QFlash User Guide

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About the Document

Revision History

Version	Date	Author	Description
1.0	2012-10-30	Yolanda YAO	Initial
1.1	2012-12-02	Yolanda YAO	Updated QFlash version to 1.1
1.2	2013-02-25	Karen REN	Updated QFlash version to 1.4
1.3	2013-05-20	Apple SONG/ Karen REN	Added USB port to upgrade firmware for U10 and UC20 module
1.4	2013-10-10	James CAI	1. Added the way to upgrade GCxx module 2. Updated QFlash version to 2.1
1.5	2013-11-05	Lucky DOU	Updated QFlash version to 2.2
1.6	2013-12-07	James CAI	Updated QFlash version to 2.3
1.7	2013-12-12	Lucky DOU	Updated QFlash version for UC15
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1.10	2014-03-18	James CAI	Updated QFlash version to 2.6
1.11	2014-04-24	Anny ZHANG	Updated QFlash version to 2.7
1.12	2014-06-25	James CAI	Updated QFlash version to 2.8
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1.14	2014-10-08	Martin LI	Updated QFlash version to 3.0
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1.17	2015-06-03	James CAI	Updated QFlash version to 3.4
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1.19	2016-06-16	Sophie ZHU	1. Added the way to upgrade EC2x module 2. Updated QFlash version to 3.6
1.20	2016-09-26	Dylan LIU	1. Added the way to load APP firmware 2. Updated QFlash version to 3.7
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2.2	2018-01-03	Joy WANG	1. Updated QFlash version to 4.6 2. Added a note about firmware downloading in Firehose mode for EC2x modules
2.3	2018-04-25	Kitty WANG	Updated QFlash version to 4.7
2.4	2018-05-21	Kitty WANG	1. Updated QFlash version to 4.8 2. Added notes about tool and firmware paths
2.5	2018-09-14	Kitty WANG	1. Updated QFlash version to 4.9 2. Added the way to upgrade EM12, BC95-G, BC68 and BC66 modules
2.6	2018-12-25	Kitty WANG	1. Updated QFlash version to 4.10 2. Added applicable module MC25, M25 and M26 3. For M26 and MC60 modules (MTK platform), added command line download method to upgrade firmware, in addition to the standard method. (Chapter 2.3.2)
2.7	2019-04-08	Anne QIU	1. Updated QFlash version to 4.11 2. Updated the list of applicable modules (Chapter 1.2) 3. Added the log printing description of BC95-G (Chapter 2.3.1)
2.8	2019-07-03	Kawhi HE	1. Updated QFlash version to 4.12 2. Added the way to upgrade EC200T module
2.9	2019-09-17	Anne QIU	1. Updated QFlash version to 4.13 2. Added the applicable module AG15 3. Added the method of loading firmware file for OpenCPU modules (Chapter 2.2.1.2) 4. Added applicable module M66-OpenCPU of loading APP firmware (Chapter 2.2.2.1) 5. Added the method of loading APP firmware for M65-

			OpenCPU module (Chapter 2.2.2.2)
			6. Added abnormalities of M65 (Figure 23, 31, 38 and 45)
2.10	2019-11-12	Anne QIU	1. Updated QFlash version to 4.14 2. Added the method of upgrading BG95/BG77 module 3. Updated OpenCPU to QuecOpen
2.11	2019-12-19	Kawhi HE	1. Updated QFlash version to 4.15 2. Added the method of upgrading RG500Q module
3.0	2020-02-02	Kitty WANG	Updated QFlash version to 4.16
3.1	2020-06-01	Kidd CHEN	1. Updated QFlash version to 4.18 2. Added the method of upgrading RM500Q-GL and RG800H module
3.2	2020-07-30	Kidd CHEN	1. Updated QFlash version to 4.19 2. Added the method of upgrading RG801H module 3. Added the upgrading method for MBN function
3.3	2020-09-11	Anne QIU	1. Updated QFlash version to 4.20 2. Updated the note in Chapter 2.1.1.5
3.4	2020-11-26	Kawhi HE	1. Updated QFlash version to 5.0 2. Removed EC20 R2.0, RG800H and RG801H modules
3.5	2020-12-30	Kitty WANG/ Kawhi HE	1. Updated QFlash version to 5.1 2. Added the method of upgrading BC660K-GL module
3.6	2021-01-28	Kawhi HE	Updated QFlash version to 5.2
3.7	2021-04-30	Shirly WANG	1. Updated QFlash version to 5.3 2. Added the method of upgrading BG770A-GL 3. Added the method of upgrading AG509M-EU 4. Added a note on the storage/loading path of the firmware package
3.8	2021-06-03	Shirly WANG	1. Updated QFlash version to 5.4 2. Added the method of upgrading FC41D
3.9	2021-08-16	Shirly WANG	1. Updated QFlash version to 5.5 2. Added the method of upgrading EC200U, EC200S and EG912Y 3. Modified the method of upgrading BC660K-GL
4.0	2021-11-30	Kitty WANG	1. Updated QFlash version to 5.6 2. Added the methods of upgrading RG520N, AG215S-CN, SC200E and SG865W-WF
4.1	2022-01-20	Kitty WANG	1. Updated QFlash version to 5.7 2. Added the methods of upgrading RG500L

4.2	2022-01-30	Nadia GAO	1. Updated QFlash version to 5.8 2. Added the methods of upgrading BG951A-GL
4.3	2022-04-26	Kitty WANG	1. Updated QFlash version to 5.9 2. Added the methods of upgrading SG560D, RM520N-GL and EC200A
4.4	2022-06-29	Kitty WANG	Updated QFlash version to 6.0
4.5	2022-10-13	Sia SHEN	1. Updated QFlash version to 6.1 2. Added the methods of upgrading BC92, RG525F, RG500U, RG200U and RM500U 3. Updated Windows OS version to 11 (Chapter 1.1) 4. Deleted the following EOL products: BC95-G, BC68, EC200T, UC15, UC20, UC200T, UG95, UG96, M10, M72, M80, M85, and GC10 5. Omitted the model suffixes of module names that contain 3 digits
4.6	2023-01-06	Cherry ZHAO	1. Updated QFlash version to 6.2 2. Added the methods of upgrading EG060W, AG519M and SC668S
4.7	2023-03-28	Sia SHEN	1. Updated QFlash version to 6.3 2. Added the methods of upgrading AG590E, BC950K and FCM100D
4.8	2023-06-08	Sia SHEN	1. Updated QFlash version to 6.4 2. Added the methods of upgrading EG915Q, SG368Z, BG955A and CC660D
4.9	2023-08-16	Simona HUANG	1. Updated QFlash version to 6.5 2. Added the methods of upgrading RG255C, BG950S and SG885G
5.0	2023-10-27	Simona HUANG/ Joyce YU	1. Updated QFlash version to 6.6 2. Added the methods of upgrading SC200L, SG520B, FCM242D, FCM360W, FCM561D, FLM140D and HCM010S.

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1 Introduction

This document mainly introduces firmware upgrade procedure with the QFlash tool provided by Quectel. QFlash is a single-port firmware upgrade tool. It supports firmware upgrade of one module at a time.

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 7
- Windows 8
- 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.
4. The firmware package should be left intact and not modified.

1.2. Applicable Modules

QFlash is applicable to the following Quectel modules.

Table 1: Applicable Modules

Product Line	Module
5G	RG200U
	RG255C
	RG500L
	RG500Q
	RG500U
	RG520N
	RG525F
	RM500Q
	RM500U
	RM520N
LTE-Advanced	EG06
	EG060W
	EG12
	EG18
	EM06
	EM12-G
	EP06
LTE Standard	EC20-CE
	EC200A
	EC200S
	EC200U

	EC21	
	EC25	
	EG21-G	
	EG25-G	
	EG91	
	EG912Y	
	EG915Q	
	EG95	
	EM05	
Automotive	AG15	
	AG215S	
	AG35	
	AG509M	
	AG519M	
	AG520R	
	AG521R	
	AG525R	
	AG529R	
	AG550Q	
	AG551Q	
	AG552Q	
	AG553Q	
	AG590E	
Smart	SC20	
	SC66	
	SC200E	

	SC200L	
	SC668S	
	SG368Z	
	SG520B	
	SG560D	
	SG865W	
	SG885G	
LPWA	BC66	
	BC660K	
	BC92	
	BC950K	
	BG77	
	BG770A	
	BG95	
	BG950A	
	BG951A	
	BG955A	
	BG950S	
	BG96	
GSM	M65	
	M66	
	M95	
	MC60	
Wi-Fi&Bluetooth	FC41D	
	FCM100D	
	FCM242D	

	FCM360W
	FCM561D
	FLM140D
	HCM010S
Satellite	CC660D

1.3. About QFlash Tool

Click "**About This Tool**" under "**Help**" in the toolbar, and you can obtain the version information of the tool as shown below:
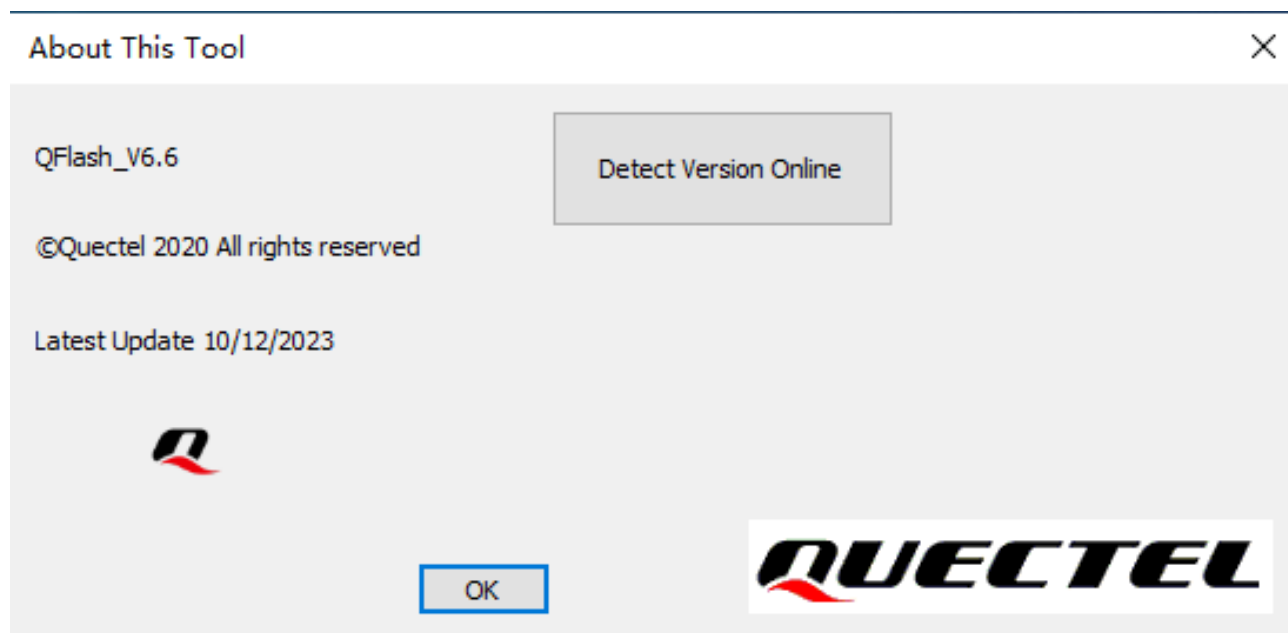
Figure 1: About the QFlash Tool

2 Firmware Upgrade Procedures

Firmware upgrade procedures with QFlash tool are illustrated below.

Step 1: Select COM port and baud rate.
Step 2: Load firmware file.
Step 3: Start firmware upgrade.

NOTE

1. In general, you can follow the steps above to upgrade the firmware. However, the upgrade steps for some modules are slightly different. See *Table 2* for details.
2. QFlash supports firmware upgrade in Firehose and Sahara modes.
   - When the *Firehose* folder exists in the firmware package, the firmware will be upgraded in Firehose mode by default. To upgrade in Sahara mode, please select "**Sahara only**" under "**Configuration**" in the menu bar. If the upgrade in Firehose mode fails after many attempts, please try again after turning off or uninstalling your anti-virus software and firewall.
   - If there is no *Firehose* folder in the firmware package, the firmware will be upgraded in Sahara mode by default.

2.1. Select COM Port and Baud Rate

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

Figure 2: Main Interface of QFlash

2.1.1. Select COM Port

Detailed steps for selecting COM port are illustrated below.

Step 1: Check *Table 3* 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, unless otherwise specified in the "Comment" column of *Table 3*.
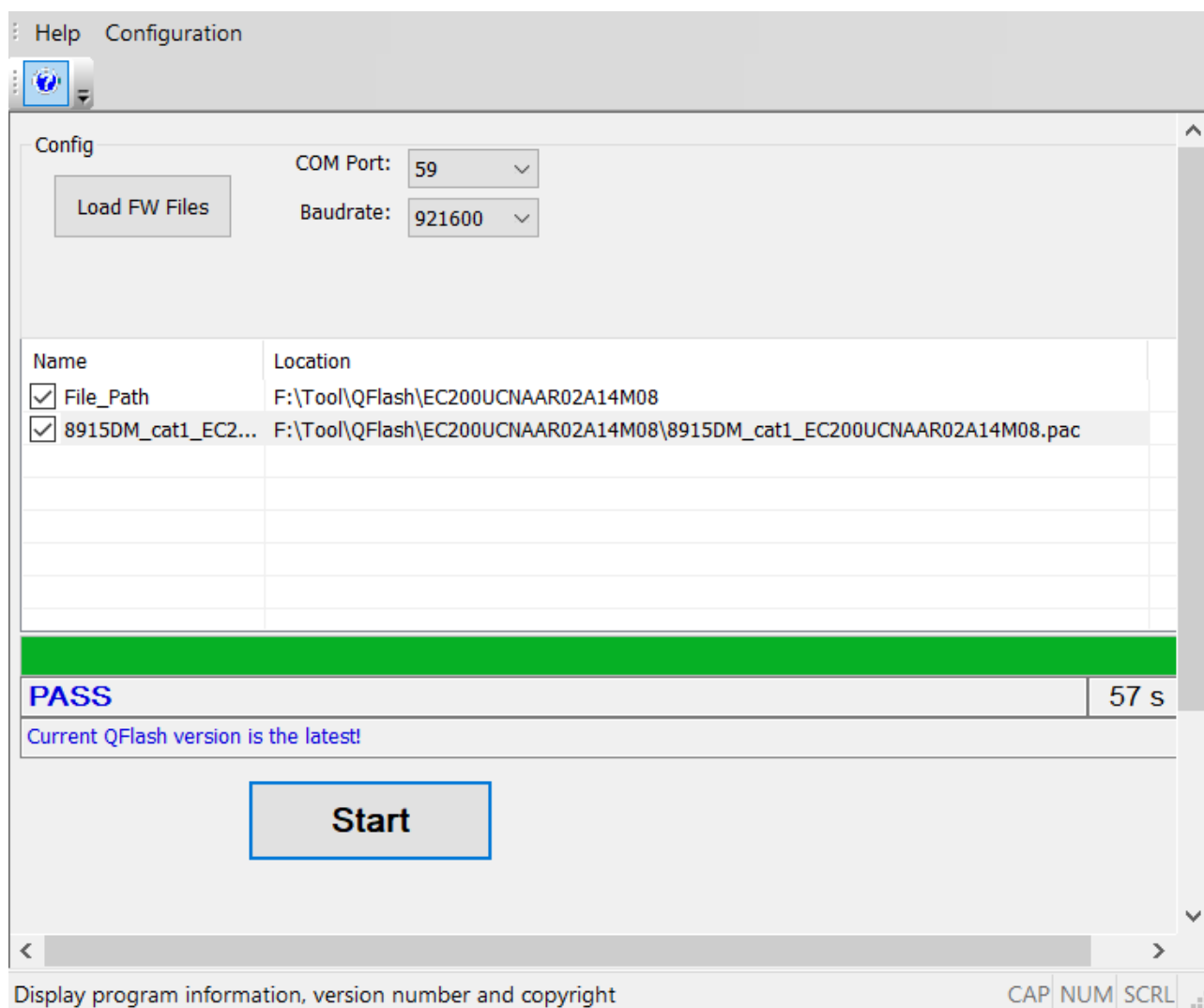
Figure 3: Select COM Port Number

2.1.2. Set Baud Rate

Step 1: Check *Table 4* to confirm the supported baud rate of a specified module for firmware upgrade.

Step 2: Click "**Baudrate**" drop-down list to select the corresponding baud rate.
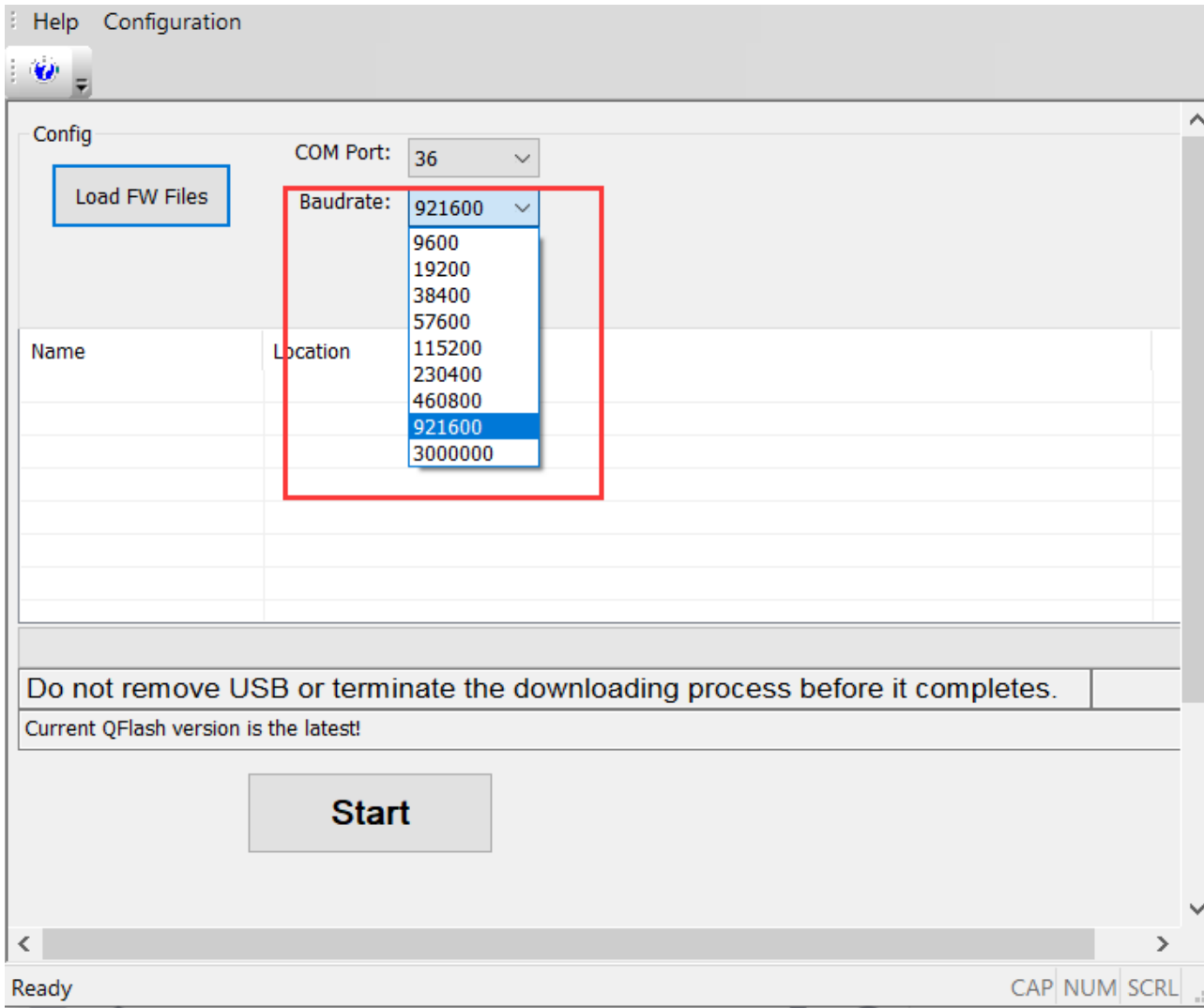
Figure 4: Select the Baud Rate

> **NOTE**
>
> 1. Baud rate setting is unnecessary for virtual USB port.
> 2. There are different baud rate values to be selected and the hardware environment determines whether a specified baud rate can be supported. If the baud rate is not supported, an error message will be returned.

2.2. Load Firmware File

Step 1: Click the button "**Load FW Files**".

Step 2: Check *Table 5* to select the corresponding firmware file to be downloaded to the module.
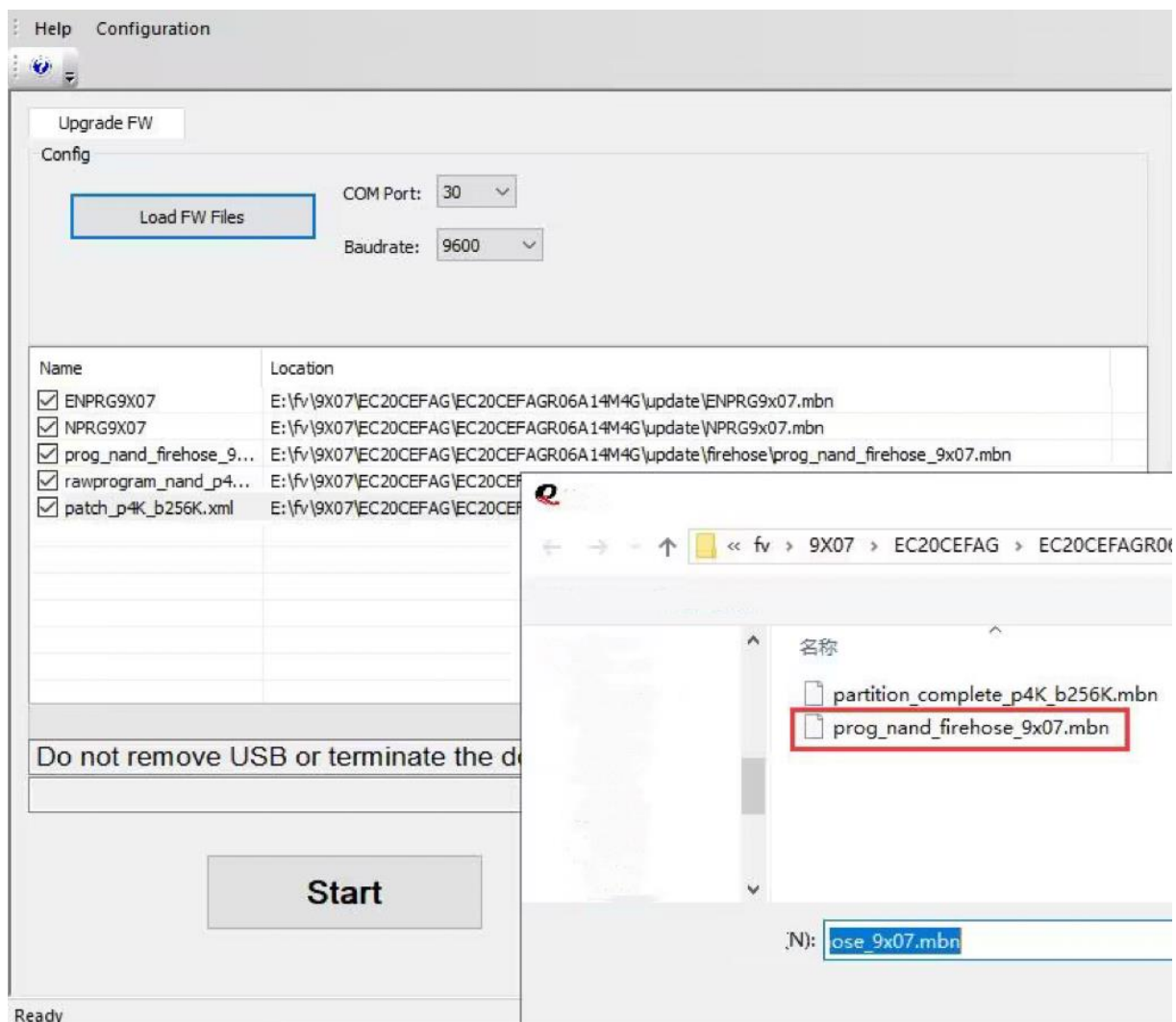
Figure 5: Select the File to Be Downloaded

2.3. Start Firmware Upgrade

Table 2: Firmware Upgrade Starting Steps

Product Line	Module	Firmware Upgrade Starting Steps	Comment
5G	RG200U	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
	RG255C	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
	RG500L	1. Power on the module. 2. Click the "**Start**" button and the firmware will be upgraded.	
	RG500Q	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
	RG500U	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
	RG520N	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
	RG525F	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	

	RM500Q	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
	RM500U	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
	RM520N	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	Support firmware upgrading by PCIe interface.
LTE-Advanced	EG06	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
	EG060W	1. Select the .zip firmware package. 2. Click the "**Start**" button. 3. Power on the module manually. 4. The tool automatically selects Quectel USB Download Port and starts firmware upgrade.	After the firmware is upgraded successfully, close the tool before you power on the module. Otherwise, the tool will automatically start firmware upgrade again.
	EG12	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
	EG18	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the

			downloading process before the upgrading is completed.
	EM06	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
	EM12-G	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
	EP06	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
LTE Standard	EC20-CE	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
	EC200A	1. Select the .zip firmware package. 2. Click the "**Start**" button. 3. Power on the module manually. 4. The tool automatically selects Quectel USB Download Port and starts firmware upgrade.	After the firmware is upgraded successfully, close the tool before you power on the module. Otherwise, the tool will automatically start firmware upgrade again.

EC200S	1. Power on the module, and then the tool prompts "**getting serial devices list**". 2. Click the "**Start**" button to upgrade the firmware.	
EC200U	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
EC21	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
EC25	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
EG21-G	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
EG25-G	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.

	EG91	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
	EG912Y	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
	EG915Q	1. Click the "**Start**" button. 2. When the tool prompts "**REBOOT CHIP**", press the "**GNSS_RST**" button on module TE-A to start GNSS firmware upgrade. 3. After GNSS firmware completes upgrade, reset the module, and then the tool will start firmware upgrade automatically.	
	EG95	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
	EM05	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
Automotive	AG15	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the

		downloading process before the upgrading is completed.
AG215S	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
AG35	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
AG509M	1. Turn off the module. 2. Click the "**Start**" button, and then turn on the module within 10 seconds. 3. The tool starts firmware upgrade automatically.	Only supports firmware upgrading on 64-bit operating system.
AG519M	1. Turn off the module. 2. Click the "**Start**" button, and then turn on the module within 10 seconds. 3. The tool starts firmware upgrade automatically.	Only supports firmware upgrading on 64-bit operating system.
AG520R	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.

AG521R	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
AG525R	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
AG529R	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
AG550Q	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
AG551Q	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
AG552Q	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the

			downloading process before the upgrading is completed.
	AG553Q	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
	AG590E	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
Smart	SC20	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
	SC66	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
	SC200E	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
	SC200L	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	

	SC668S	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
	SG368Z	1. Power on the module. 2. Click the "**Start**" button to start automatic firmware upgrade.	
	SG520B	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
	SG560D	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
	SG865W	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
	SG885G	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
LPWA	BC66	1. Click the "**Start**" button. 2. Reset the module manually when the tool prompts "**[INFO]Start connect with target, Please reset DUT...**" or "**Reset ......**". 3. The tool starts firmware upgrade automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
	BC660K	1. Press and hold the "**BOOT**" button to make the module enter download mode while resetting the module by pressing	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the

	the "**RESET**" button on TE-B. 2. Click the "**Start**" button to start automatic firmware upgrade.	downloading process before the upgrading is completed.
BC92	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	There is no "**Stop**" button while upgrading firmware. In this case, it is NOT permitted to stop the upgrading process, and do NOT remove the USB or terminate the downloading process before the upgrading is completed.
BC950K	1. Click the "**Start**" button. 2. Reset the module manually when the tool prompts "**Probe**". 3. The tool starts firmware upgrade automatically.	
BG77	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
BG770A	1. Turn off the module. 2. Click the "**Start**" button, and then turn on the module within 10 seconds. 3. The tool starts firmware upgrade automatically.	
BG95	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
BG950A	**Option 1:** 1. Turn off the module. 2. Click the "**Start**" button, and then turn on the module within 10 seconds.	

	3. The tool starts firmware upgrade automatically. **Option 2:** 1. Power on the module. 2. Manually reset the module according to the tool prompt. 3. The tool will automatically start firmware upgrade.	
BG951A	**Option 1:** 1. Turn off the module. 2. Click the "**Start**" button, and then turn on the module within 10 seconds. 3. The tool starts firmware upgrade automatically. **Option 2:** 1. Power on the module. 2. Manually reset the module according to the tool prompt. 3. The tool will automatically start firmware upgrade.	It is necessary to enable the GNSS function and make it enter the emergency download mode before the upgrading.
BG955A	**Option 1:** 1. Turn off the module. 2. Click the "**Start**" button, and then turn on the module within 10 seconds. 3. The tool starts firmware upgrade automatically. **Option 2:** 1. Power on the module.	

		2. Manually reset the module according to the tool prompt. 3. The tool will automatically start firmware upgrade.	
	BG950S	1. Click the "**Start**" button. 2. Press the reset button when the tool prompts "**please reset**" to reset the module. 3. The tool starts firmware upgrade automatically.	
	BG96	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
GSM	M65	Click the "**Start**" button. And the tool will start firmware upgrade after the module resets automatically.	
	M66	1. Click the "**Start**" button. 2. Switch the D/L to "**ON**" on EVB within 30 seconds. 3. The tool starts firmware upgrade automatically.	Make sure the EVB is powered by a 5 V power supply.
	M95	1. Click the "**Start**" button. 2. Switch the D/L to "**ON**" on EVB within 30 seconds. 3. The tool starts firmware upgrade automatically.	Make sure the EVB is powered by a 5 V power supply.
	MC60	1. Click the "**Start**" button. 2. Switch the D/L to "**ON**" on EVB within 30	Make sure the EVB is powered by a 5 V power supply.

Wi-Fi&Bluetooth		
		seconds.
		3. The tool starts firmware upgrade automatically.
	FC41D	1. Click the "**Start**" button.
		2. Reset the module manually when the tool prompts "**Erasing Flash...**".
		3. The tool starts firmware upgrade automatically.
	FCM100D	1. Click the "**Start**" button.
		2. Reset the module manually when the tool prompts "**Erasing Flash...**".
		3. The tool starts firmware upgrade automatically.
	FCM242D	1. Click the "**Start**" button.
		2. Reset the module manually when the tool prompts "**Erasing Flash...**".
		3. The tool starts firmware upgrade automatically.
	FCM360W	1. Click the "**Start**" button.
		2. Reset the module manually when the tool prompts "**Erasing Flash...**".
		3. The tool starts firmware upgrade automatically.
	FCM561D	1. Power on the module manually.
		2. Click the "**Start**" button.
		3. Reset the module manually when the tool prompts "**Erasing Flash...**".
		4. The tool starts firmware upgrade

		automatically.
	FLM140D	1. Click the "**Start**" button. 2. Reset the module manually when the tool prompts "**Erasing Flash...**". 3. The tool starts firmware upgrade automatically.
	HCM010S	1. Enable the J-Link tool. 2. Click the "**Start**" button and the module will automatically perform the firmware upgrade.
Satellite	CC660D	1. Click the "**Start**" button. 2. Reset the module manually when the tool prompts "**Probe**". 3. The tool starts firmware upgrade automatically.
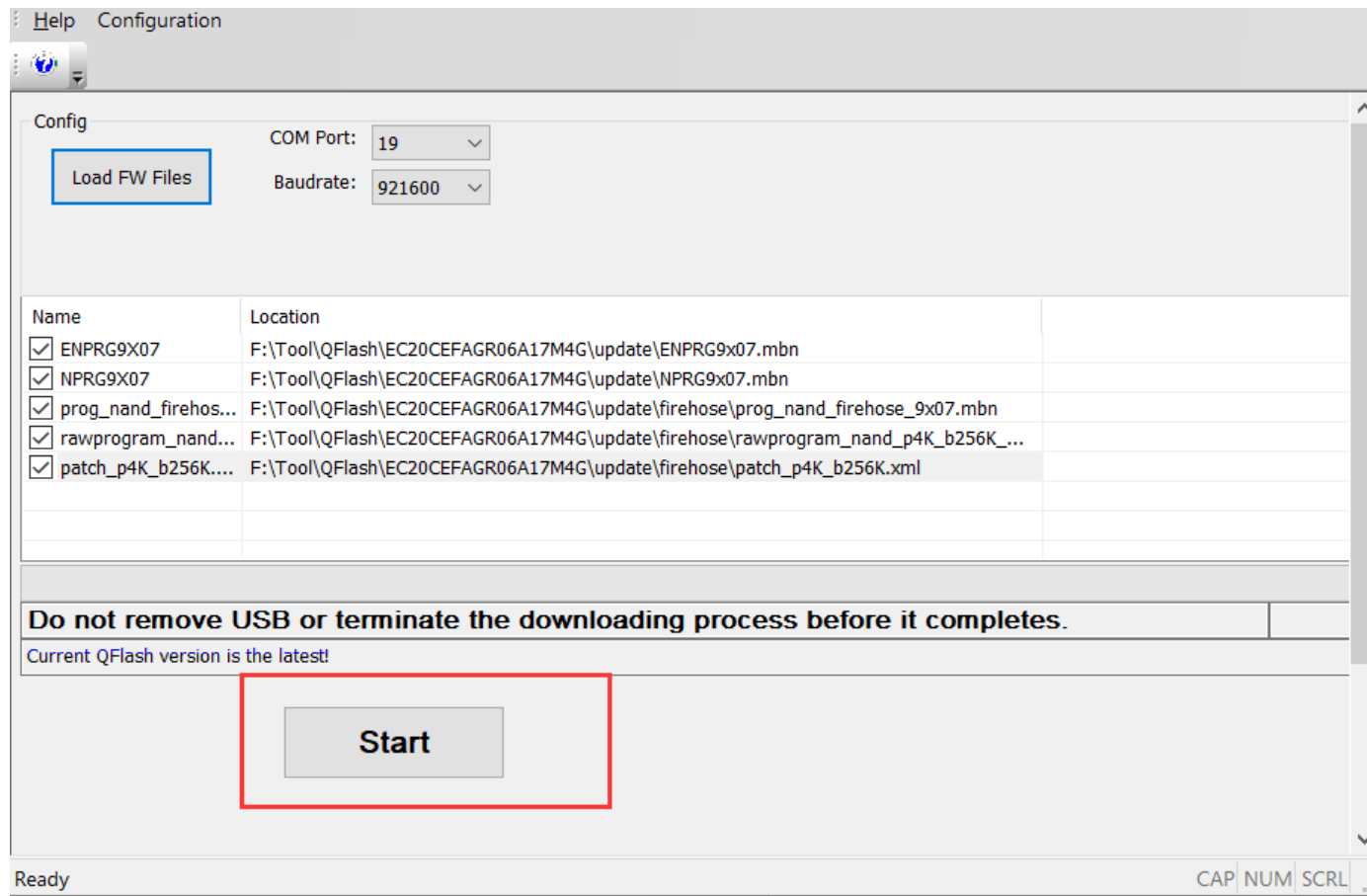
Figure 6: "Start" Button
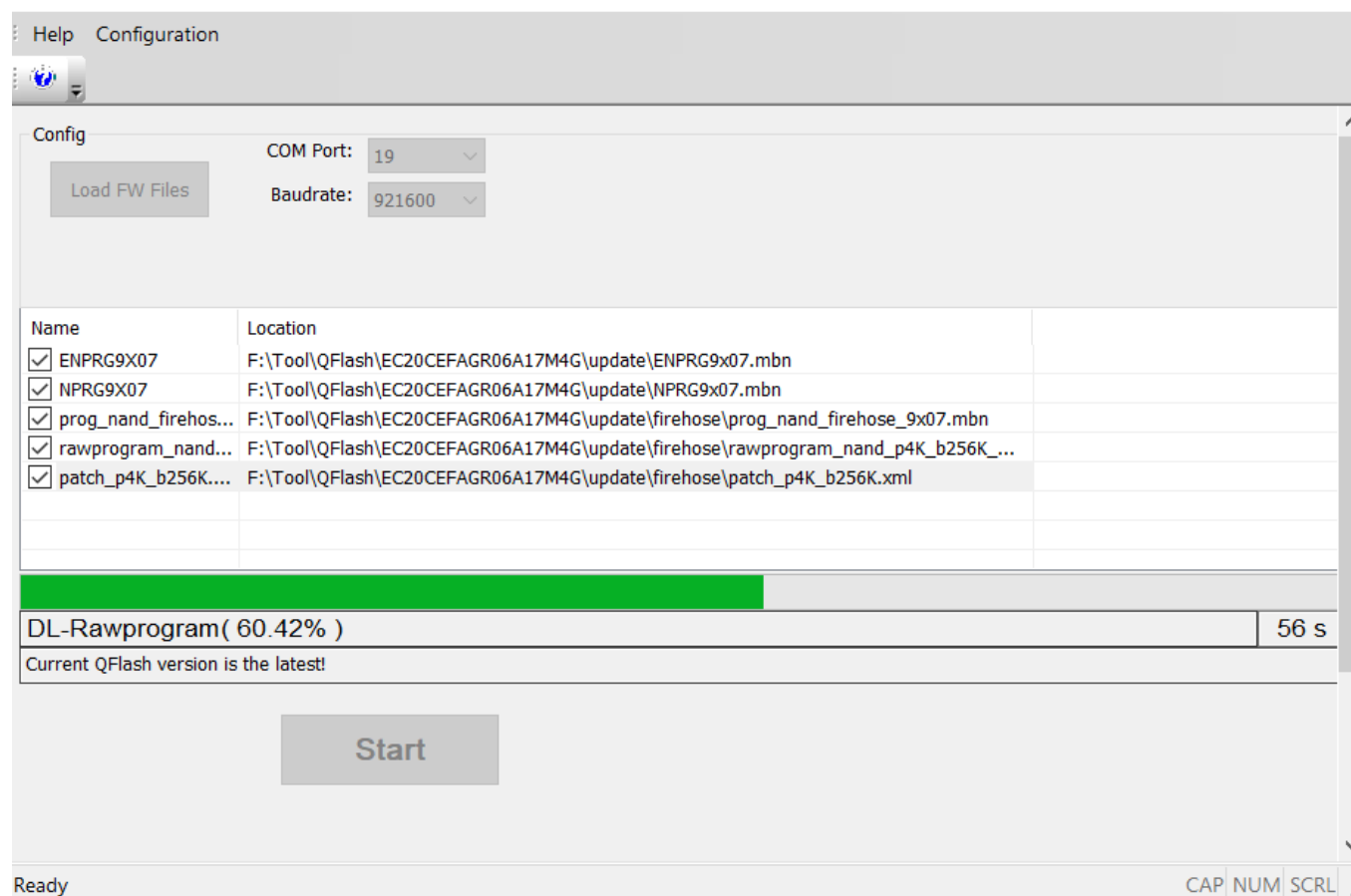
Figure 7: Start Firmware Upgrade Automatically After Clicking "Start" Button
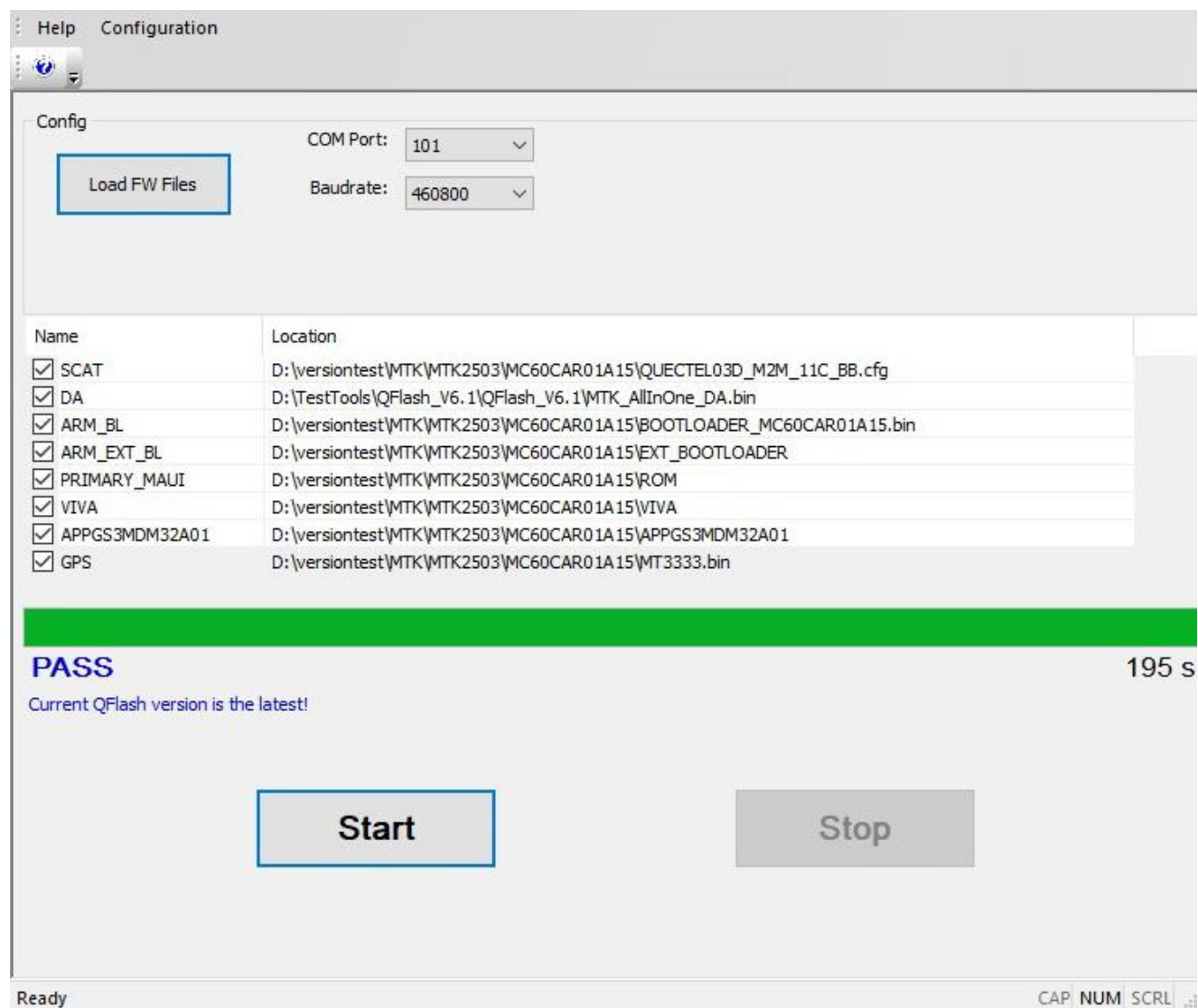
Figure 8: Firmware Upgraded Successfully

3 Summary of Firmware Upgrade Information

3.1. Summary of Firmware Download Ports

Table 3: Summary of Firmware Download Ports

Product Line	Module	COM Port	Comment
5G	RG200U	Quectel USB AT Port	1. After "**Start**" button is clicked, the tool will automatically switch to the SPRD U2S Diag port to start the upgrade. After successful upgrade, the port loading is resumed automatically, without the need of module resetting. 2. You can also press "BOOT" button when powering on, and then switch to SPRD U2S Diag port for upgrade.
	RG255C	Quectel USB DM Port	
	RG500L	Quectel USB ETS Port	
	RG500Q	Quectel USB DM Port	
	RG500U	Quectel USB AT Port	1. After "**Start**" button is clicked, the tool will automatically switch to the SPRD U2S Diag port to start the upgrade. After successful

			upgrade, the port loading is resumed automatically, without the need of module resetting.
			2. You can be upgraded by short-circuiting BOOT to J201 to get the SPRD U2S Diag port loaded for upgrade.
	RG520N	Quectel USB DM Port	
	RG525F	Quectel USB DM Port	
	RM500Q	Quectel USB DM Port	
	RM500U	Quectel USB AT Port	After "**Start**" button is clicked, the tool will automatically switch to the SPRD U2S Diag port to start the upgrade. After successful upgrade, the port loading is resumed automatically, without the need of module resetting.
	RM520N	Quectel USB DM Port	
LTE-Advanced	EG06	Quectel USB DM Port	
	EG060W	Power on the module to automatically select Quectel USB Download Port for upgrade	
	EG12	Quectel USB DM Port	
	EG18	Quectel USB DM Port	
	EM06	Quectel USB DM Port	
	EM12-G	Quectel USB DM Port	
	EP06	Quectel USB DM Port	

	EC20-CE	Quectel USB DM Port	
	EC200A	Power on the module to automatically select Quectel USB Download Port for upgrade	
LTE Standard	EC200S	Quectel USB AT Port /Quectel Download Port	1. - Click "**Load FW Files**" to select the .zip package to load firmware directly and then select the COM port. - If use USB AT port for upgrade, wait for the prompt **"getting serial devices list...\n"}** before clicking "**Start**" to upgrade. If use Quectel Download Port for upgrade, wait for the prompt **"<COM6> device <COM6> is ready to be enabled manually\n"}** before clicking the "**Start**" button to upgrade. 2. Short-circuit BOOT and PL_1V8 to get Quectel Download Port loaded for upgrade.
	EC200U	Quectel USB AT Port	1. After the "**Start**" button is clicked, the tool will automatically switch to the SPRD U2S Diag port to start the upgrade. After successful upgrade, the loaded port is still the SPRD U2S Diag port and you need to reset the module to reload the port. 2. You can also short-circuit BOOT and PL_1V8 to get the SPRD U2S Diag port loaded for upgrade.
	EC21	Quectel USB DM Port	
	EC25	Quectel USB DM Port	
	EG21-G	Quectel USB DM Port	
	EG25-G	Quectel USB DM Port	

	EG91	Quectel USB DM Port	
	EG912Y	Quectel USB AT Port / Quectel Download Port	1. ● Click "**Load FW Files**" to select the .zip package to load firmware directly and then select the COM port. ● If use USB AT port for upgrade, wait for the prompt **"getting serial devices list...\n"}** before clicking "**Start**" to upgrade. If use Quectel Download Port for upgrade, wait for the prompt **"<COM6> device <COM6> is ready to be enabled manually\n"}** before clicking the "**Start**" button to upgrade. 2. Short-circuit BOOT and PL_1V8 to get Quectel Download Port loaded for upgrade.
	EG915Q	Quectel Download Port	Short-circuit VDD_EXT and USB_BOOT to get Quectel Download Port, and connect the USB cable to GNSS_UART to access the GPS port. Then choose COM port and GPS port respectively, as shown in *Figure 9*.
	EG95	Quectel USB DM Port	
	EM05	Quectel USB DM Port	
Automotive	AG15	Quectel USB DM Port	
	AG215S	Quectel USB DM Port	
	AG35	Quectel USB DM Port	
	AG509M	Port Selection is Unnecessary	Turn on the USB_BOOT switch, and then only the Android ADB interface will be loaded. Therefore, port selection is unnecessary for firmware upgrade with QFlash.
	AG519M	Port Selection is Unnecessary	

	AG520R	Quectel USB DM Port	
	AG521R	Quectel USB DM Port	
	AG525R	Quectel USB DM Port	
	AG529R	Quectel USB DM Port	
	AG550Q	Quectel USB DM Port	
	AG551Q	Quectel USB DM Port	
	AG552Q	Quectel USB DM Port	
	AG553Q	Quectel USB DM Port	
	AG590E	Quectel USB DM Port	
Smart	SC20	HS-USB Diagnostics 9091	
	SC66	HS-USB Diagnostics 9091	
	SC200E	HS-USB Diagnostics 9091	
	SC200L	SPRD U2S Diag	Send **AT+QDOWNLOAD=1** to obtain the SPRD U2S Diag port for firmware upgrade
	SC668S	HS-USB Diagnostics 9091	
	SG368Z	DL Port(s) Detected Automatically	After connecting the module to the PC, "**Rockusb Device**" appears in the device manager, and the tool will automatically scan the port.
	SG520B	HS-USB Diagnostics 90DB	

	SG560D	HS-USB Diagnostics 9091
	SG865W	Quectel USB DM Port
	SG885G	HS-USB Android DIAG 901F
	BC66	USB UART Ch A
	BC660K	Quectel USB Serial Port	The USB Serial Port (the second loaded port) is used to upgrade firmware.
	BC92	Debug Port (USB Serial Converter B)
	BC950K	WCH USB-SERIAL CH A
	BG77	Quectel USB DM Port
	BG770A	Silicon Labs CP210x USB to UART Bridge
LPWA	BG95	Quectel USB DM Port
	BG950A	Silicon Labs CP210x USB to UART Bridge
	BG951A	Silicon Labs CP210x USB to UART Bridge	1. The module firmware is upgraded through UART_CLI and UART_GNSS ports, whose names are both displayed as "Silicon Labs CP210x USB to UART Bridge" after the module is connected to the PC. 2. Click "**COM Port**" drop-down list and select the UART_CLI port number; then click "**GPS Port**" drop-down list and select the UART_GNSS port number, as shown in *Figure 10*.
	BG955A	Silicon Labs CP210x USB to UART Bridge

Note: The third column spans for BC660K, and the fourth column content spans for BG951A.

	BG950S	WCH USB-SERIAL Ch C	The module firmware is upgraded through the third USB-SERIAL port which is displayed as "WCH USB-SERIAL Ch C".
	BG96	Quectel USB DM Port	
GSM	M65	Quectel USB Serial Port	
	M66	Quectel USB Serial Port	
	M95	Quectel USB Serial Port	
	MC60	Quectel USB Serial Port	
Wi-Fi&Bluetooth	FC41D	Quectel USB Serial Port	
	FCM100D	Quectel USB Serial Port	
	FCM242D	Silicon Labs CP210x USB to UART Bridge	
	FCM360W	Silicon Labs CP210x USB to UART Bridge	
	FCM561D	USB- SERIAL- CH340	
	FLM140D	Silicon Labs CP210x USB to UART Bridge	
	HCM010S	JLink CDC UART Port	
Satellite	CC660D	WCH USB-SERIAL CH A	
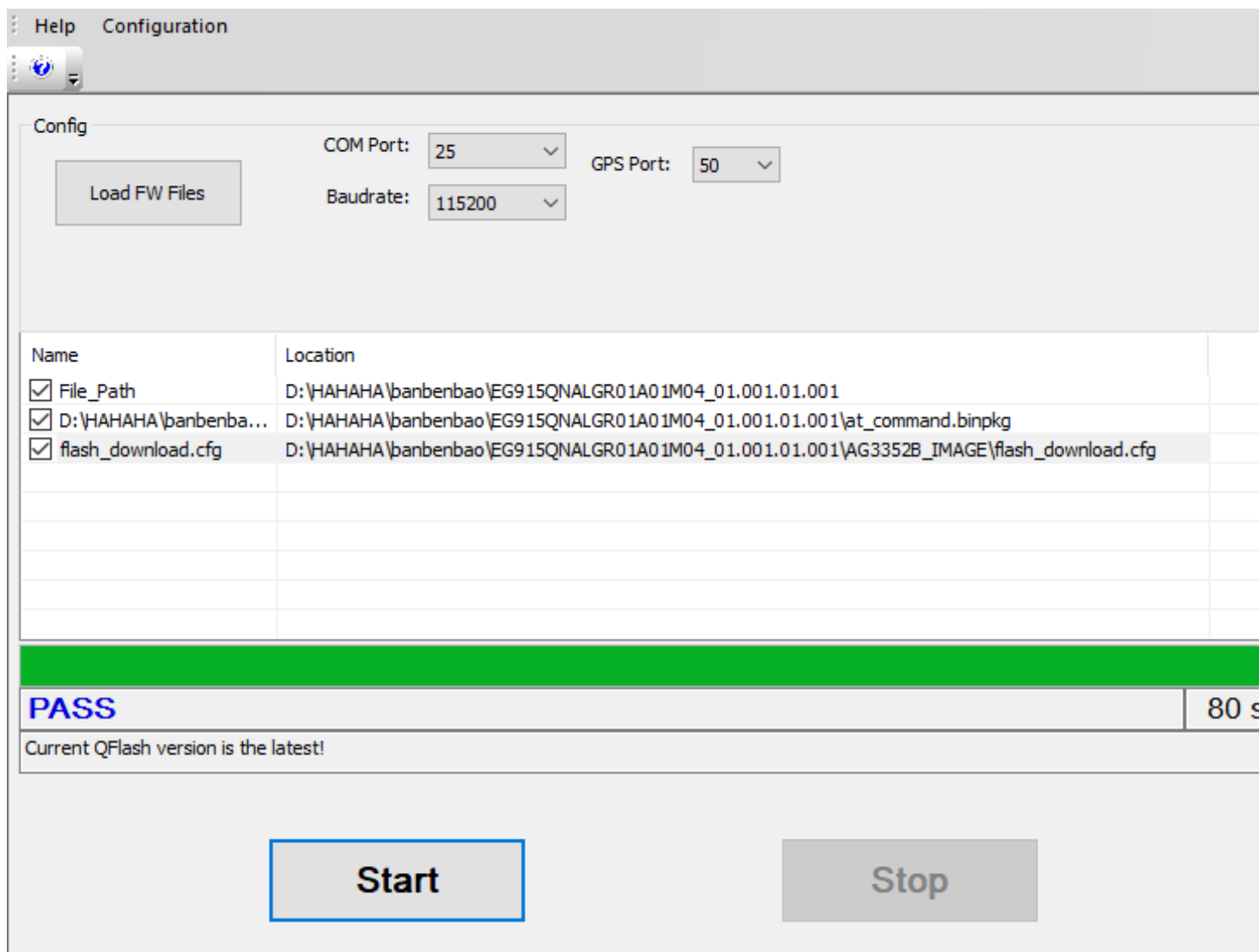
Figure 9: Select Port for EG915Q
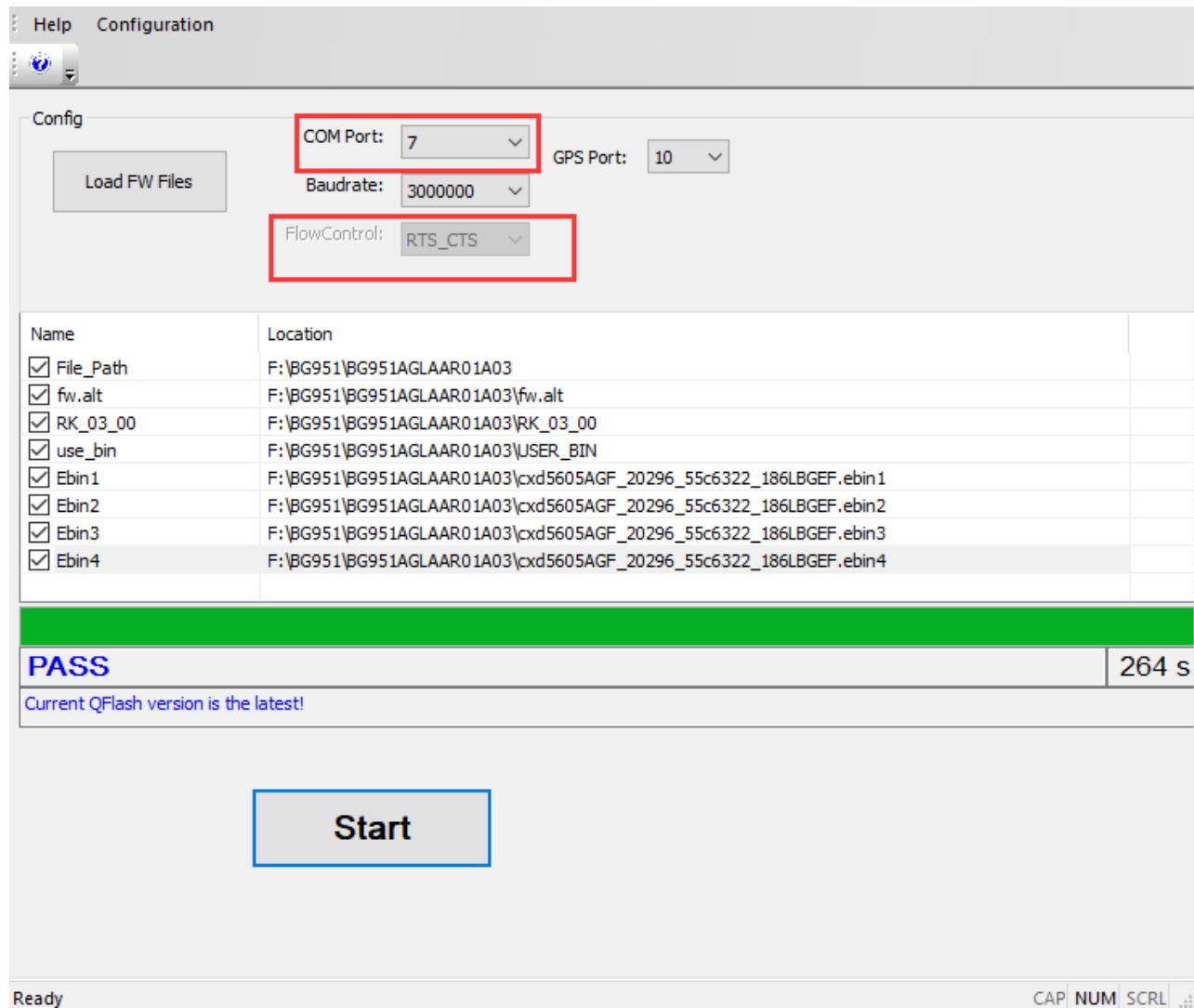
Figure 10: Select Port for BG951A

3.2. Summary of Firmware Upgrade Baud Rate

Table 4: Summary of Firmware Upgrade Baud Rates

Product Line	Module	Baud Rate	Comment
5G	RG200U	460800	
	RG255C	460800	
	RG500L	460800	
	RG500Q	460800	
	RG500U	460800	
	RG520N	460800	
	RG525F	460800	
	RM500Q	460800	
	RM500U	460800	
	RM520N	460800	
LTE-Advanced	EG06	460800	
	EG060W	460800	

	EG12	460800
	EG18	460800
	EM06	460800
	EM12-G	460800
	EP06	460800
	EC20-CE	460800
	EC200A	460800
	EC200S	460800
	EC200U	460800
	EC21	460800
	EC25	460800
LTE Standard	EG21-G	460800
	EG25-G	460800
	EG91	460800
	EG912Y	460800
	EG915Q	460800
	EG95	460800

	EM05	460800
Automotive	AG15	460800
	AG215S	460800
	AG35	460800
	AG509M	460800
	AG519M	460800
	AG520R	460800
	AG521R	460800
	AG525R	460800
	AG529R	460800
	AG550Q	460800
	AG551Q	460800
	AG552Q	460800
	AG553Q	460800
	AG590E	460800
Smart	SC20	460800
	SC66	460800

	SC200E	460800
	SC200L	460800
	SC668S	460800
	SG368Z	460800
	SG520B	460800
	SG560D	460800
	SG865W	460800
	SG885G	460800
LPWA	BC66	9600
	BC660K	921600
	BC92	9600
	BC950K	921600
	BG77	460800
	BG770A	460800
	BG95	460800
	BG950A	460800
	BG951A	460800

	BG955A	460800
	BG950S	460800
	BG96	460800
GSM	M65	921600
	M66	460800
	M95	460800
	MC60	460800
Wi-Fi&Bluetooth	FC41D	460800
	FCM100D	460800
	FCM242D	921600
	FCM360W	921600
	FCM561D	921600
	FLM140D	921600
	HCM010S	9600
Satellite	CC660D	460800

3.3. Summary of Firmware File to Be Downloaded

Table 5: Summary of Firmware File to Be Downloaded

Product Line	Module	Firmware File	Comment
5G	RG200U	.pac	
	RG255C	.elf	
	RG500L	.xml	
	RG500Q	.mbn	
	RG500U	.pac	
	RG520N	.elf	
	RG525F	.elf	
	RM500Q	.mbn	
	RM500U	.pac	
	RM520N	.elf	
LTE-Advanced	EG06	.mbn	
	EG060W	.zip	
	EG12	.mbn	

	EG18	.mbn
	EM06	.mbn
	EM12-G	.mbn
	EP06	.mbn
	EC20-CE	.mbn
	EC200A	.zip
	EC200S	.zip
	EC200U	.pac
	EC21	.mbn
	EC25	.mbn
LTE Standard	EG21-G	.mbn
	EG25-G	.mbn
	EG91	.mbn
	EG912Y	.zip
	EG915Q	.cfg
	EG95	.mbn
	EM05	.mbn
Automotive	AG15	.elf

	AG215S	.elf
	AG35	.elf
	AG509M	.py
	AG519M	.py
	AG520R	.elf
	AG521R	.elf
	AG525R	.elf
	AG529R	.elf
	AG550Q	.elf
	AG551Q	.elf
	AG552Q	.elf
	AG553Q	.elf
	AG590E	.mbn
Smart	SC20	.elf
	SC66	.elf
	SC200E	.elf
	SC200L	.pac
	SC668S	.elf

	SG368Z	fw.roc	
	SG520B	.elf	
	SG560D	.elf	
	SG865W	.elf	
	SG885G-WF	.elf	
	BC66	.cfg	
	BC660K	.bin	
	BC92	.lod	
	BC950K	.bin	
	BG77	.elf	
LPWA	BG770A	fw.alt	
	BG95	.elf	
	BG950A	fw.alt	
	BG951A	fw.alt	
	BG955A	fw.alt	
	BG950S-GL	fw.alt	
	BG96	.mbn	
GSM	M65	.lod	For M65 QuecOpen module, please select the .lod file.

	M66	.cfg	1. For M66 QuecOpen module, please select the .cfg file. 2. After that, click the "**Module Type**" drop-down list and select the corresponding module, as shown in *Figure 11*.
	M95	.cfg	
	MC60	.cfg	1. For MC60 QuecOpen module, please select the .cfg file. 2. After that, click the "**Module Type**" drop-down list and select the corresponding module, as shown in *Figure 11*.
Wi-Fi&Bluetooth	FC41D	.bin	
	FCM100D	.bin	
	FCM242D	.bin	
	FCM360W	.bin	
	FCM561D	.bin	
	FLM140D	.bin	
	HCM010S	.hex	
Satellite	CC660D	.cfg	
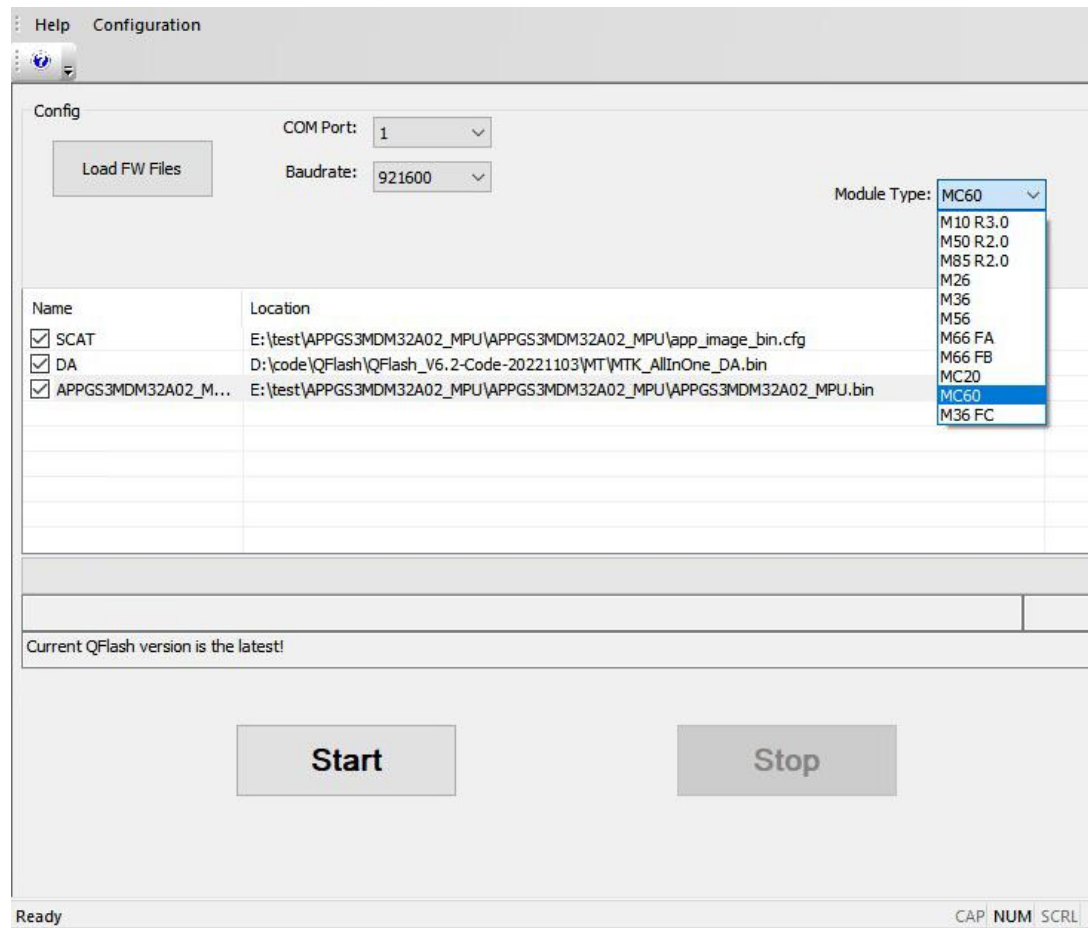
Figure 11: Select the Module Type

4 MBN Function

Currently QFlash only supports MBN upgrade function for BG96. The operation procedure is as follows:

Step 1: Click the "**COM Port**" drop-down list and select the COM port that will be used to upgrade the firmware, as shown in the following figure.
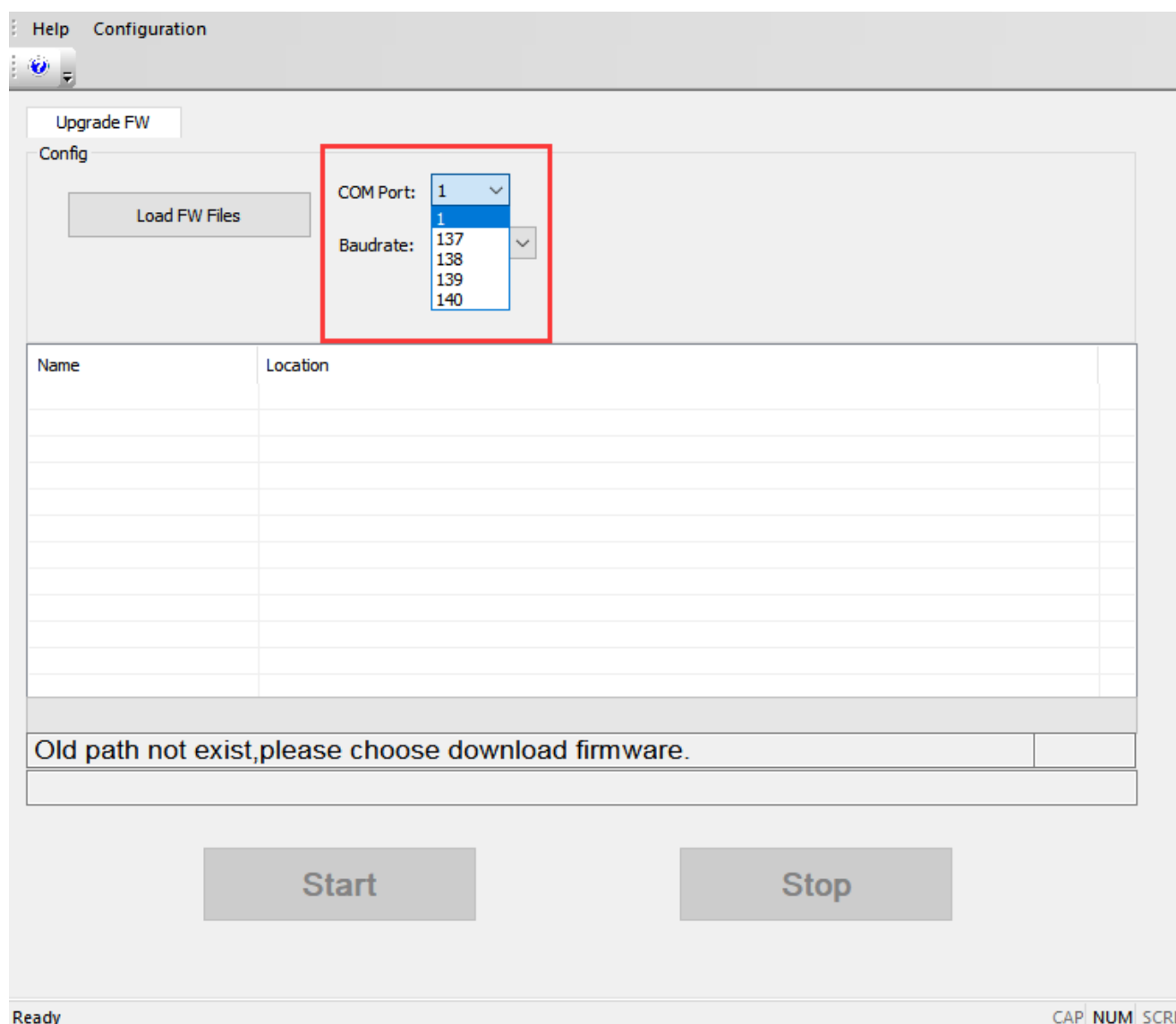
Figure 12: Select the Serial Port of BG96 Module

Step 2: Click the "**Load FW Files**" button and select the firmware file with the extension. mbn to download to the module.
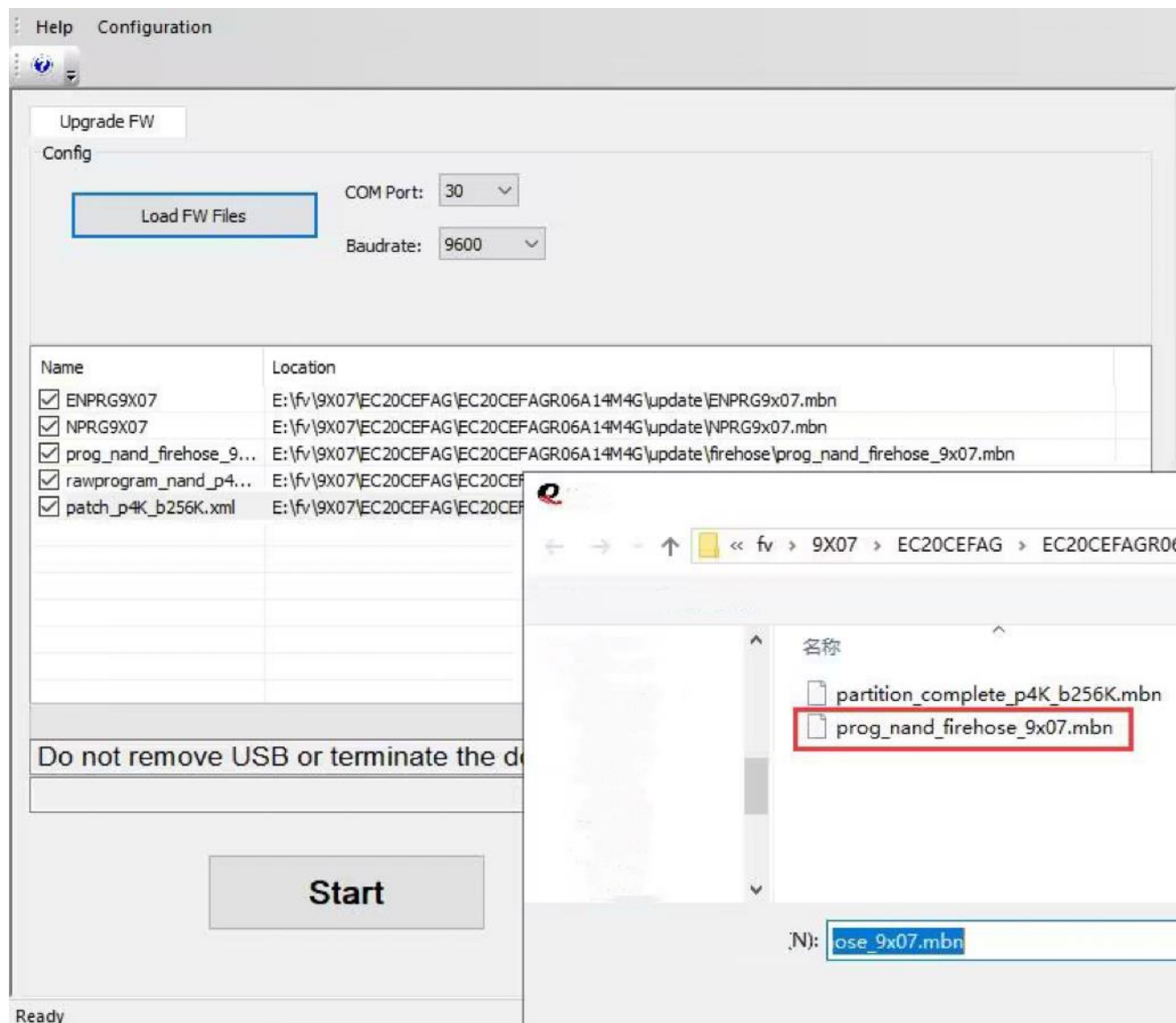
Figure 13: Select the File to Be Downloaded

Step 3: Click the "**Start**" button and the prompt "**Do you need MBN autosel feature enabled by default**" will pop out.
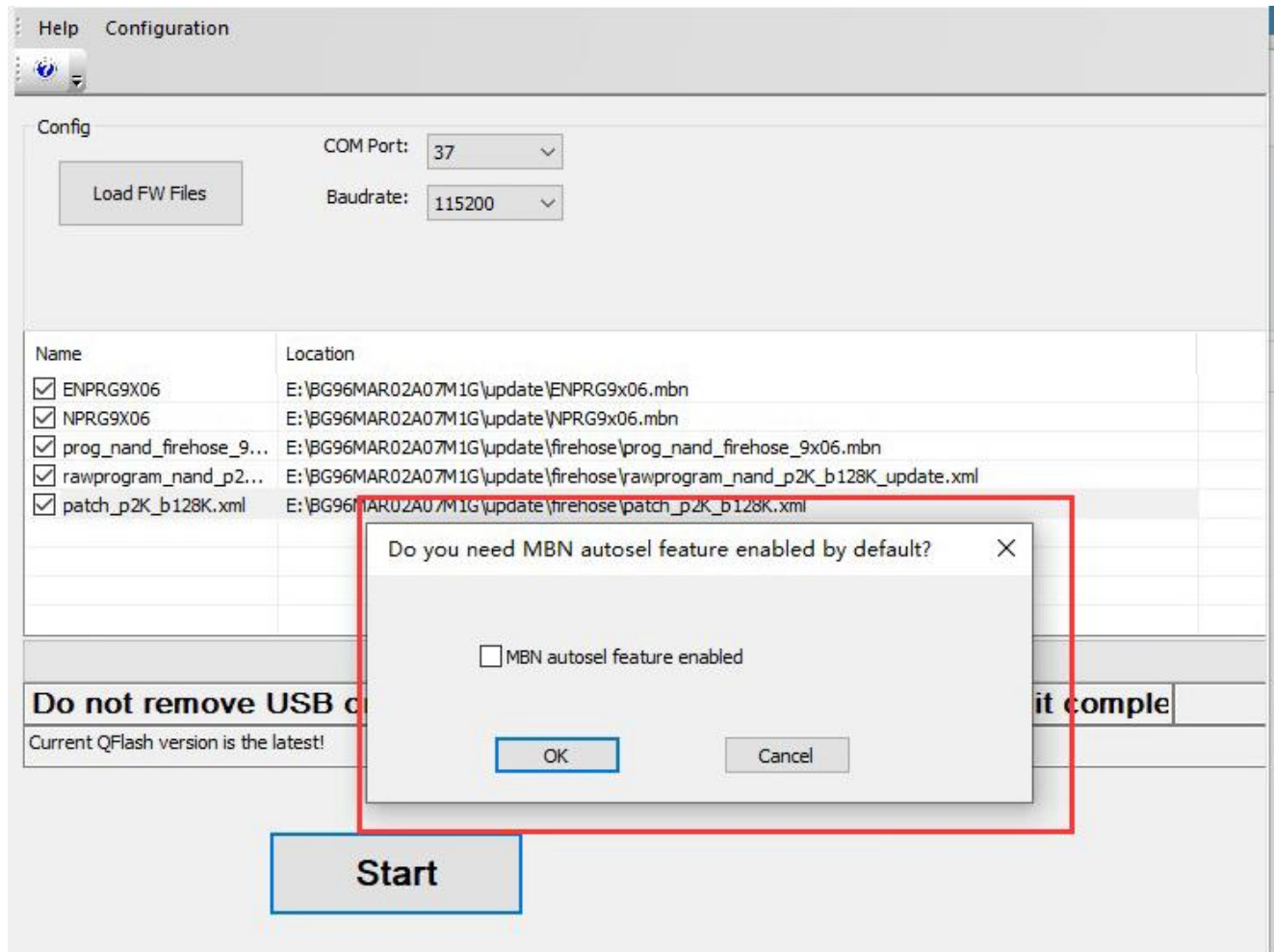
Figure 14: Select MBN Autosel Function

> **NOTE**
>
> 1. Make sure there is an *mbn* folder in the selected firmware version package before upgrading.
> 2. If the "**MBN autosel feature enabled**" checkbox is checked, the MBN automatic selection function is enabled; otherwise, it is disabled. You can start upgrading MBN files either by clicking the "**OK**" button after checking "**MBN autosel feature enabled**", or by just clicking "**Cancel**".

Step 4: "**PASS**" will be shown on the interface after the firmware has been successfully upgraded, as shown in the following figure.

Figure 15: MBN Files Upgraded Successfully for BG96

5 Abnormalities

Abnormalities may be caused by the incorrect baud rate, damaged EVB/TE-B or invalid files, etc. The following illustrates some common abnormalities.

5.1. Selected a Wrong Serial Port

For M66, M95 and MC60 modules, if the serial port selection is incorrect, then the prompt will be as follow:
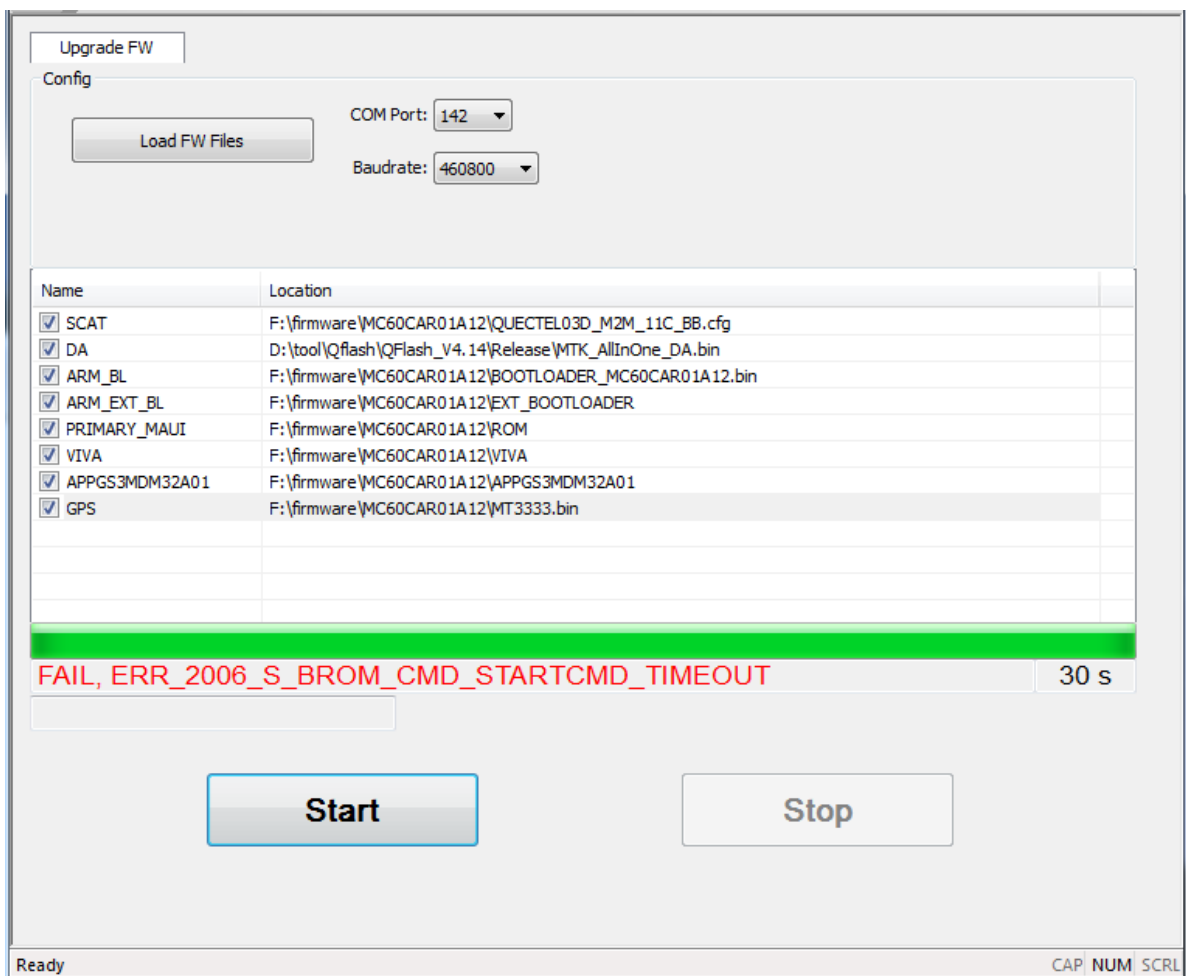
Figure 16: Connected to a Wrong Serial Port (Example 1)

NOTE

After selecting a correct serial port, if M66, M95 and MC60 modules are not reset, the error message will be the same as that caused by selecting a wrong serial port.

For M65 module, if the serial port selection is incorrect, then the prompt will be as follow:
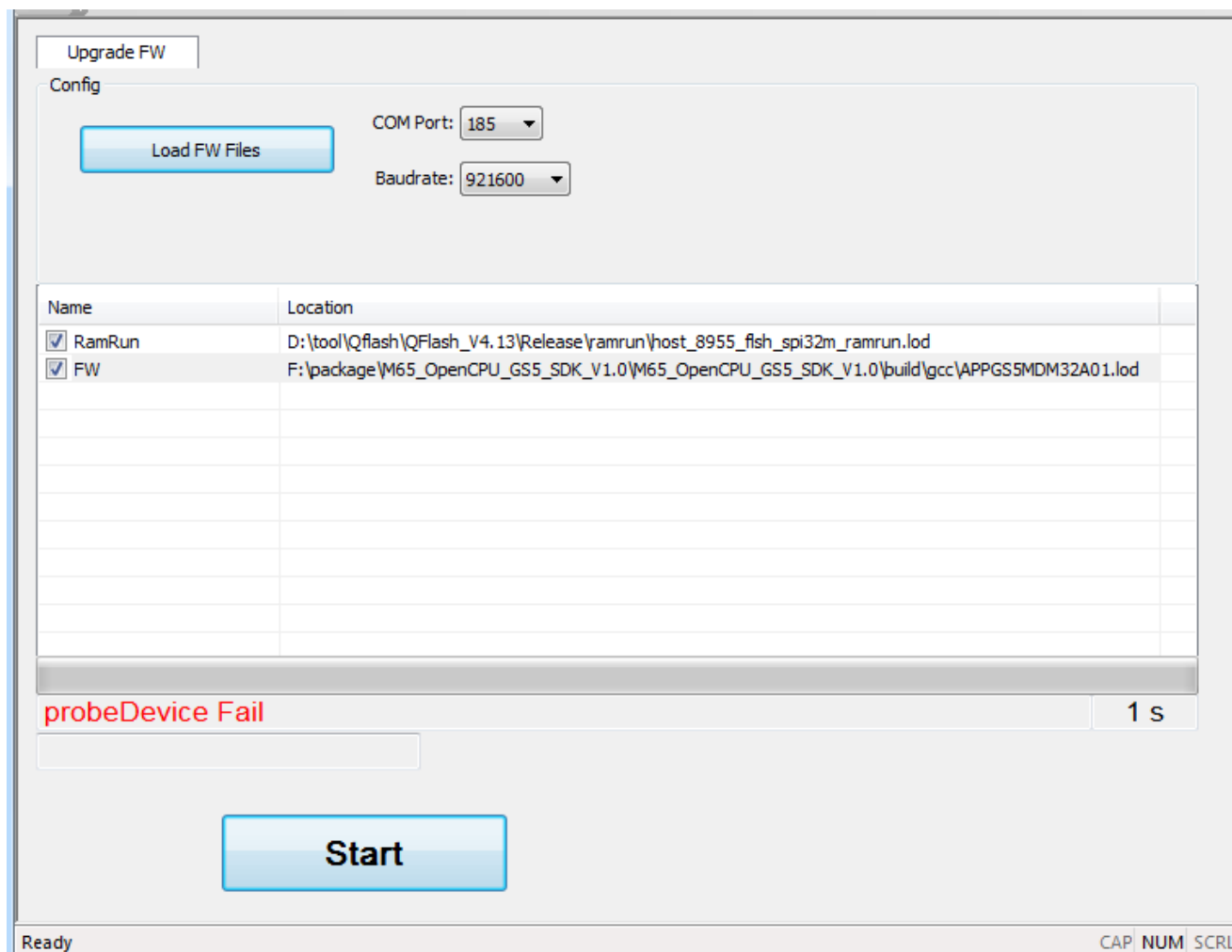
Figure 17: Connected to a Wrong Serial Port (Example 2)

For RG500Q, RM500Q, EP06, EG06, EM06, EG12, EM12-G, EG18, EC20-CE, EC21, EC25, EG21-G, EG25-G, EG91, EG95, EM05, AG15, AG35, AG215S, AG520R, AG521R, AG525R, AG529R, AG550Q, AG551Q, AG552Q, AG553Q, BG77, BG95 and BG96 modules, if the serial port selection is incorrect, then the prompt will be as follow:
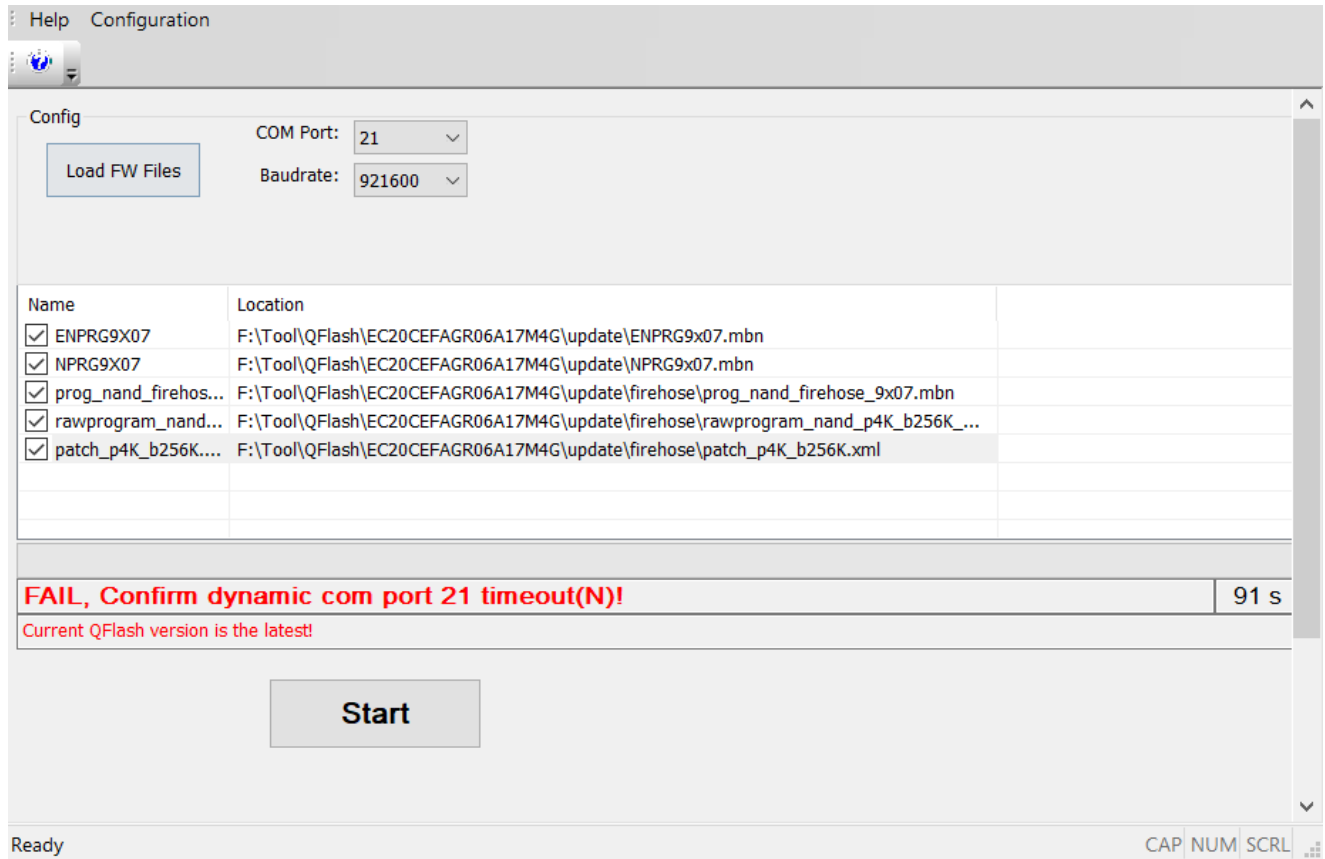
Figure 18: Connected to a Wrong Serial Port (Example 3)

For SC20, SC66 and SC200E modules, if the serial port selection is incorrect, then the prompt will be as follow:
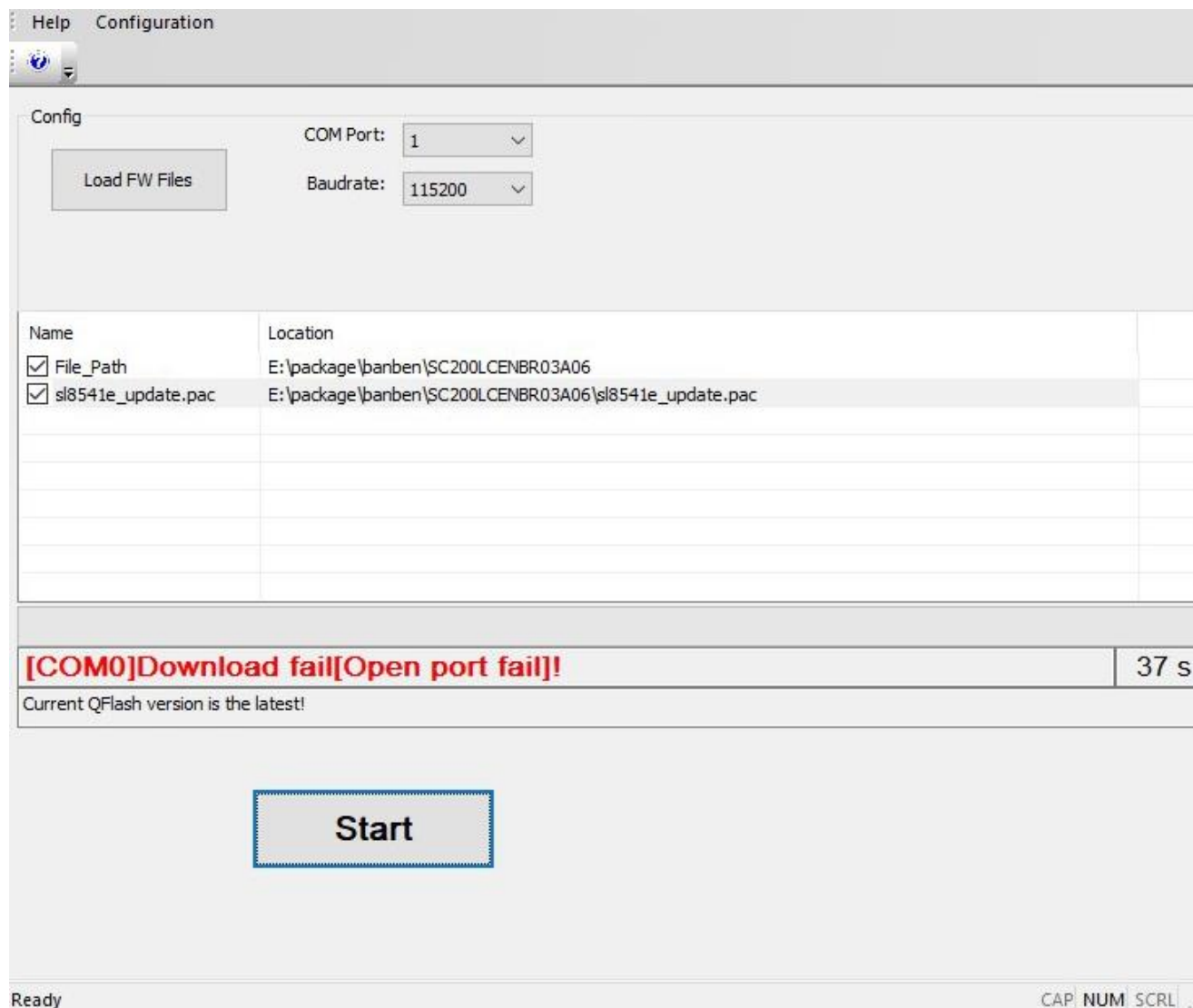
Figure 19: Connected to a Wrong Serial Port (Example 4)

For BC66, BC92, BC660K and BC950K modules, if the serial port selection is incorrect, then the prompt will be as follow:
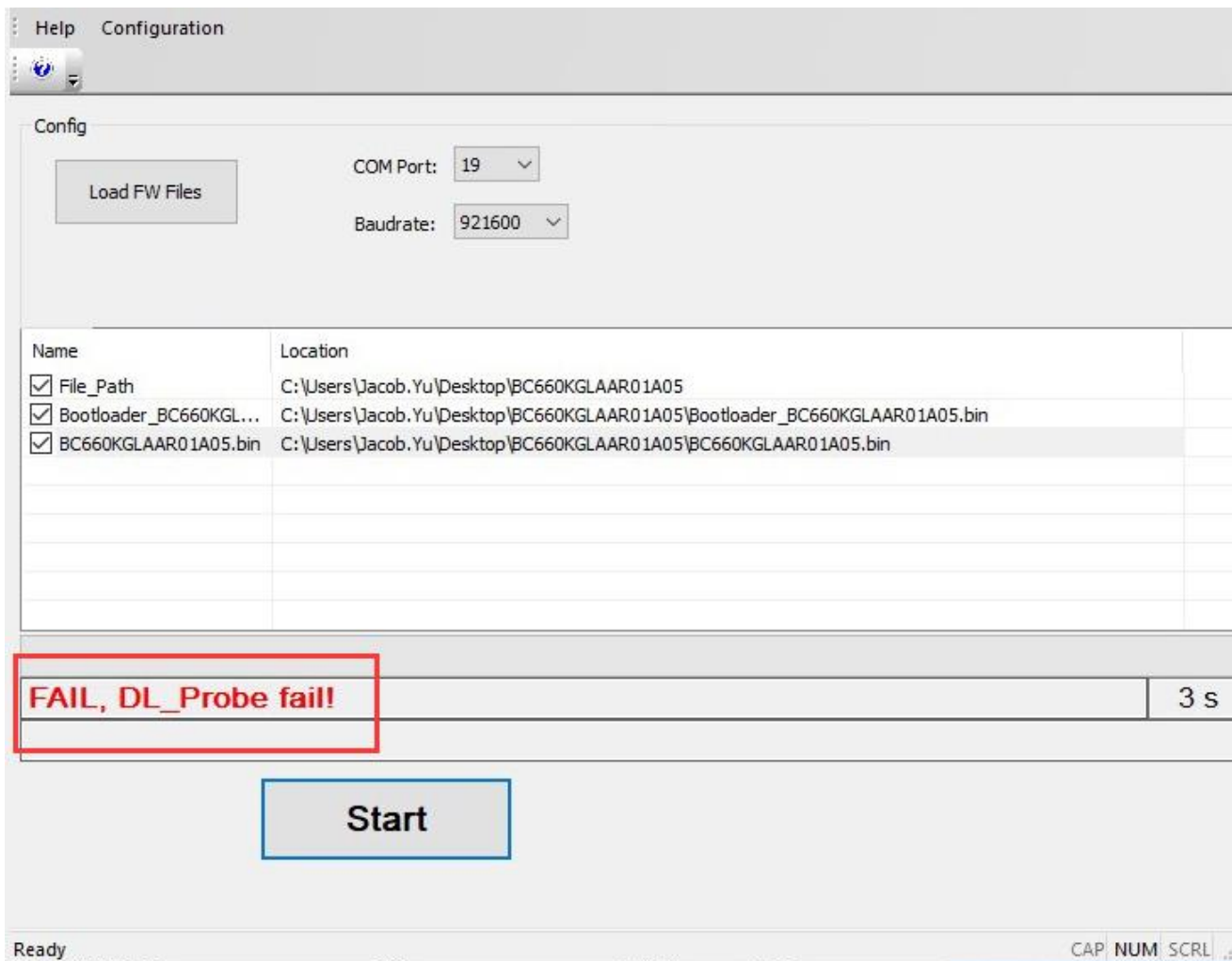
Figure 20: Connected to a Wrong Serial Port (Example 5)

5.2. Connected to an Occupied Serial Port

For RG500Q, RM500Q, EP06, EG06, EM06, EG12, EM12-G, EG18, EC20-CE, EC21, EC25, EG21-G, EG25-G, EG91, EG95, EM05, AG15, AG35, AG215S, AG520R, AG521R, AG525R, AG529R, AG550Q, AG551Q, AG552Q, AG553Q, SC20, SC66, SC200E, BG77, BG95 and BG96 modules, if the connected serial port is occupied, then the prompt will be as follow:
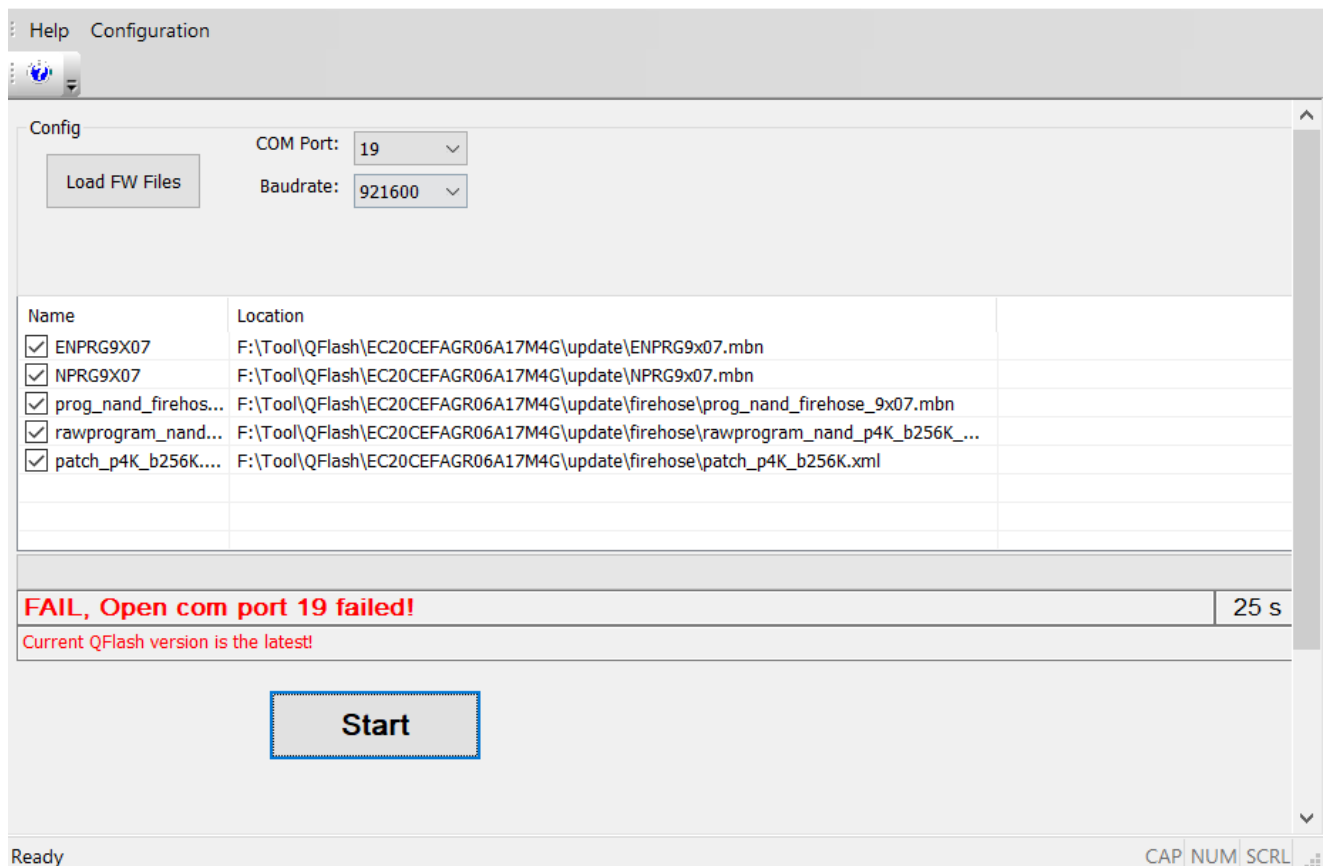
Figure 21: Connected to an Occupied Serial Port (Example 1)

For BC66, BC92, BC660K and BC950K modules, if the connected serial port is occupied, then the prompt will be as follow:

Figure 22: Connected to an Occupied Serial Port (Example 2)

5.3. Selected an Unsupported Baud Rate

For M66, M95 and MC60 modules, if the selected baud rate is unsupported, then the prompt will be as follow:
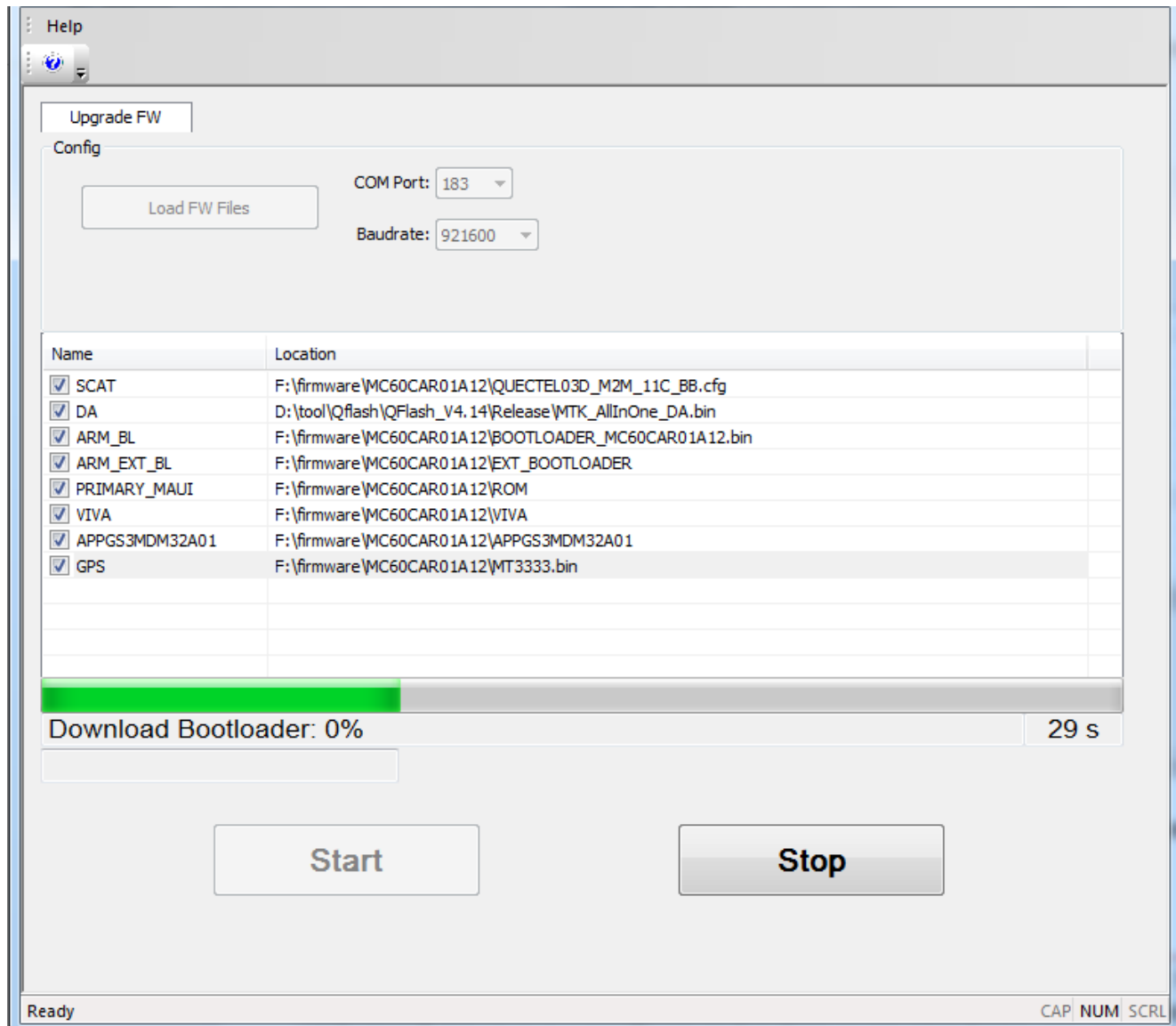
Figure 23: Selected an Unsupported Baud Rate

NOTE

For M66, M95 or MC60, if an unsupported baud rate is selected, the tool will stop running and no error message will be prompted. In such a case, please click the "**Stop**" button to re-select a supported baud rate to restart with.

5.4. Selected an Invalid FW File

For M65 module, if the selected firmware file is invalid, then the prompt will be as follow:
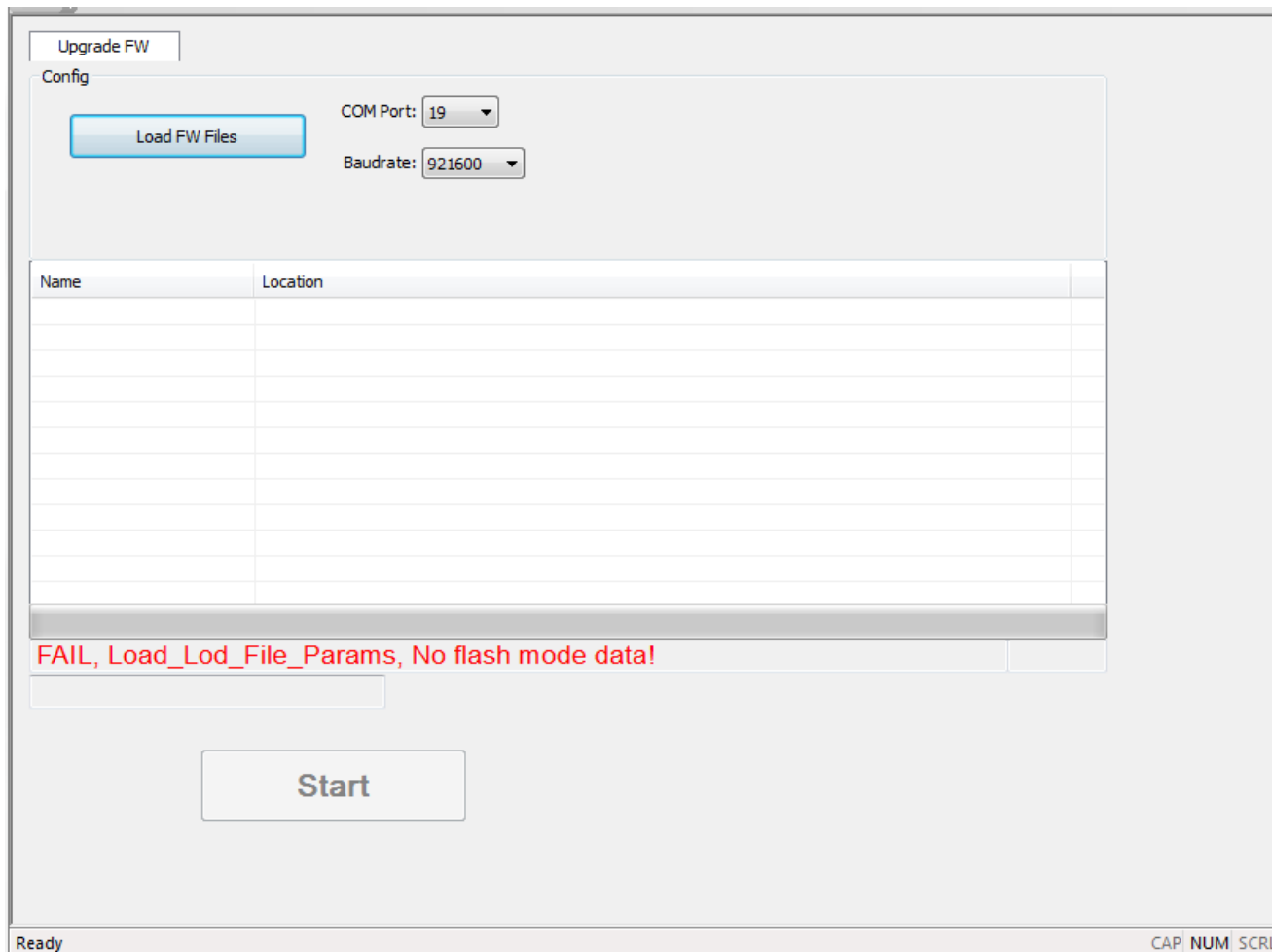
Figure 24: Selected an Invalid FW File (Example 1)

For EC20-CE, EC21, EC25, EG91, EG95 and EM05 modules, if the selected firmware file is invalid, then the prompt will be as follow:
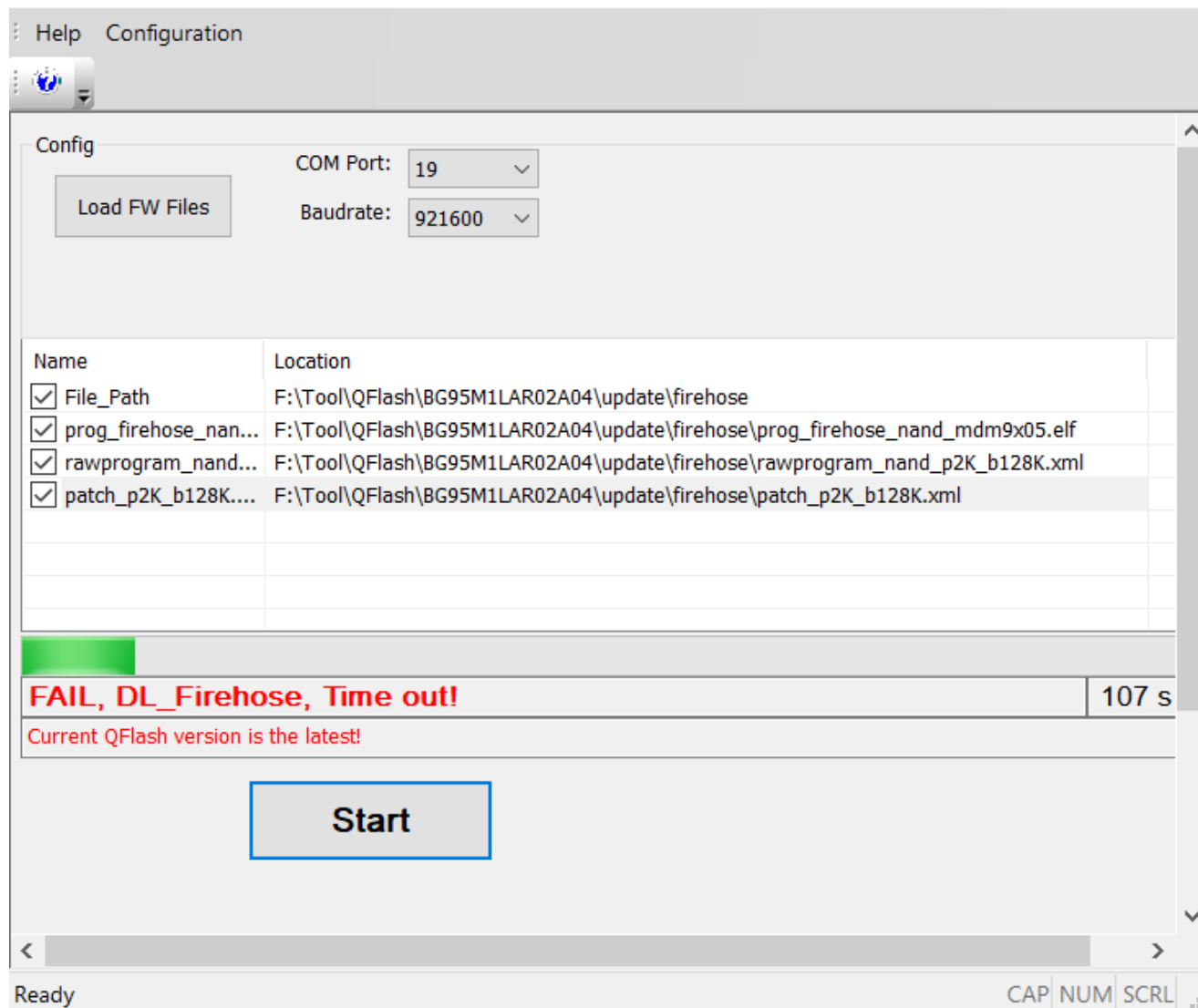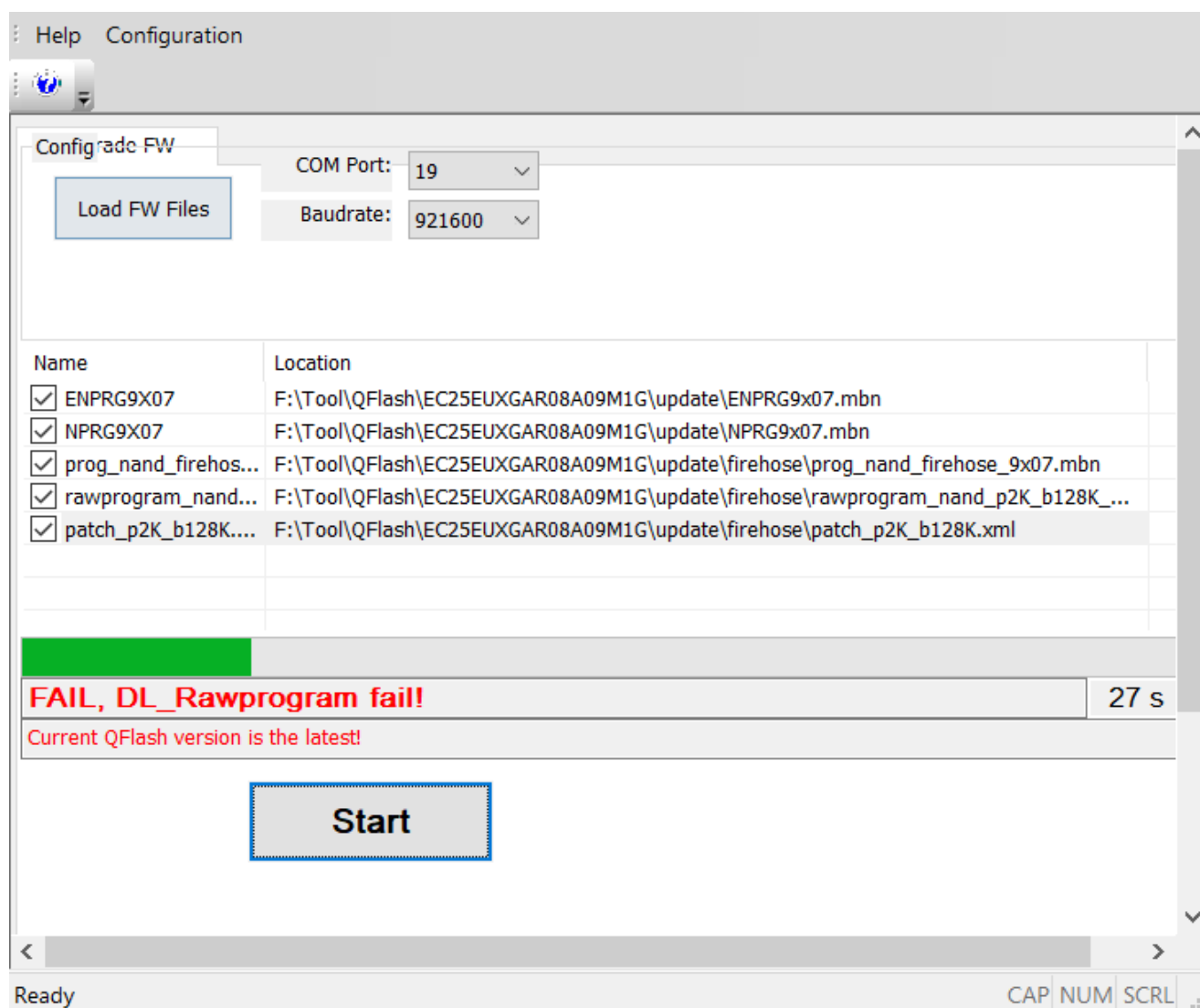

Figure 25: Selected an Invalid FW File (Example 2)

For EP06, EG06, EM06, EG12, EM12-G, EG18, AG15, AG35, AG215S, AG520R, AG521R, AG525R, AG529R, AG550Q, AG551Q, AG552Q, AG553Q and BG96 modules, if the selected firmware file is invalid, then the prompt will be as follow:

Figure 26: Selected an Invalid FW File (Example 3)

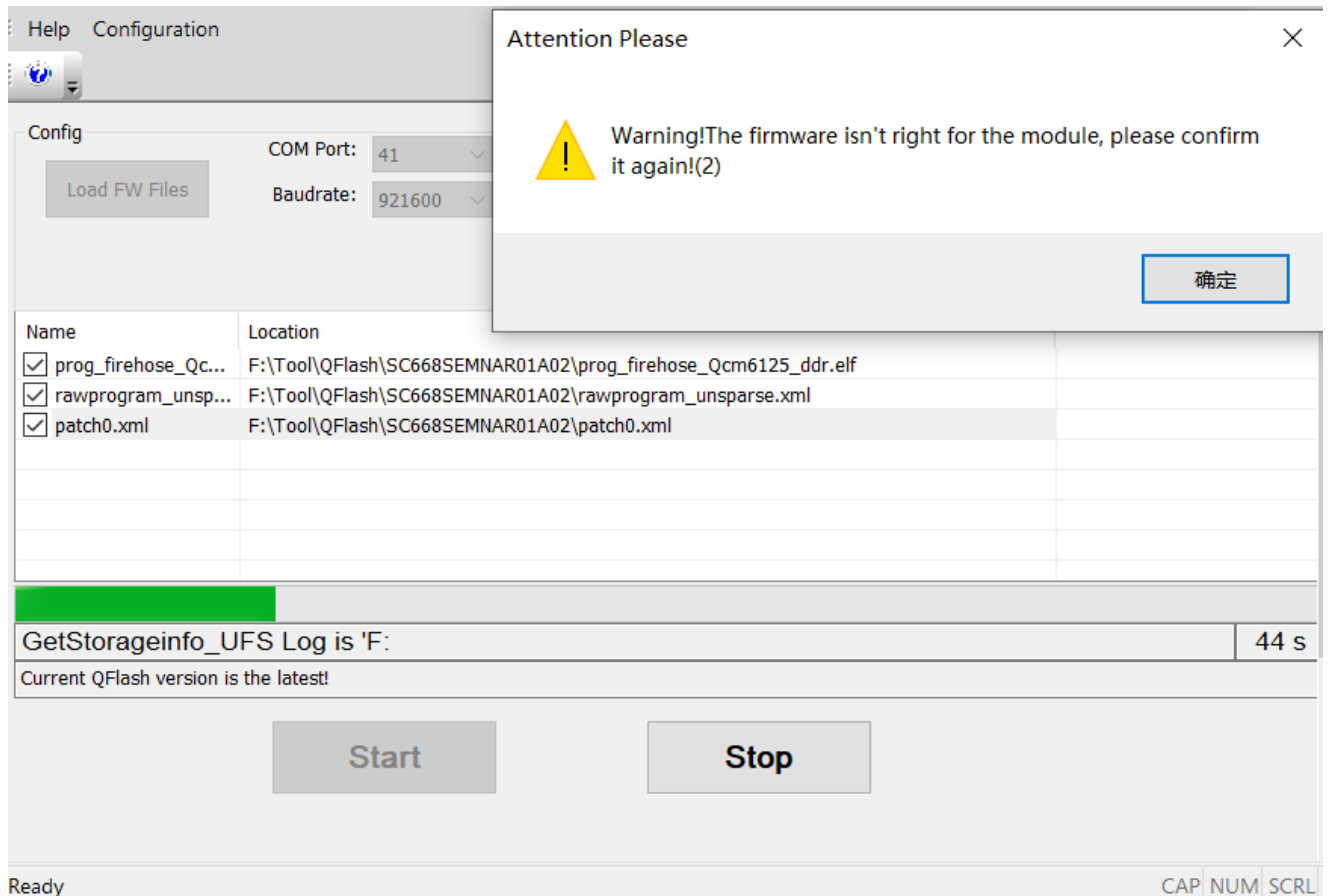For SC668S module, if the selected firmware file is invalid, then the prompt will be as follow:

Figure 27: Selected an Invalid FW File (Example 4)

NOTE

SC668S supports eMMC (SC668S…**NA**…) and UFS (SC668S…**UA**…) firmware versions. The module does not support firmware updating between the two different versions. If a wrong version is selected, a popup window as shown above will appear to indicate updating failure.

5.5. Power Supply is Abnormal

For RG500Q, RM500Q, EP06, EG06, EM06, EG12, EM12-G, EG18, EC20-CE, EC21, EC25, EG21-G, EG25-G, EG91, EG95, EM05, AG15, AG35, AG215S, AG520R, AG521R, AG525R, AG529R, AG550Q, AG551Q, AG552Q, AG553Q, BG77, BG95 and BG96 modules, If the power supply is abnormal during the upgrade process, then the prompt will be as follow:
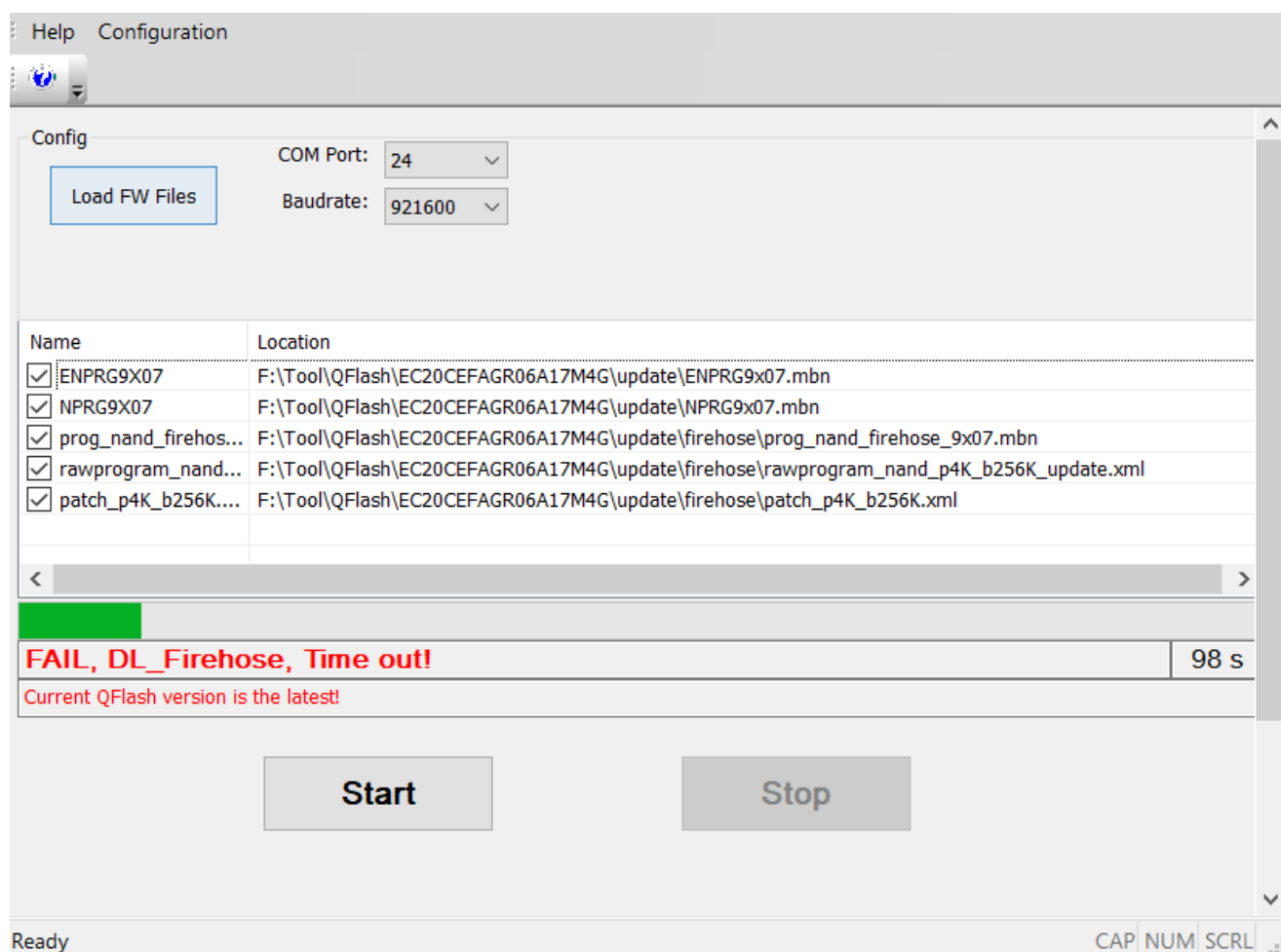

Figure 28: Abnormal Power Supply (Example 1)

For SC20, SC66 and SC2000E modules, If the power supply is abnormal during the upgrade process, then the prompt will be as follow:
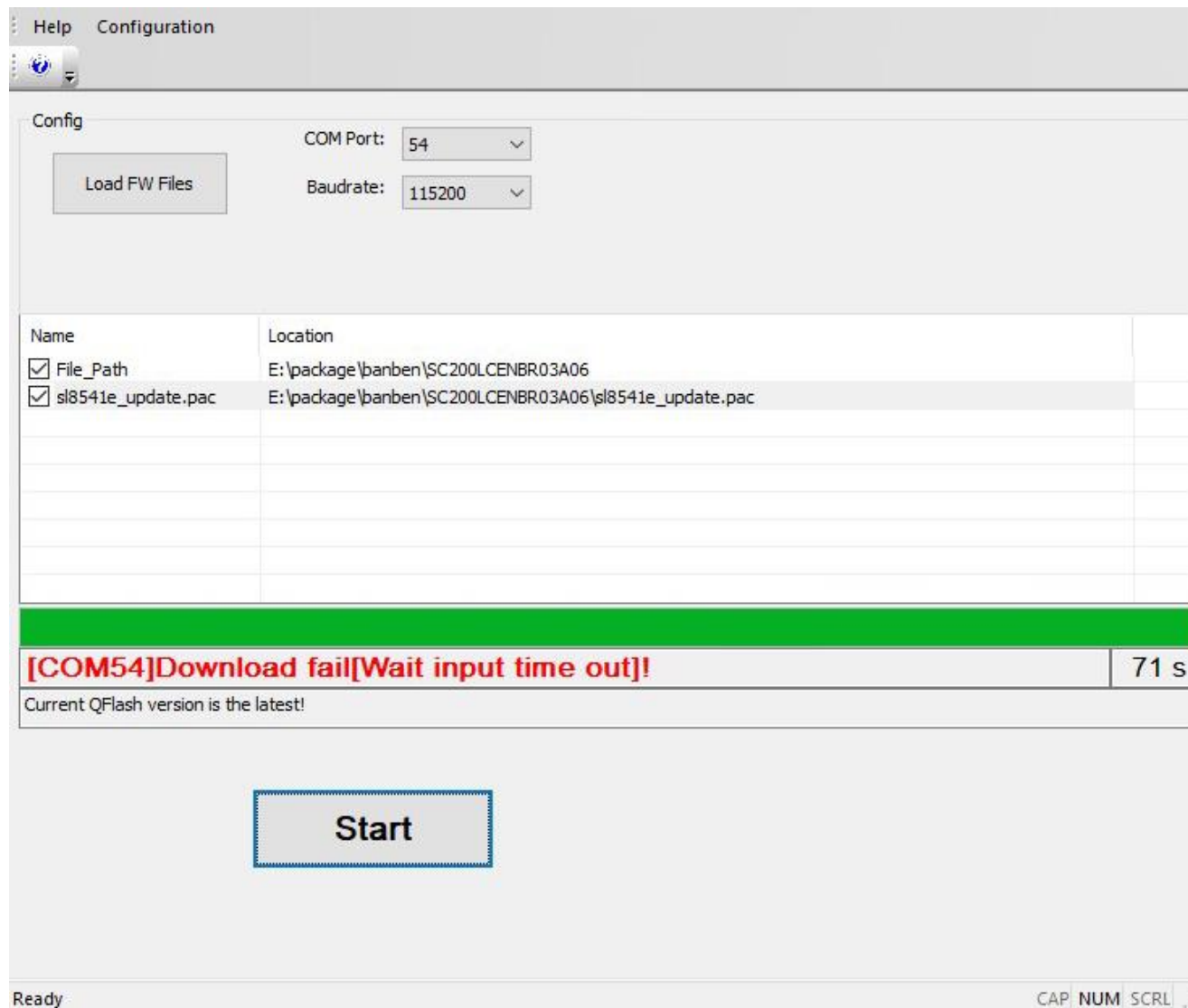

Figure 29: Abnormal Power Supply (Example 2)

For BC66, BC92, BC660K and BC950K modules, If the power supply is abnormal during the upgrade process, then the prompt will be as follow:
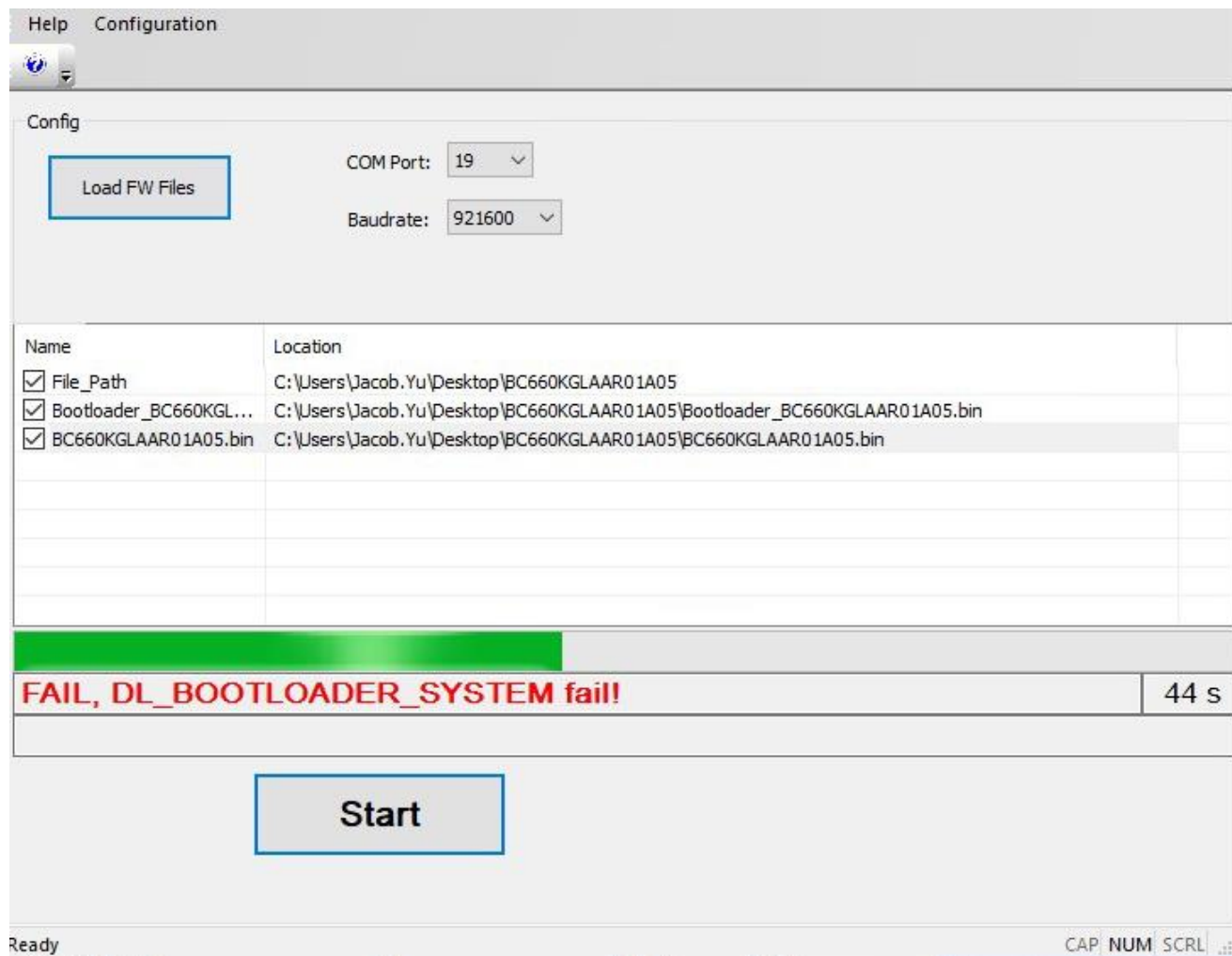

Figure 30: Abnormal Power Supply (Example 3)