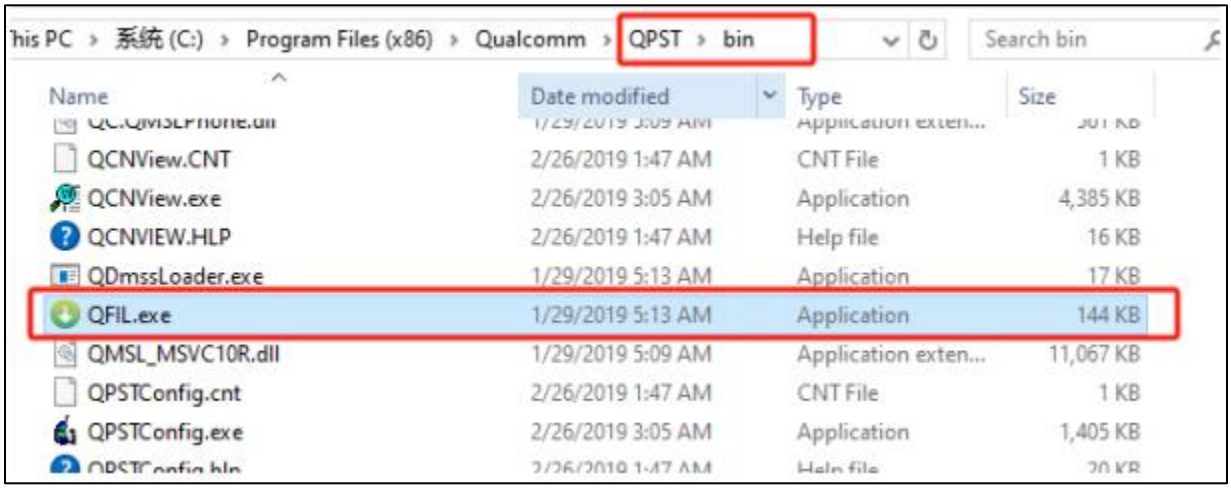

Figure 4-3 Run QFIL Tool

2) Select "*Configuration*", click" *reset after download*"

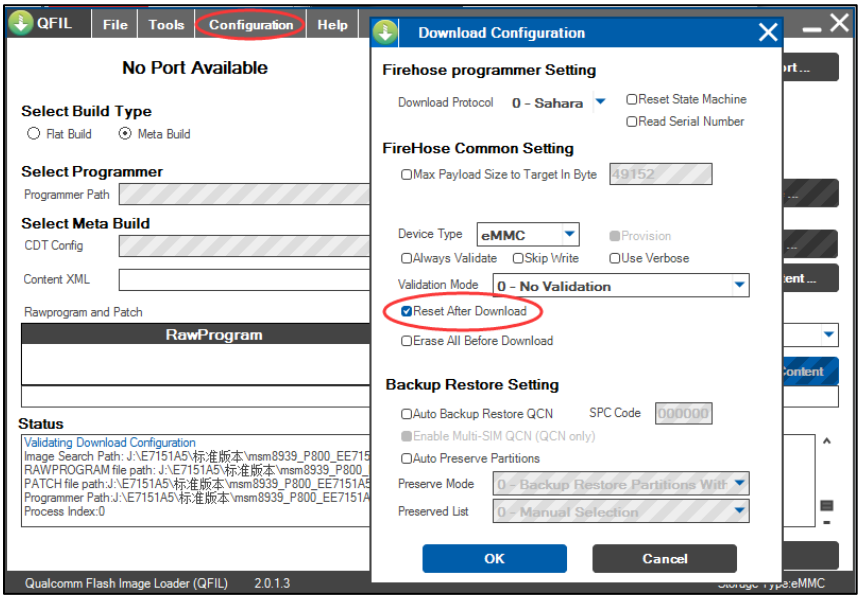

Figure 4-4 Configuration setting

Note: Don't tick Erase All Before Download, otherwise the tablet system will be formatted after upgrading.

3) First "Select Build Type" select "Flat Build", Then click on"Browse…" to load programmer file.

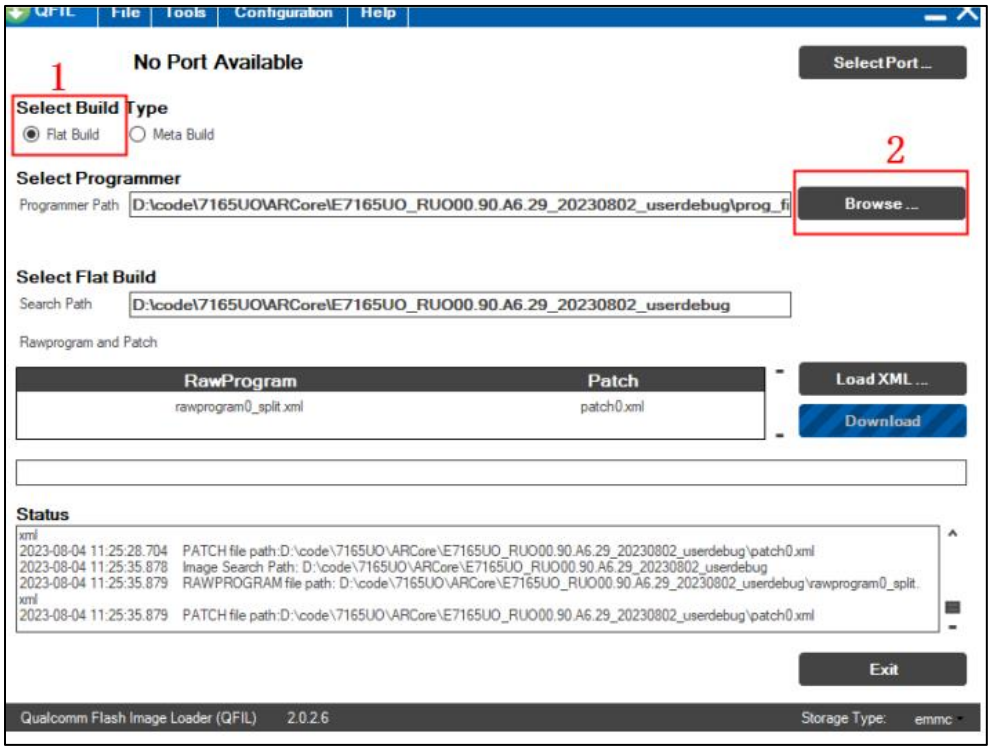

Figure 4-5 Programmer file loading

4) Find the path of firmware package and select the file "prog_firehose_ddr.elf"

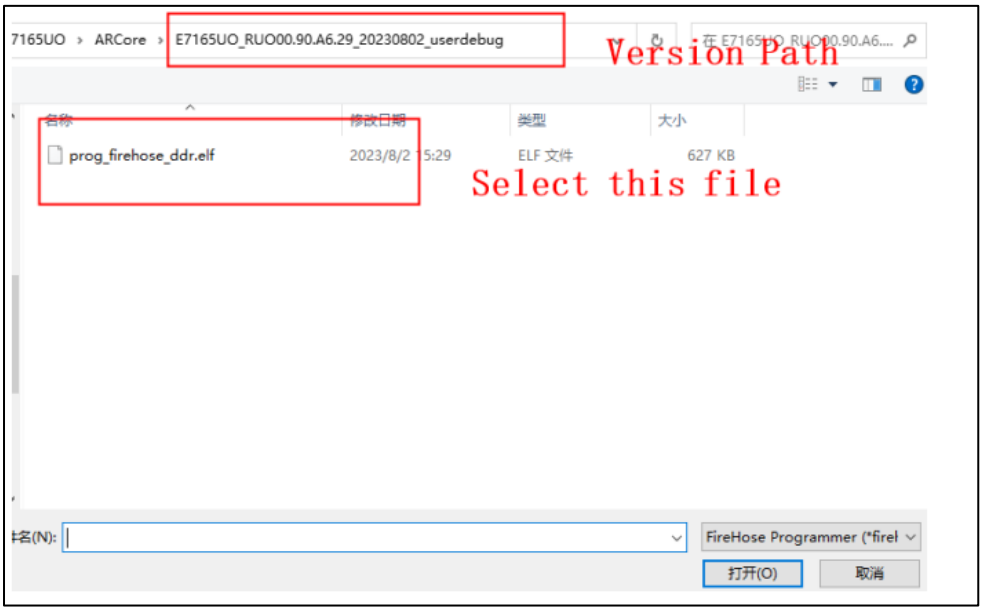

Figure 4-6 Programmer file Path

5) Then click “Load XML…” to select Flat Build

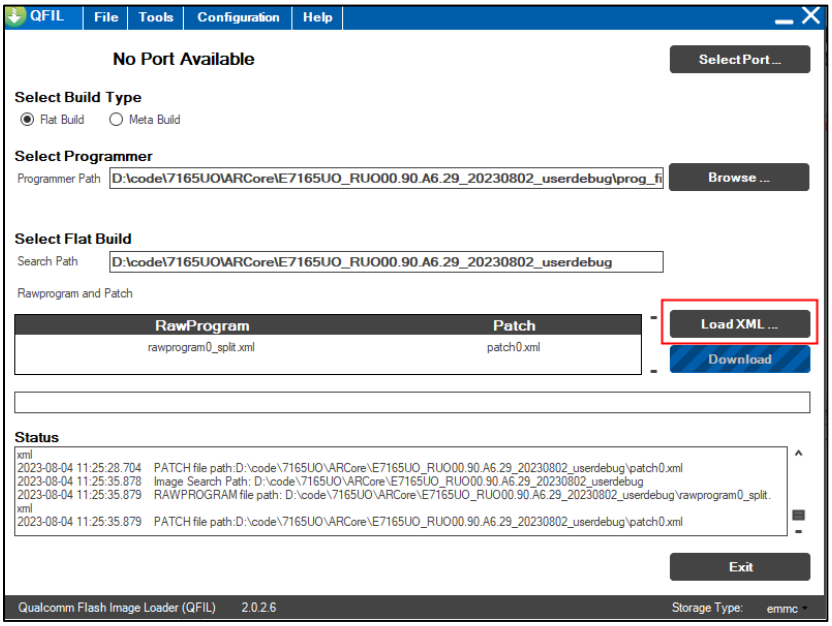

Figure 4-7 Load Flat Build file

6) After selecting the "rawprogram0_split. xml" file, "patch0. xml" will automatically pop up and double click to select

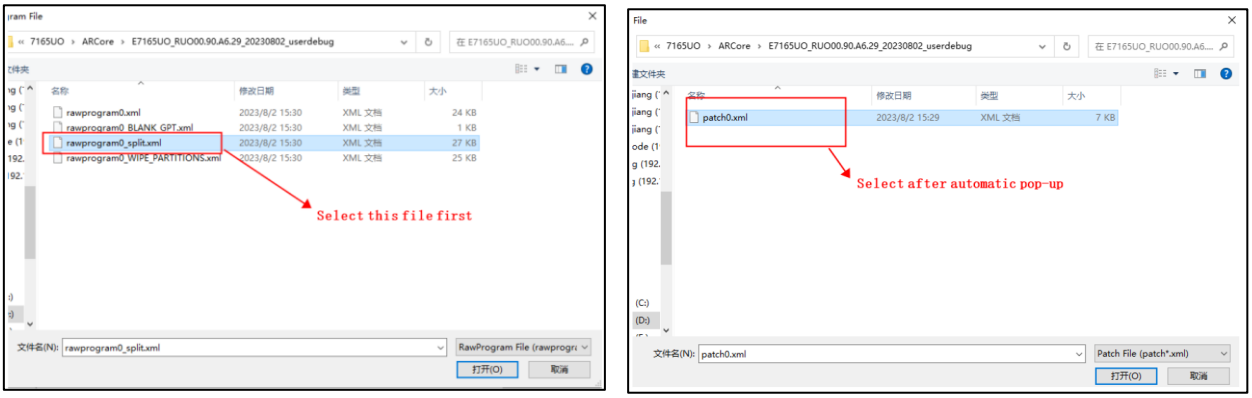

Figure 4-8 Load Flat Build file

7) Select 'emmc' for 'Storage Type' in the bottom right corner

Figure 4-9 Choose Storage type

8) Turn off tablet, press volume + and volume - keys at the same time, then insert type-C cable. The screen will flash and you will see the 9008 com port in flash tool.

Figure 4-10 Press both Volume key

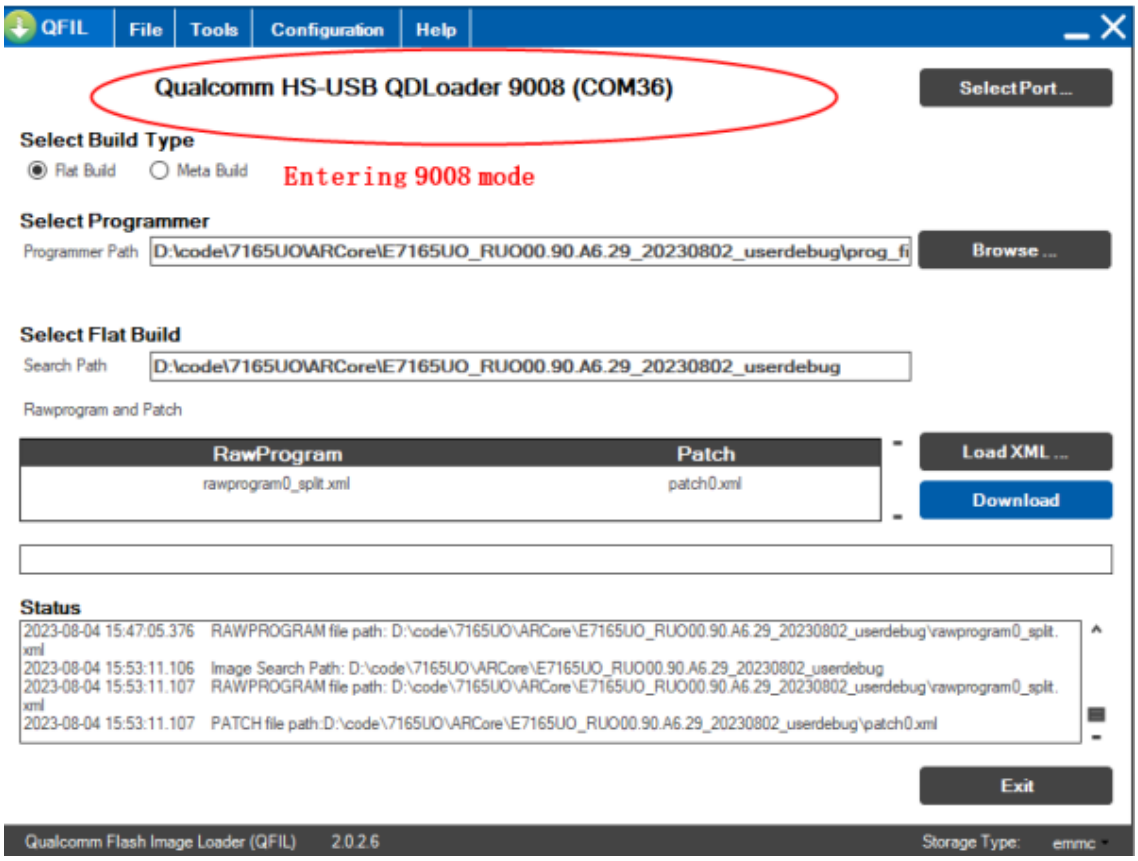

Figure 4-11 Qualcomm USB Port loaded

9) Click Download to start downloading. After the download is completed, the machine will automatically start up.

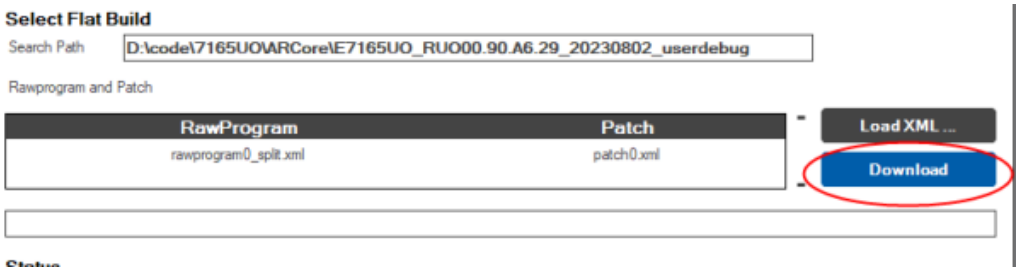

Figure 4-12 Start downloading firmware

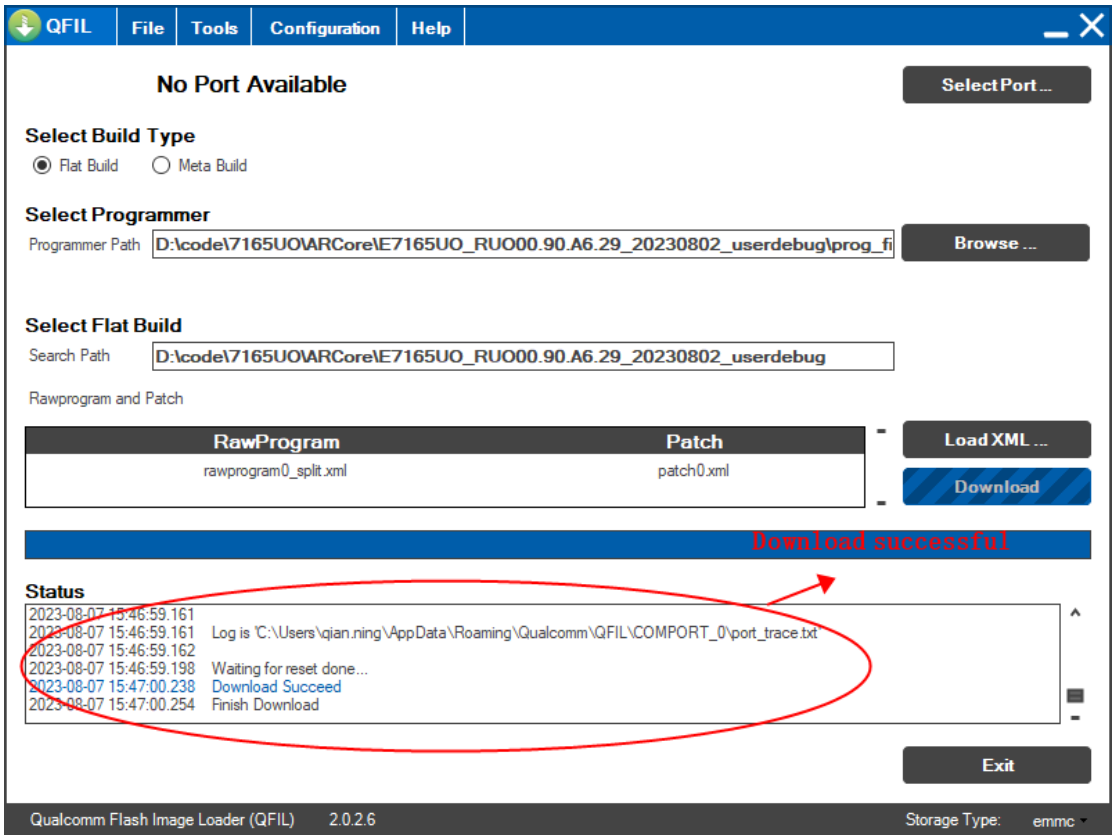

Figure 4-13 Finish downloading.

4.3 Notice

After firmware upgrading, please make a factory reset to recover the real ROM storage. Please contact with Hi-target technical support for upgrade tools and firmware package, and strictly follow the operation steps during the upgrade process. If you have any questions during upgrade process, please contact Hi-Target technicians in time.