

# QFlash User Guide

Version: 4.0

Date: 2021-12-01

Status: Released



At Quectel, our aim is to provide timely and comprehensive services to our customers. If you require any assistance, please contact our headquarters:

**Quectel Wireless Solutions Co., Ltd.**

Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai 200233, China

Tel: +86 21 5108 6236

Email: [info@quectel.com](mailto:info@quectel.com)

**Or our local offices. For more information, please visit:**

<http://www.quectel.com/support/sales.htm>.

**For technical support, or to report documentation errors, please visit:**

<http://www.quectel.com/support/technical.htm>.

Or email us at: [support@quectel.com](mailto:support@quectel.com).

## Legal Notices

We offer information as a service to you. The provided information is based on your requirements and we make every effort to ensure its quality. You agree that you are responsible for using independent analysis and evaluation in designing intended products, and we provide reference designs for illustrative purposes only. Before using any hardware, software or service guided by this document, please read this notice carefully. Even though we employ commercially reasonable efforts to provide the best possible experience, you hereby acknowledge and agree that this document and related services hereunder are provided to you on an “as available” basis. We may revise or restate this document from time to time at our sole discretion without any prior notice to you.

## Use and Disclosure Restrictions

### License Agreements

Documents and information provided by us shall be kept confidential, unless specific permission is granted. They shall not be accessed or used for any purpose except as expressly provided herein.

### Copyright

Our and third-party products hereunder may contain copyrighted material. Such copyrighted material shall not be copied, reproduced, distributed, merged, published, translated, or modified without prior written consent. We and the third party have exclusive rights over copyrighted material. No license shall be granted or conveyed under any patents, copyrights, trademarks, or service mark rights. To avoid ambiguities, purchasing in any form cannot be deemed as granting a license other than the normal non-exclusive, royalty-free license to use the material. We reserve the right to take legal action for noncompliance with abovementioned requirements, unauthorized use, or other illegal or malicious use of the material.

## Trademarks

Except as otherwise set forth herein, nothing in this document shall be construed as conferring any rights to use any trademark, trade name or name, abbreviation, or counterfeit product thereof owned by Quectel or any third party in advertising, publicity, or other aspects.

## Third-Party Rights

This document may refer to hardware, software and/or documentation owned by one or more third parties ("third-party materials"). Use of such third-party materials shall be governed by all restrictions and obligations applicable thereto.

We make no warranty or representation, either express or implied, regarding the third-party materials, including but not limited to any implied or statutory, warranties of merchantability or fitness for a particular purpose, quiet enjoyment, system integration, information accuracy, and non-infringement of any third-party intellectual property rights with regard to the licensed technology or use thereof. Nothing herein constitutes a representation or warranty by us to either develop, enhance, modify, distribute, market, sell, offer for sale, or otherwise maintain production of any our products or any other hardware, software, device, tool, information, or product. We moreover disclaim any and all warranties arising from the course of dealing or usage of trade.

## Privacy Policy

To implement module functionality, certain device data are uploaded to Quectel's or third-party's servers, including carriers, chipset suppliers or customer-designated servers. Quectel, strictly abiding by the relevant laws and regulations, shall retain, use, disclose or otherwise process relevant data for the purpose of performing the service only or as permitted by applicable laws. Before data interaction with third parties, please be informed of their privacy and data security policy.

## Disclaimer

- a) We acknowledge no liability for any injury or damage arising from the reliance upon the information.
- b) We shall bear no liability resulting from any inaccuracies or omissions, or from the use of the information contained herein.
- c) While we have made every effort to ensure that the functions and features under development are free from errors, it is possible that they could contain errors, inaccuracies, and omissions. Unless otherwise provided by valid agreement, we make no warranties of any kind, either implied or express, and exclude all liability for any loss or damage suffered in connection with the use of features and functions under development, to the maximum extent permitted by law, regardless of whether such loss or damage may have been foreseeable.
- d) We are not responsible for the accessibility, safety, accuracy, availability, legality, or completeness of information, advertising, commercial offers, products, services, and materials on third-party websites and third-party resources.

**Copyright © Quectel Wireless Solutions Co., Ltd. 2021. All rights reserved.**

# 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
1.8	2014-02-11	James CAI	Updated QFlash version to 2.4
1.9	2014-02-26	Steed NING	Updated QFlash version to 2.5
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
1.13	2014-08-13	Martin LI/ Roddick SUN	Updated QFlash version to 2.9
1.14	2014-10-08	Martin LI	Updated QFlash version to 3.0
1.15	2014-11-11	Mario XU	Updated QFlash version to 3.1
1.16	2015-03-05	Jesse ZHANG	Updated QFlash version to 3.3

1.17	2015-06-03	James CAI	Updated QFlash version to 3.4
1.18	2016-03-24	James CAI	Updated QFlash version to 3.5
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
1.21	2017-07-24	Abby WU/ Upton XU	1. Added the way to upgrade SCxx and AG35 modules 2. Updated QFlash version to 4.3
2.0	2017-09-28	Joy WANG	1. Updated QFlash version to 4.4 2. Added information about applicable modules
2.1	2017-11-29	Joy WANG	1. Updated QFlash version to 4.5 2. Added the way to upgrade BC95 module
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	<ol style="list-style-type: none"> <li>1. Updated QFlash version to 4.14</li> <li>2. Added the method of upgrading BG95/BG77 module</li> <li>3. Updated OpenCPU to QuecOpen</li> </ol>
2.11	2019-12-19	Kawhi HE	<ol style="list-style-type: none"> <li>1. Updated QFlash version to 4.15</li> <li>2. Added the method of upgrading RG500Q module</li> </ol>
3.0	2020-02-02	Kitty WANG	Updated QFlash version to 4.16
3.1	2020-06-01	Kidd CHEN	<ol style="list-style-type: none"> <li>1. Updated QFlash version to 4.18</li> <li>2. Added the method of upgrading RM500Q-GL and RG800H module</li> </ol>
3.2	2020-07-30	Kidd CHEN	<ol style="list-style-type: none"> <li>1. Updated QFlash version to 4.19</li> <li>2. Added the method of upgrading RG801H module</li> <li>3. Added the upgrading method for MBN function</li> </ol>
3.3	2020-09-11	Anne QIU	<ol style="list-style-type: none"> <li>1. Updated QFlash version to 4.20</li> <li>2. Updated the note in Chapter 2.1.1.5</li> </ol>
3.4	2020-11-26	Kawhi HE	<ol style="list-style-type: none"> <li>1. Updated QFlash version to 5.0</li> <li>2. Removed EC20 R2.0, RG800H and RG801H modules</li> </ol>
3.5	2020-12-30	Kitty WANG/ Kawhi HE	<ol style="list-style-type: none"> <li>1. Updated QFlash version to 5.1</li> <li>2. Added the method of upgrading BC660K-GL module</li> </ol>
3.6	2021-01-28	Kawhi HE	Updated QFlash version to 5.2
3.7	2021-04-30	Shirly WANG	<ol style="list-style-type: none"> <li>1. Updated QFlash version to 5.3</li> <li>2. Added the method of upgrading BG770A-GL</li> <li>3. Added the method of upgrading AG509M-EU</li> <li>4. Added a note on the storage/loading path of the firmware package</li> </ol>
3.8	2021-06-03	Shirly WANG	<ol style="list-style-type: none"> <li>1. Updated QFlash version to 5.4</li> <li>2. Added the method of upgrading FC41D</li> </ol>
3.9	2021-08-16	Shirly WANG	<ol style="list-style-type: none"> <li>1. Updated QFlash version to 5.5</li> <li>2. Added the method of upgrading EC200U, EC200T, EC200S and EG912Y</li> <li>3. Modified the method of upgrading BC660K-GL</li> </ol>
4.0	2021-12-01	Kitty WANG	<ol style="list-style-type: none"> <li>1. Updated QFlash version to 5.6</li> <li>2. Added the methods of upgrading RG520N, AG215S-CN, SC200E and SG865W-WF</li> <li>3. Updated AG520R and AG550Q to AG52xR and AG55xQ</li> </ol>

## Contents

About the Document .....	3
Contents .....	6
Figure Index .....	7
<b>1 Introduction .....</b>	<b>9</b>
1.1. OS and Version .....	9
1.2. Applicable Modules .....	9
1.3. About QFlash Tool .....	11
<b>2 Firmware Upgrade Procedures .....</b>	<b>12</b>
2.1. Configure Serial Port and Baud Rate .....	12
2.1.1. Set COM Port .....	13
2.1.1.1. COM Port Selection for Mxx/GCxx/BCxx Modules .....	13
2.1.1.2. COM Port Selection for UGxx .....	14
2.1.1.3. COM Port Selection for UCxx/EC2x/EG9x/EG2x-G/Ex06/EM05/AGxx/SGxx/ BGxx/Ex12/EG18/RG5xx/RM5xx .....	15
2.1.1.4. COM Port Selection for EC200U .....	16
2.1.1.5. COM Port Selection for EC200T/EC200S/EG912Y .....	17
2.1.1.6. COM Port Selection for SCxx .....	20
2.1.1.7. COM Port Selection for BG770A-GL .....	21
2.1.1.8. COM Port Selection for AG509M-EU .....	22
2.1.2. Set Baud Rate .....	23
2.2. Load Firmware Files and APP Firmware .....	24
2.2.1. Load Firmware Files .....	24
2.2.2. Load APP Firmware for QuecOpen Modules .....	26
2.2.2.1. Load APP Firmware for MC60/M66 QuecOpen .....	26
2.2.2.2. Load APP Firmware for M65 QuecOpen .....	28
2.3. Upgrade Firmware .....	29
2.4. MBN Function .....	33
2.5. Abnormalities .....	37
2.5.1. Selected a Wrong Serial Port .....	37
2.5.2. Connected to an Occupied Serial Port .....	41
2.5.3. Selected an Unsupported Baud Rate .....	44
2.5.4. Selected an Invalid FW File .....	45
2.5.5. Power Supply is Abnormal .....	48
2.5.6. USB to RS-232 Converter Cable is Abnormal .....	52

## Figure Index

Figure 1: About the QFlash Tool .....	11
Figure 2: Main Interface of QFlash .....	12
Figure 3: Select the Correct Serial Port for Mxx/GCxx/BCxx Modules .....	13
Figure 4: USB Port Selected Automatically for UGxx .....	14
Figure 5: Select the USB DM Port for UCxx/EC2x/EG9x/EG2x-G/Ex06/EM05/AGxx/SGxx/BGxx/Ex12/ EG18/RG5xx/RM5xx .....	15
Figure 6: Select the USB AT Port for EC200U.....	16
Figure 7: Select the USB AT Port for EC200S/EG912Y .....	17
Figure 8: Select Quectel Download Port for EC200S/EG912Y .....	18
Figure 9: Quectel USB Download Port Selected Automatically for EC200T .....	19
Figure 10: Select the HS-USB Diagnostics 9091 Port for SCxx .....	20
Figure 11: Select the Silicon Labs CP210x USB to UART Bridge Port for BG770A-GL .....	21
Figure 12: Port Selection is Unnecessary for AG509M-EU .....	22
Figure 13: Select the Baud Rate .....	23
Figure 14: Select the File to Be Downloaded (Standard or QuecOpen Modules).....	24
Figure 15: Select the File to Be Downloaded (QuecOpen Modules) .....	25
Figure 16: Select the .cfg File.....	26
Figure 17: Select the Module Type .....	27
Figure 18: Select the .lod File.....	28
Figure 19: Click the “Start” Button .....	29
Figure 20: Start Firmware Upgrade Automatically After Clicking “Start” Button.....	30
Figure 21: Start Firmware Upgrade after Manually Restarting the Module (M10/M66/M72/M80/M85/M95/ MC60).....	31
Figure 22: Firmware Upgraded Successfully.....	32
Figure 23: Select the Serial Port of BG96 Module.....	33
Figure 24: Select the File to Be Downloaded .....	34
Figure 25: Select MBN Autosel Function.....	35
Figure 26: MBN Files Upgraded Successfully for BG96.....	36
Figure 27: Connected to a Wrong Serial Port (M10/M66/M72/M80/M85/M95/MC60) .....	37
Figure 28: Connected to a Wrong Serial Port (M65) .....	38
Figure 29: Connected to a Wrong Serial Port (GCxx) .....	38
Figure 30: Connected to a Wrong Serial Port (UCxx).....	39
Figure 31: Connected to a Wrong Serial Port (EC2x/AGxx/EG9x/EG2x-G/Ex06/EM05/BGxx/Ex12/EG18/ RG500Q/RM500Q).....	39
Figure 32: Connected to a Wrong Serial Port (SCxx).....	40
Figure 33: Connected to a Wrong Serial Port (BCxx).....	40
Figure 34: Connected to an Occupied Serial Port (M10/M66/M72/M80/M85/M95/MC60).....	41
Figure 35: Connected to an Occupied Serial Port (M65) .....	42
Figure 36: Connected to an Occupied Serial Port (GCxx).....	42
Figure 37: Connected to an Occupied Serial Port (UCxx/EC2x/EG9x/EG2x-G/Ex06/SCxx/EM05/AGxx/ BGxx/Ex12/EG18/RG500Q/RM500Q).....	43
Figure 38: Connected to an Occupied Serial Port (BCxx) .....	43



Figure 39: Selected an Unsupported Baud Rate (M10/M66/M72/M80/M85/M95/MC60) .....	44
Figure 40: Selected an Unsupported Baud Rate (GCxx).....	45
Figure 41: Selected an Invalid FW File (M10/M66/M72/M80/M85/M95/MC60) .....	45
Figure 42: Selected an Invalid FW File (M65) .....	46
Figure 43: Selected an Invalid FW File (GCxx) .....	46
Figure 44: Selected an Invalid FW File (UCxx).....	47
Figure 45: Selected an Invalid FW File (EC2x/EG9x/EM05) .....	47
Figure 46: Selected an Invalid FW File (Ex06/AGxx/BG96/Ex12/EG18) .....	48
Figure 47: Abnormal Power Supply (M10/M66/M72/M80/M85/M95/MC60) .....	48
Figure 48: Abnormal Power Supply (M65).....	49
Figure 49: Abnormal Power Supply (GCxx).....	49
Figure 50: Abnormal Power Supply (UCxx/EC2x/EG9x/EG2x-G/Ex06/EM05/AGxx/BGxx/Ex12/EG18/ RG500Q/RM500Q).....	50
Figure 51: Abnormal Power Supply (UGxx).....	50
Figure 52: Abnormal Power Supply (SCxx) .....	51
Figure 53: Abnormal Power Supply (BCxx) .....	51
Figure 54: Abnormal USB to RS-232 Converter Cable.....	52

# 1 Introduction

## 1.1. OS and Version

This document mainly introduces methods of upgrading the firmware with “QFlash” upgrade tool provided by Quectel. The tool can run on a PC without installation if the OS is among the ones listed below:

- Windows 7
- Windows 8
- Windows 10

Any newer version of the tool and notification thereof will be provided in advance.

### NOTE

1. In Windows 10, please start *QFlash.exe* by right-clicking the icon and select “**Run as administrator**”.
2. The storage path of the tool and the firmware package should NOT contain any space, and English characters are preferred.
3. The storage/loading path of the firmware package has to be a local path instead of a USB or network path.

## 1.2. Applicable Modules

QFlash is applicable to the following Quectel modules.

**Table 1: Applicable Modules**

Module Series	Modules
LPWA Module Series	BCxx: BC95-G/ BC68/ BC66/ BC660K-GL
	BGxx: BG96/ BG95/ BG77/ BG770A-GL
LTE Standard Module Series	EC2x: EC20 R2.1/ EC25/ EC21

	EG9x: EG91/ EG95
	EG2x-G: EG21-G/ EG25-G
	EM05
	EC200U/ EC200T/ EC200S/ EG912Y
<b>LTE-A Module Series</b>	Ex06: EP06/ EG06/ EM06
	Ex12: EG12/ EM12-G
	EG18
<b>Automotive Module Series</b>	AGxx: AG35/ AG15/ AG52xR/ AG55xQ/ AG215S-CN AG509M-EU
<b>Smart Module Series</b>	SCxx: SC20/ SC66/ SC200E SGxx: SG865W-WF
<b>WCDMA Module Series</b>	UCxx: UC15/ UC20/ UC200T
	UGxx: UG95/ UG96
<b>GSM/GPRS/GNSS Module Series</b>	Mxx: M10/ M66/ M72/ M80/ M85/ M95/ M65/ MC60
	GCxx: GC10
<b>5G Module Series</b>	RG5xx: RG500Q/ RG520N
	RM5xx: RM500Q
<b>WiFi&amp;Bluetooth Module Series</b>	FC41D

#### NOTE

Quectel modules listed above may include multiple models. See the corresponding module specifications for more specific information.

### 1.3. About QFlash Tool

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



Figure 1: About the QFlash Tool

## 2 Firmware Upgrade Procedures

The firmware is upgraded through the following three steps with QFlash.

**Step 1:** Set the serial port and baud rate;

**Step 2:** Load firmware files;

**Step 3:** Upgrade the firmware.

The following chapters describe the details about how to use the tool to upgrade firmware.

### 2.1. Configure Serial Port and Baud Rate

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

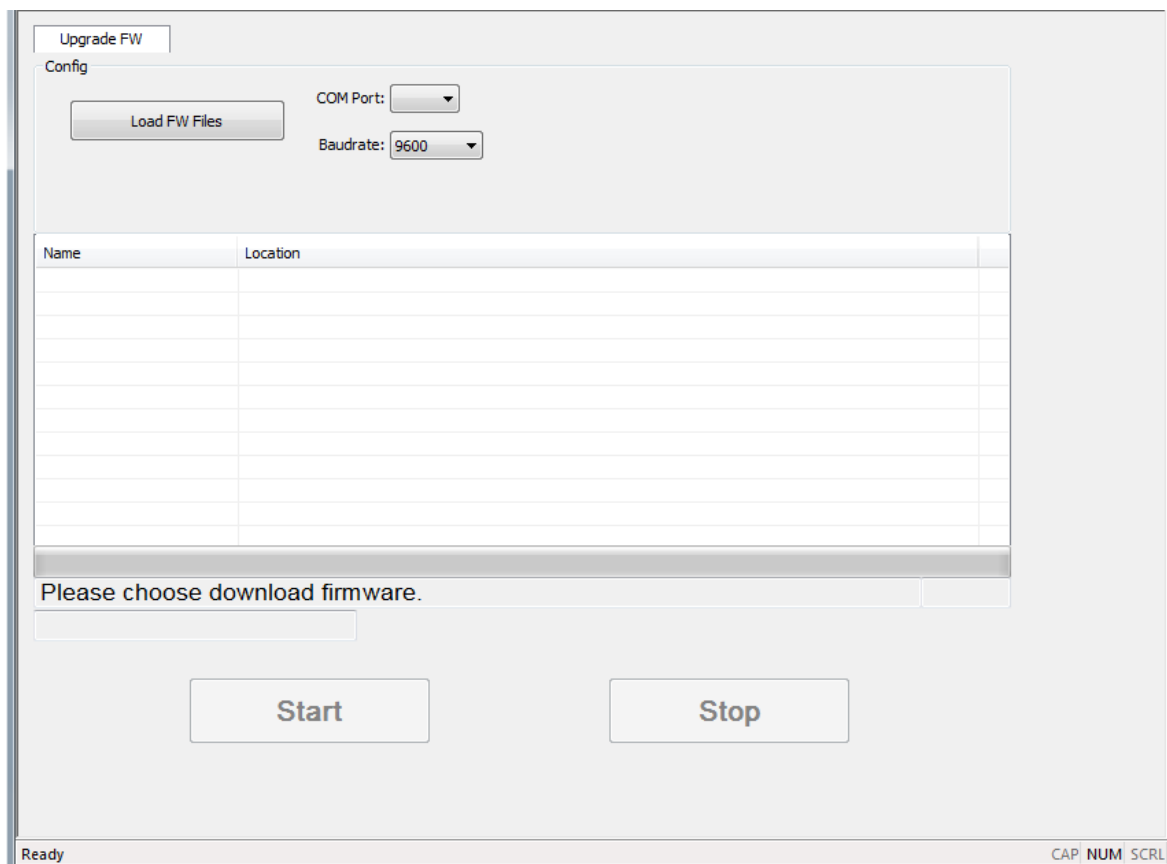
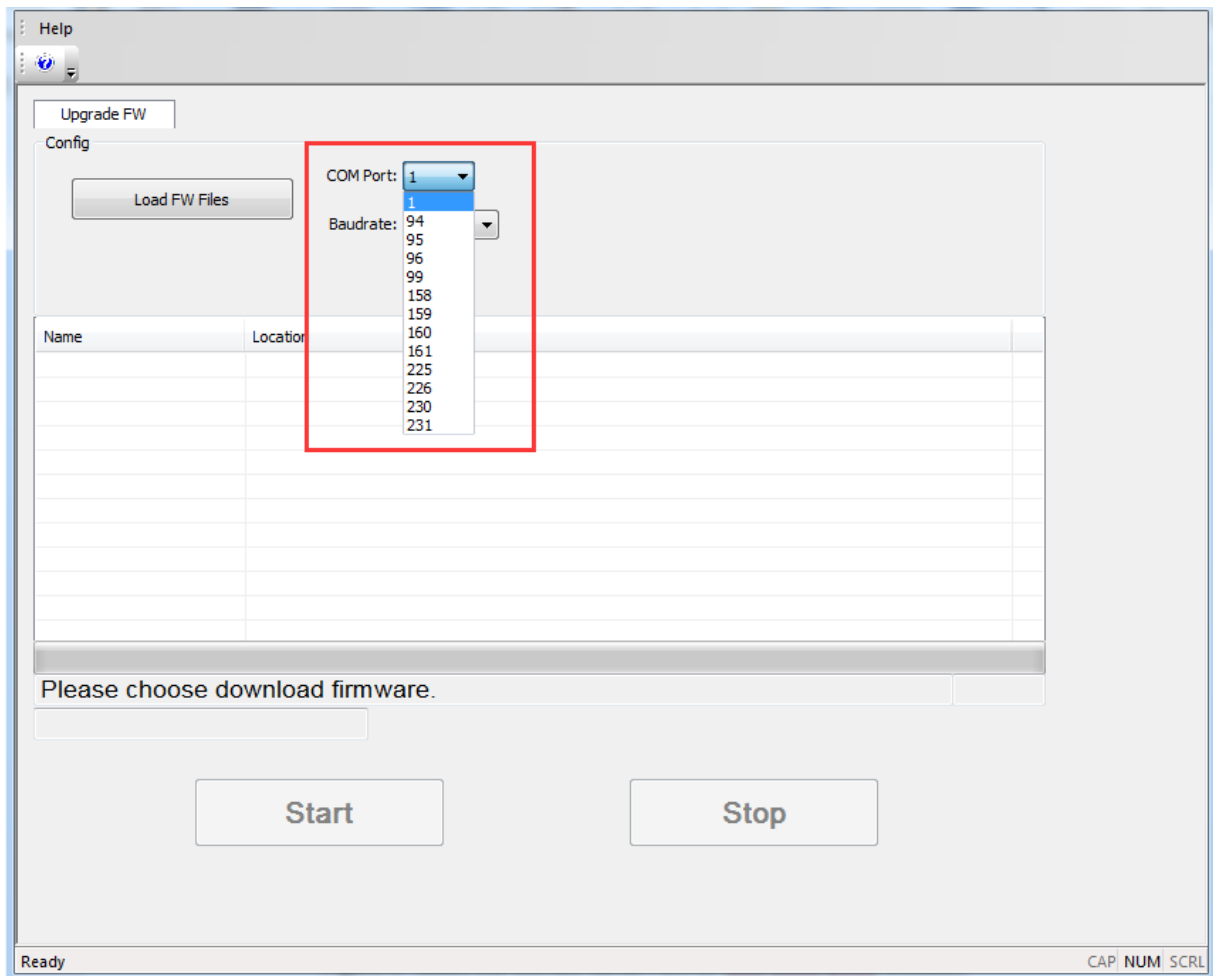


Figure 2: Main Interface of QFlash

## 2.1.1. Set COM Port

### 2.1.1.1. COM Port Selection for Mxx/GCxx/BCxx

Click “**COM Port**” drop-down list to select the COM port through which the firmware will be upgraded, as shown in the following figure.



**Figure 3: Select the Correct Serial Port for Mxx/GCxx/BCxx Modules**

#### **NOTE**

1. For M10, M66, M72, M80, M85, M95 or MC60, the main UART is used to upgrade firmware. After the port is selected, switch the D/L to “**ON**” on EVB within 30 seconds after clicking “**Start**” button, and then manually restart the module.
2. For M65 and GCxx modules, the USB port is used to upgrade firmware. After the port is selected, please click the “**Start**” button and then the module will be automatically restarted.
3. For BC66 module, the USB UART Ch A is used to upgrade firmware. After the port is selected,

please click the “**Start**” button and wait for the prompt “[INFO]Start connect with target,Please reset DUT...”, and then manually restart the module.

4. For BC95-G and BC68 modules, the USB UART Ch A is used to upgrade firmware. After the port is selected, please click the “**Start**” button and wait for the prompt “**Reset**”, and then manually restart the module.
5. For BC660K-GL module, the first USB Serial Port is used to upgrade firmware. After the port is selected, press and hold the BOOT pin during module reset until the module enters the download mode, and then click the “**Start**” button to upgrade.
6. For FC41D module, the main UART is used to upgrade firmware. After the port is selected, please click the “**Start**” button and wait for the prompt “**Erasing Flash...**”, and then manually restart the module.

#### 2.1.1.2. COM Port Selection for UGxx

For UGxx, the USB port is used to upgrade firmware, and it is selected automatically. When firmware files are uploaded, “**USB**” will be displayed in gray in “**COM Port**” drop-down list. The module needs to be turned off before “**Start**” is clicked. After clicking “**Start**”, please turn on the module within 10 seconds. The interface is shown in the following figure.

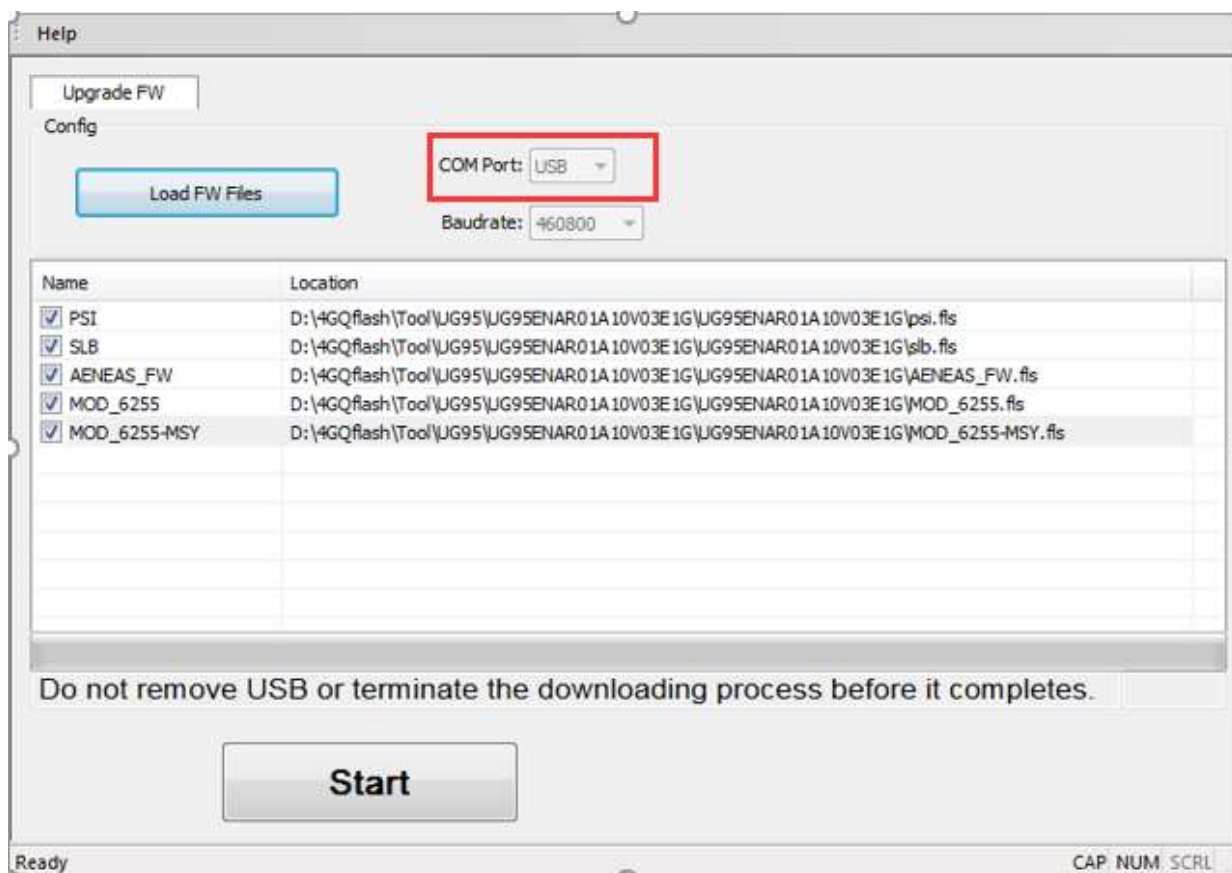


Figure 4: USB Port Selected Automatically for UGxx

### 2.1.1.3. COM Port Selection for UCxx/EC2x/EG9x/EG2x-G/Ex06/EM05/AGxx/SGxx/BGxx/Ex12/

#### EG18/RG5xx/RM5xx

For UCxx, EC2x, EG9x, EG2x-G, Ex06, EM05, AGxx, SGxx, BGxx, Ex12, EG18, RG5xx or RM5xx, the USB DM port can be used for firmware upgrade. Click “**COM Port**” drop-down list and select the USB DM port for upgrade, as shown in the following figure.

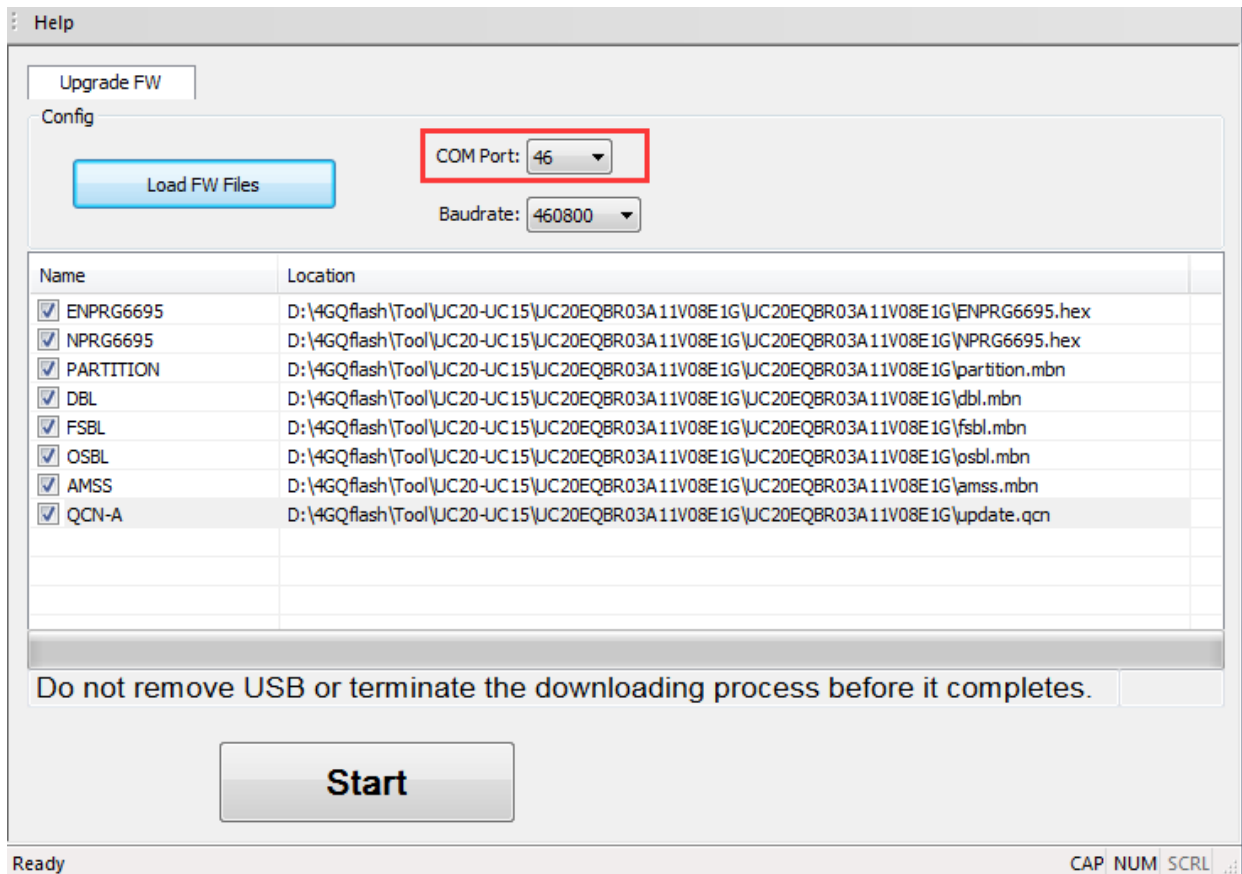


Figure 5: Select the USB DM Port for UCxx/EC2x/EG9x/EG2x-G/Ex06/EM05/AGxx/SGxx/BGxx/Ex12/EG18/RG5xx/RM5xx



#### 2.1.1.4. COM Port Selection for EC200U

For EC200U, the USB AT port can be used for firmware upgrade. Click “**COM Port**” drop-down list and select Quectel USB AT port for upgrade, as shown in the following figure.

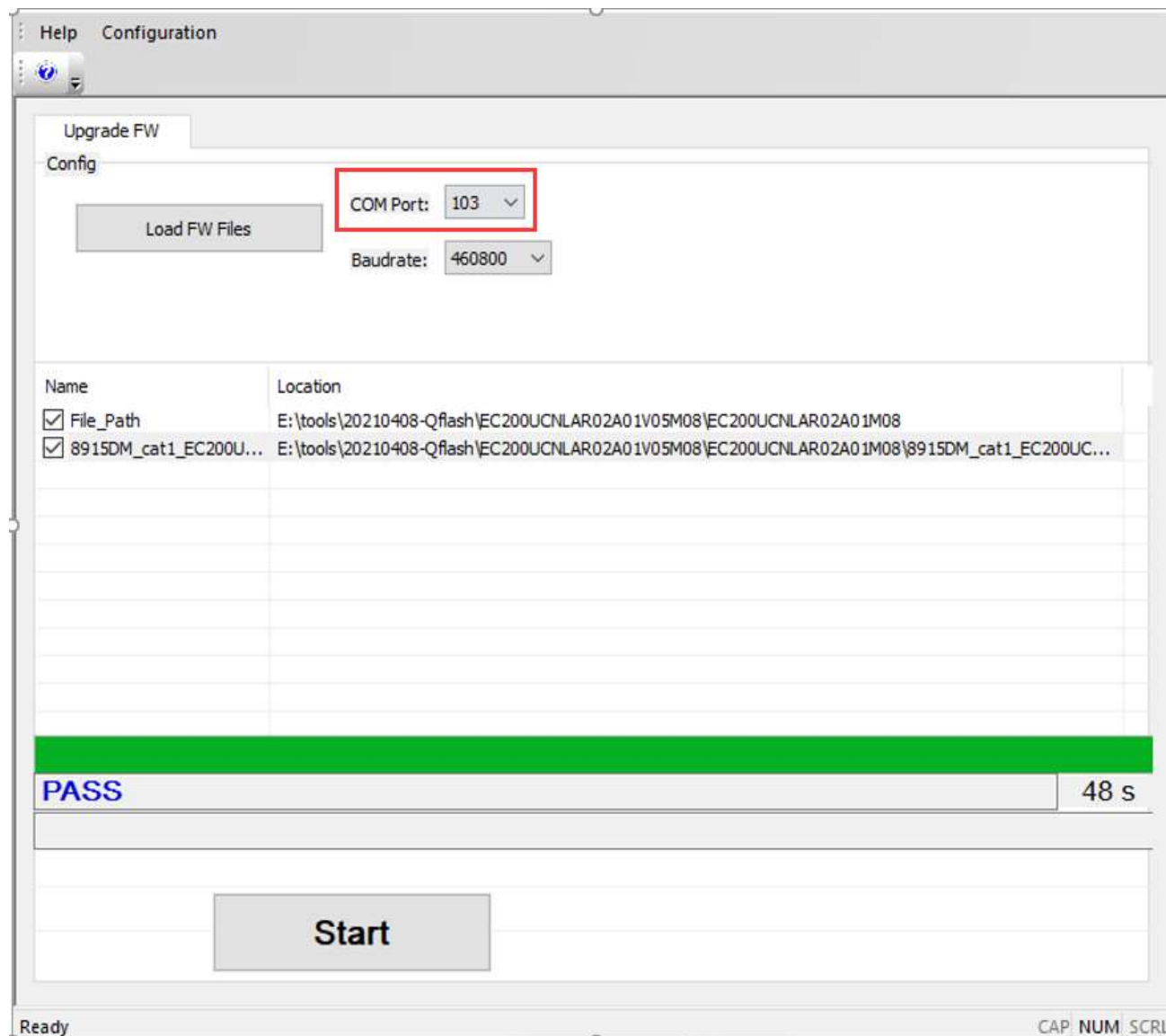


Figure 6: Select the USB AT Port for EC200U

#### NOTE

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 ports.
2. You can also upgrade EC200U by short-circuiting BOOT to PL\_1V8 to get the SPRD U2S Diag port loaded for upgrade.

### 2.1.1.5. COM Port Selection for EC200T/EC200S/EG912Y

For EC200T, EC200S and EG912Y, you can directly select the .zip package to load firmware.

For EC200S and EG912Y, after clicking “**Load FW Files**” to select the .zip package, you can use either the USB AT port or Quectel Download Port for firmware upgrade. If you use USB AT port for upgrade, wait for the prompt **"getting serial devices list...\n"** before clicking “**Start**” to upgrade. If you use Quectel Download Port for upgrade, wait for the prompt **"<COM68> device <COM68> is ready to be enabled manually\n"** before clicking the “**Start**” button to upgrade.

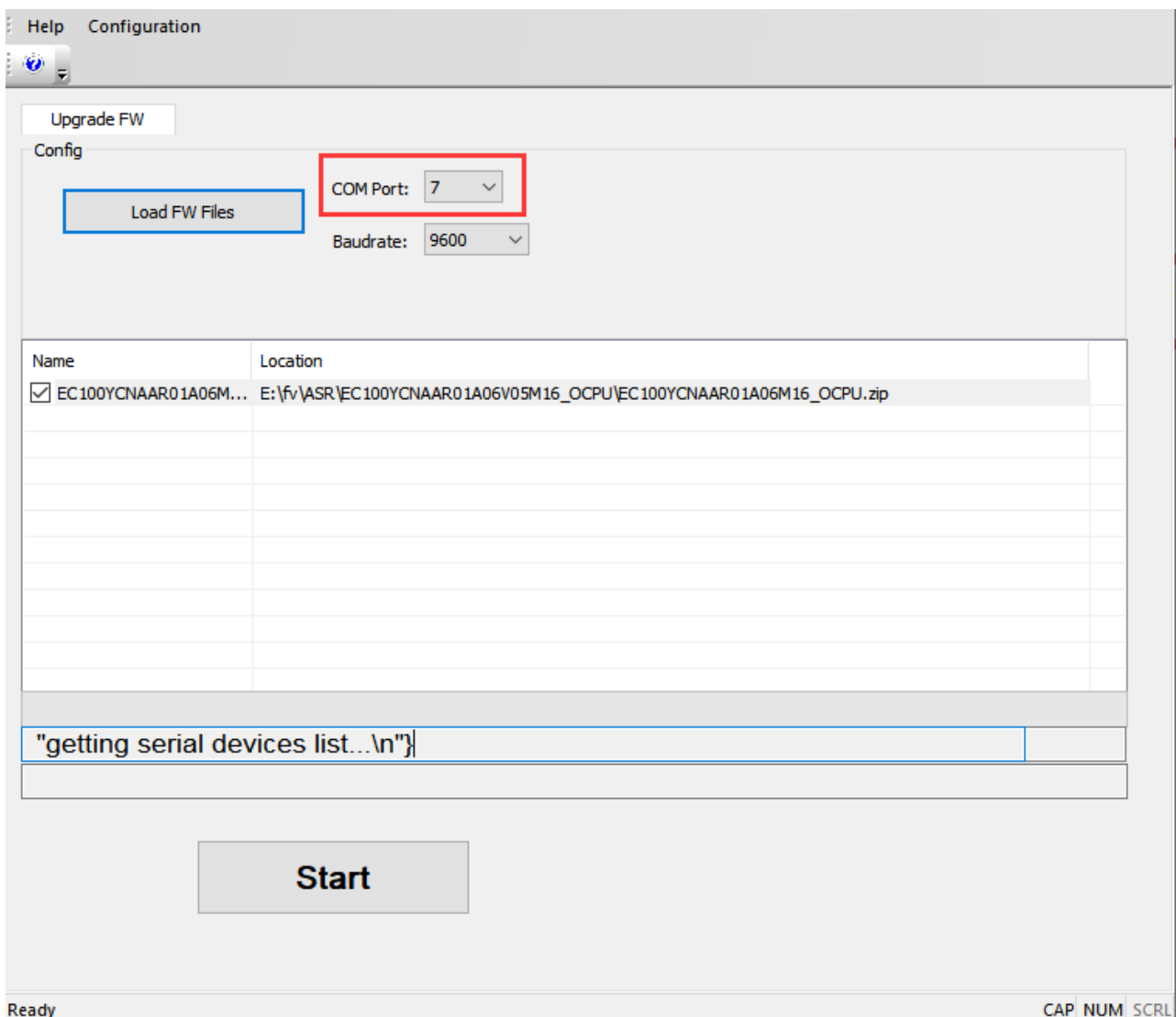


Figure 7: Select the USB AT Port for EC200S/EG912Y

[illegible]

### Figure 8: Select Quectel Download Port for EC200S/EG912Y

## NOTE

For EC200S and EG912Y, you can get Quectel Download Port loaded for upgrade by short-circuiting BOOT to PL\_1V8. Also, you can first select the .zip firmware package, and then manually power on the module to directly get Quectel Download Port loaded.

For EC200T, select the .zip firmware package, and then click the **“Start”** button. After this, manually power on the module to automatically select Quectel USB Download Port for upgrade.

HelpConfiguration

Upgrade FW

Config

Load FW Files

COM Port:

USB▼

Baudrate:

9600▼

Name	Location
<input checked="" type="checkbox"/> EC200TCNAAR02A04V...	E:\fv\ASR\EC200TCNAAR02A04V03M1G.zip

Do not remove USB or terminate the downloading process before it completes.

Start

**Figure 9: Quectel USB Download Port Selected Automatically for EC200T**

### 2.1.1.6. COM Port Selection for SCxx

For SCxx, the HS-USB Diagnostics 9091 port can be used for firmware upgrade. Click “**COM Port**” drop-down list and select the HS-USB Diagnostics 9091 port for upgrade, as shown in the following figure.

The screenshot shows the 'Upgrade FW' window with the 'Config' tab selected. A red box highlights the 'COM Port' dropdown menu, which is set to '7'. Below it, the 'Baudrate' is set to '460800'. A 'Load FW Files' button is visible. Below the configuration fields is a table with two columns: 'Name' and 'Location'. The table contains five rows of files, all with checked checkboxes in the 'Name' column. Below the table is a warning message: 'Do not remove USB or terminate the downloading process before it completes.' and a large 'Start' button. The status bar at the bottom shows 'Ready' and 'CAP NUM SCRL'.

Name	Location
<input checked="" type="checkbox"/> File_Path	E:\MSM8909\SC20\SC20CEPCR01A01V01H8G_SX_factory\SC20CEPCR01A01V01H8G_SX_factory
<input checked="" type="checkbox"/> prog_emmc_firehose_...	E:\MSM8909\SC20\SC20CEPCR01A01V01H8G_SX_factory\SC20CEPCR01A01V01H8G_SX_factory\prog_em...
<input checked="" type="checkbox"/> rawprogram_unsparse...	E:\MSM8909\SC20\SC20CEPCR01A01V01H8G_SX_factory\SC20CEPCR01A01V01H8G_SX_factory\rawprog...
<input checked="" type="checkbox"/> patch0.xml	E:\MSM8909\SC20\SC20CEPCR01A01V01H8G_SX_factory\SC20CEPCR01A01V01H8G_SX_factory\patch0.xml
<input checked="" type="checkbox"/> fs_image.tar.gz.mbn.img	E:\MSM8909\SC20\SC20CEPCR01A01V01H8G_SX_factory\SC20CEPCR01A01V01H8G_SX_factory\fs_image...
<input checked="" type="checkbox"/> zero.bin	E:\MSM8909\SC20\SC20CEPCR01A01V01H8G_SX_factory\SC20CEPCR01A01V01H8G_SX_factory\zero.bin

**Figure 10: Select the HS-USB Diagnostics 9091 Port for SCxx**

### 2.1.1.7. COM Port Selection for BG770A-GL

For BG770A-GL, the debug UART is used for firmware upgrade, and the name of the loaded port on PC is Silicon Labs CP210x USB to UART Bridge.

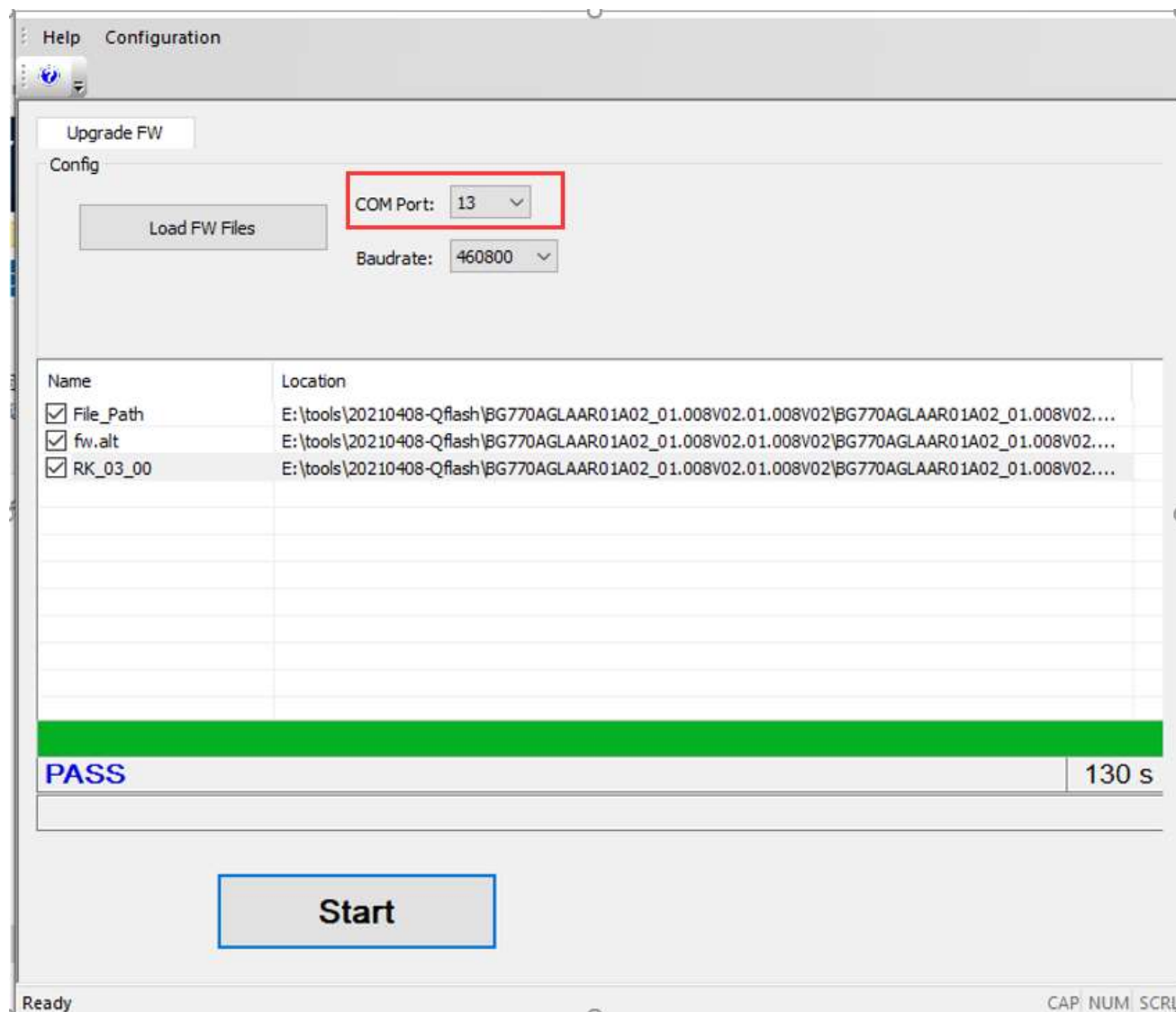
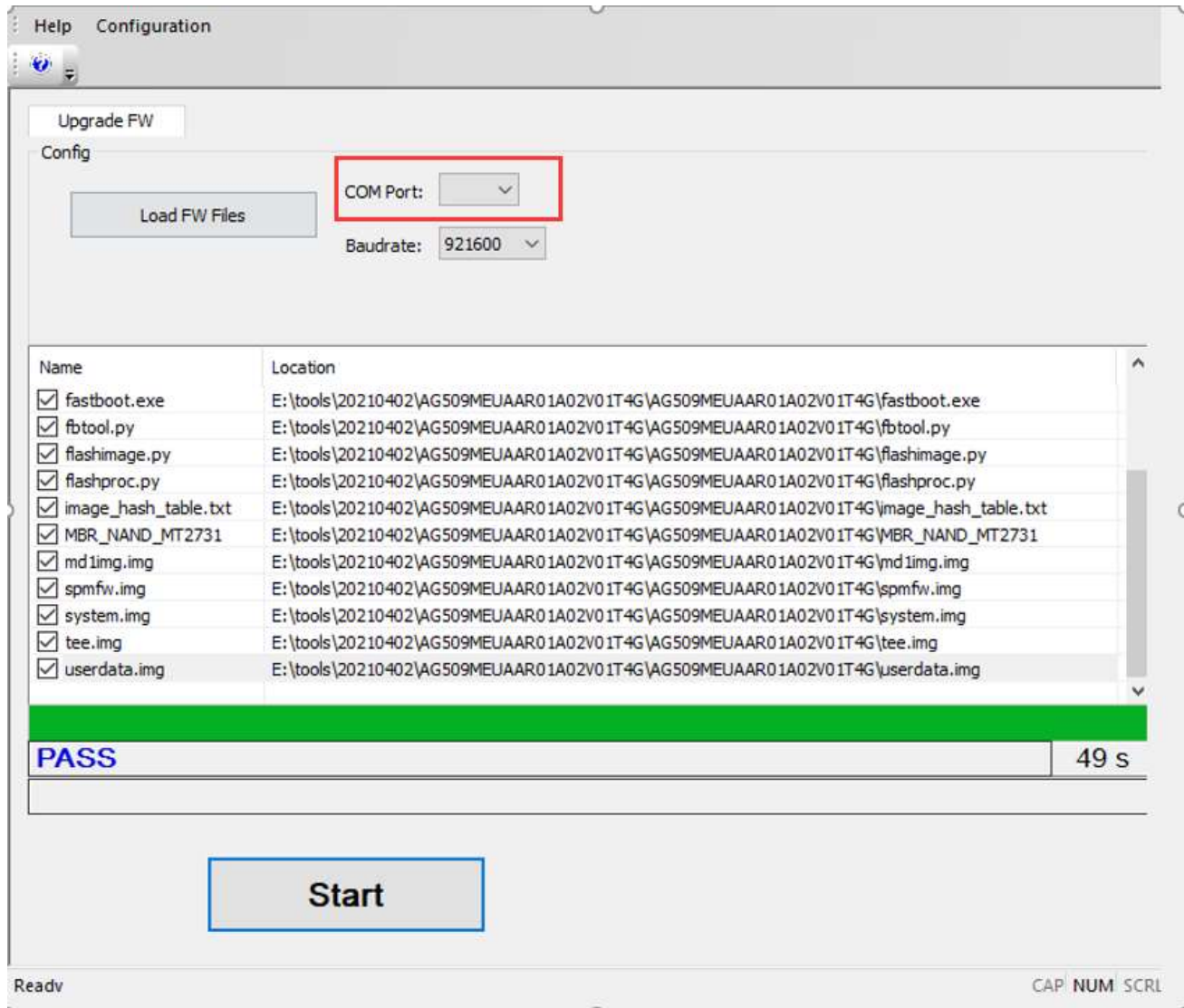


Figure 11: Select the Silicon Labs CP210x USB to UART Bridge Port for BG770A-GL

### 2.1.1.8. COM Port Selection for AG509M-EU

For AG509M-EU module, turn on the USB\_BOOT switch, and then only the Android ADB interface will be loaded. Therefore, port selection is unnecessary for firmware upgrade of AG509M-EU with QFlash.



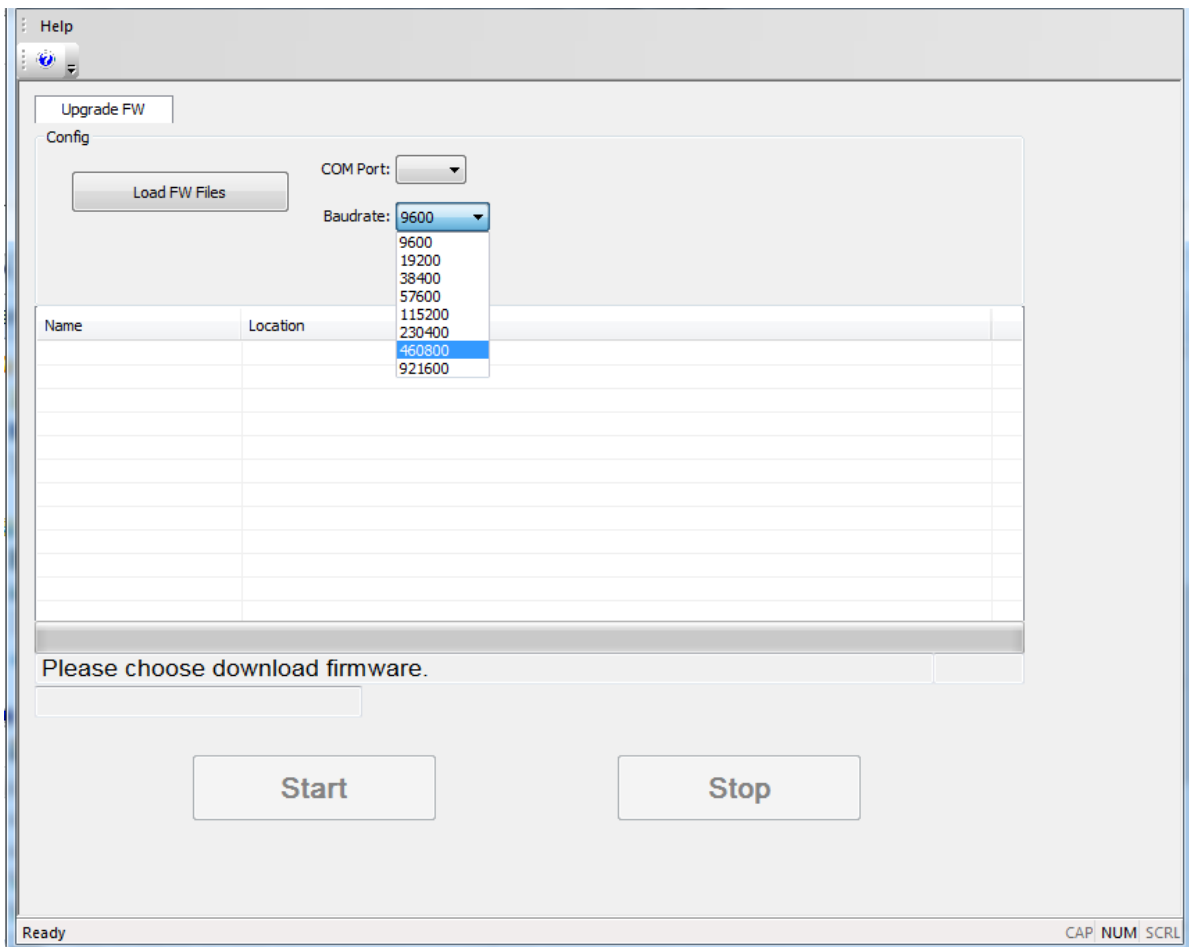
**Figure 12: Port Selection is Unnecessary for AG509M-EU**

#### NOTE

It is only supported by 64-bit systems to download the firmware package into this module.

### 2.1.2. Set Baud Rate

Click the “**Baudrate**” drop-down list and select an appropriate baud rate, as shown in the following figure.



**Figure 13: 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.
3. Please set baud rate to 921600 when upgrading firmware for GCxx, M65 or BC660K-GL modules, 9600 for other BCxx modules, and 460800 for other Quectel modules. Other baud rates may lead to an upgrading failure.



## 2.2. Load Firmware Files and APP Firmware

### 2.2.1. Load Firmware Files

The steps in this chapter are performed to load firmware files for standard and QuecOpen modules.

#### NOTE

The storage paths of the firmware files have to be local paths instead of USB or network paths. The paths should NOT contain any spaces, and English characters are preferred.

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

**Step 2:** Select the Bootloader\_xxx.bin, .txt, .cfg, .mbn, .lod, .fls, .fwpkg, .pac, .zip, .bin, .bat, .elf, fw.alt, or .py file which needs to be downloaded to the module.

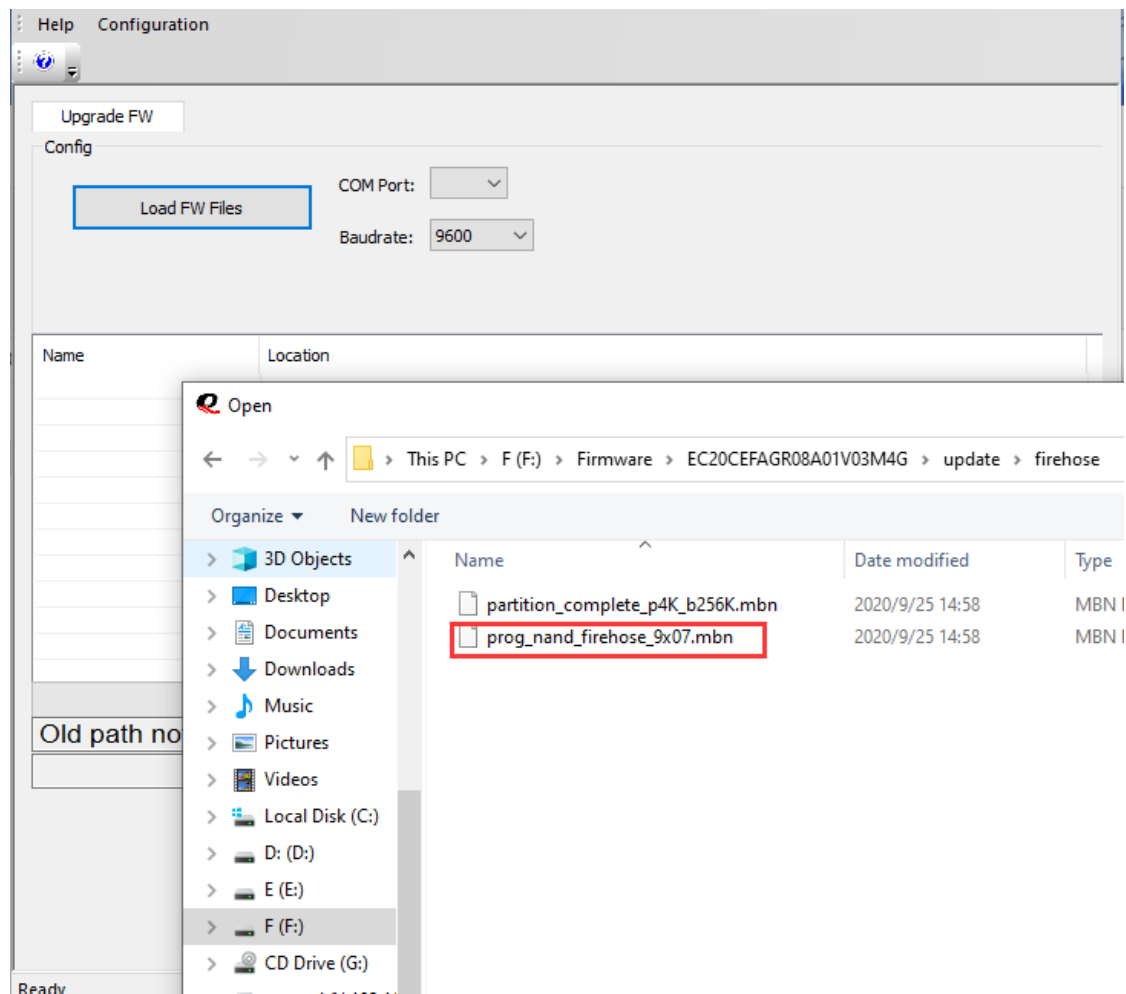
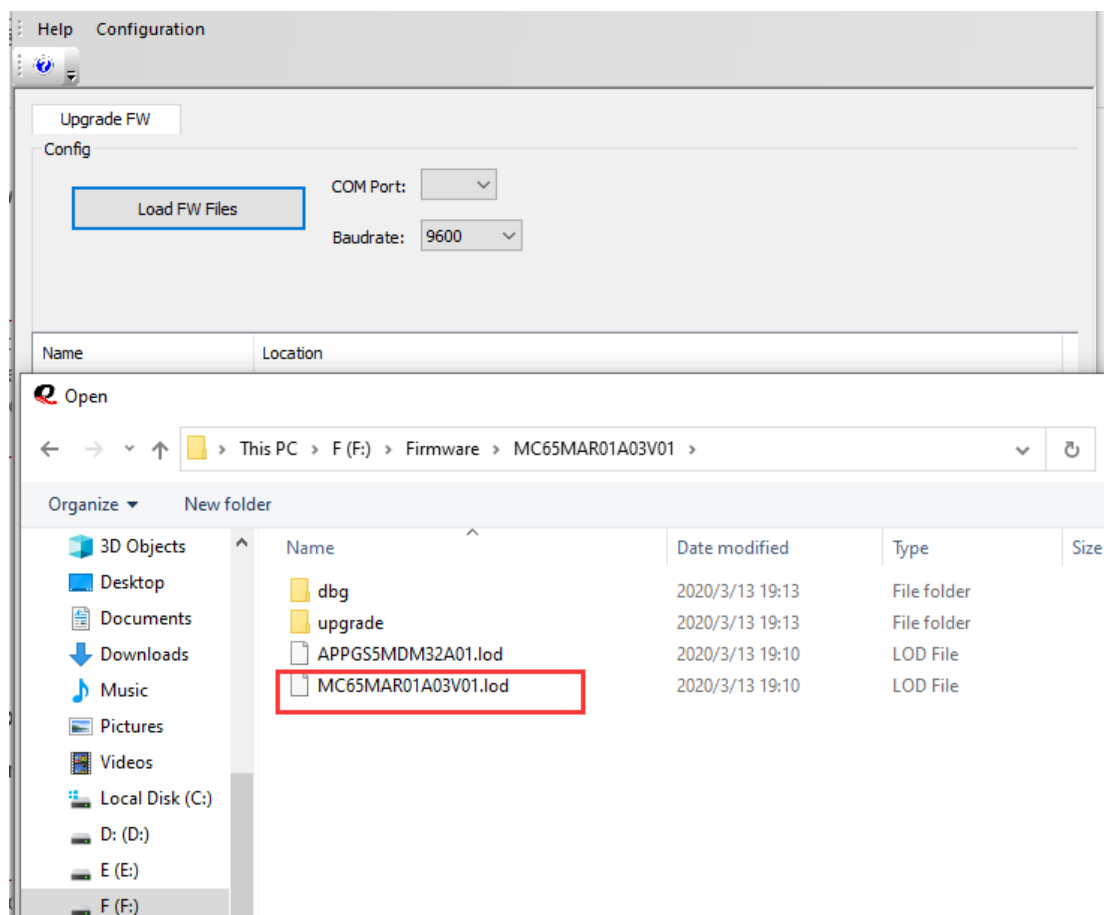


Figure 14: Select the File to Be Downloaded (Standard or QuecOpen Modules)



**Figure 15: Select the File to Be Downloaded (QuecOpen Modules)**

#### NOTE

1. When *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. The upgrade will be processed in Sahara mode by default if there is no *Firehose* folder in the firmware package.
2. For EC200U, select the .pac file.
3. For EC200T, EC200S and EG912Y, select the .zip file directly.
4. For BG770A-GL, select the fw.alt file.
5. For AG509M-EU, select the .py file.
6. For BC660K-GL and FC41D, select the .bin file.
7. For SCxx, AGxx, SGxx, RG5xx and RM5xx, select the .elf file.

## 2.2.2. Load APP Firmware for QuecOpen Modules

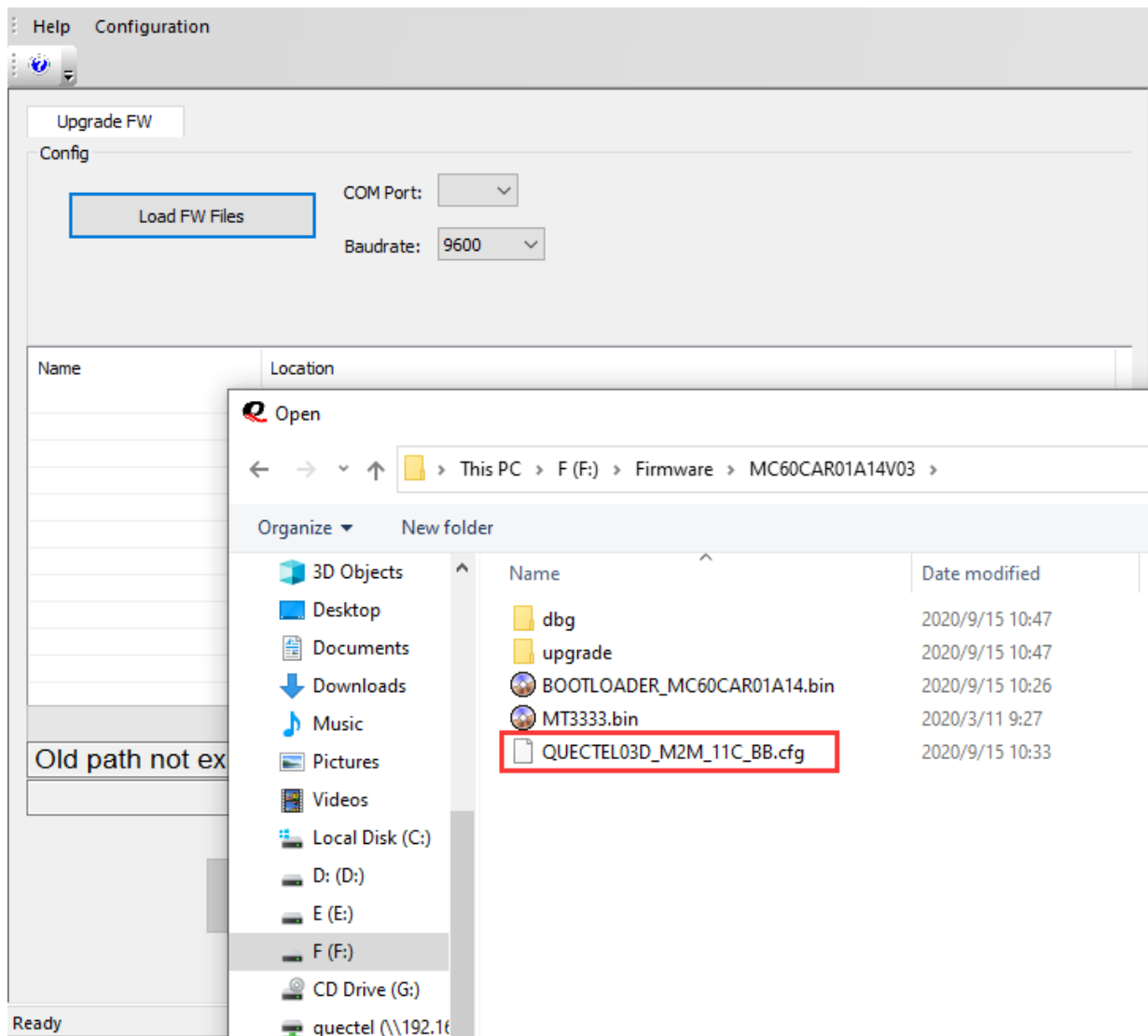
The steps in this chapter are performed to load APP firmware for QuecOpen modules.

### NOTE

The storage paths of the APP firmware files have to be local paths instead of USB or network paths. The paths should NOT contain any spaces, and English characters are preferred.

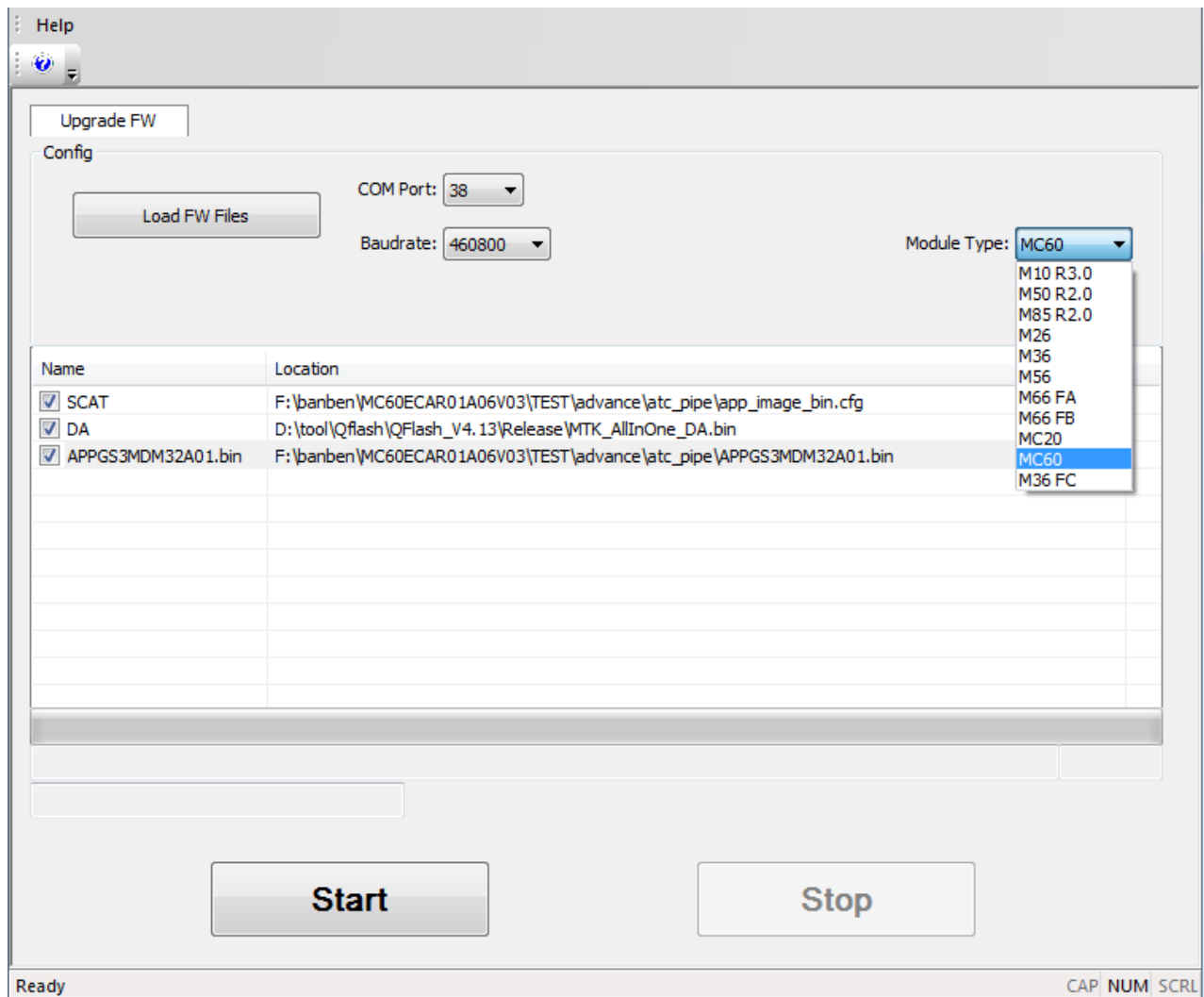
### 2.2.2.1. Load APP Firmware for MC60/M66 QuecOpen

**Step 1:** Click the button “**Load FW Files**”, and select the .cfg file which needs to be downloaded to the module.



**Figure 16: Select the .cfg File**

**Step 2:** Click the “**Module Type**” drop-down list and select the corresponding module.



### Figure 17: Select the Module Type

### 2.2.2.2. Load APP Firmware for M65 QuecOpen

Click the button “**Load FW Files**”, and select the .lod file which needs to be downloaded to the module.

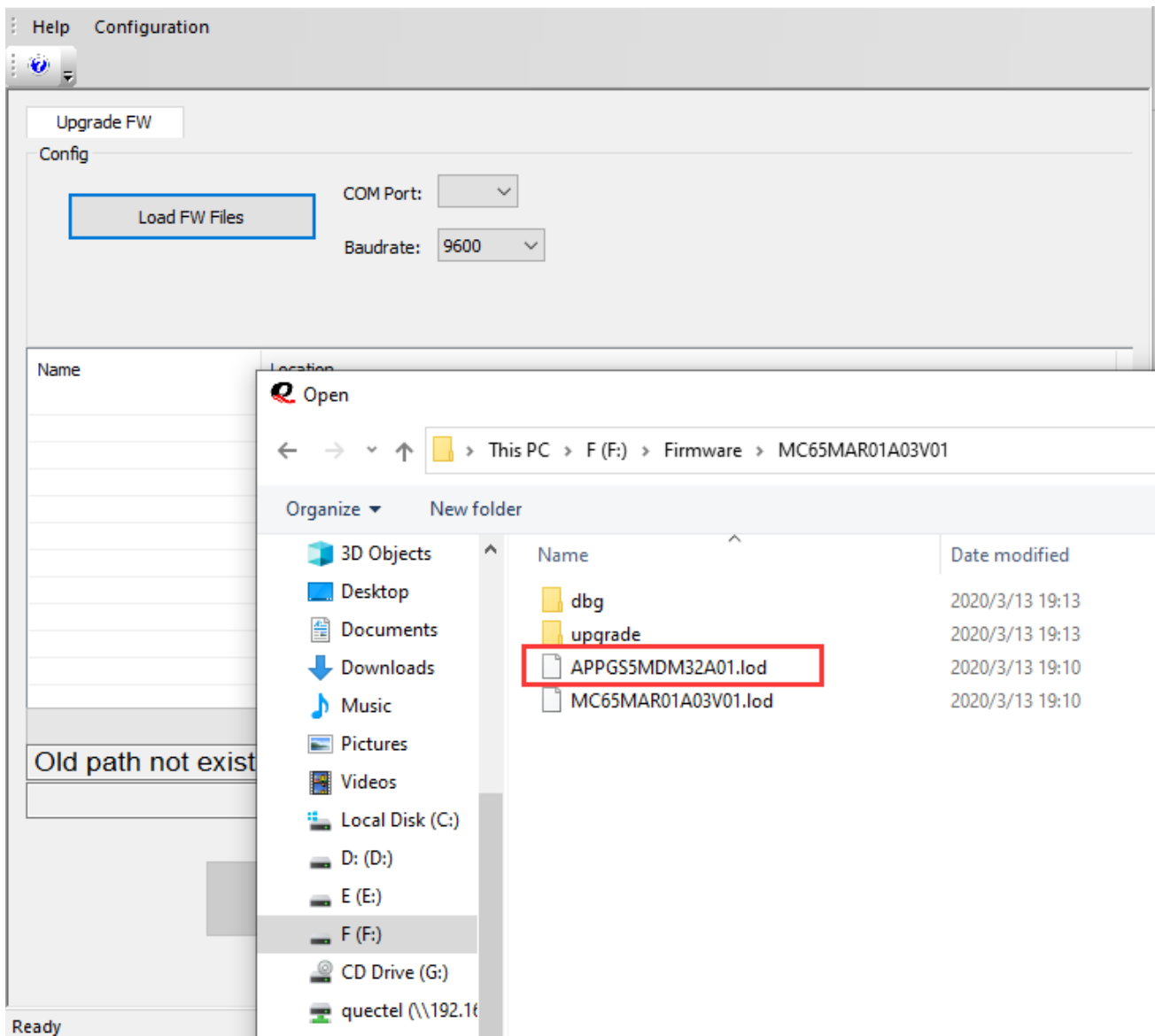
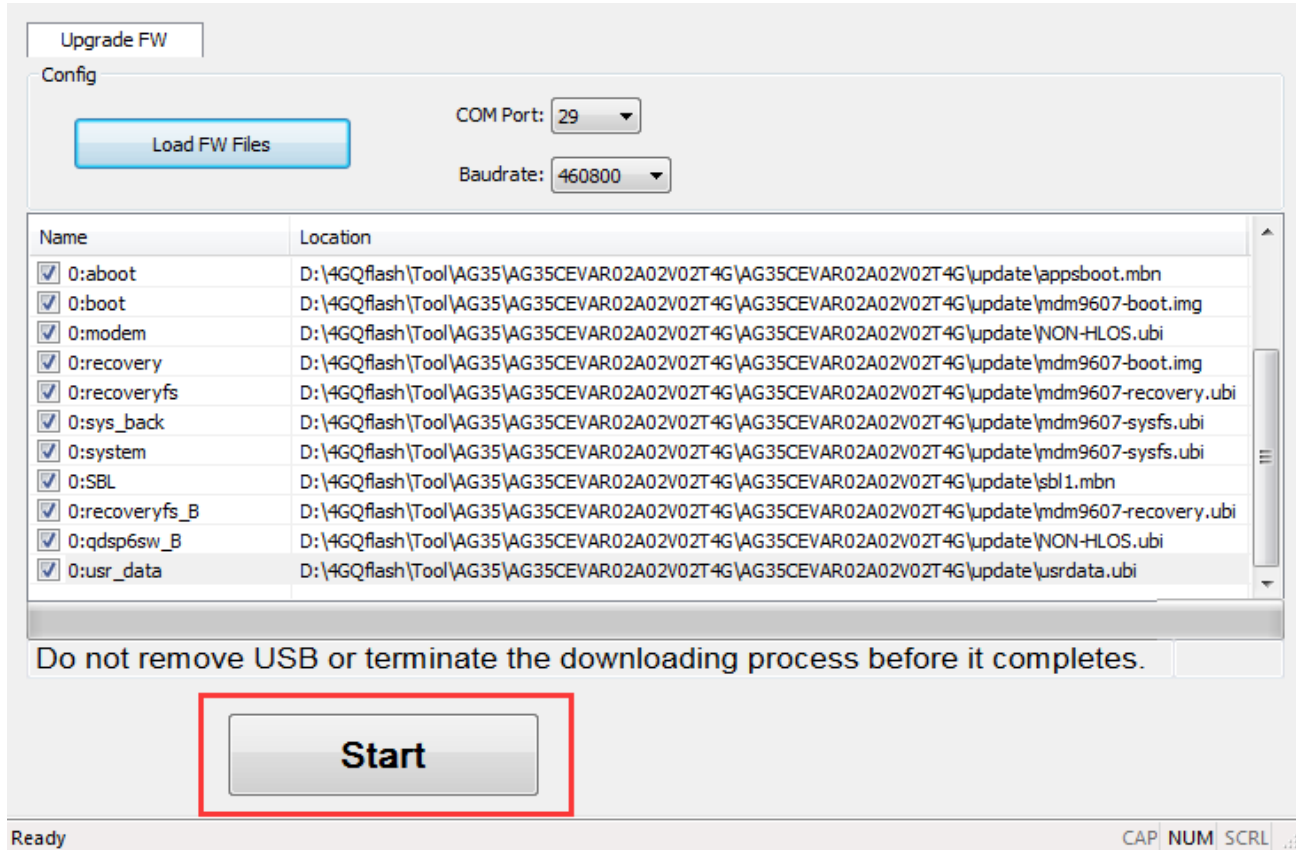


Figure 18: Select the .lod File

## 2.3. Upgrade Firmware

**Step 1:** Click the “Start” button.



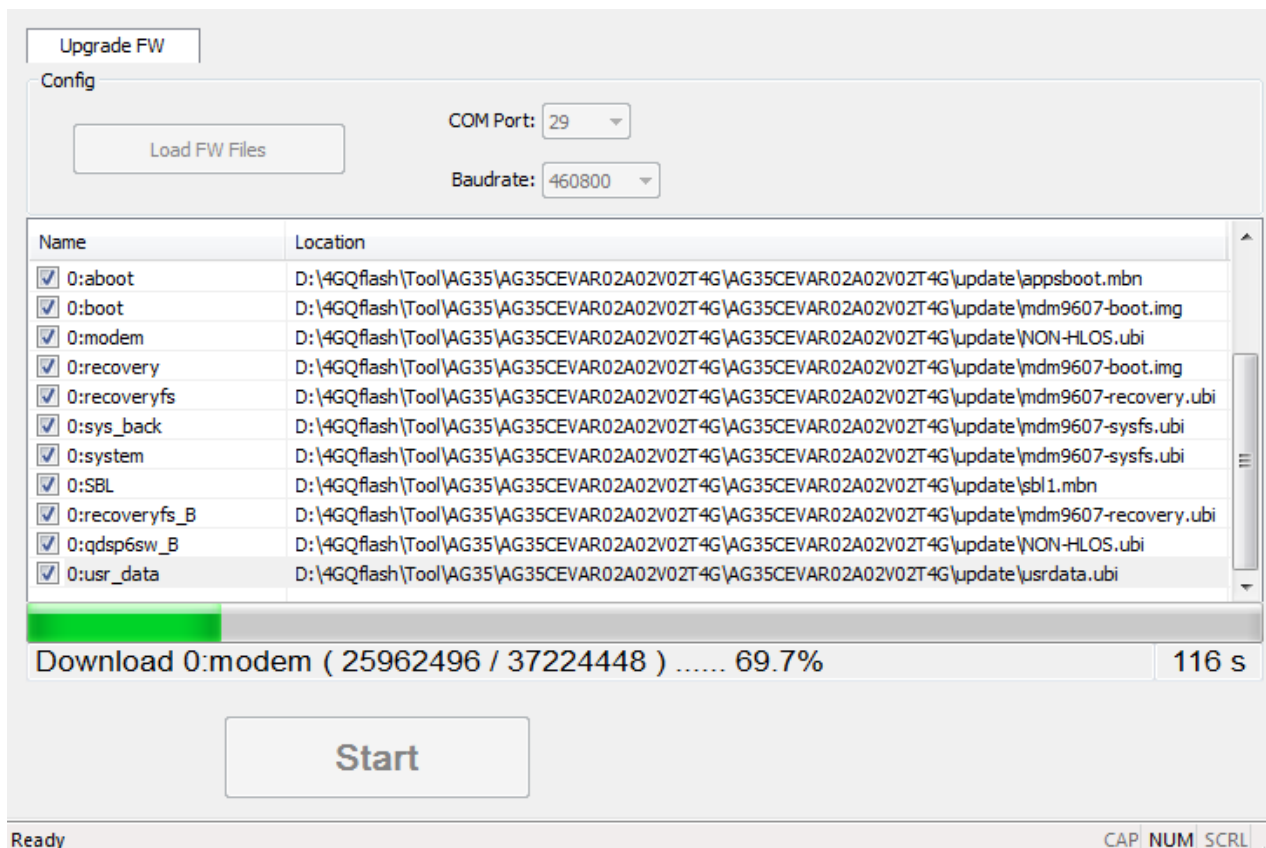
**Figure 19: Click the “Start” Button**

### NOTE

1. Please note that there is no “**Stop**” button while upgrading firmware for GCxx, UCxx, UGxx, EC2x, EG9x, EG2x-G, Ex06, SCxx, BCxx, EM05, AGxx, BG96, Ex12, and EG18, as shown above. In this case, it is NOT permitted to stop the upgrading process, and please do NOT remove the USB or terminate the downloading process before the upgrading is completed.
2. When *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. The upgrade will be processed in Sahara mode by default if there is no *Firehose* folder in the firmware package.
3. If the upgrade in Firehose mode fails after many attempts, please try again after turning off or uninstalling your anti-virus software and firewall.

**Step 2:** Restart the module to enable firmware upgrade.

- (1) GCxx, UCxx, EC2x, EG9x, EG2x-G, Ex06, SCxx, EM05, AGxx, SGxx, BGxx, Ex12, EG18, M65, RG5xx, RM5xx, EC200U, EC200S and EG912Y modules will be restarted automatically after clicking the **“Start”** button, so there is no need to restart the modules manually. See the following figure.



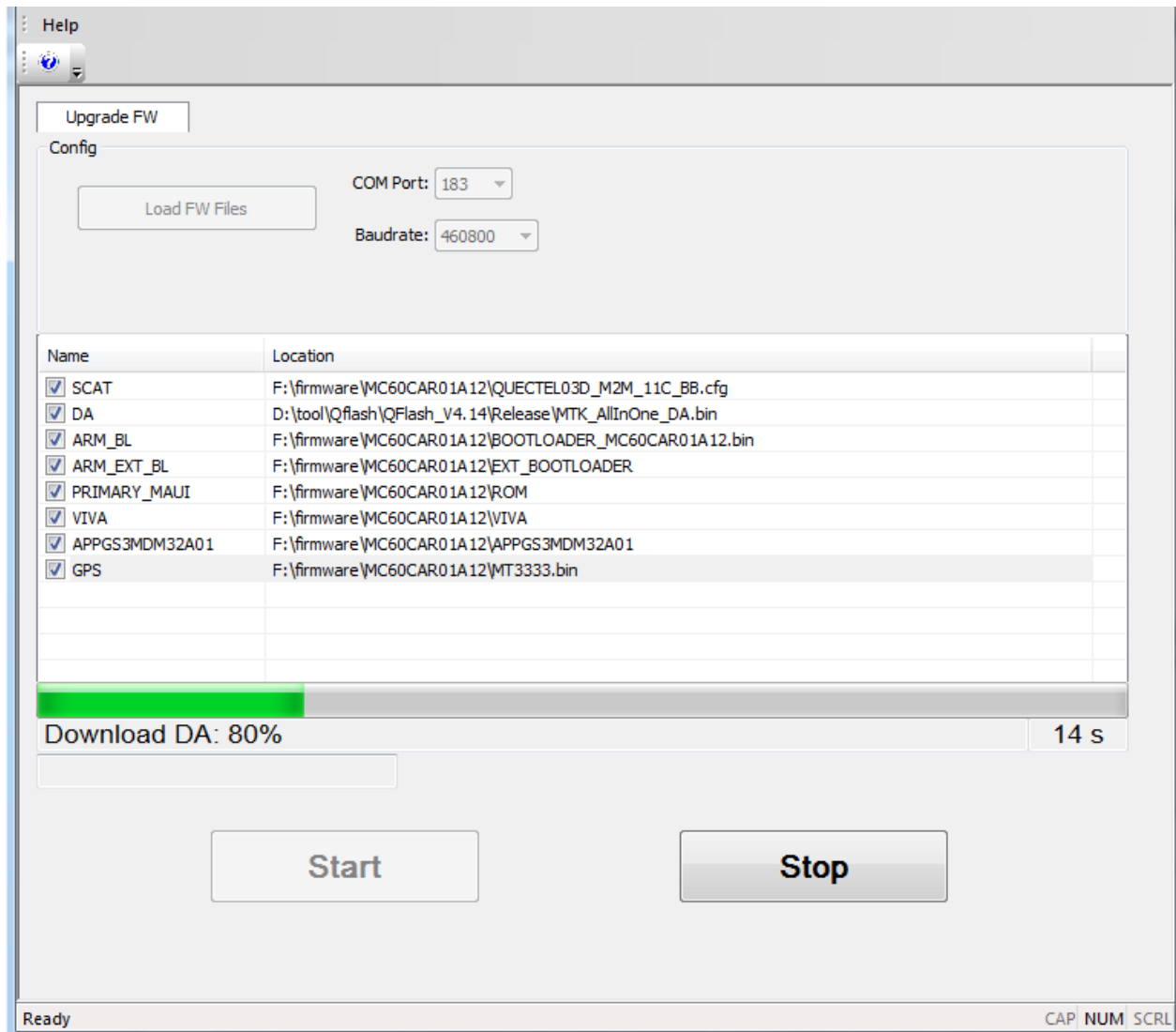
**Figure 20: Start Firmware Upgrade Automatically After Clicking “Start” Button**

#### NOTE

For GCxx, UCxx, UGxx, EC2x, EG9x, EG2x-G, Ex06, SCxx, EM05, AGxx, SGxx, BG96, Ex12, EG18, M65, RG5xx or RM5xx, if there is no EVB for module firmware upgrade, please drive the PWRKEY pin to a low level after clicking the **“Start”** button in 30 seconds.

- (2) For EC200T, after clicking the **“Start”** button, manually power on the module to automatically select Quectel USB Download Port for upgrade.
- (3) For UGxx, BG770A-GL and AG509M-EU, the module needs to be turned off before **“Start”** is clicked. After clicking **“Start”**, please turn on the module within 10 seconds.

- (4) For FC41D module, please wait for the prompt “Erasing Flash...” after clicking the “Start” button, and then manually restart the module.
- (5) For M10, M66, M72, M80, M85, M95, or MC60, switch the D/L to “ON” on EVB within 30 seconds after clicking “Start” button, and then manually restart the module. In this way, the firmware upgrade will be started, as shown in the following figure.



**Figure 21: Start Firmware Upgrade after Manually Restarting the Module  
(M10/M66/M72/M80/M85/M95/MC60)**

#### NOTE

On M10, M66, M72, M80, M85, M95, MC60, please make sure the EVB is powered by a 5 V power supply when switching the D/L to “ON”, and then manually restart the module.

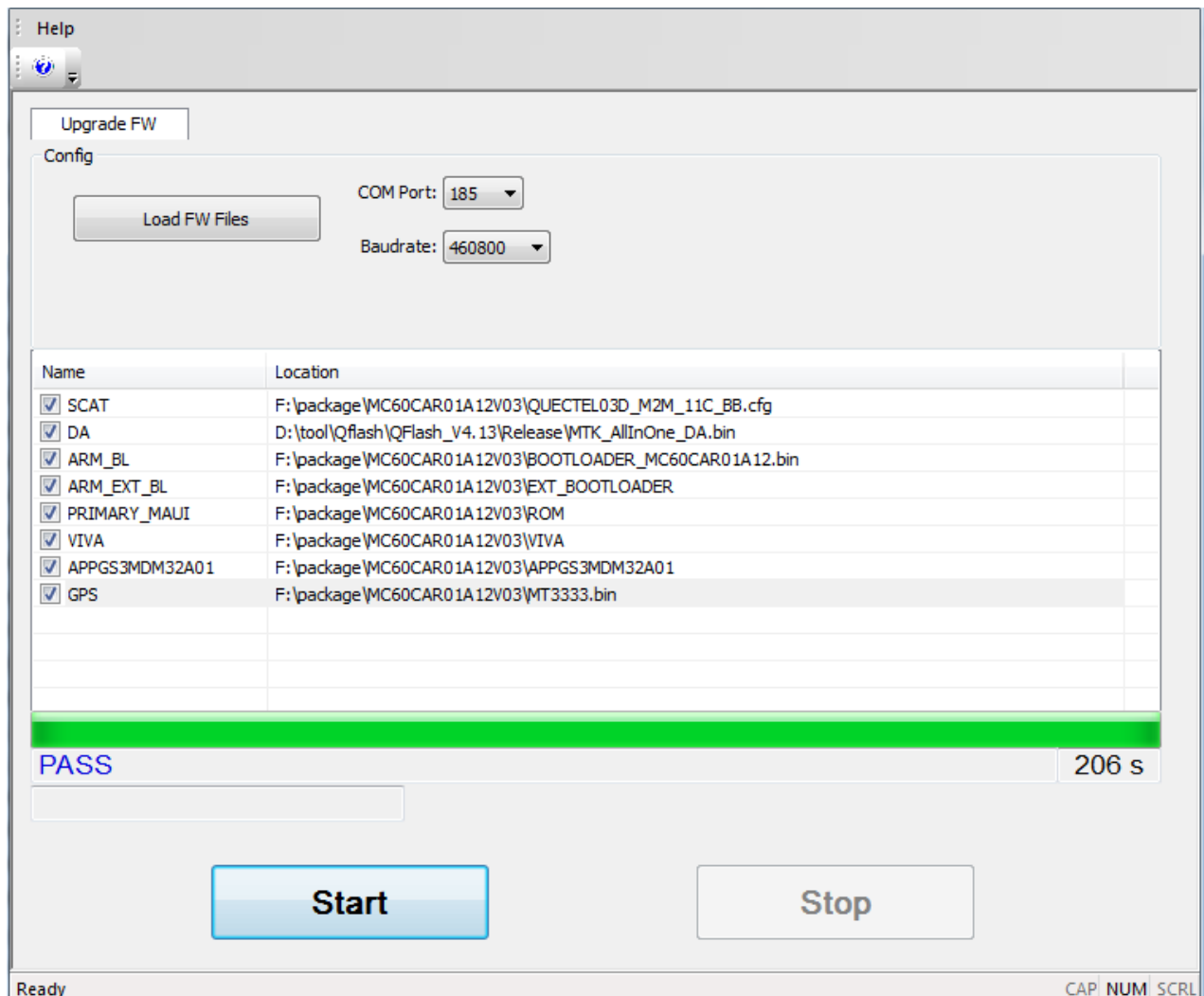


- (6) For the firmware upgrade of BC95-G, BC68 and BC66 modules through TE-B, please wait for the prompt “Reset” (for BC95-G and BC68) or “[INFO]Start connect with target,Please reset DUT...” (for BC66) or “Reset .....” after clicking the “Start” button, and then manually restart the modules.

The log will be printed in the path *QFlash\_V5.5\Release\WB-IOT\1* when the firmware of the BC95-G module is upgraded.

- (7) For BC660K-GL module, before clicking the “Start” button to upgrade, press and hold the BOOT pin during module reset until the module enters the download mode. After clicking “Start”, the module will start upgrade automatically.

**Step 3: “PASS”** will be shown on the interface after the firmware has been successfully upgraded, as shown in the following figure.

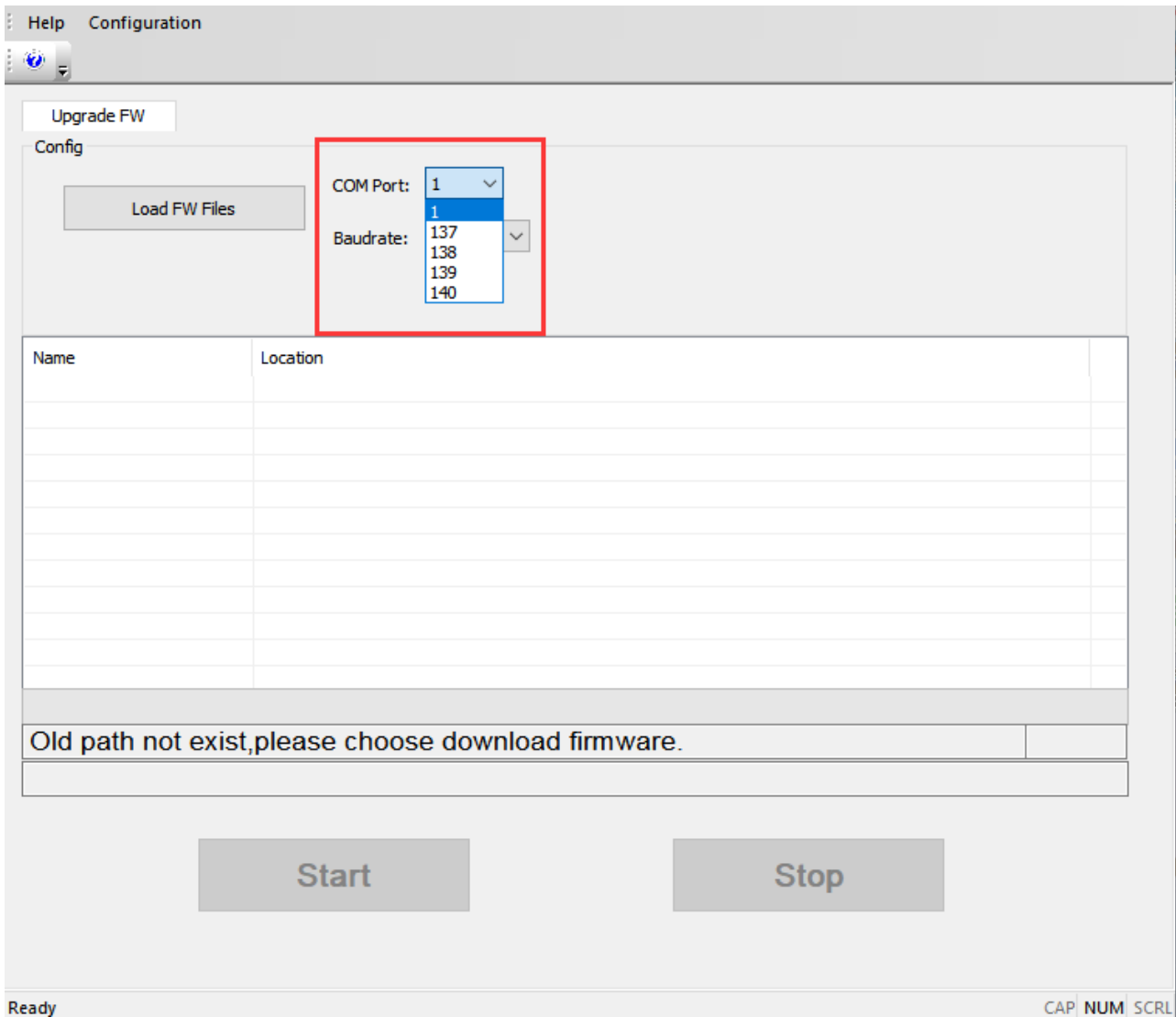


**Figure 22: Firmware Upgraded Successfully**

## 2.4. MBN Function

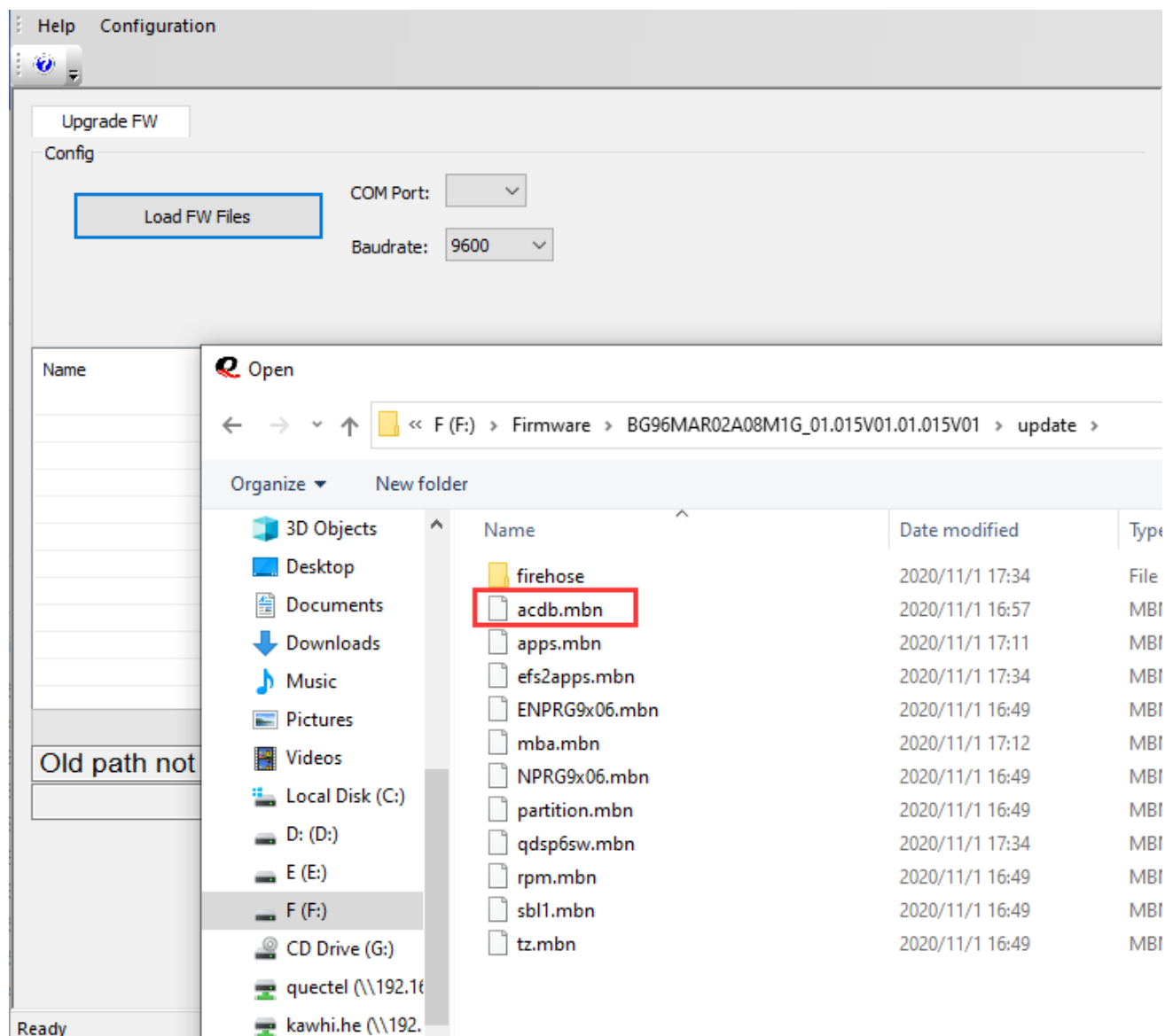
Currently QFlash only supports MBN upgrade function for BG96, the operation procedure being as follows:

**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.



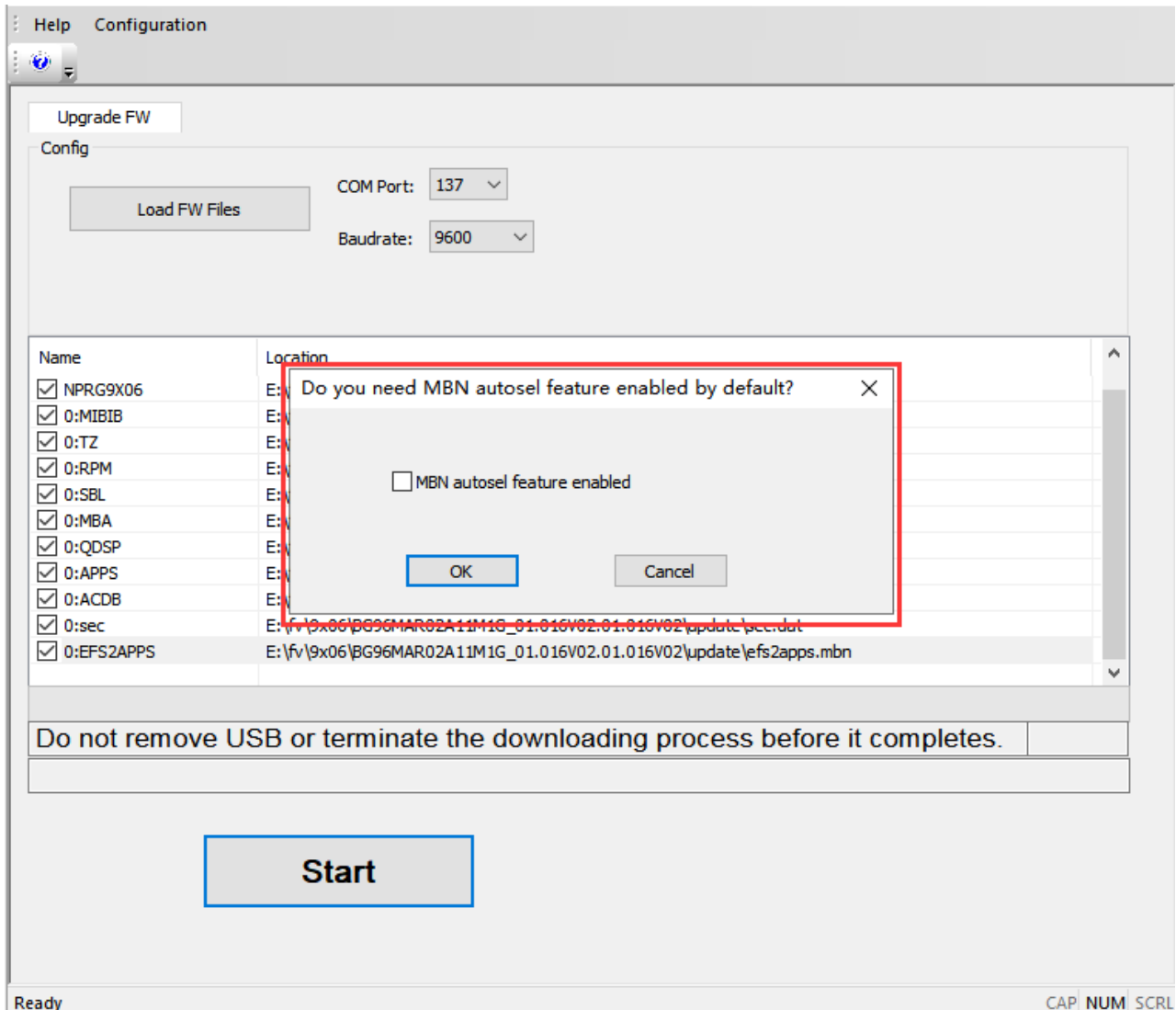
**Figure 23: Select the Serial Port of BG96 Module**

**Step 2:** Click the “Load FW Files” button and select the firmware file with the extension .mbn to download to the module.



**Figure 24: 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.

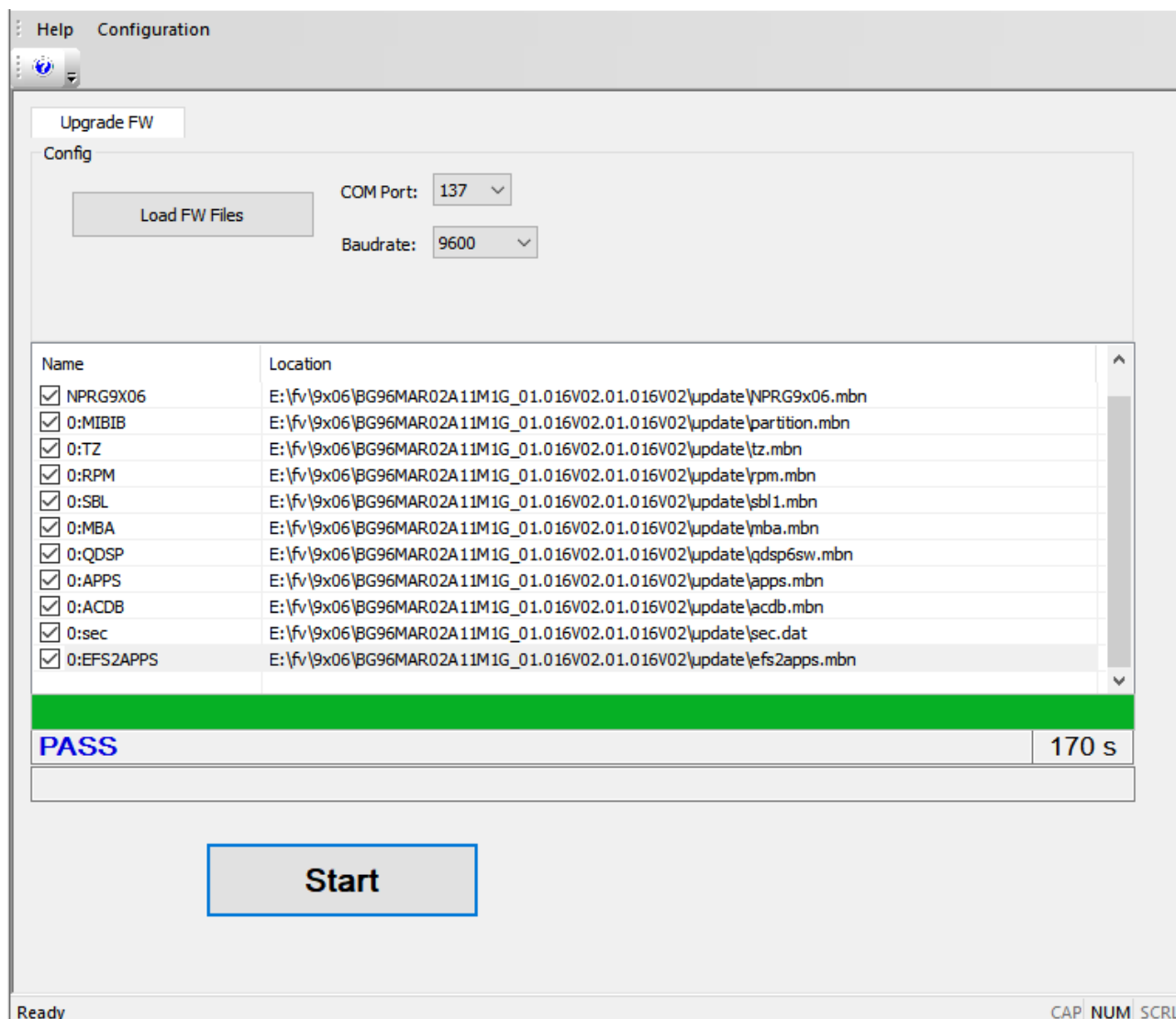


**Figure 25: Select MBN Autosel Function**

**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.

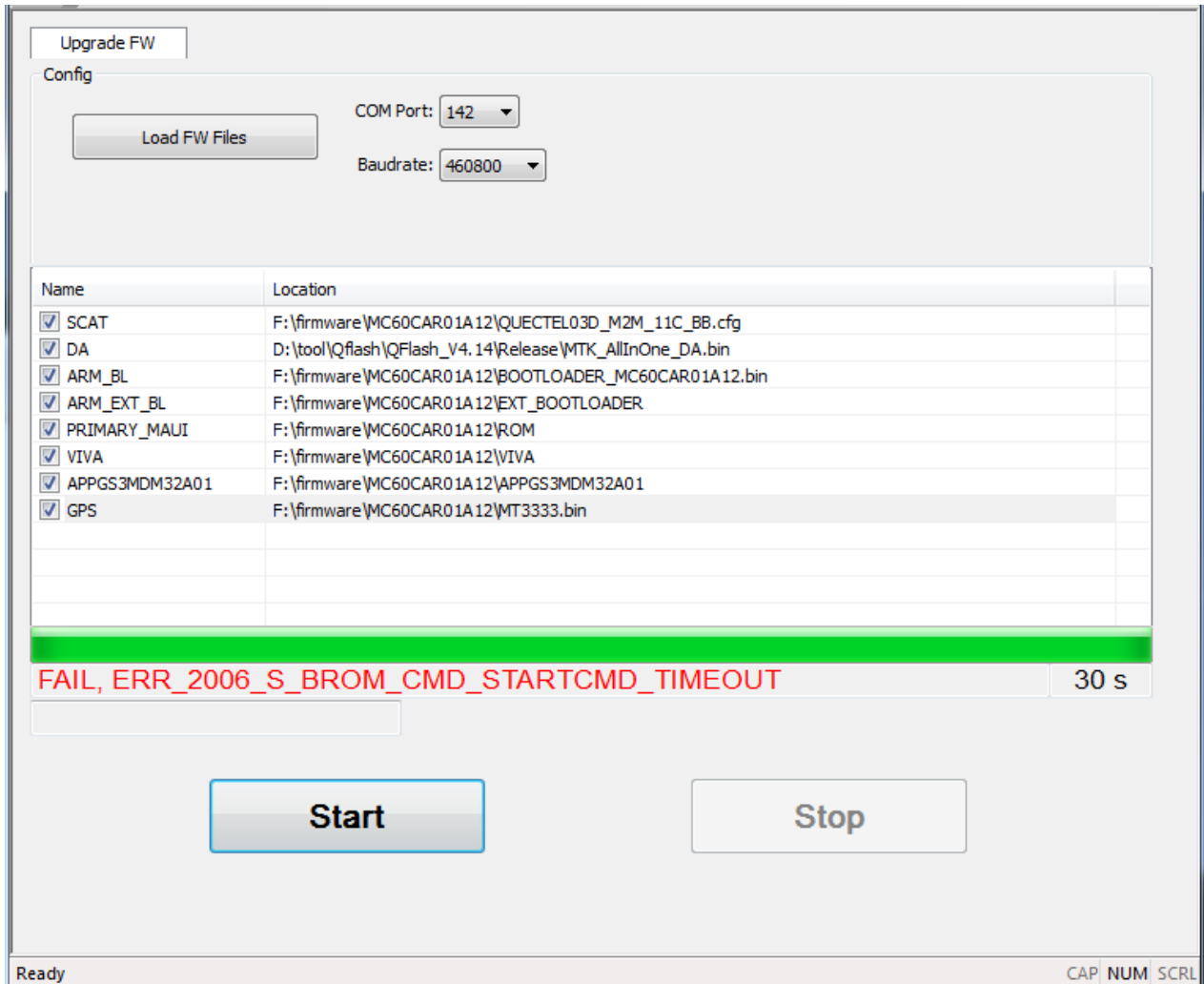


**Figure 26: MBN Files Upgraded Successfully for BG96**

## 2.5. Abnormalities

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

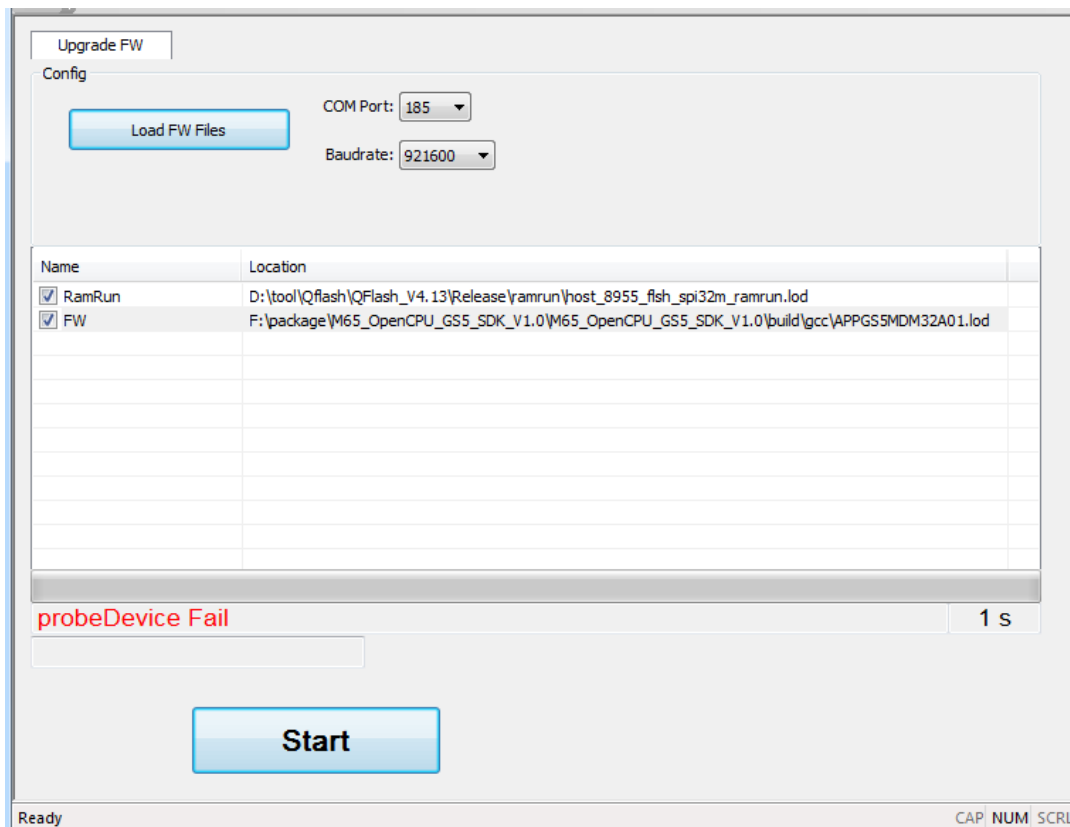
### 2.5.1. Selected a Wrong Serial Port



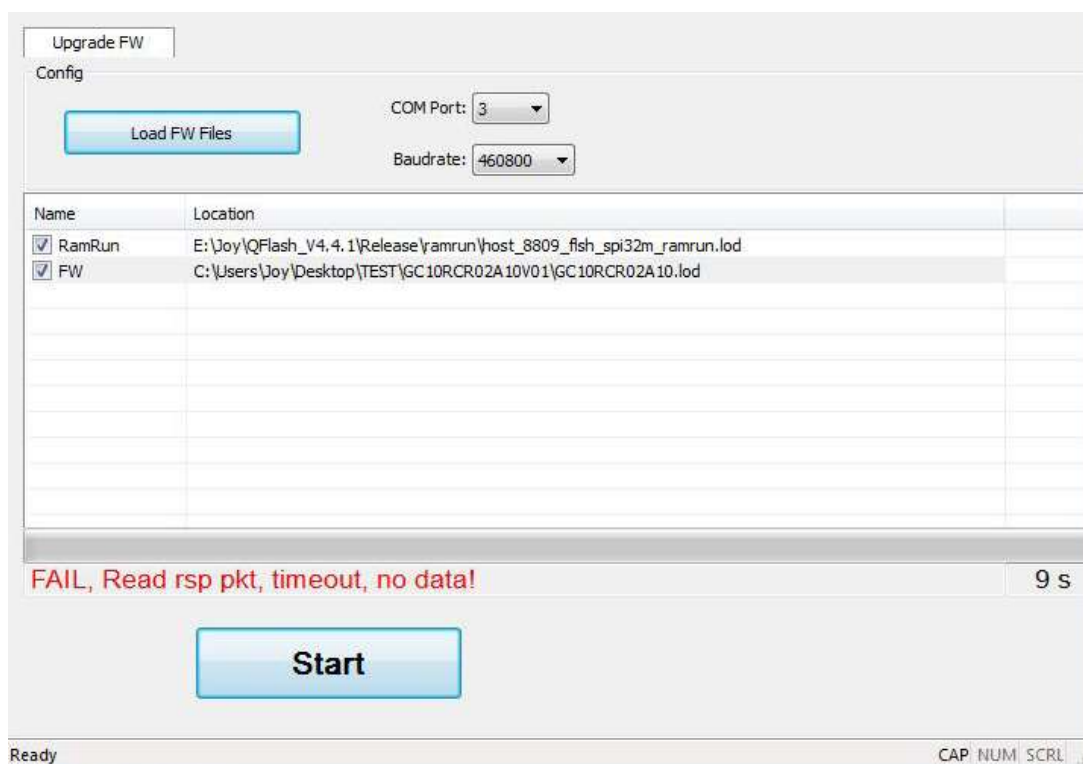
**Figure 27: Connected to a Wrong Serial Port (M10/M66/M72/M80/M85/M95/MC60)**

#### NOTE

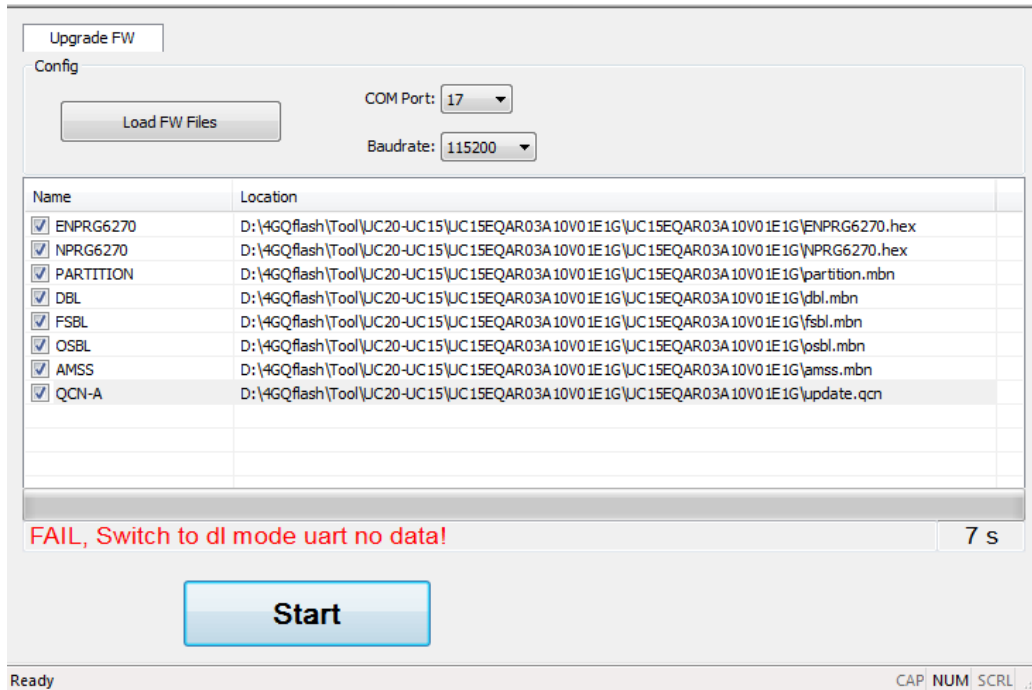
After selecting a correct serial port, if M10, M66, M72, M80, M85, M95 and MC60 modules are not restarted, the error message will be the same as that caused by selecting a wrong serial port.



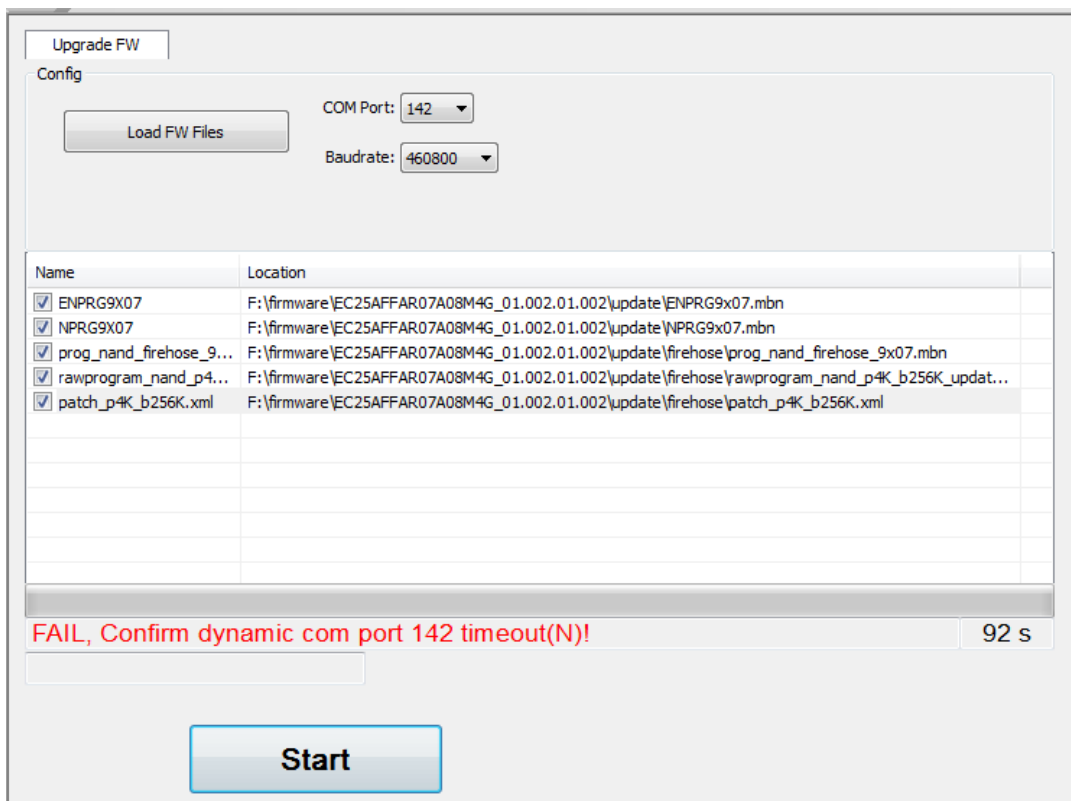
**Figure 28: Connected to a Wrong Serial Port (M65)**



**Figure 29: Connected to a Wrong Serial Port (GCxx)**

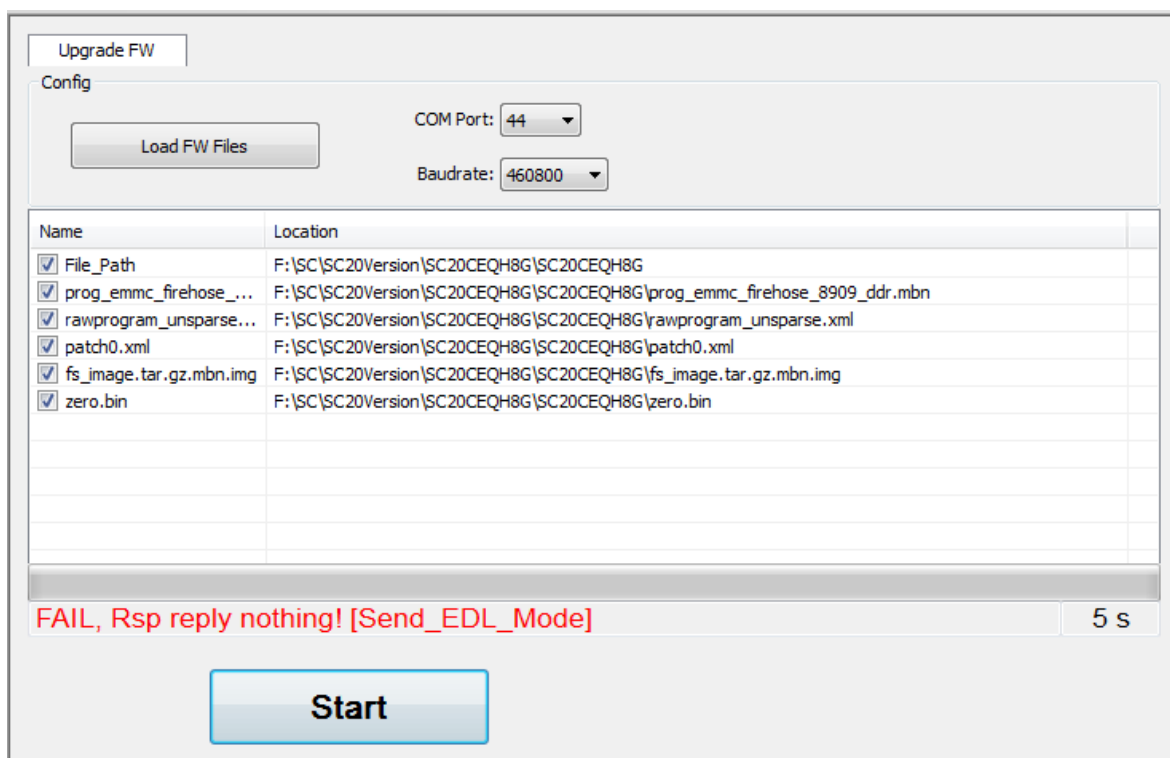


**Figure 30: Connected to a Wrong Serial Port (UCxx)**

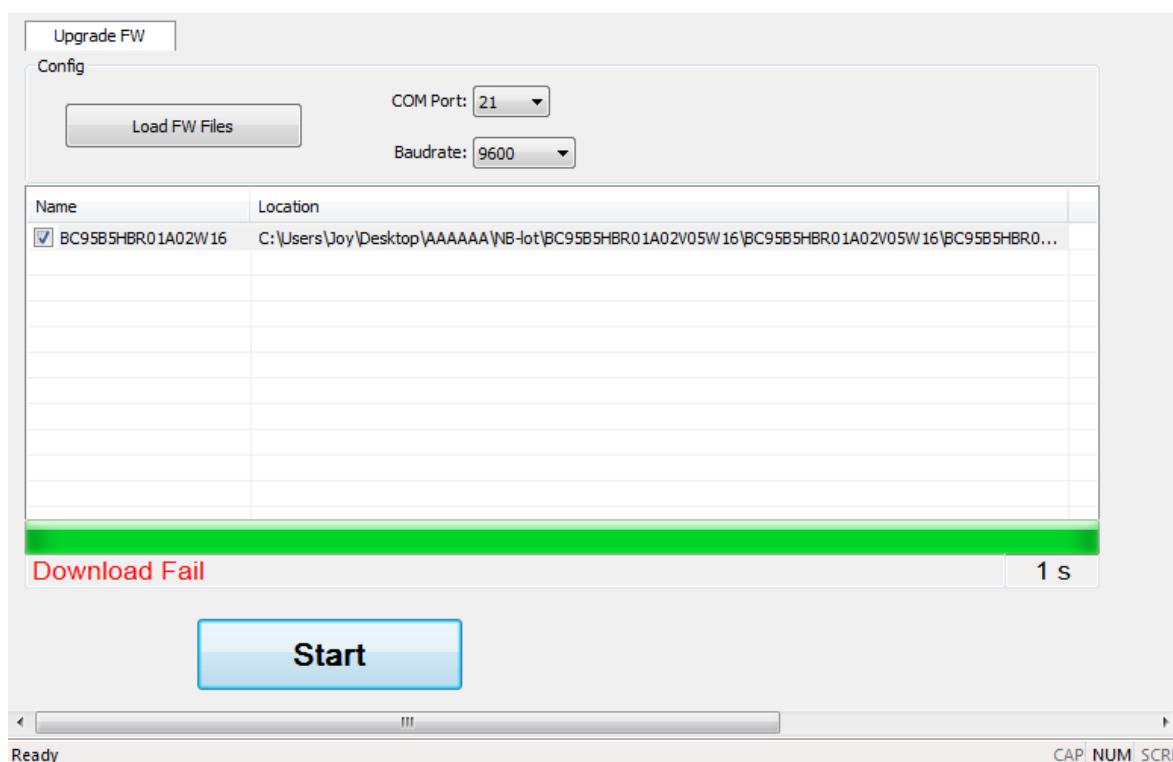


**Figure 31: Connected to a Wrong Serial Port (EC2x/AGxx/EG9x/EG2x-G/Ex06/EM05/BGxx/Ex12/EG18/RG500Q/RM500Q)**





**Figure 32: Connected to a Wrong Serial Port (SCxx)**



**Figure 33: Connected to a Wrong Serial Port (BCxx)**

## 2.5.2. Connected to an Occupied Serial Port

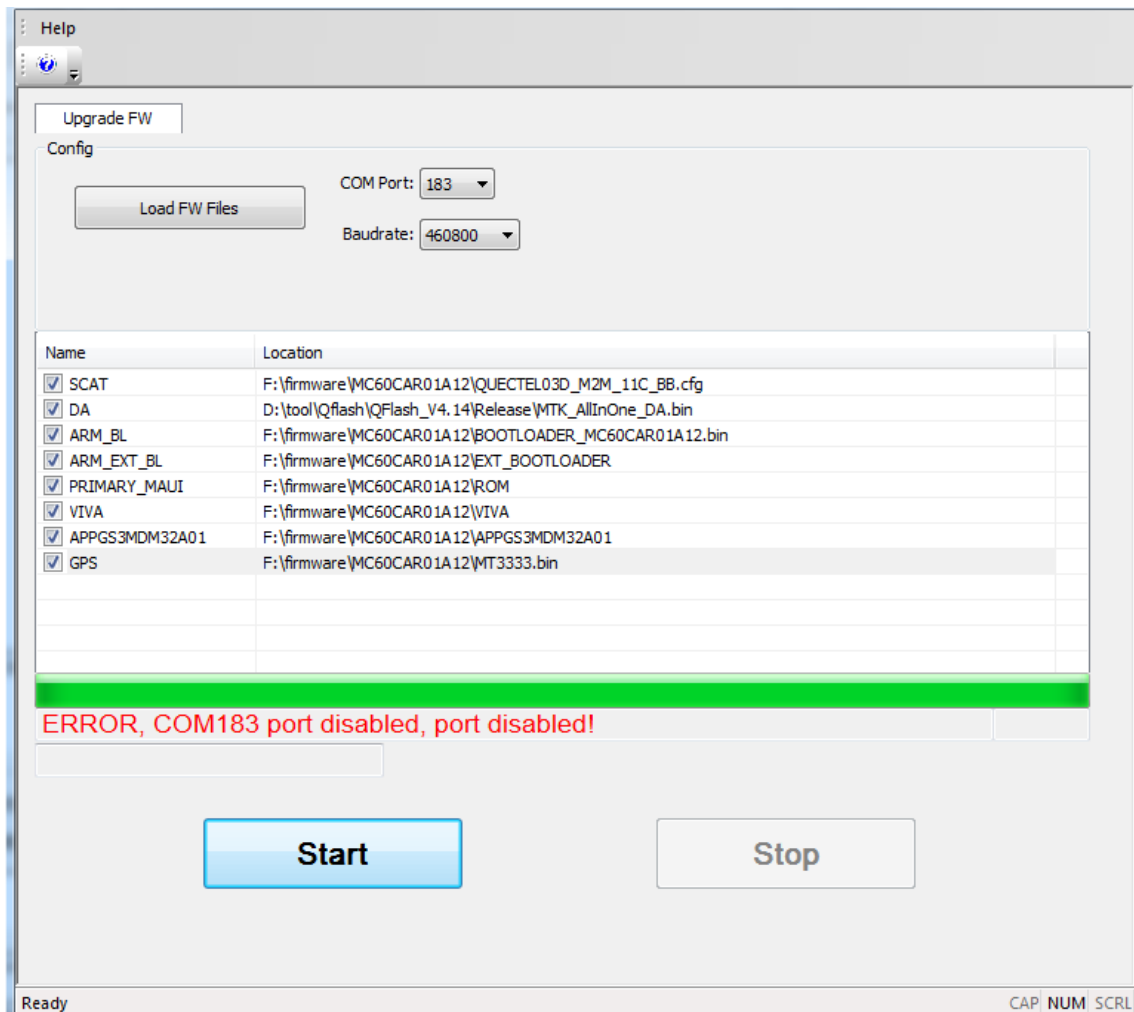
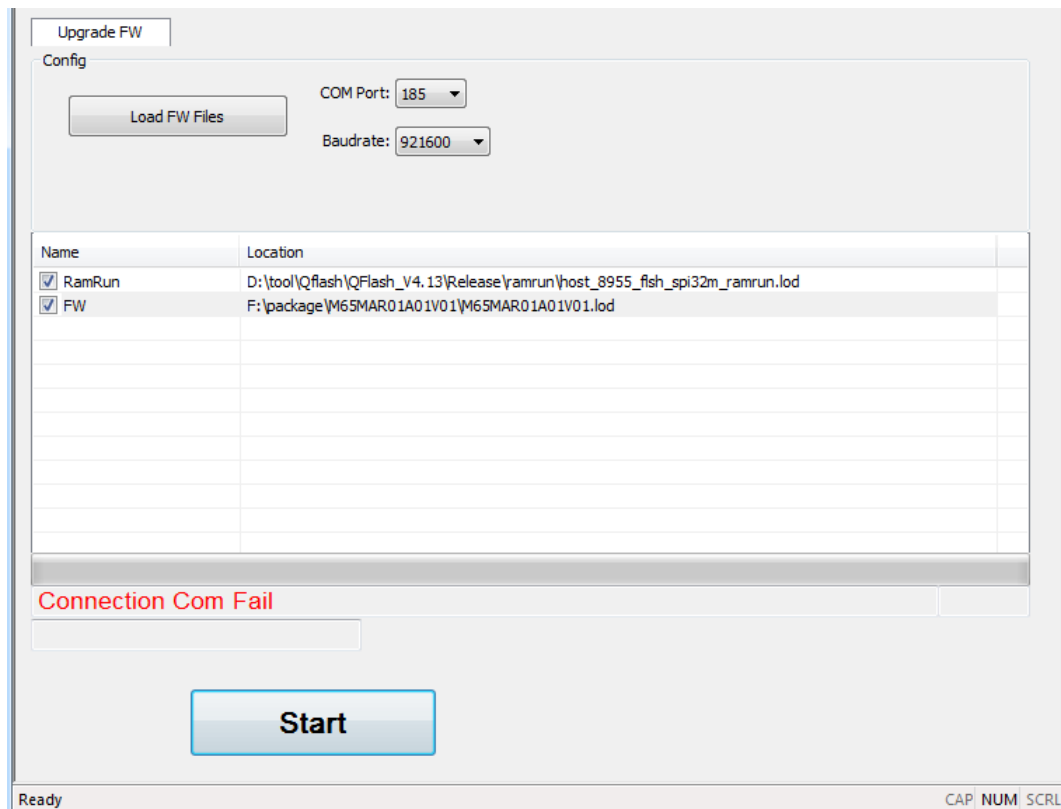
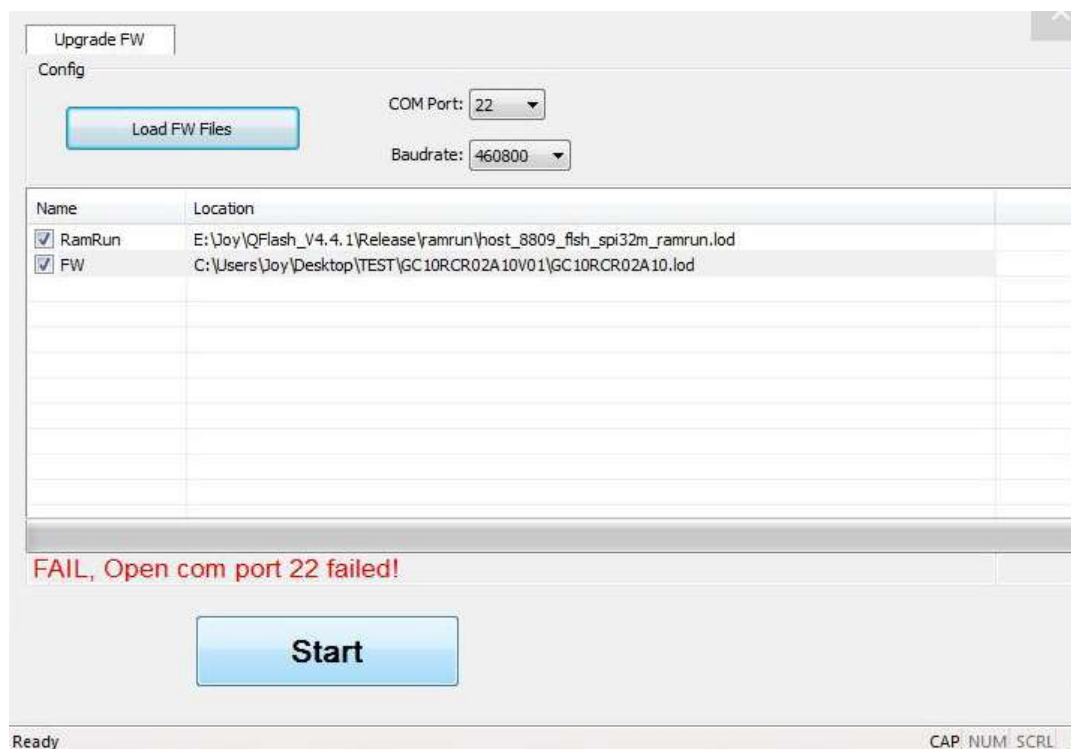


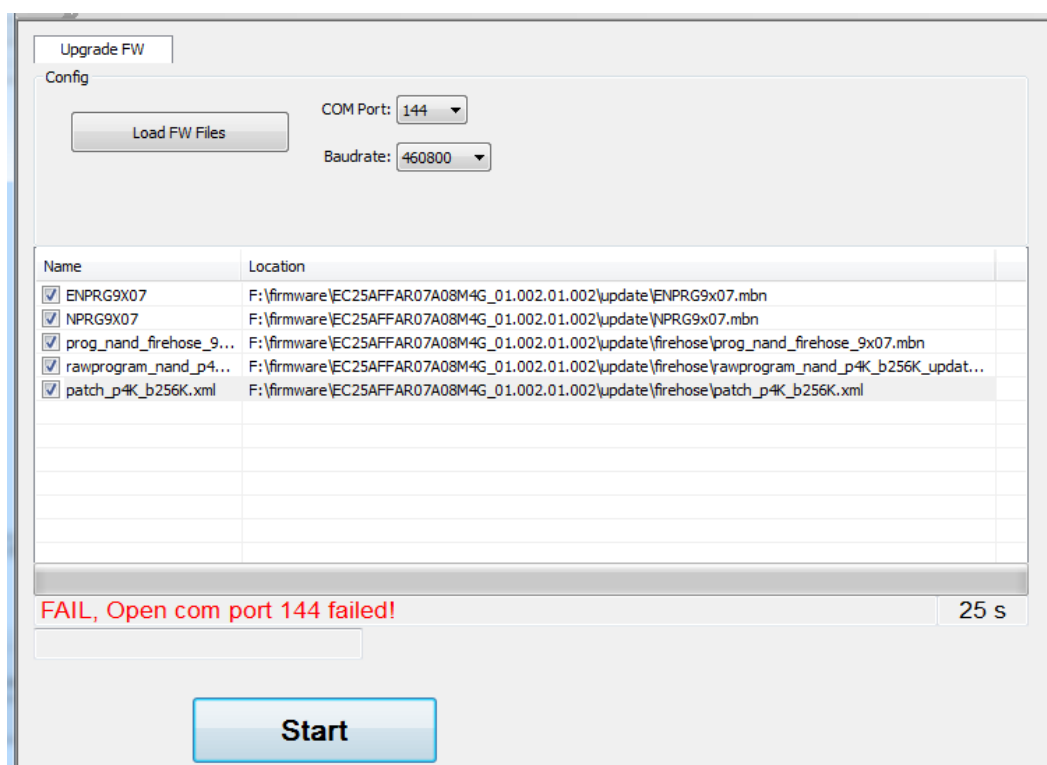
Figure 34: Connected to an Occupied Serial Port (M10/M66/M72/M80/M85/M95/MC60)



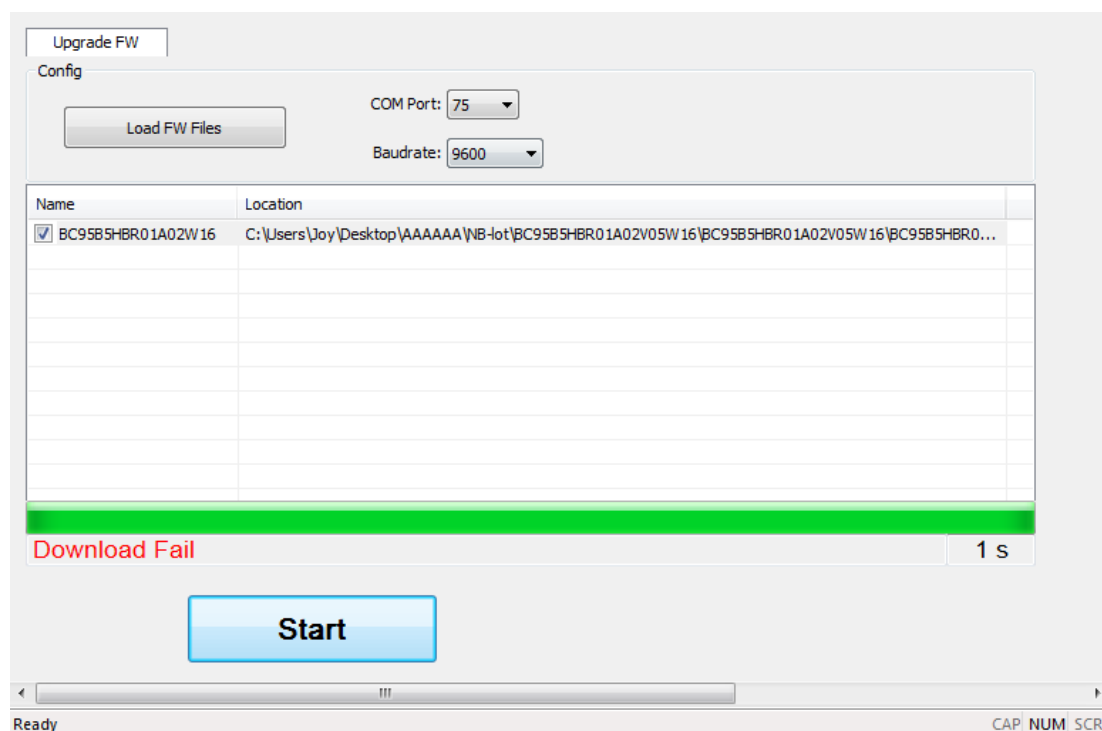
### Figure 35: Connected to an Occupied Serial Port (M65)



**Figure 36: Connected to an Occupied Serial Port (GCxx)**

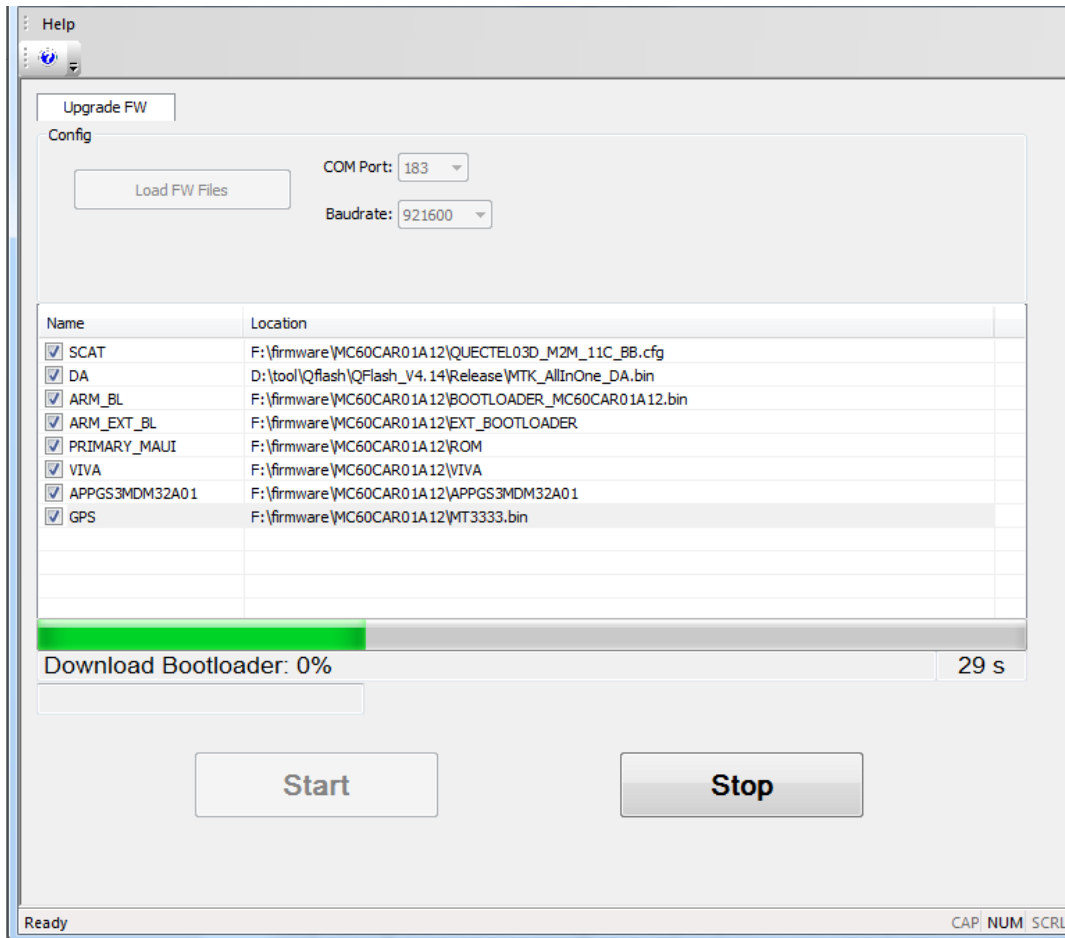


**Figure 37: Connected to an Occupied Serial Port**  
(UCxx/EC2x/EG9x/EG2x-G/Ex06/SCxx/EM05/AGxx/ BGxx/Ex12/EG18/RG500Q/RM500Q)



**Figure 38: Connected to an Occupied Serial Port (BCxx)**

### 2.5.3. Selected an Unsupported Baud Rate



**Figure 39: Selected an Unsupported Baud Rate (M10/M66/M72/M80/M85/M95/MC60)**

#### NOTE

For M10, M66, M72, M80, M85, 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.

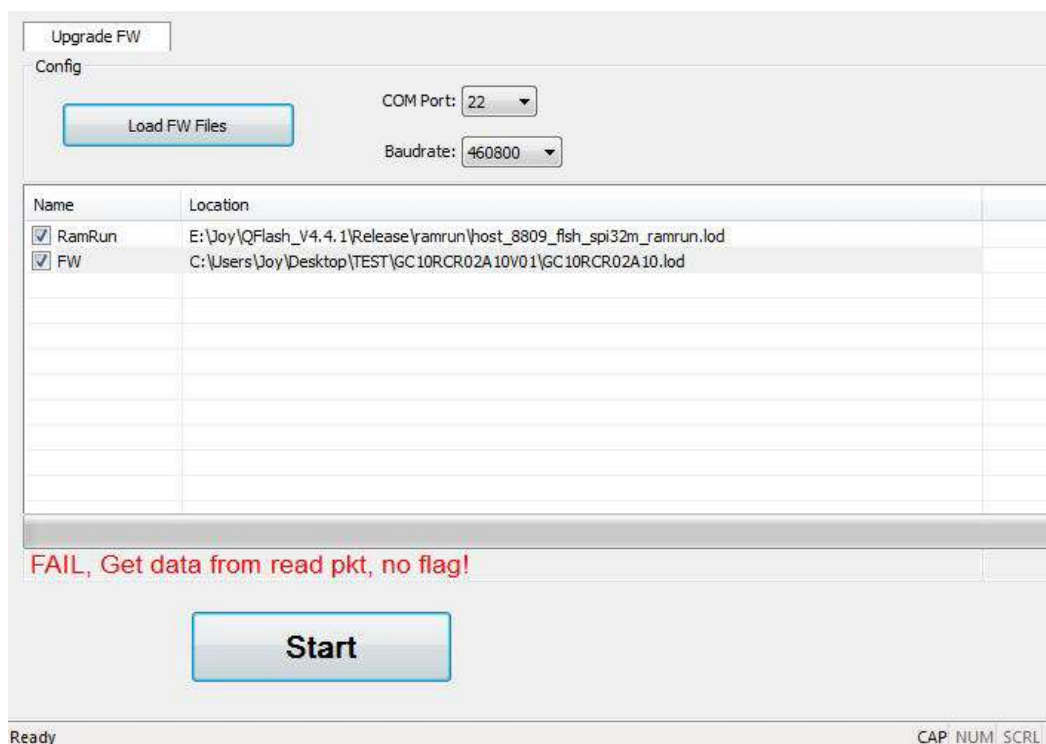


Figure 40: Selected an Unsupported Baud Rate (GCxx)

#### 2.5.4. Selected an Invalid FW File

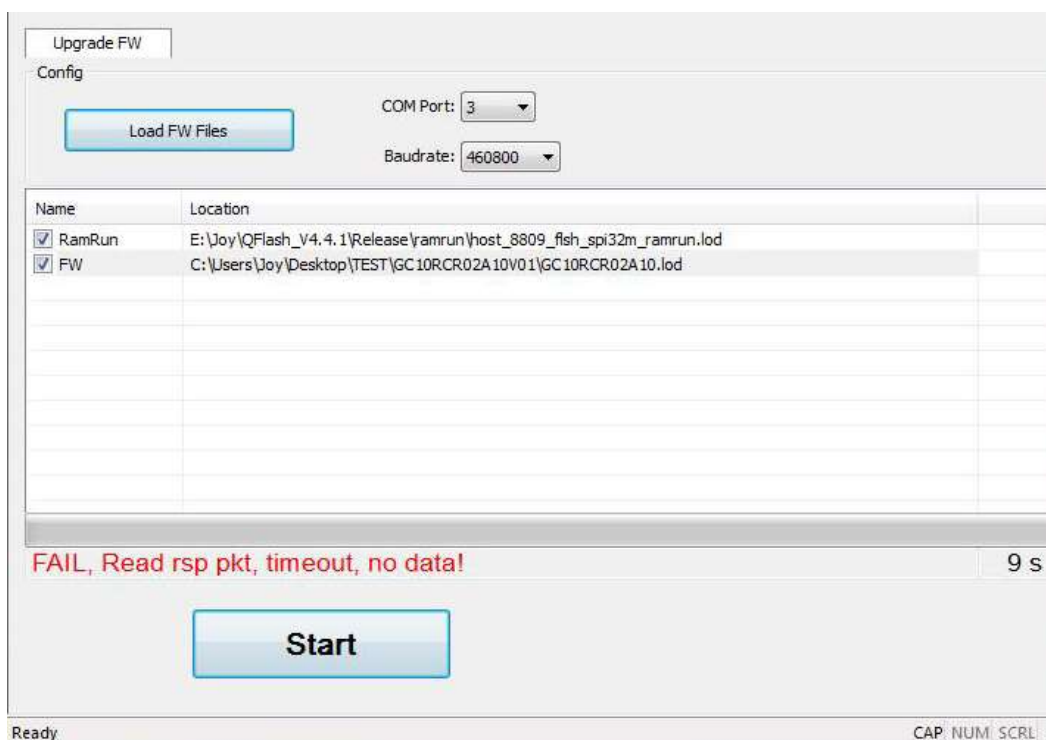
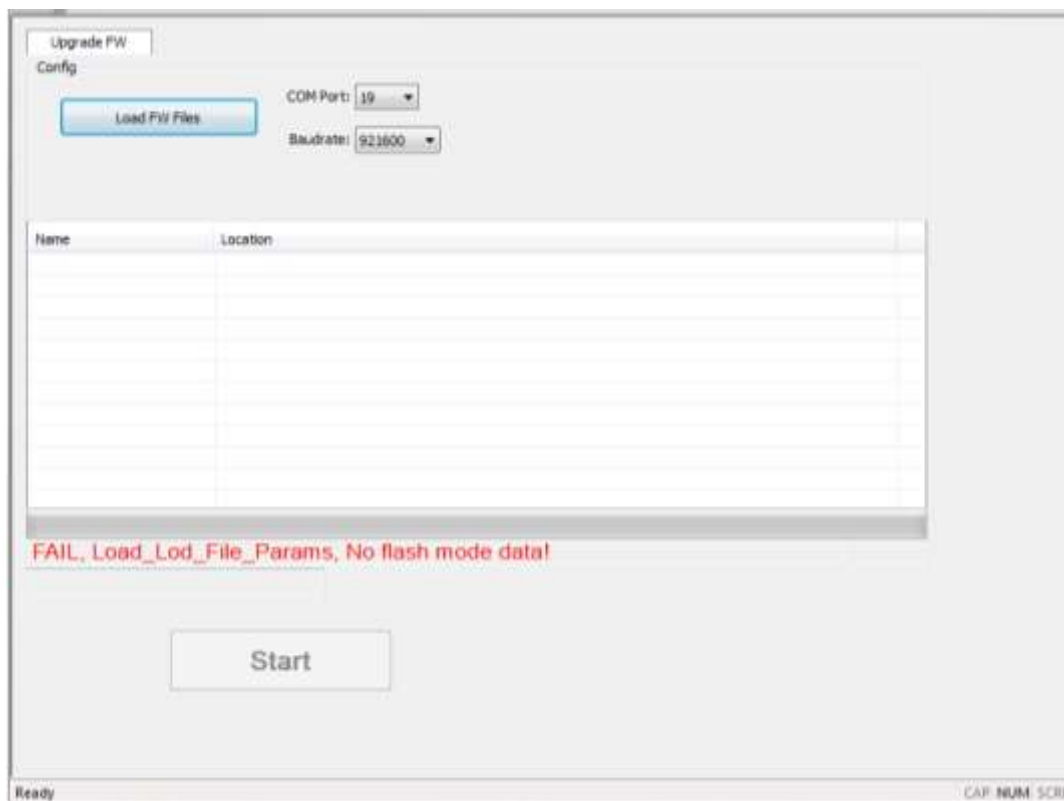
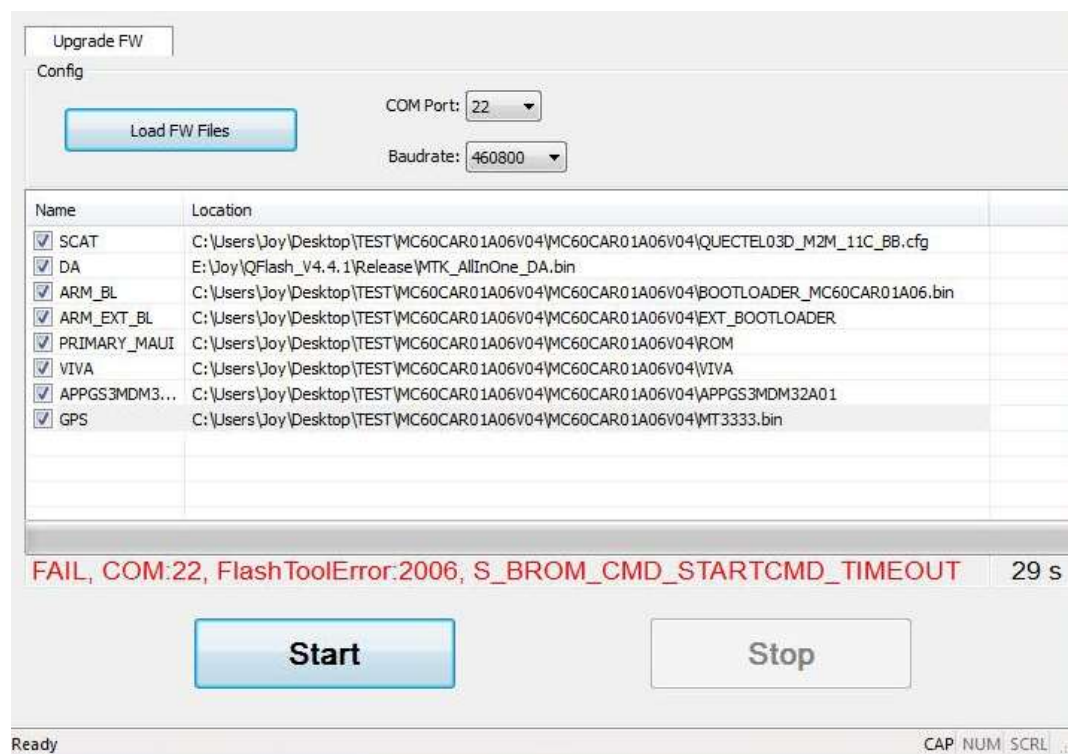


Figure 41: Selected an Invalid FW File (M10/M66/M72/M80/M85/M95/MC60)



**Figure 42: Selected an Invalid FW File (M65)**



**Figure 43: Selected an Invalid FW File (GCxx)**

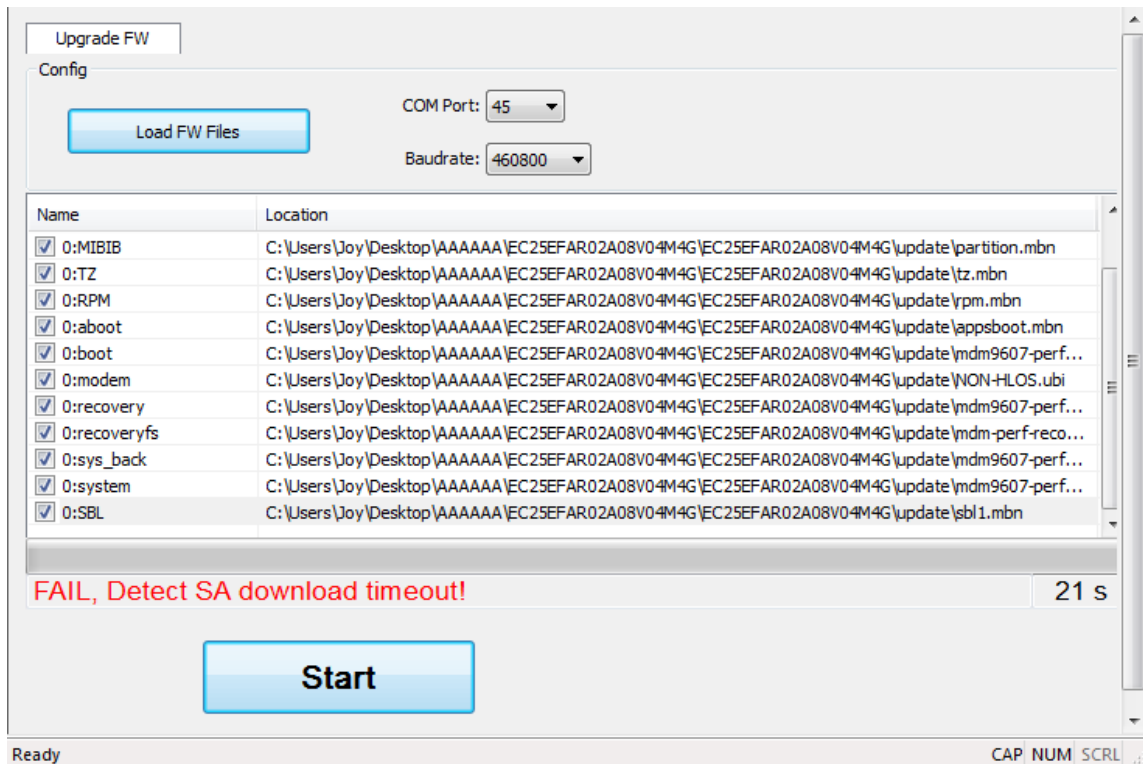


Figure 44: Selected an Invalid FW File (UCxx)

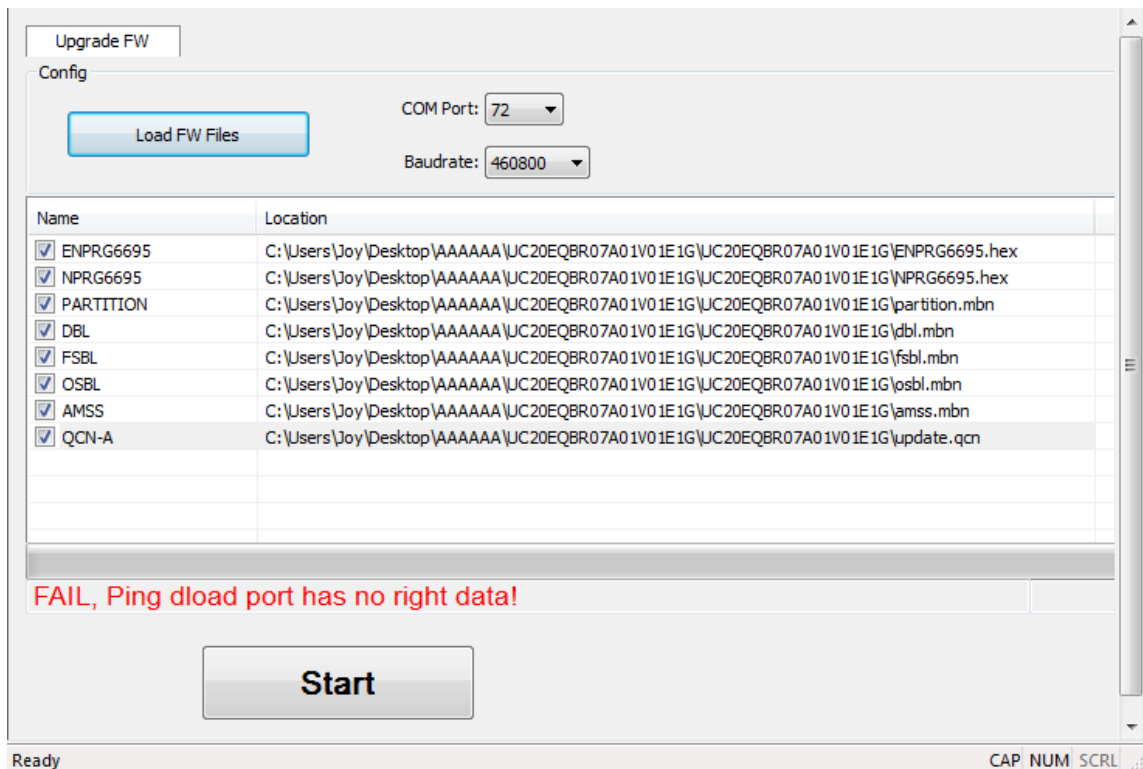


Figure 45: Selected an Invalid FW File (EC2x/EG9x/EM05)



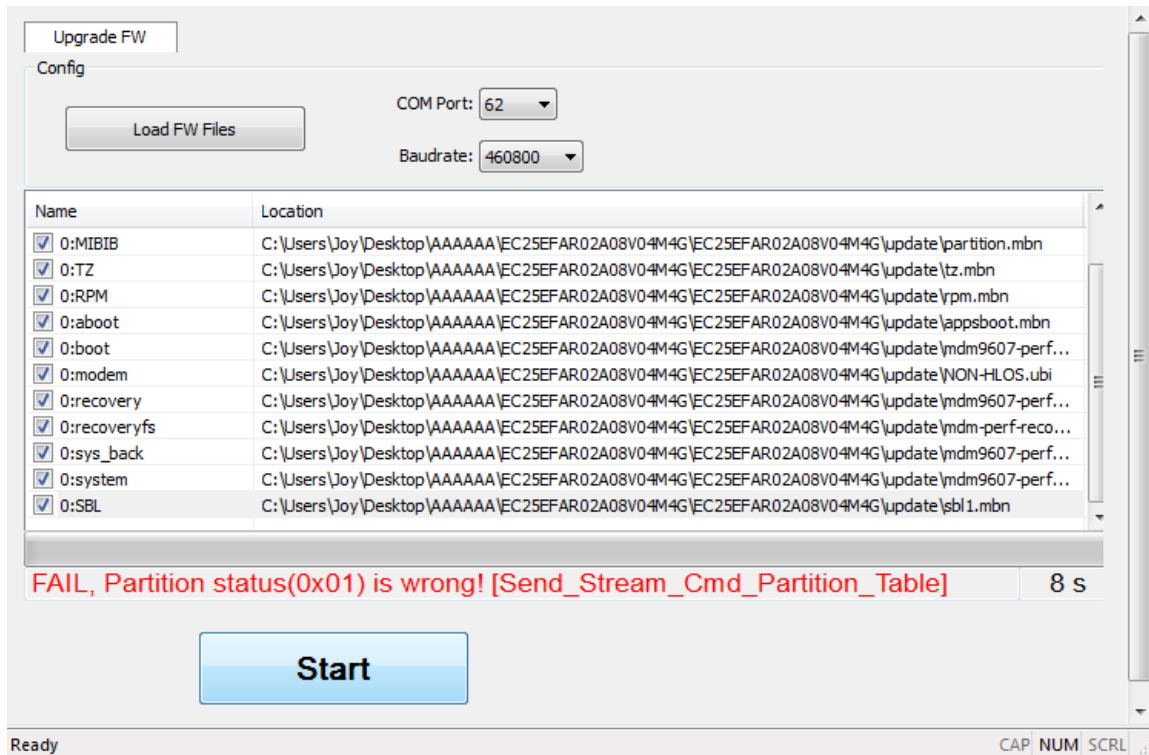


Figure 46: Selected an Invalid FW File (Ex06/AGxx/BG96/Ex12/EG18)

### 2.5.5. Power Supply is Abnormal

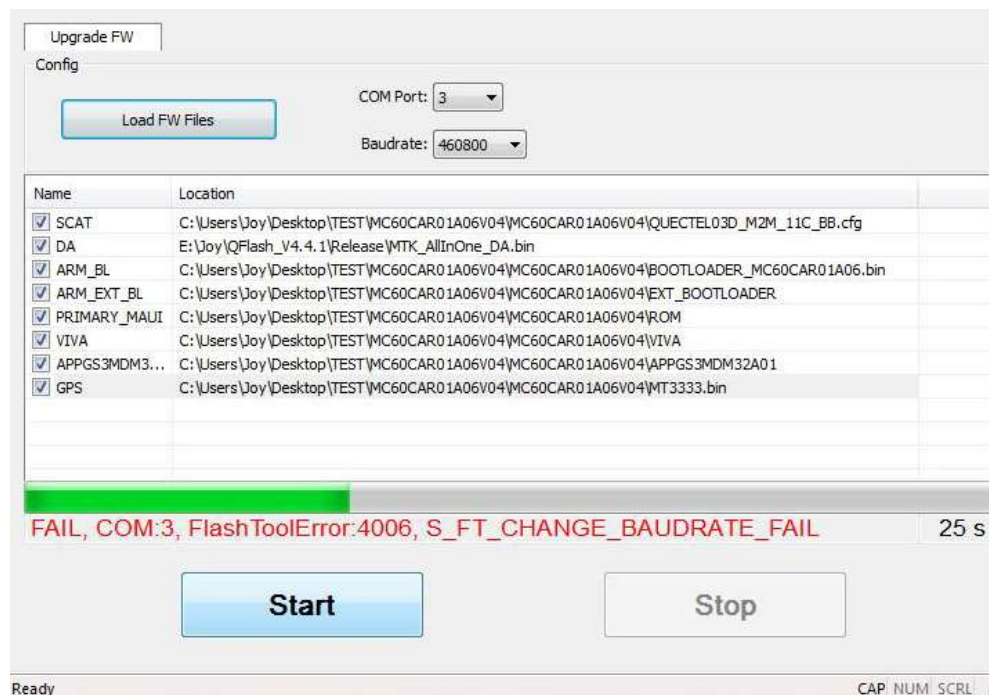
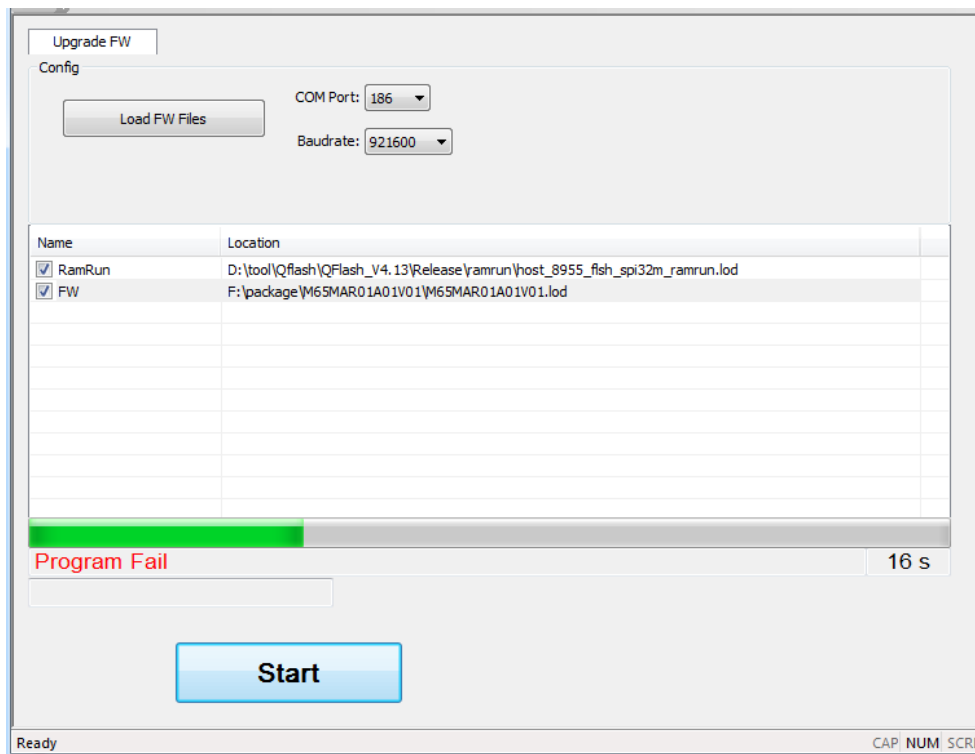
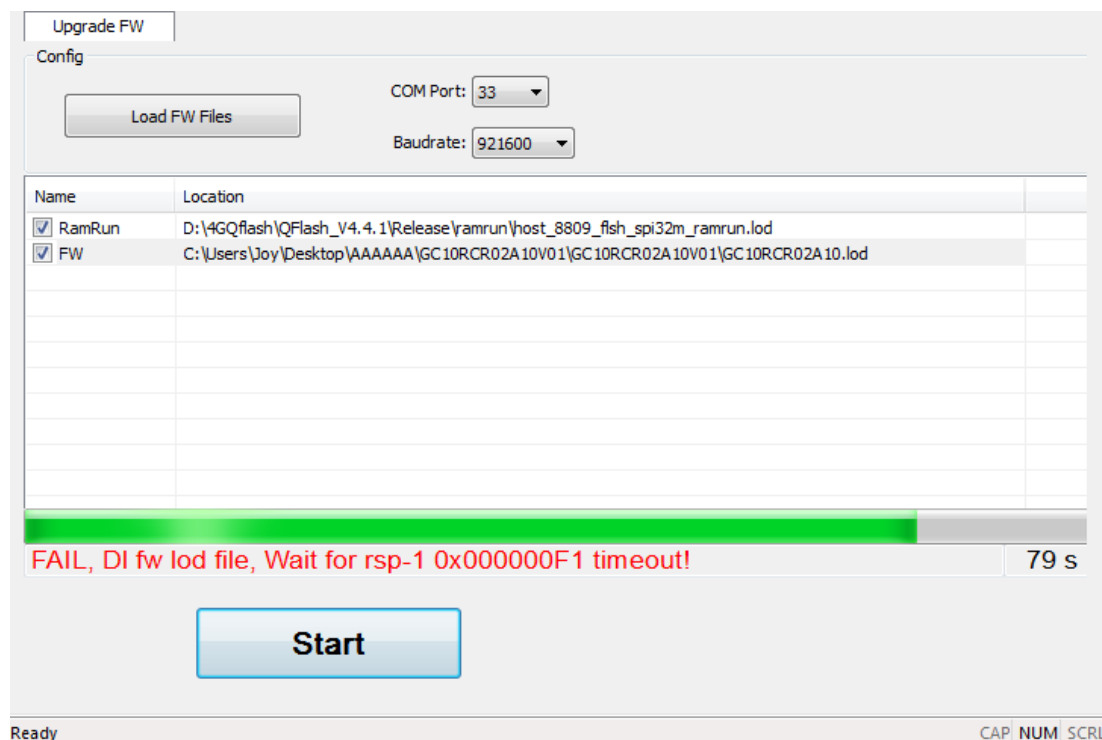


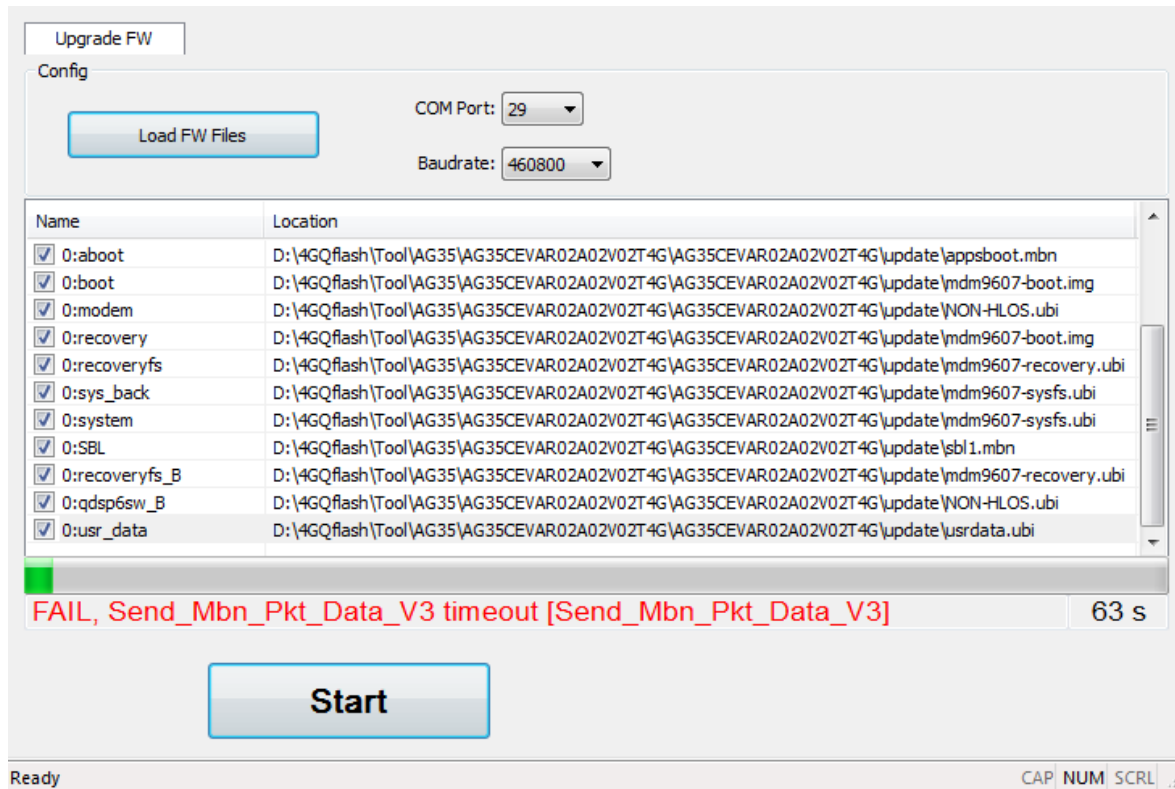
Figure 47: Abnormal Power Supply (M10/M66/M72/M80/M85/M95/MC60)



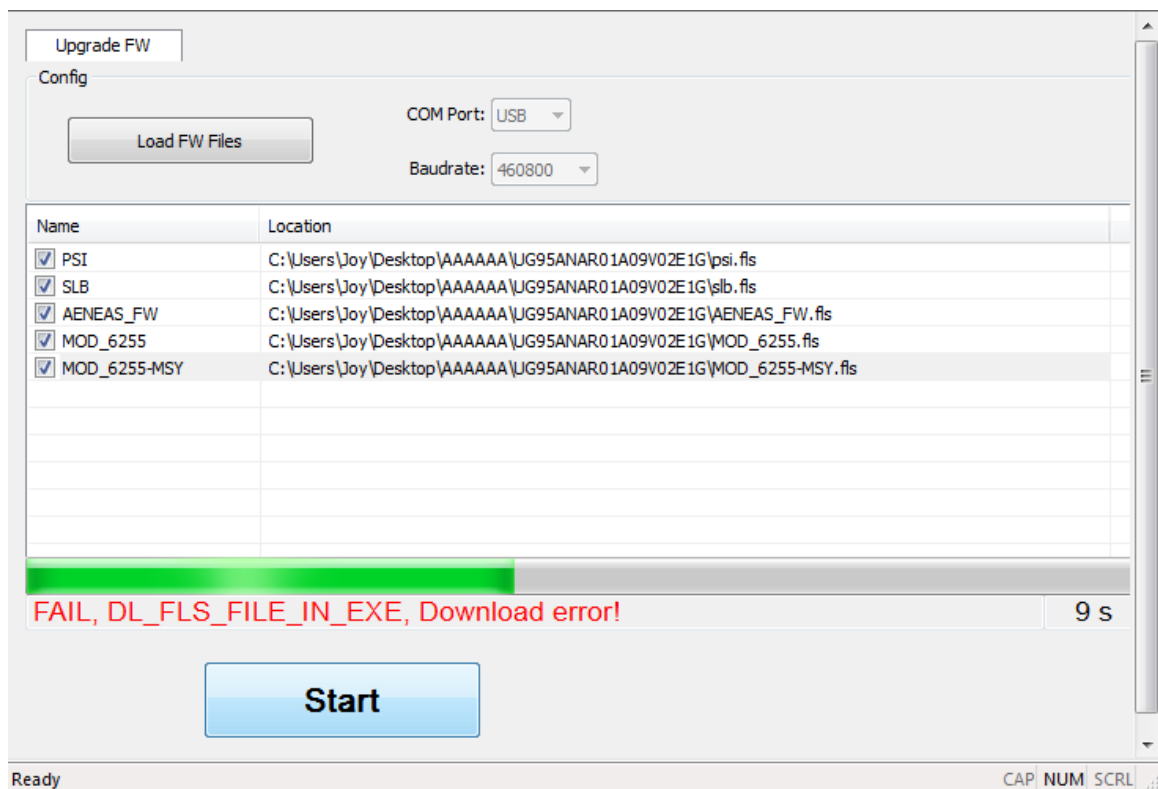
**Figure 48: Abnormal Power Supply (M65)**



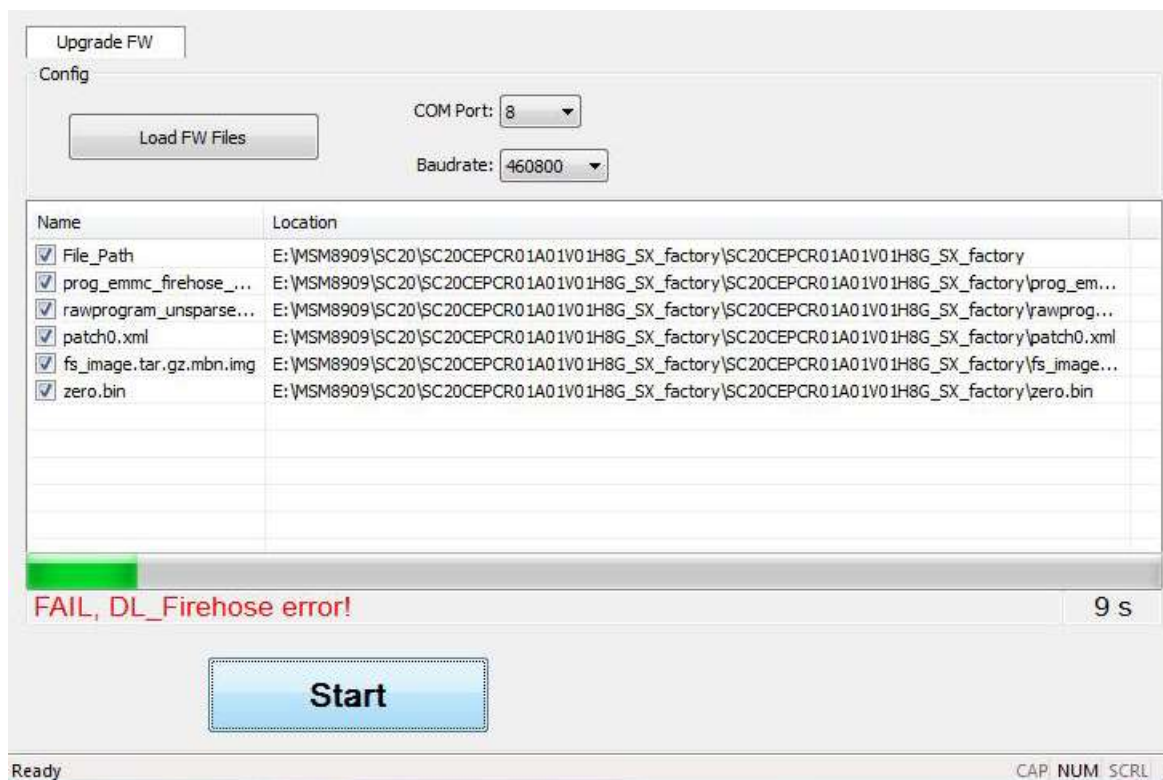
**Figure 49: Abnormal Power Supply (GCxx)**



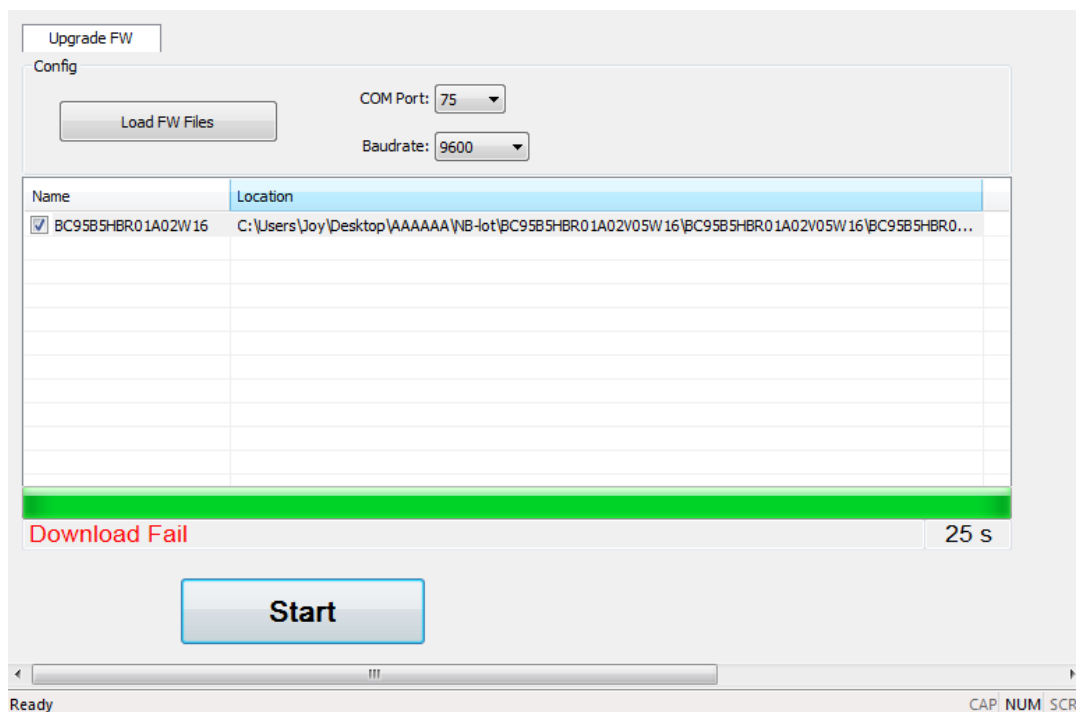
**Figure 50: Abnormal Power Supply (UCxx/EC2x/EG9x/EG2x-G/Ex06/EM05/AGxx/BGxx/Ex12/EG18/RG500Q/RM500Q)**



**Figure 51: Abnormal Power Supply (UGxx)**



**Figure 52: Abnormal Power Supply (SCxx)**



**Figure 53: Abnormal Power Supply (BCxx)**

## 2.5.6. USB to RS-232 Converter Cable is Abnormal

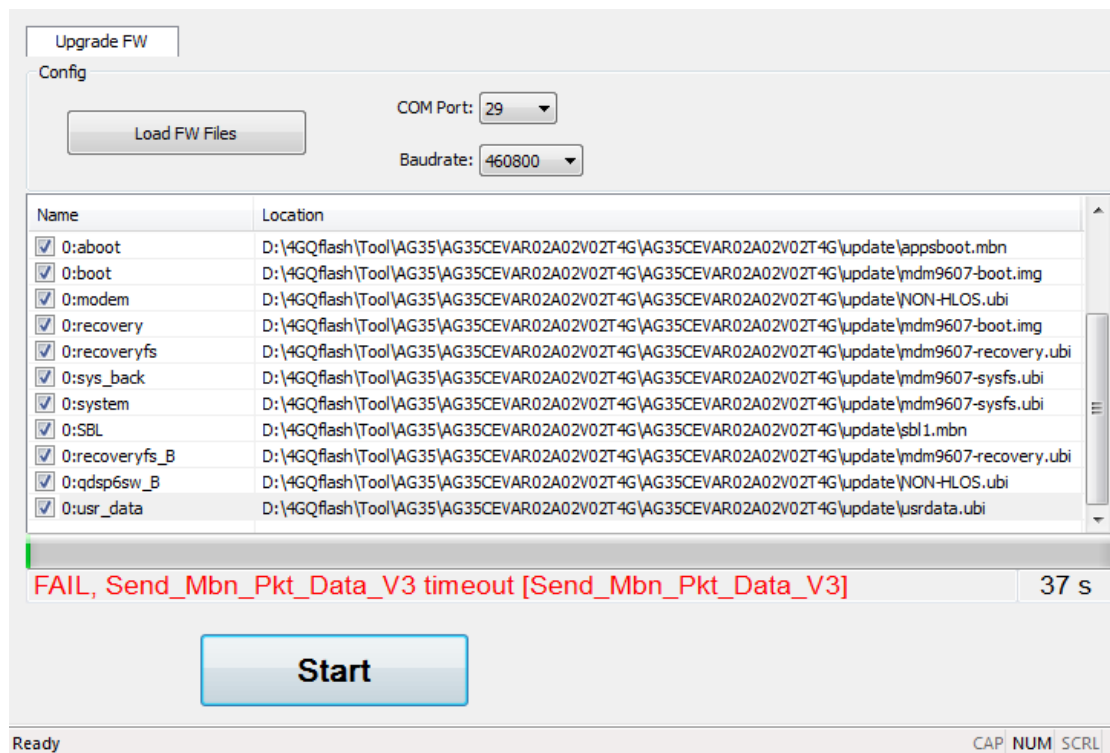


Figure 54: Abnormal USB to RS-232 Converter Cable