

QMloader User Guide

Version: 1.4

Date: 2025-04-14

Status: Released



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About the Document

Revision History

Version	Date	Author	Description
-	2023-03-13	Cherry ZHAO	Creation of the document
1.0	2023-03-31	Cherry ZHAO	First official release
1.1	2023-05-09	Cherry ZHAO	<ol style="list-style-type: none">1. Updated the tool version to 1.1.2. Updated supported operating systems (Chapter 1.1).3. Updated the steps for starting firmware upgrade (Chapter 2.3).4. Added some common error codes (Chapter 3).5. Updated the firmware file to be selected for CC200A (Table 4).
1.2	2023-11-24	Simona HUANG	<ol style="list-style-type: none">1. Updated the tool version to 1.5.2. Updated the steps for upgrading firmware (Chapter 2.3).
1.3	2024-11-12	Sia SHEN	Updated the tool version to 1.7.
1.4	2025-04-14	Sia SHEN	<ol style="list-style-type: none">1. Updated the tool version to 1.8.2. Added error codes (Chapters 3.4 & 3.5).

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1 Introduction

QMloader is a single-port firmware upgrade tool developed by Quectel. This document mainly introduces how to upgrade firmware with the tool.

1.1. Operating System

The tool can run on a PC without actual installation, if the PC runs one of the following operating systems.

- Windows 10
- Windows 11

NOTE

1. In Windows 10 and 11, right-click on the executable file of the toolkit and select “**Run as administrator**” to run the tool.
2. The storage path of the tool and the firmware package must be in English characters and should NOT contain any space, “()” or Chinese characters.
3. The storage/loading path of the firmware package has to be a local path instead of a USB device path or a network path.

1.2. Applicable Module

QMloader is applicable to the following Quectel module.

Table 1: Applicable Module

Product Line	Module
Satellite Communication	CC200A

1.3. About QMloader Tool

Click “**About This Tool**” under “**Help**” in the toolbar, and you can obtain the version information of the tool as shown below:

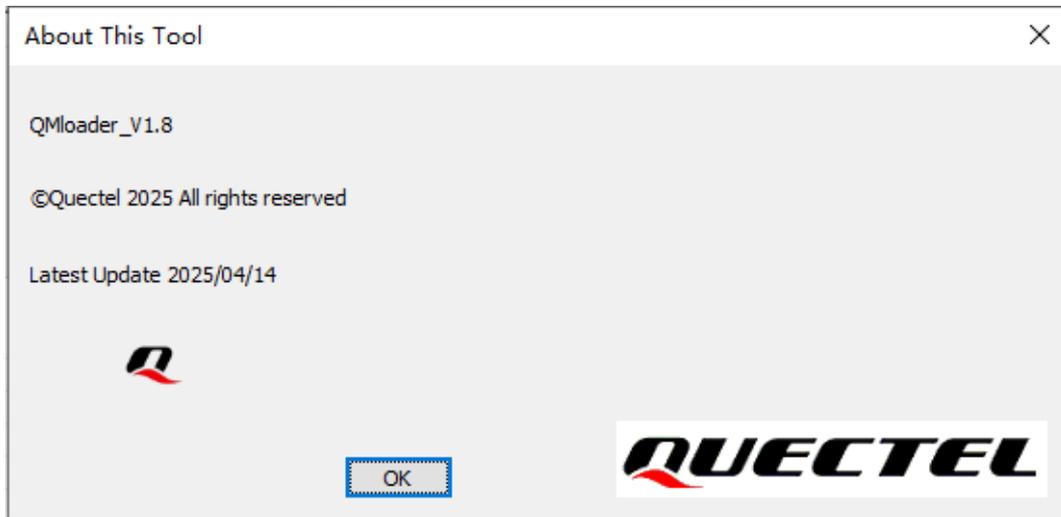


Figure 1: About the QMloader Tool

2 Firmware Upgrade Procedures

Firmware upgrade procedures with QMloader are illustrated below.

Step 1: Select the COM port and set the baud rate.

Step 2: Load firmware file(s).

Step 3: Upgrade the firmware.

2.1. Select COM Port and Set Baud Rate

After the QMloader tool is started, the main interface is shown as below.

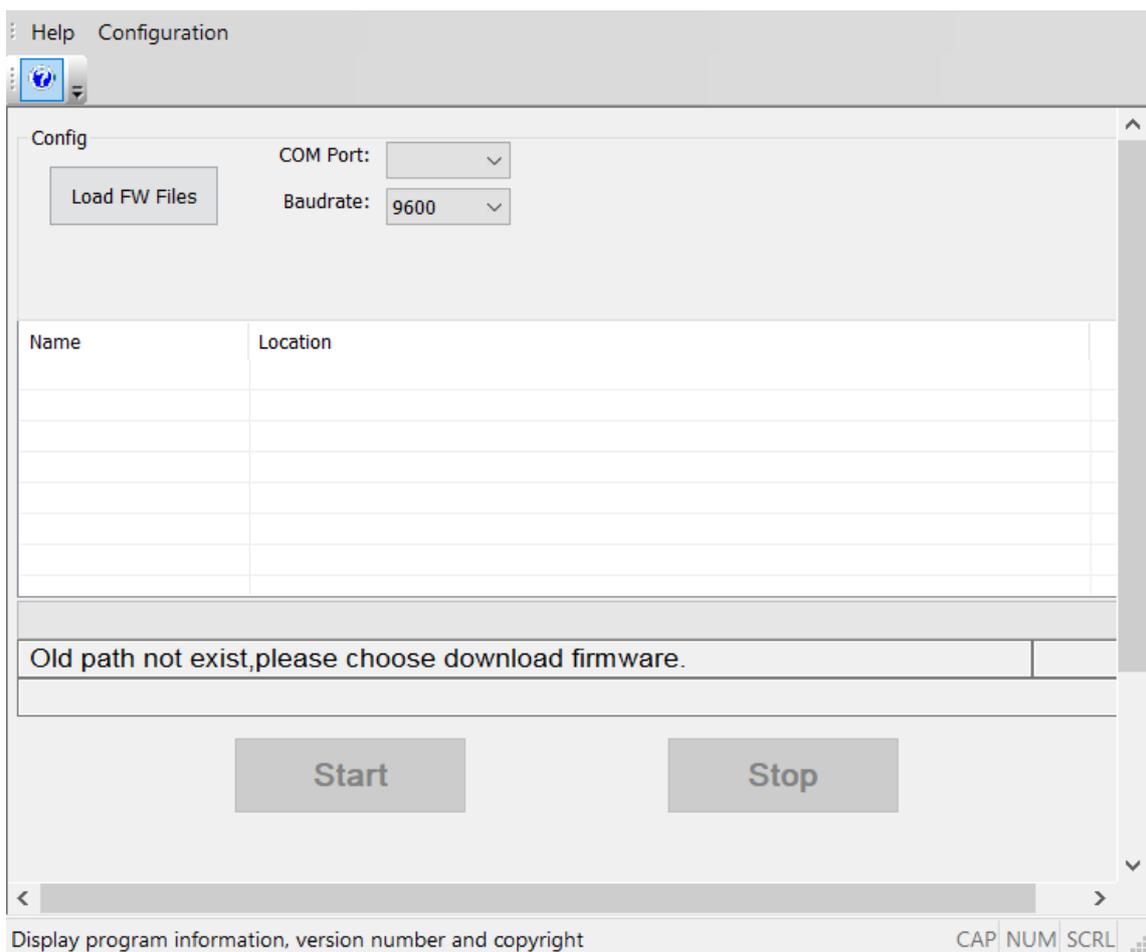


Figure 2: Main Interface of QMloader

2.1.1. Select COM Port

Step 1: Check **Table 2** to confirm the firmware download port (COM port) for a specified module.

Step 2: Click “**COM Port**” drop-down list to select the corresponding COM port number.

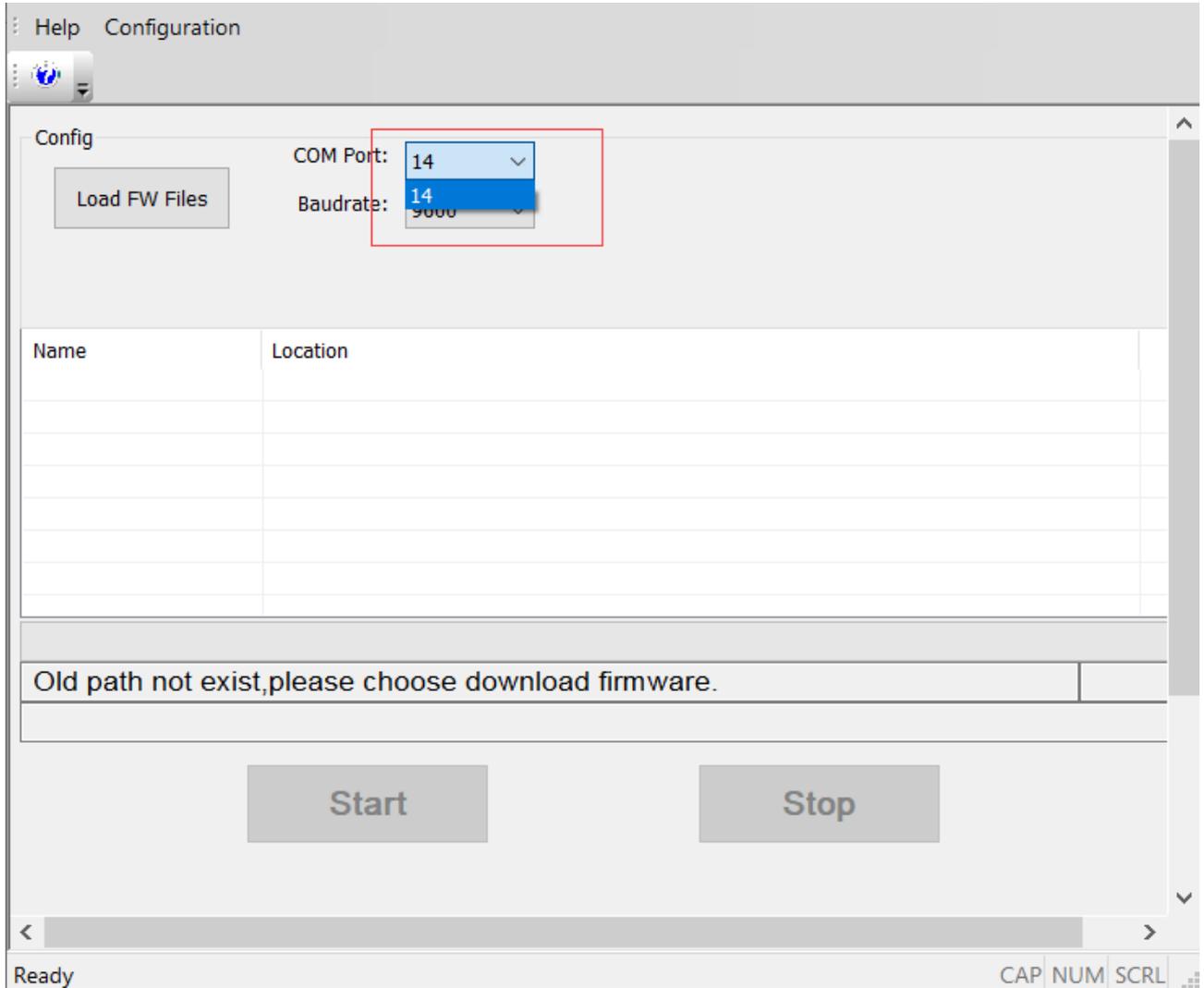


Figure 3: Select the COM Port for Firmware Upgrade

2.1.2. Set Baud Rate

Step 1: Check **Table 3** to confirm the supported baud rate for firmware upgrade.

Step 2: Click “**Baudrate**” drop-down list to select the corresponding baud rate.

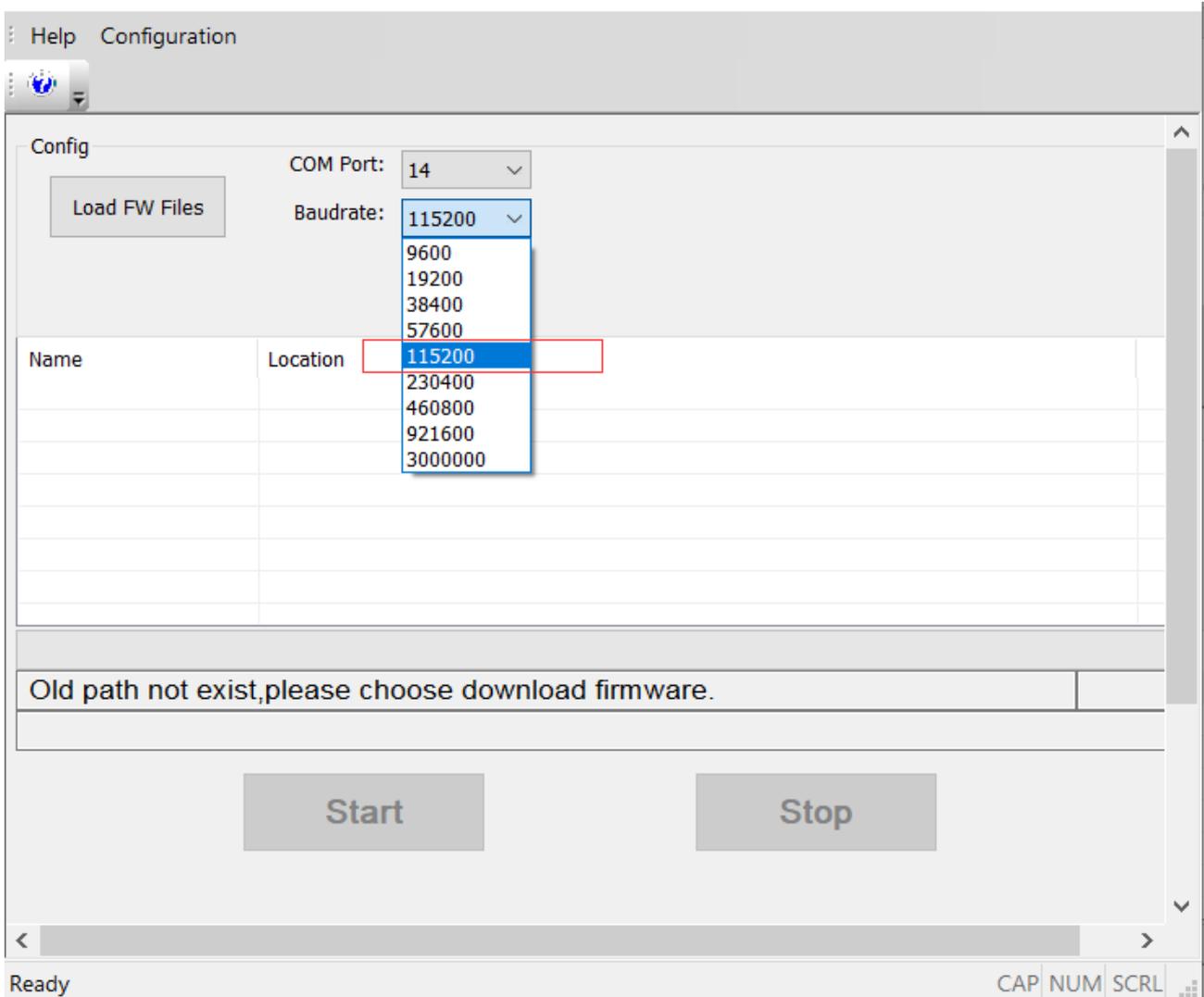


Figure 4: Select Baud Rate

2.2. Load Firmware File(s)

Step 1: Click the “Load FW Files” button.

Step 2: Check **Table 4** to confirm the firmware file(s) to be selected for a specific module, then select the firmware file(s) to be downloaded.

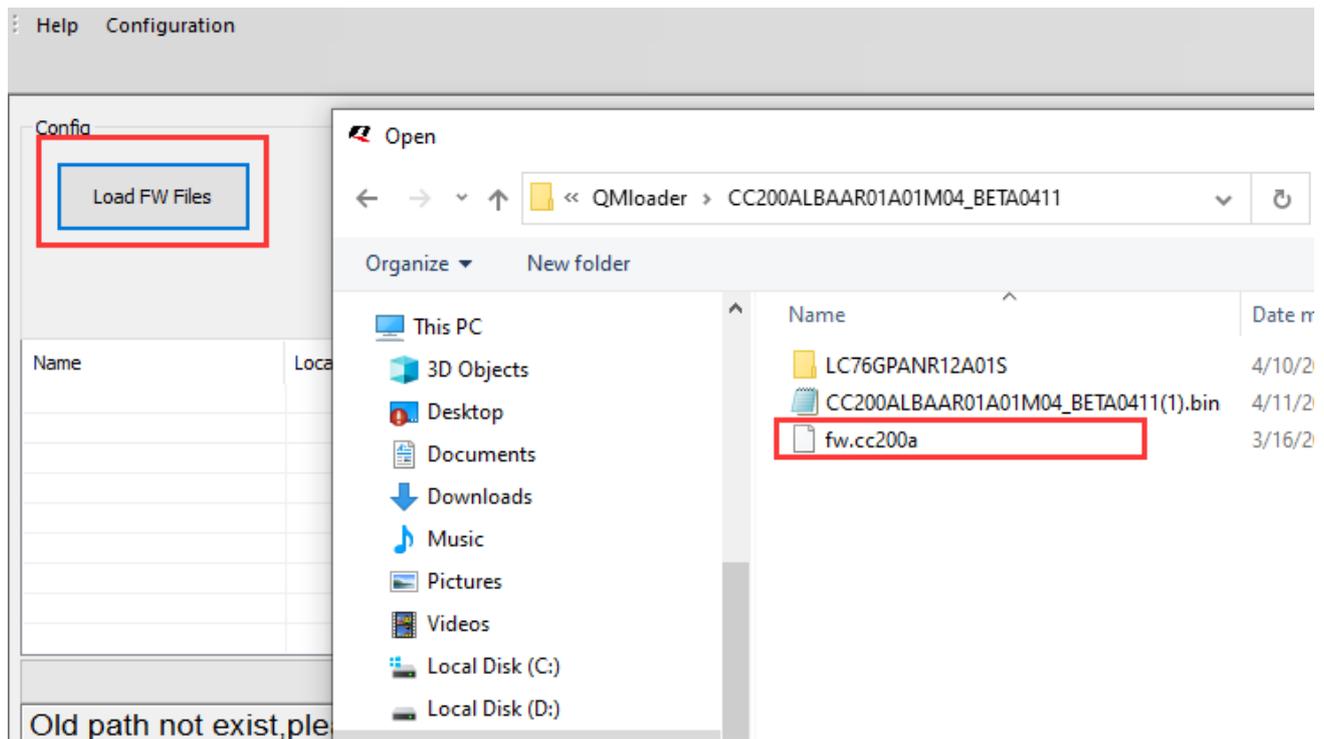


Figure 5: Select the Firmware File to Be Downloaded

NOTE

1. The tool loads the download mode based on the firmware package.
2. After the firmware package is successfully upgraded, the module needs to be powered on and off again before it can be used normally.

2.3. Upgrade Firmware

2.3.1. Upgrade MCU Firmware

Step 1: Click the “Load FW Files” button. Select the firmware package, and then select “DL MCU” mode. Firmware can only be downloaded in DL MCU mode.

Step 2: Press and hold SAT_BOOT button on the EVB board, and then power on the module. Then, click the “Start” button to start firmware upgrade.

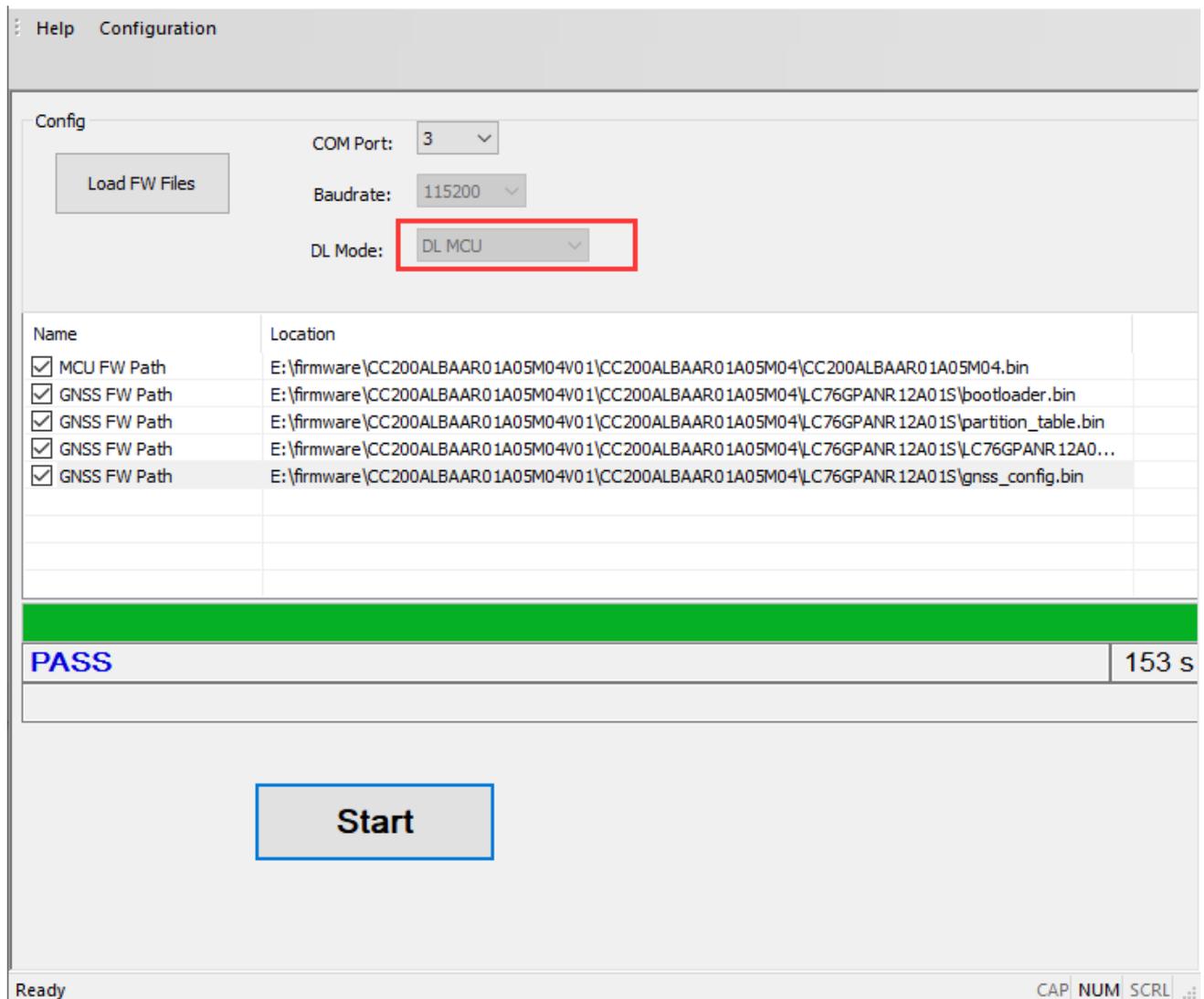


Figure 6: Upgrade MCU Firmware

2.3.2. Upgrade GNSS Firmware

Step 1: Click the “**Load FW Files**” button. Select the firmware package, and then select “**DL GNSS**” mode. Firmware can only be downloaded in DL GNSS mode. Only after downloading the MCU firmware can the GNSS firmware be downloaded.

Step 2: Power on the module again (when downloading the MCU firmware, the module is already powered on, so you need to power the module off first), and then click the “**Start**” button to start firmware upgrade.

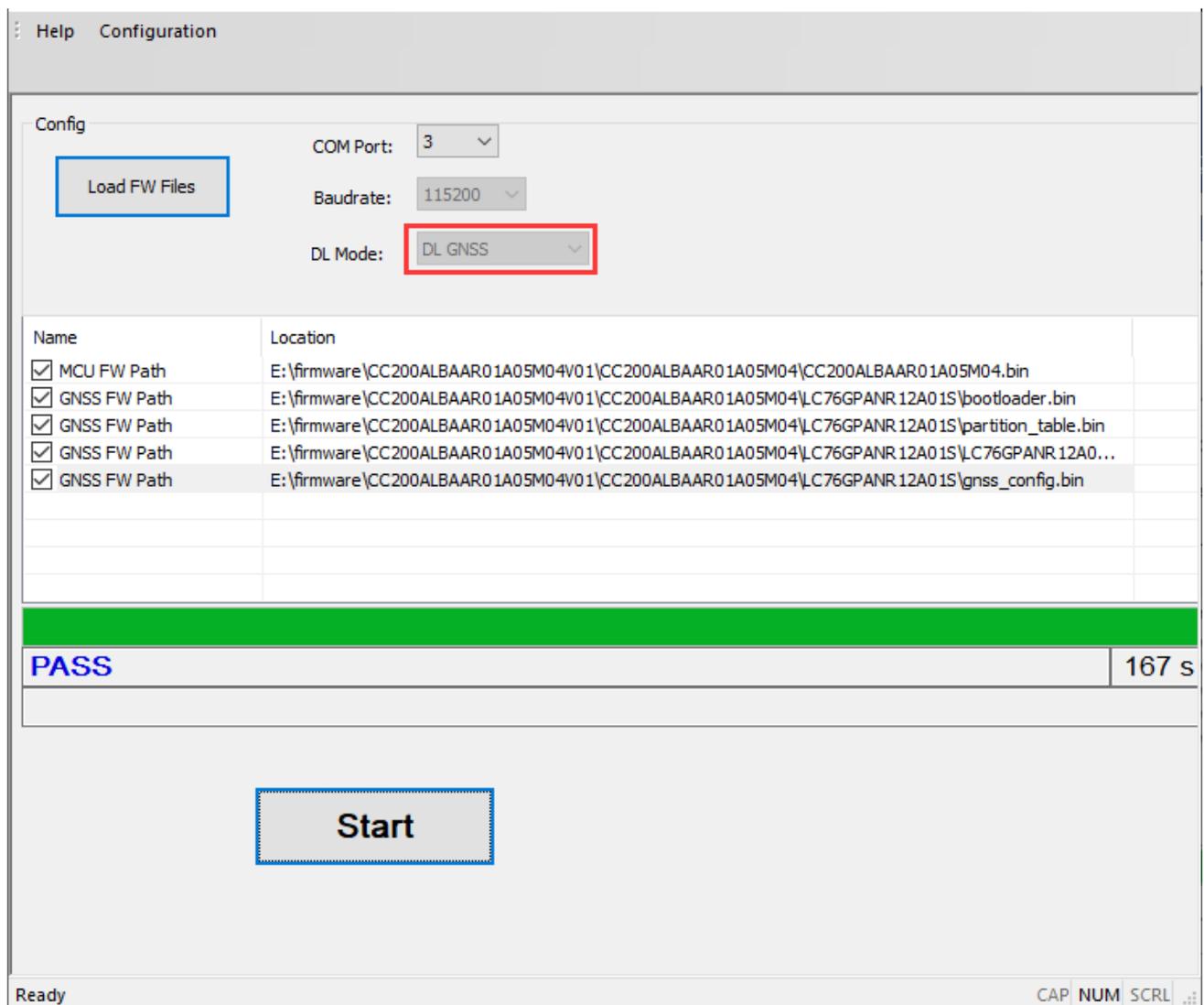


Figure 7: Upgrade DL GNSS Firmware

2.3.3. Upgrade MCU and GNSS Firmware

Step 1: Click the “Load FW Files” button. Select the firmware package, and then select “DL MCU And GNSS” mode. Firmware can only be downloaded in DL MCU And GNSS mode.

Step 2: Press and hold SAT_BOOT button on the EVB board, and then power on the module. Then, click the “Start” button to start firmware upgrade.

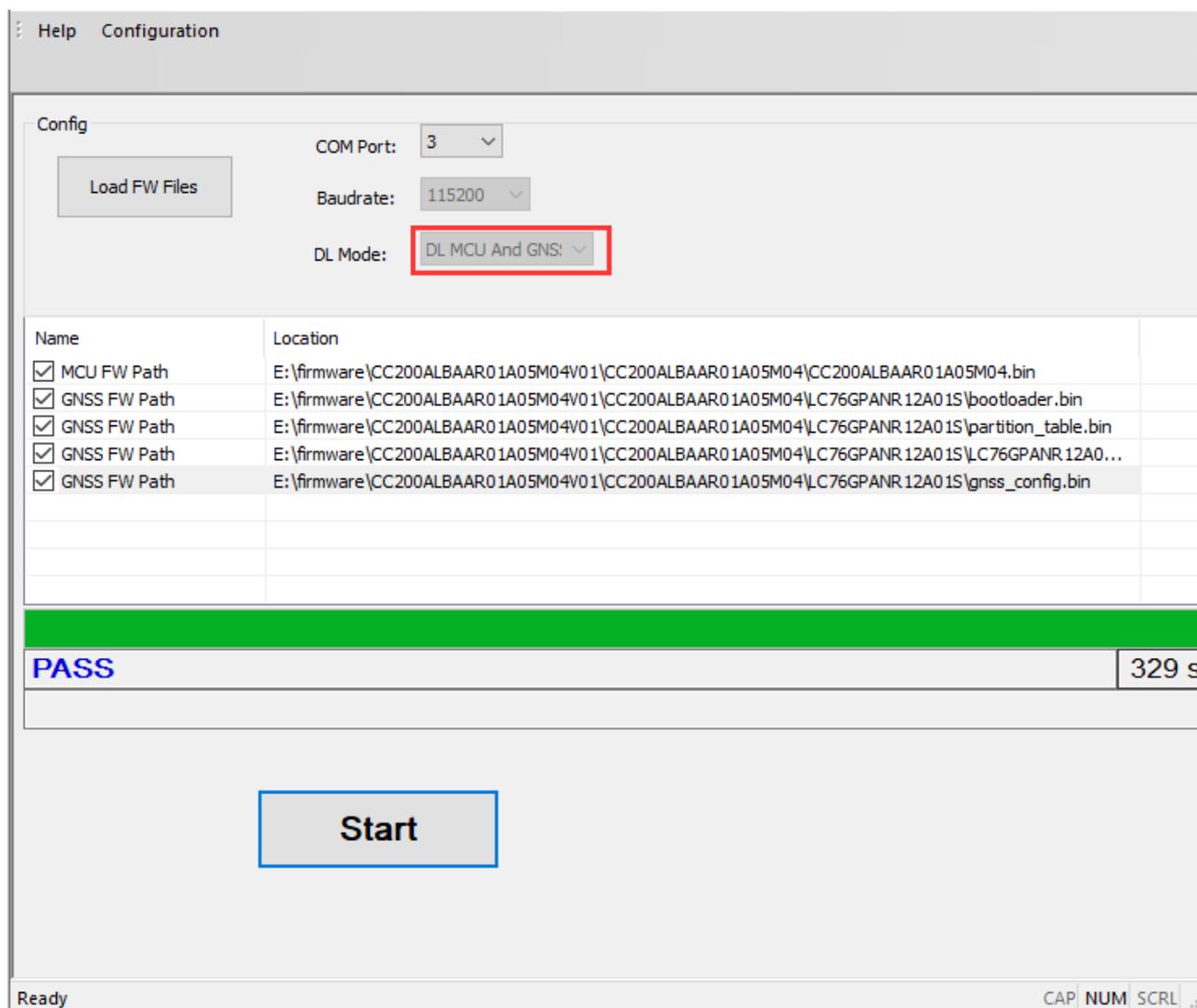


Figure 8: Upgrade DL MCU And GNSS Firmware

NOTE

After the firmware package is successfully upgraded, the module needs to be powered on and off again before it can be used normally.

3 Common Error Codes

An error may occur during firmware upgrade procedure due to incorrect COM port or baud rate selection, damaged EVB/TE-B board or invalid firmware file(s). This chapter illustrates some common errors with examples.

3.1. Activating device: KO

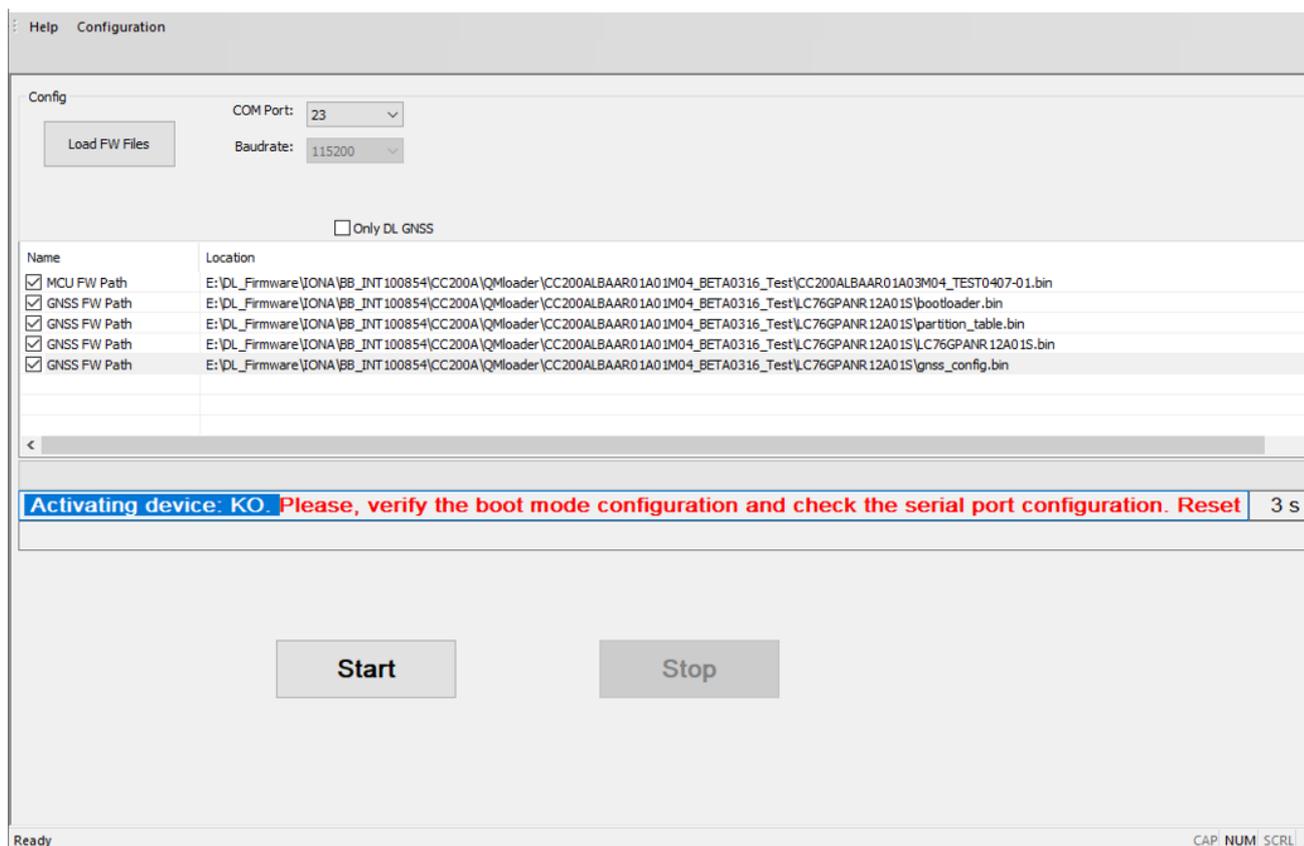


Figure 9: Activating device: KO

NOTE

1. Please verify the setting of the module boot mode (firmware-download mode).
2. Ensure a correct download port is selected. Otherwise re-select the download port and then reset the module.

3.2. Cannot open port

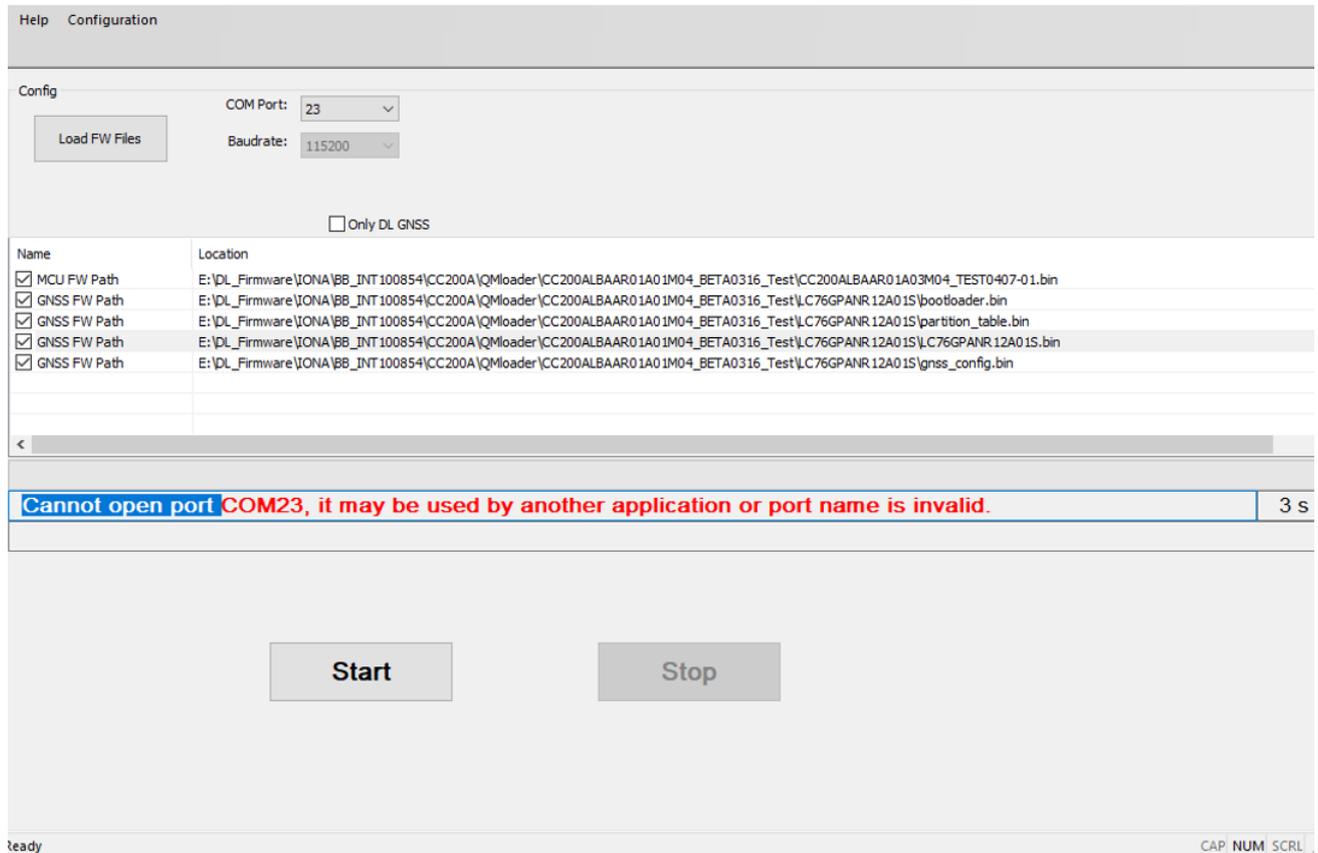


Figure 10: Cannot open port

NOTE

The current port cannot be opened. Please confirm whether the port is being used by other applications, or the port name is invalid.

3.3. Tool And Firmware Path Have Space

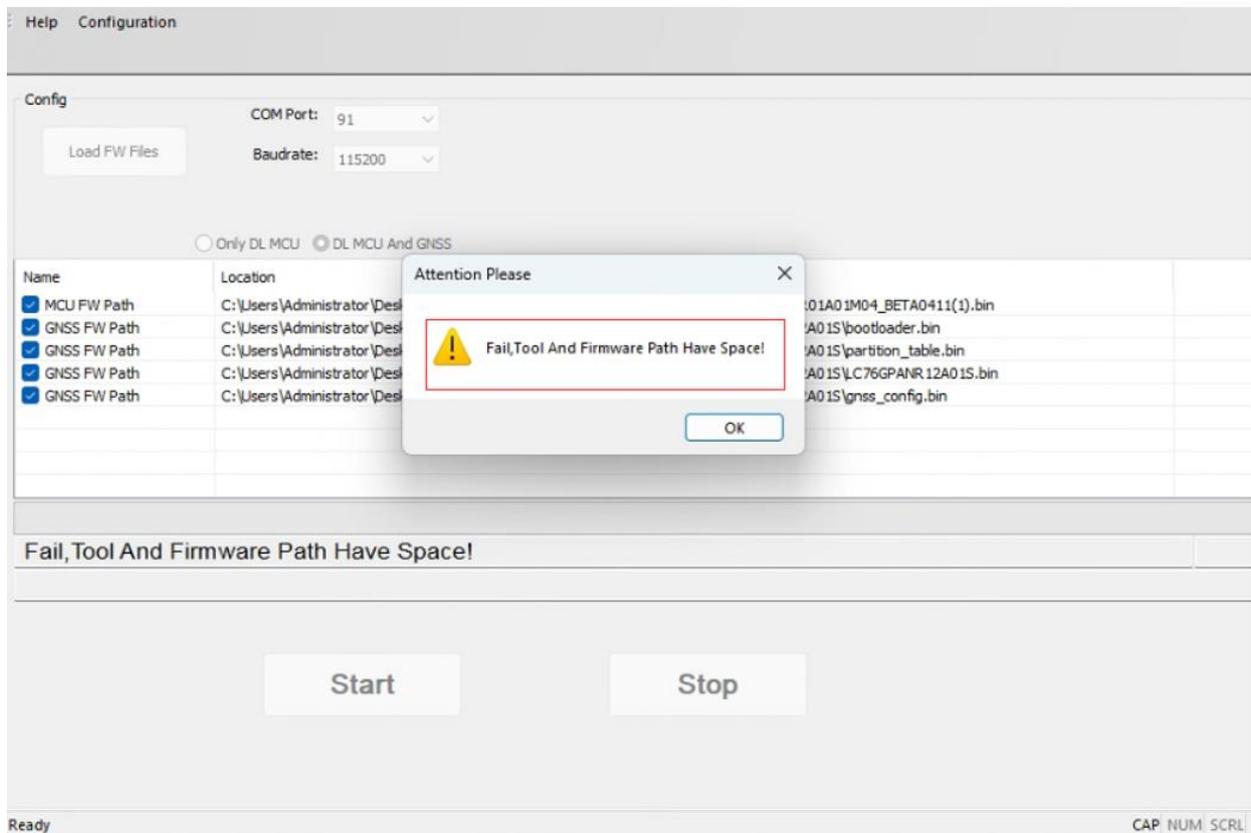


Figure 11: Tool And Firmware Path Have Space!

NOTE

Please remove the space in the storage path of the tool or the firmware.

3.4. Firmware Verification Failed

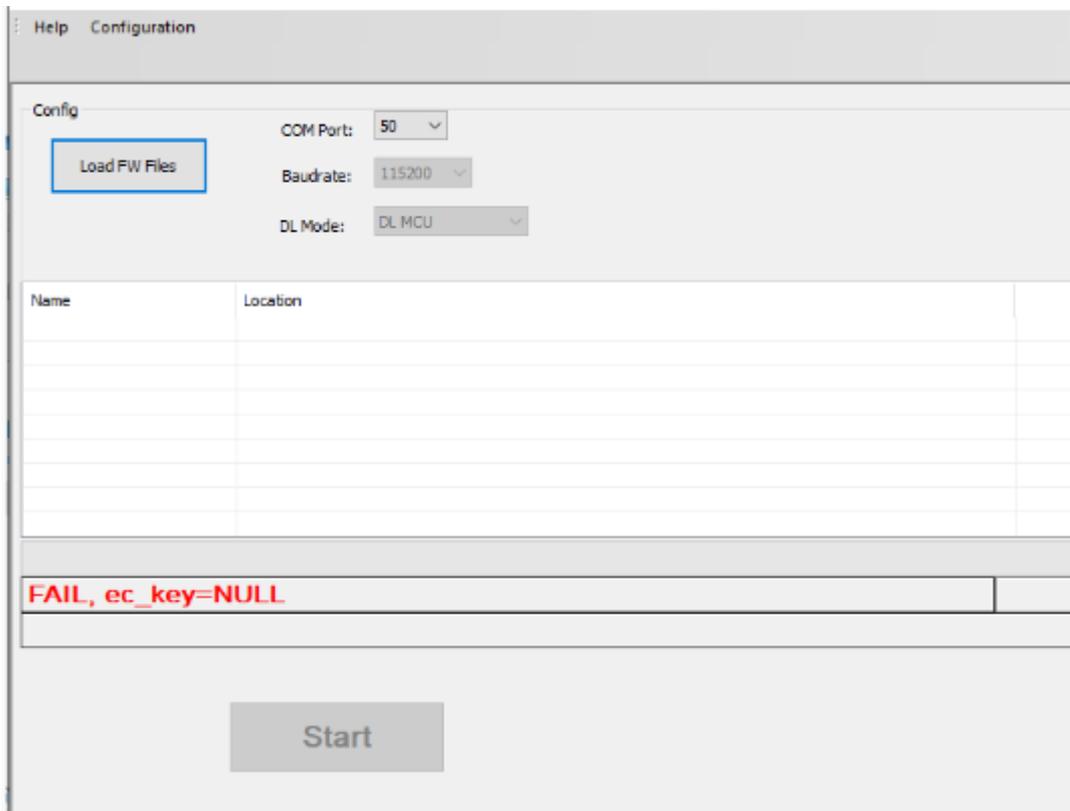


Figure 12: Firmware Verification Failed

NOTE

Please check whether p384_public_key.pem file matches in the firmware.

3.5. The Quantity of Signature Files Differs From That of the Firmware Files to Be Verified

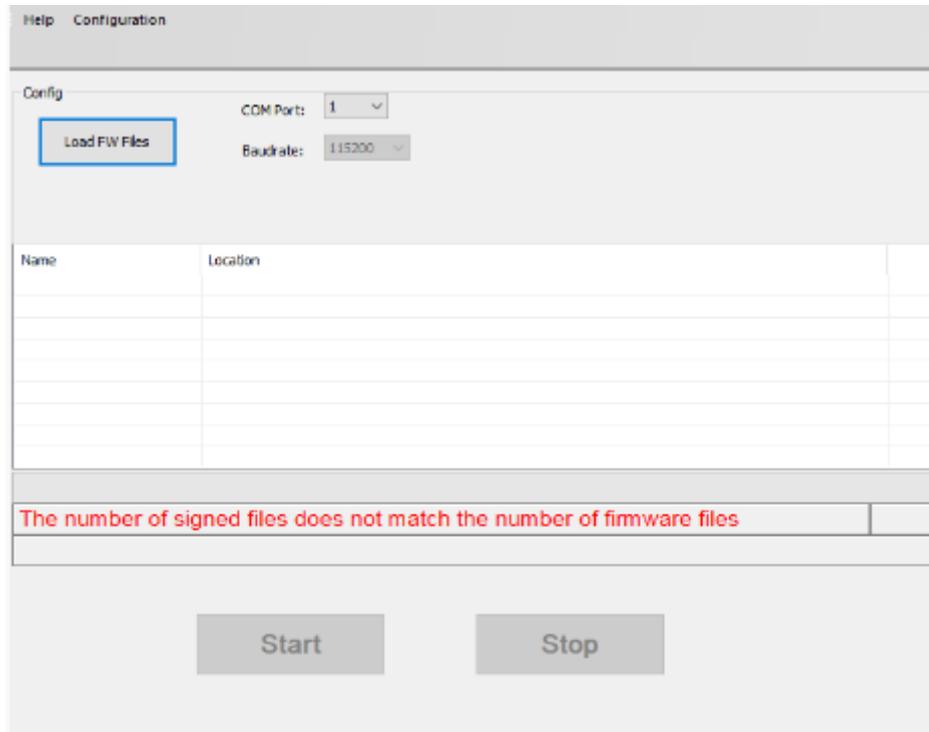


Figure 13: The Quantity of Signature Files Differs From That of the Firmware Files to Be Verified

NOTE

Please check if the number of files in the firmware package's sign_file folder matches the number of corresponding firmware files.

4 Summary of Firmware Upgrade Information

4.1. Summary of Firmware Download Ports

Table 2: Summary of Firmware Download Port

Module	COM Port
CC200A	USB Serial Port

4.2. Summary of Firmware Upgrade Baud Rates

Table 3: Summary of Firmware Upgrade Baud Rate

Module	Baud Rate
CC200A	115200

4.3. Summary of Firmware File(s) to Be Selected

Table 4: Summary of Firmware File

Module	Firmware File
CC200A	fw.cc200a
