

# QFlash User Guide

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# About the Document

## History

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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
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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

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1.18	2016-03-24	James CAI	Updated QFlash Version to 3.5
1.19	2016-06-16	Sophie ZHU	1. Added the ways to upgrade ECXX module 2. Updated QFlash Version to 3.6
1.20	2016-09-21	Dylan LIU	1. Added the way to load APP firmware 2. Updated QFlash Version to 3.7
1.21	2016-12-06	Abby WU	1. Added the way to upgrade SCXX module 2. Updated QFlash Version to 4.0

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# 1 Introduction

## 1.1. OS and Version

This document mainly introduces how to upgrade firmware with “QFlash” upgrade tool supplied by Quectel. The tool can run in PC without any installations if the OS is among the ones listed below:

- Windows XP
- Windows 7
- Windows 8
- Windows 10

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

## 1.2. About QFlash Tool

“QFlash” developed by Quectel is shown as below.

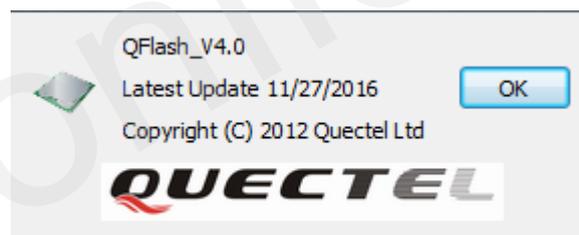
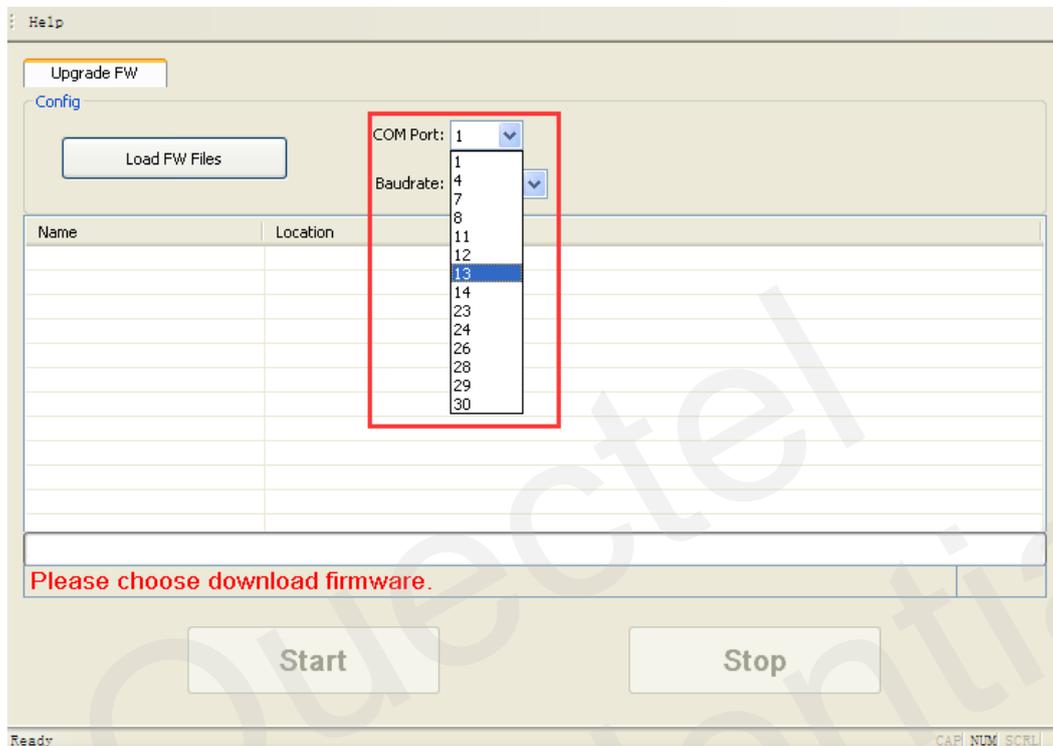


Figure 1: About the Tool



### 2.1.1. Serial Port

Click the “**COM Port**” dropdown list to select the COM port which is used to upgrade the firmware. For GSM/GPRS modules, it is the Main UART to be connected with the module, as shown in the following figure.



**Figure 3: Select the Correct Serial Port for GSM/GPRS Modules**

For UG95/UG96 module, it is the USB port to be used for firmware upgrade, and it can be selected automatically. While file setting is finished, the “**COM Port**” dropdown list will display “USB” in gray. After the module is restarted and ready to upgrade, the tool can recognize the USB port. The interface is as shown in the following figure.

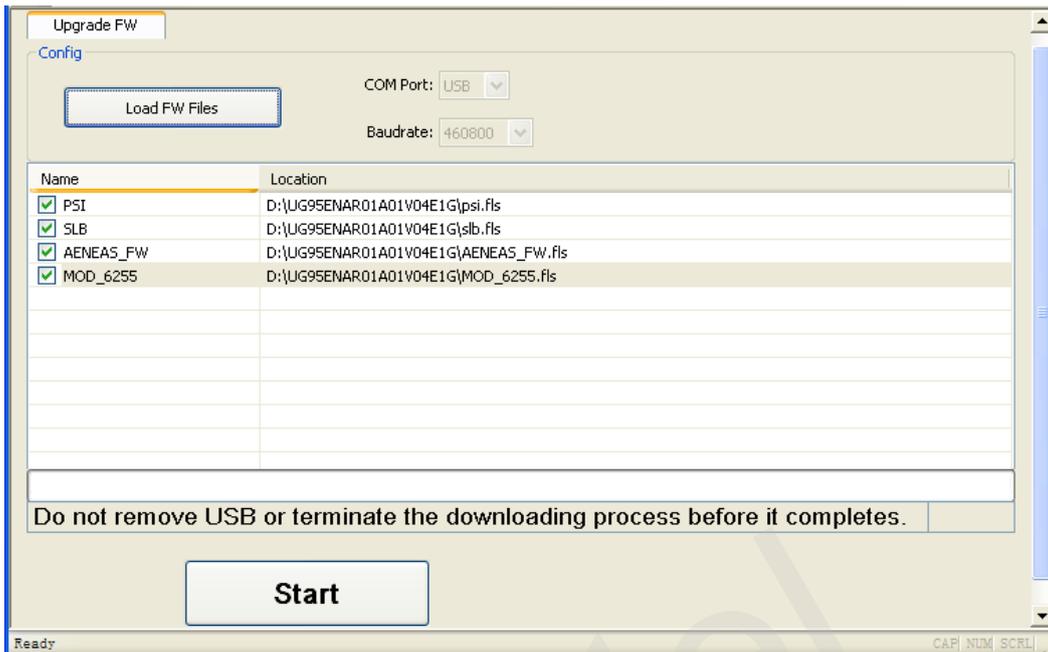


Figure 4: No Need to Select COM Port for UG95/UG96 Module

For UC20 module, USB DM port can be used for firmware upgrade. Click the “COM Port” dropdown list and select the USB DM port for upgrade, as shown in the following figure.

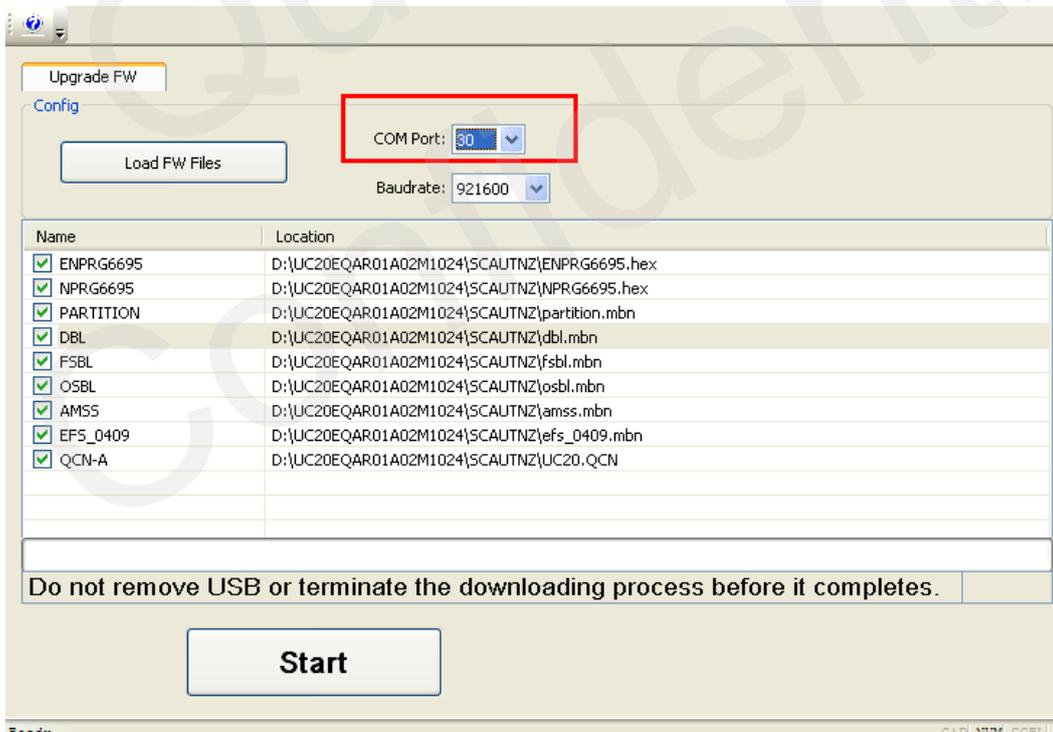


Figure 5: Select the USB DM Port for UC20 Module

For UC15 module, USB DM port can be used for firmware upgrade. Click the “COM Port” dropdown list and select the USB DM port for upgrade, as shown in the following figure.

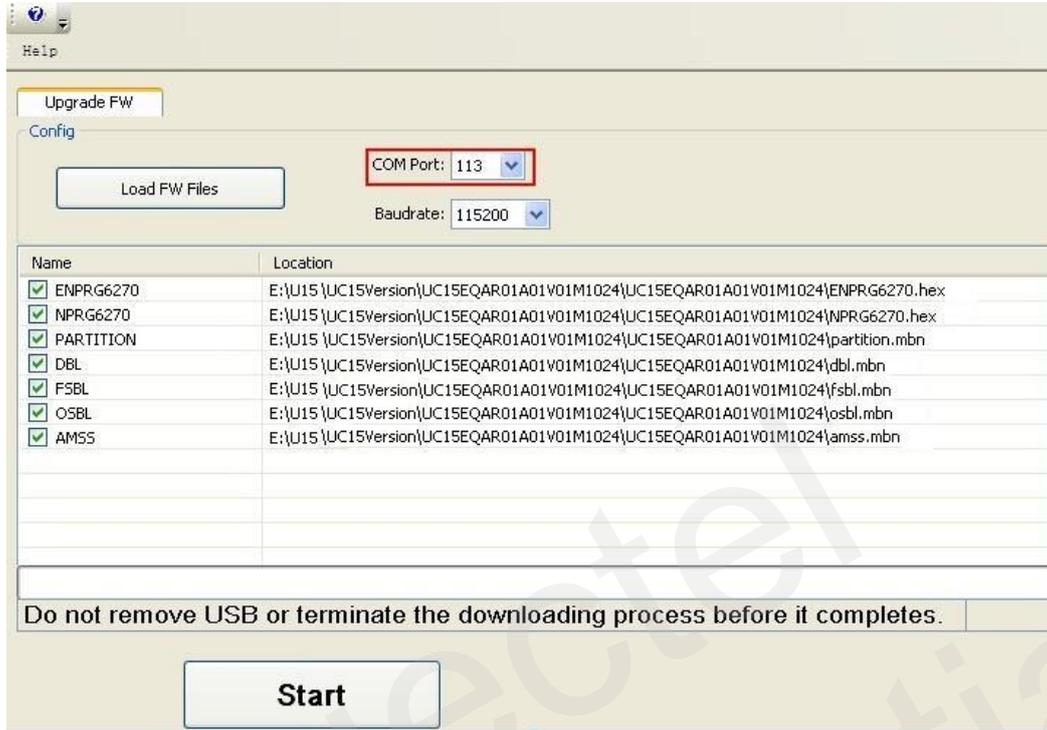


Figure 6: Select the USB DM Port for UC15 Module

For ECXX module, USB DM port can be used for firmware upgrade. Click the “COM Port” dropdown list and select the USB DM port for upgrade, as shown in the following figure.

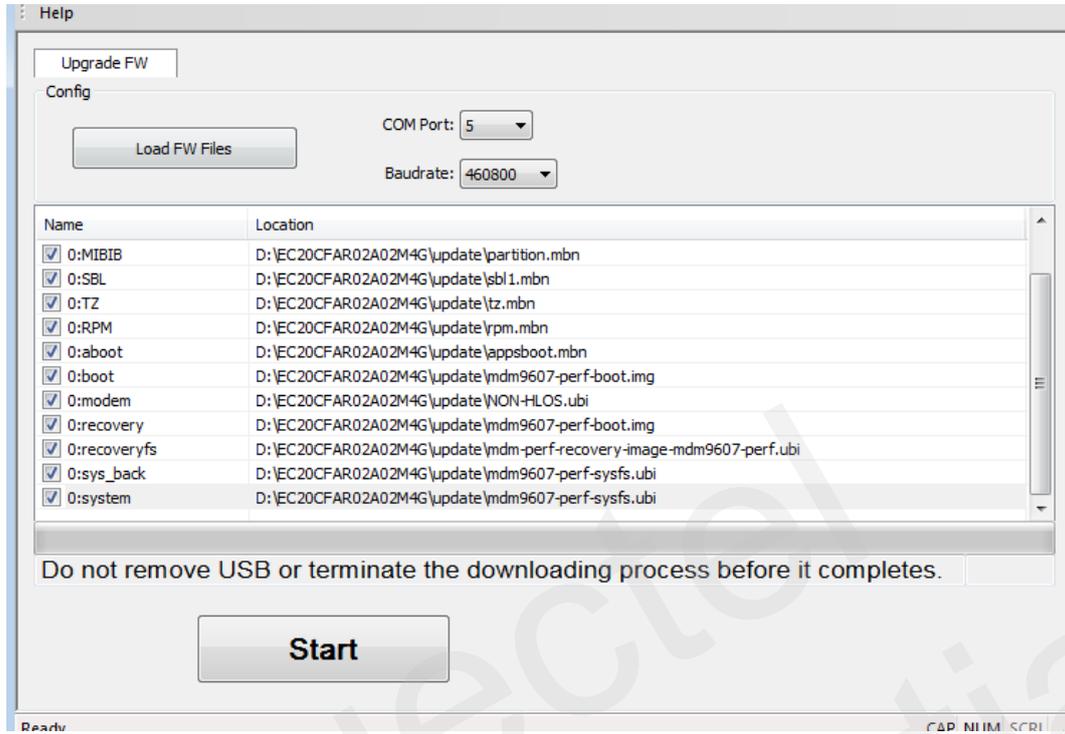


Figure 7: Select the USB DM Port for ECXX Module

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

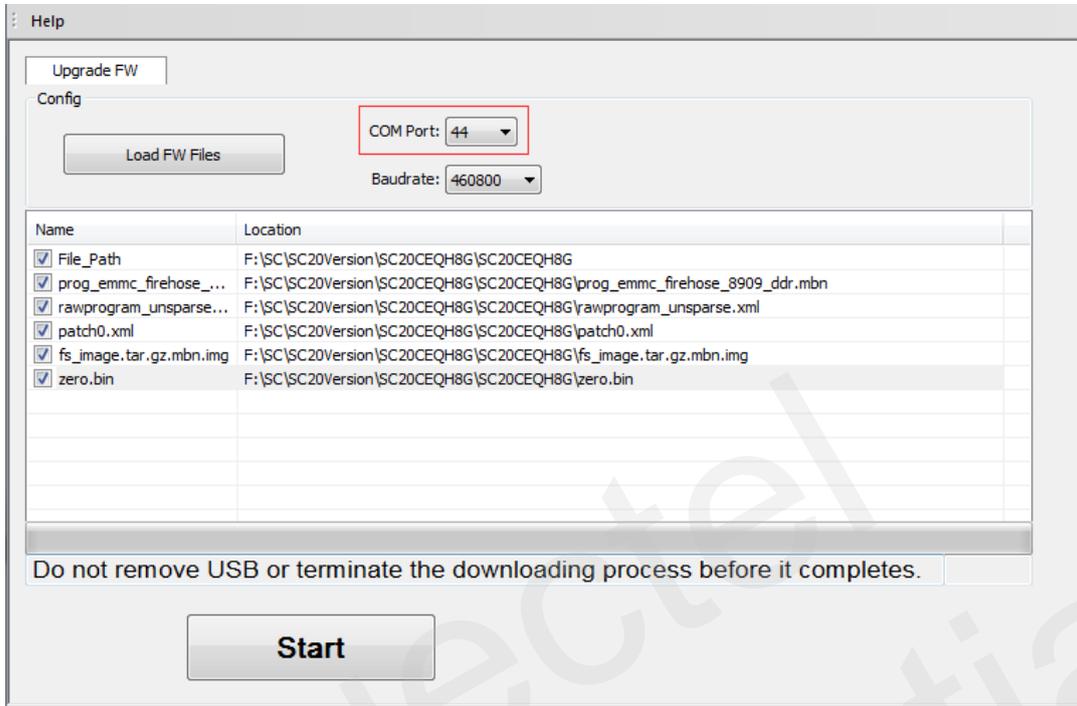
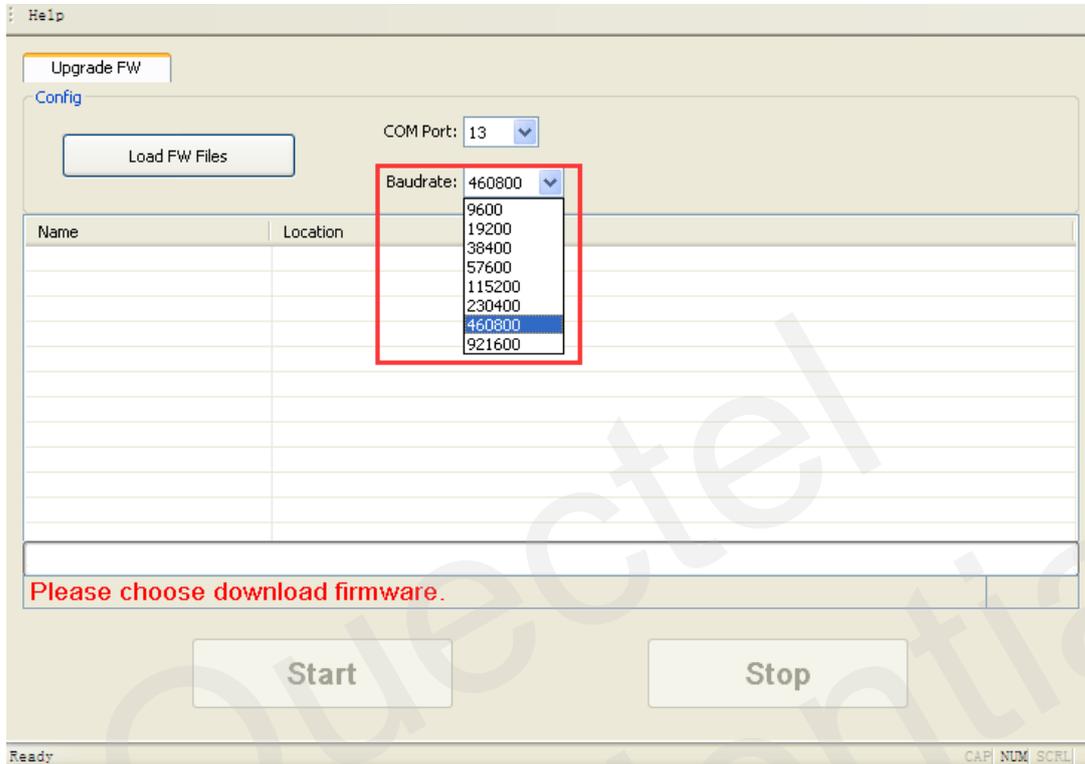


Figure 8: Select the HS-USB Diagnostics 9091 Port for SCXX Module

### 2.1.2. Baudrate

Click the “**Baudrate**” dropdown list and choose an appropriate baudrate. It is recommended to select 460800 for Quectel modules, as shown in the following figure.



**Figure 9: Select the Baudrate**

#### NOTES

1. Baudrates have many different values, and it is the hardware environment that determines whether a specified baudrate can be supported. If not supported, an error message will be returned.
2. Baudrate setting is unnecessary for USB virtual port.
3. Please do select 921600 baudrate when upgrading GCXX module series. Other baudrates may lead to upgrading operation failure.

### 2.1.3. File Setting

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

**Step 2:** Select the *txt/cfg/mbn/lod/fls* file whichever users want to download to the module.

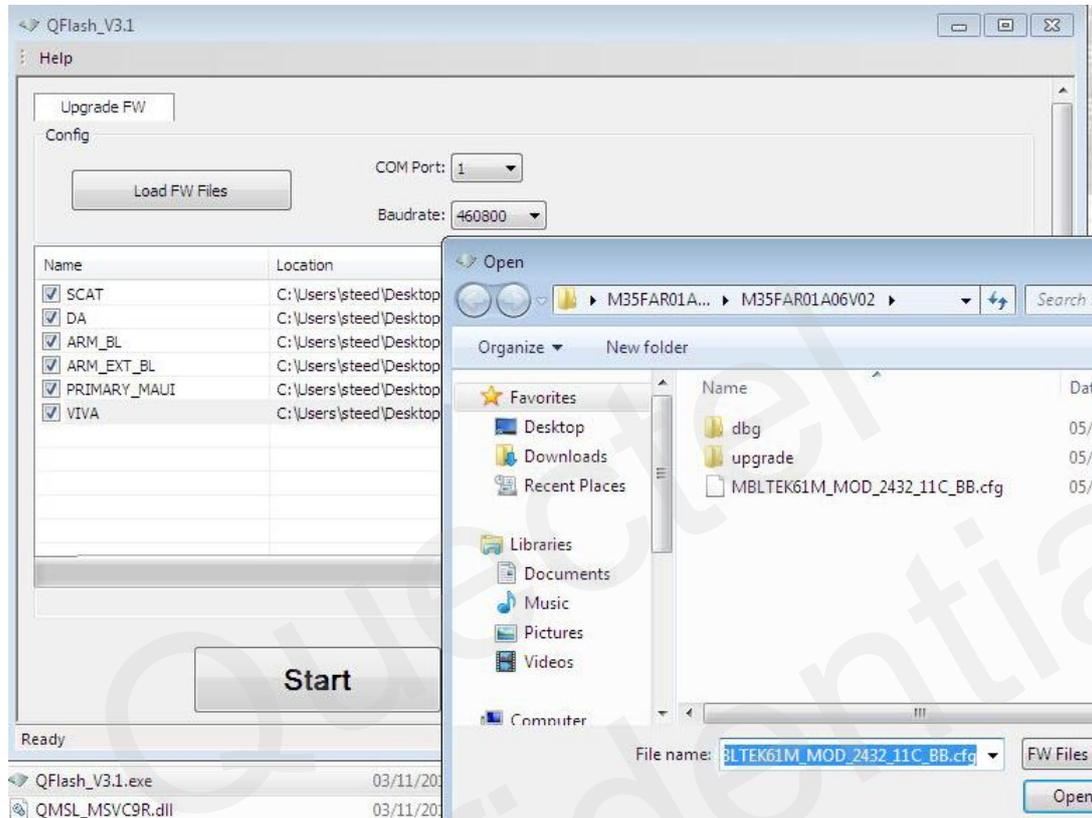
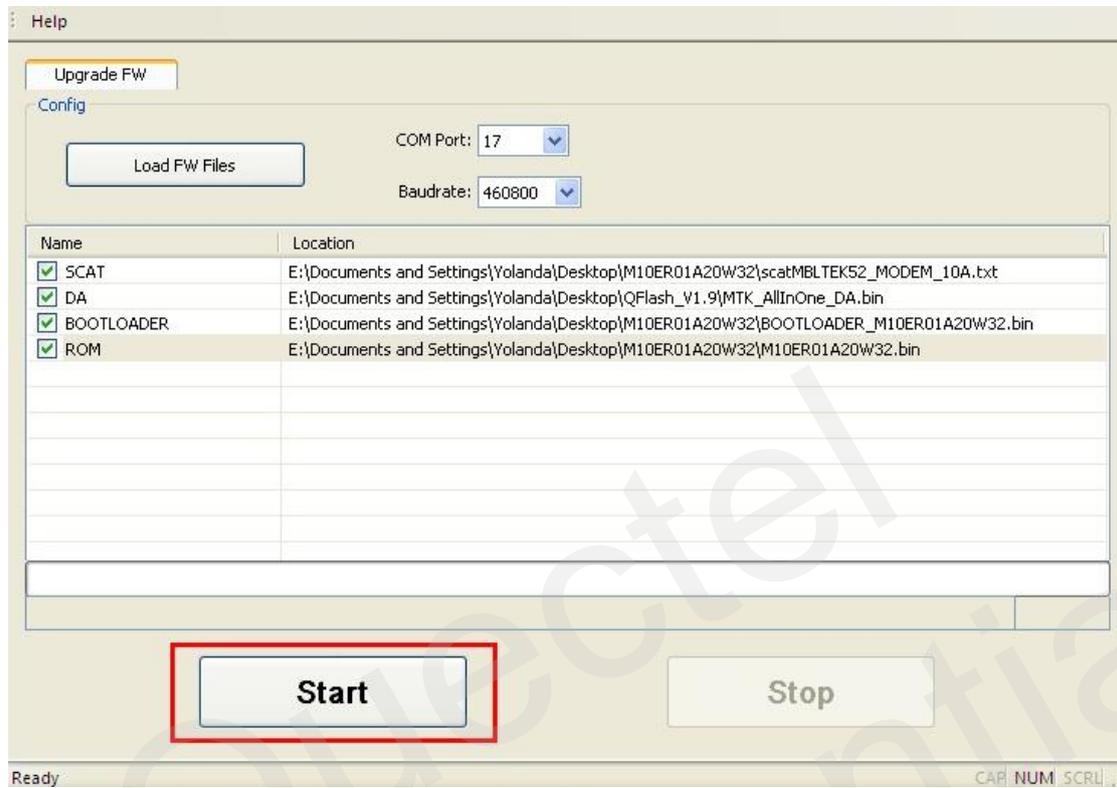


Figure 10: Select the Bin File

### 2.1.4. Upgrade

**Step 1:** Click the “**Start**” button to upgrade the firmware, as shown in the following figure.



**Figure 11: Click the Start Button**

There is no “**Stop**” button (refer to the figure below) while upgrading firmware for UC15/UC20/ECXX/GCXX/SCXX module series.

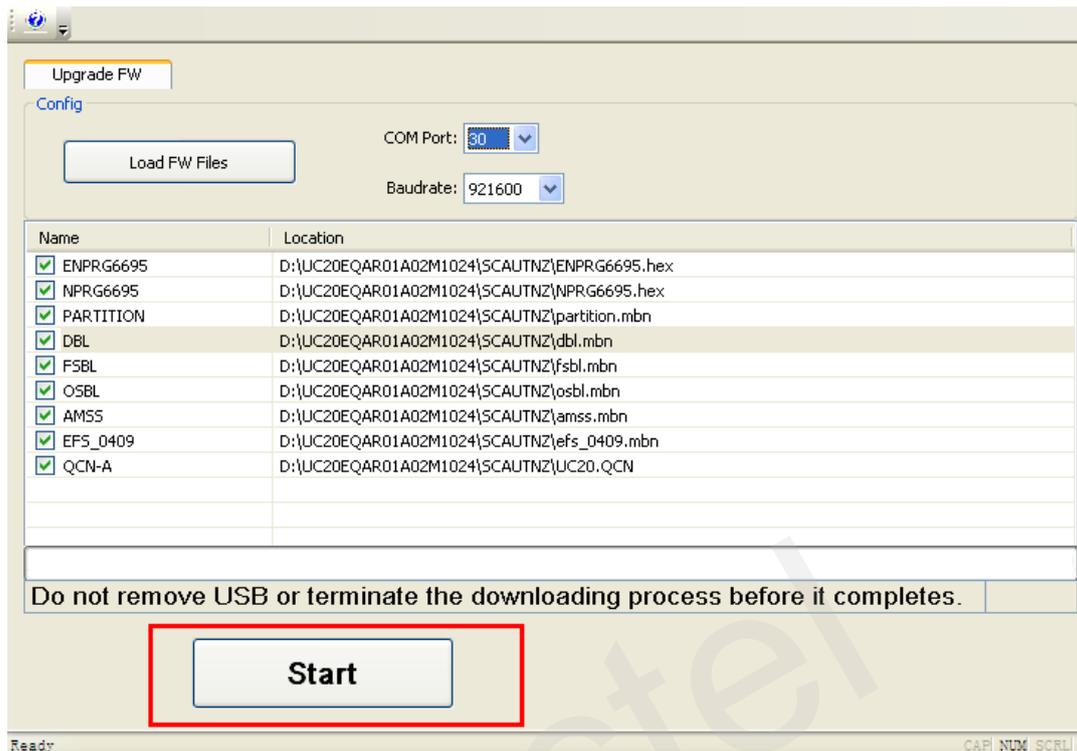


Figure 12: Click the Start Button (UC15/UC20/ECXX/GCXX/SCXX Module)

**NOTE**

Please note that it is not permitted to stop the upgrading, and please do not remove USB or terminate the downloading process before upgrading is completed.

**Step 2:** Restart the module by switching the D/L to “ON” after clicking “Start” button in 30 seconds. It will start to upgrade the firmware as shown in **Figure 13**.

If users are upgrading the firmware for UC15/UC20/ECXX/GCXX/SCXX module series, please ignore this step. It will restart the module automatically, as shown in **Figure14**.

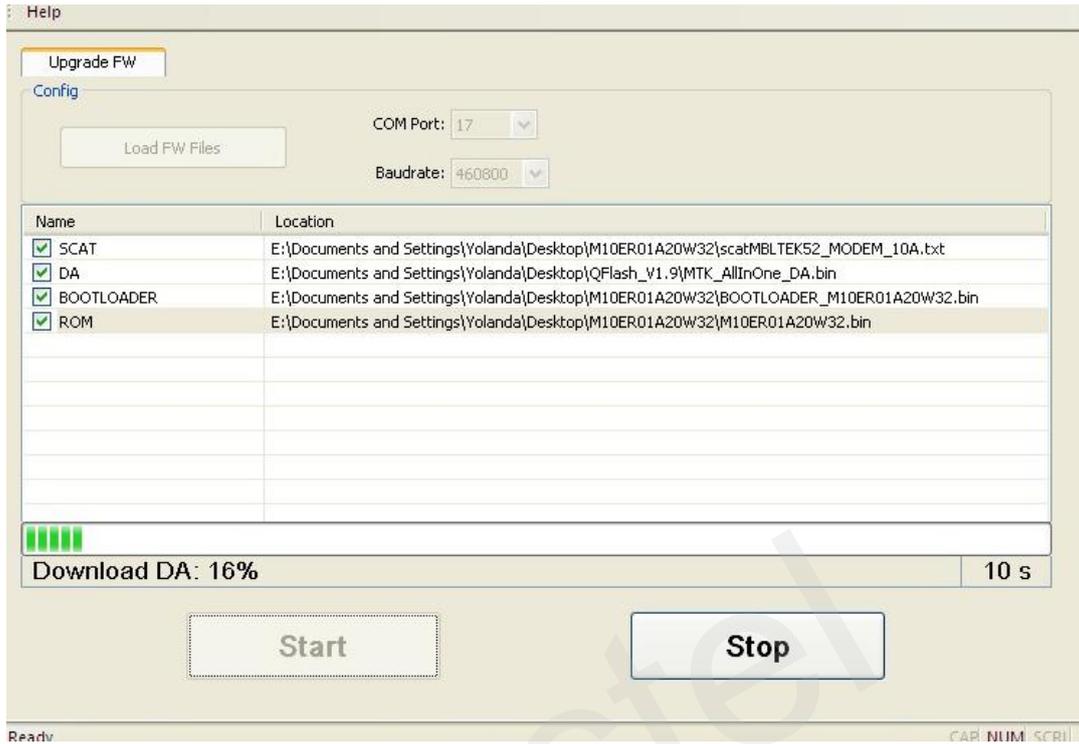


Figure 13: Start to Upgrade after Restarting the Module

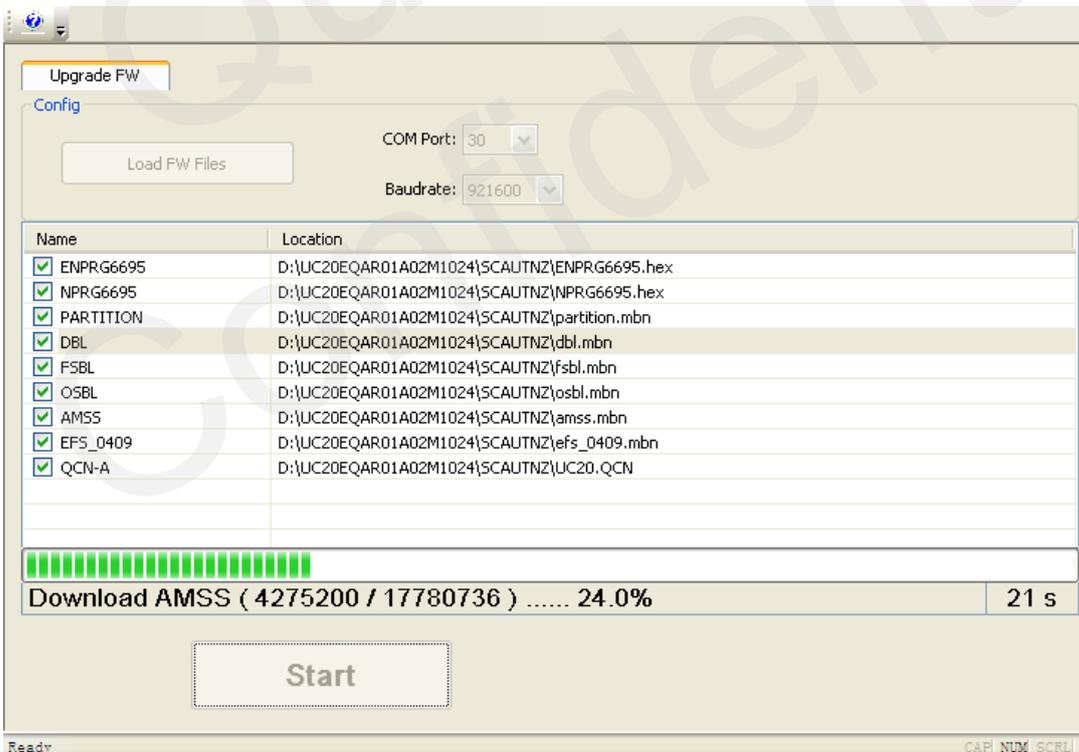


Figure 14: Start to Upgrade Firmware

**NOTES**

1. Please make sure the 5V\_SW switch is ON when restarting the module by switching the D/L to “ON” on EVB.
2. If there is no EVB for module firmware upgrading, please drive the PWRKEY pin to low level after clicking the “Start” button in 30 seconds.

**Step 3: “FW upgrade success”** will be shown on the interface after module upgrading has been successfully completed, as shown in the following figure.

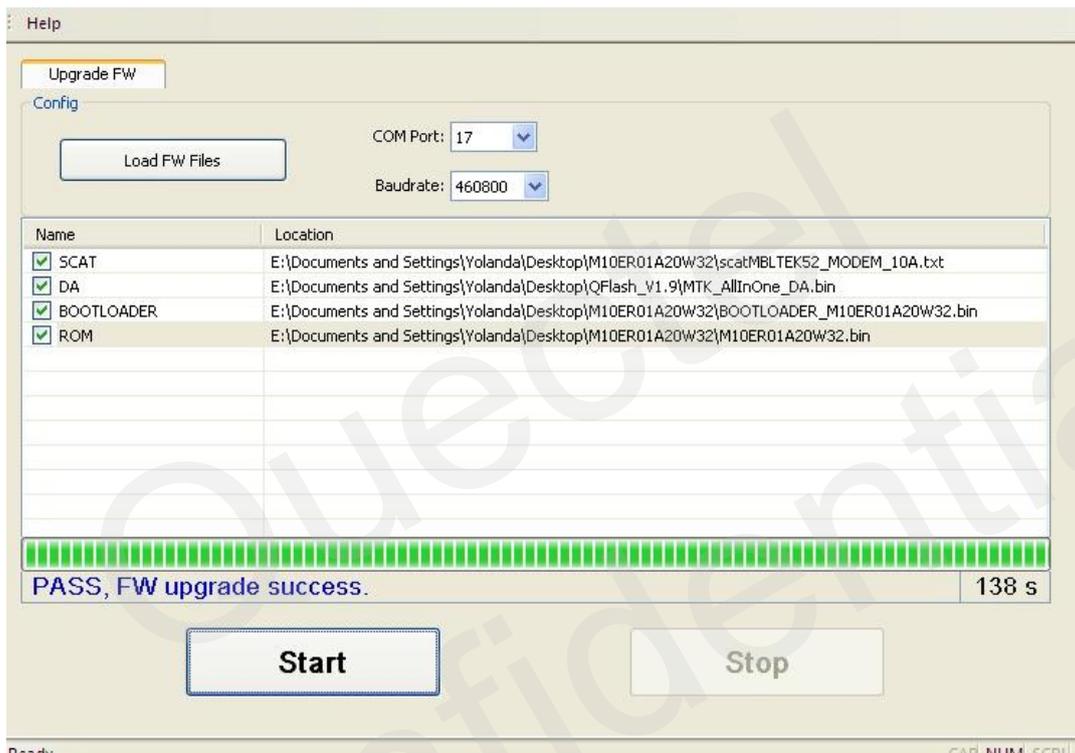


Figure 15: Successful Upgrade

### 2.1.5. Load APP Firmware

**Step 1:** Click the button “Load FW Files”, and select the file with “**cfg**” filename extension which users want to download to module.

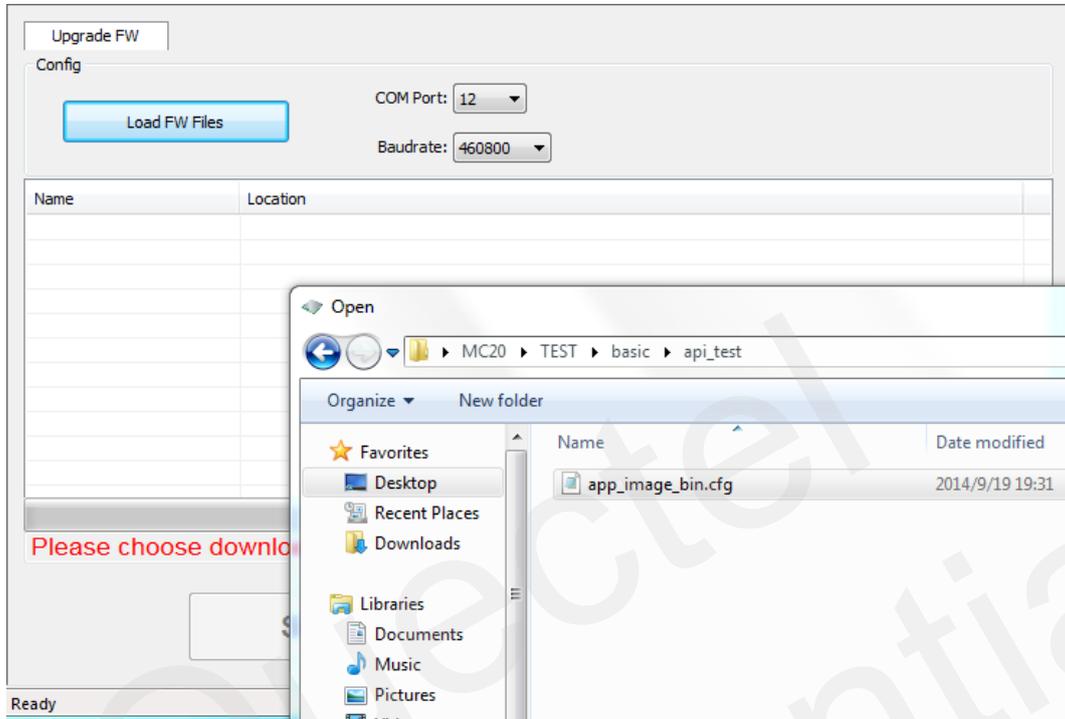
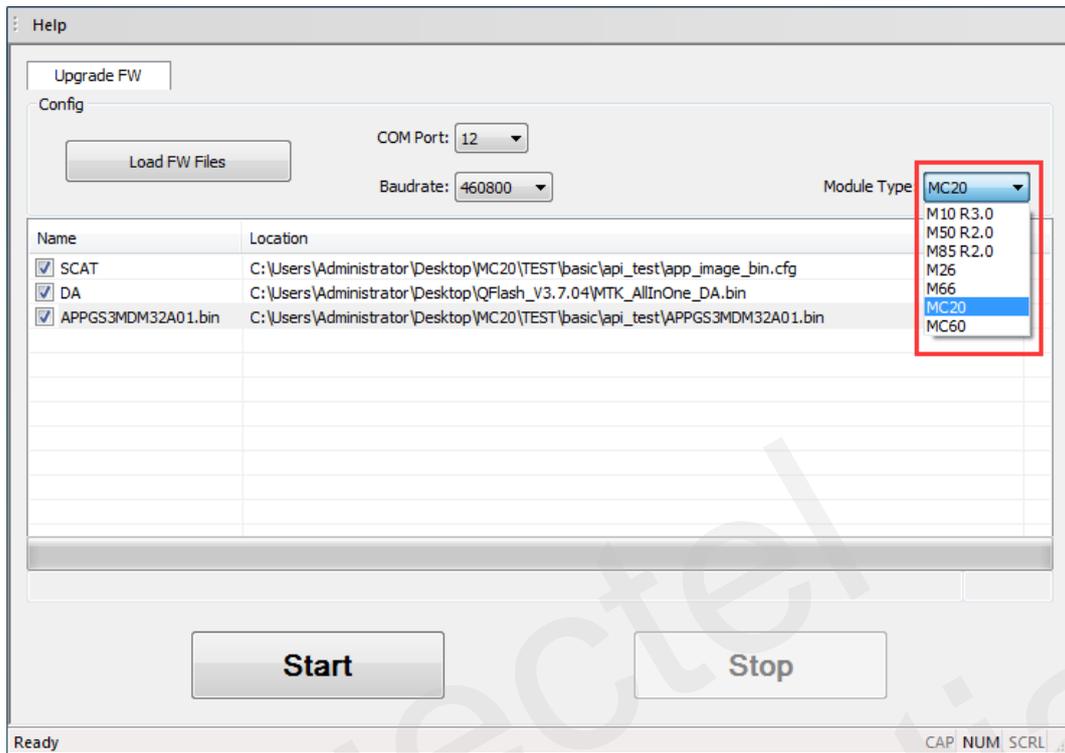


Figure 16: Select the APP File

**Step 2:** Click the “**Module Type**” dropdown list and choose an appropriate module type.



**Figure 17: Select the Module Type**

**Step 3:** Click the “Start” button to download the APP file, as shown in the following figure.

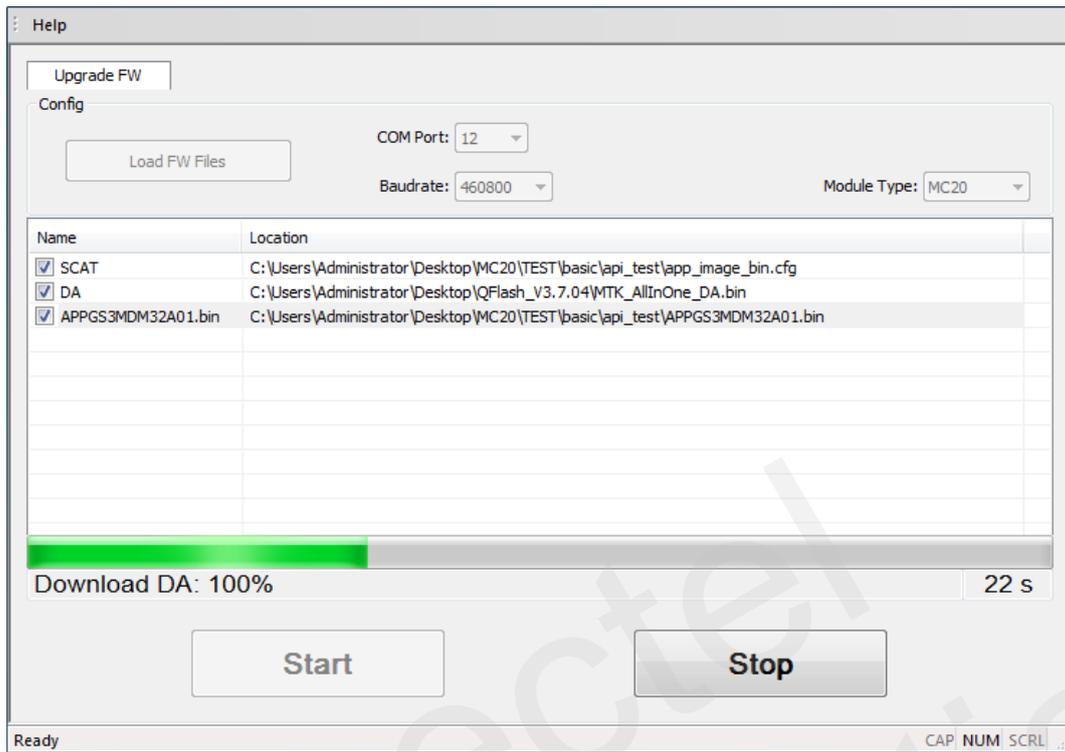


Figure 18: Click the Start Button

**Step 4: “FW upgrade success”** will be shown on the interface after APP download has been successfully completed, as shown in the following figure.

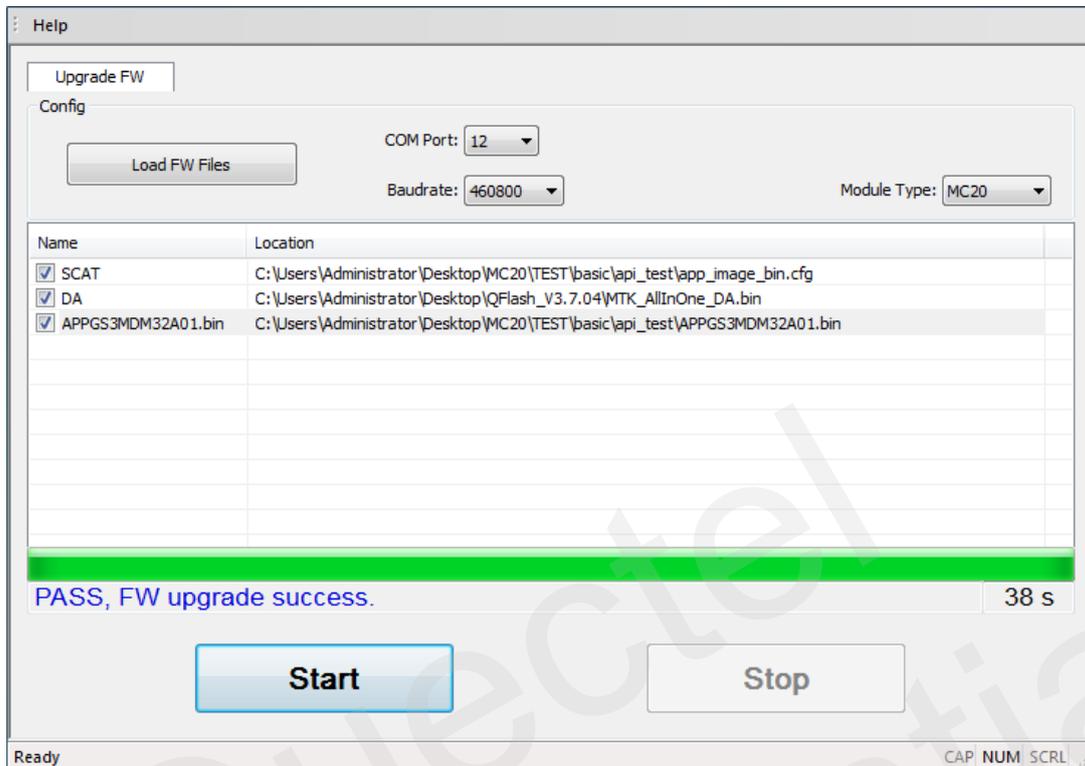


Figure 19: Successful Download

## 2.2. Abnormalities

Abnormalities may occur if there is incorrect parameter of baud-rate, damaged EVB or invalid files, etc.

### 2.2.1. COM Port Connected to a Wrong Series Port

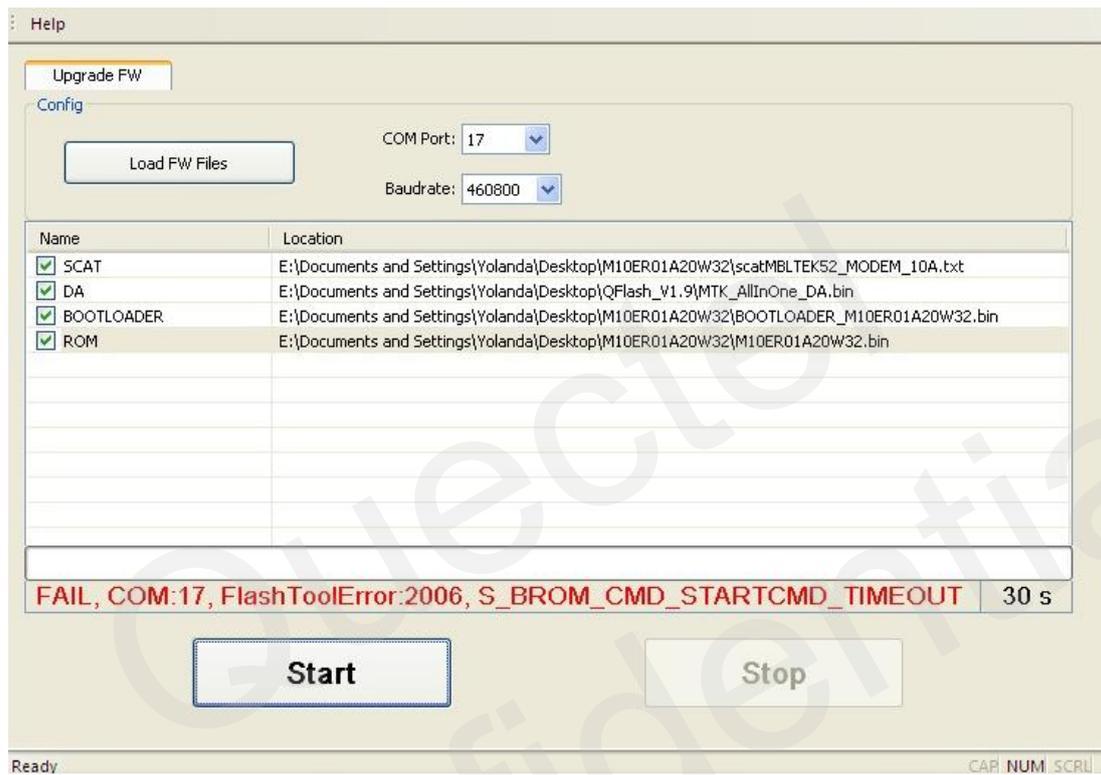


Figure 20: Connected to a Wrong Serial Port

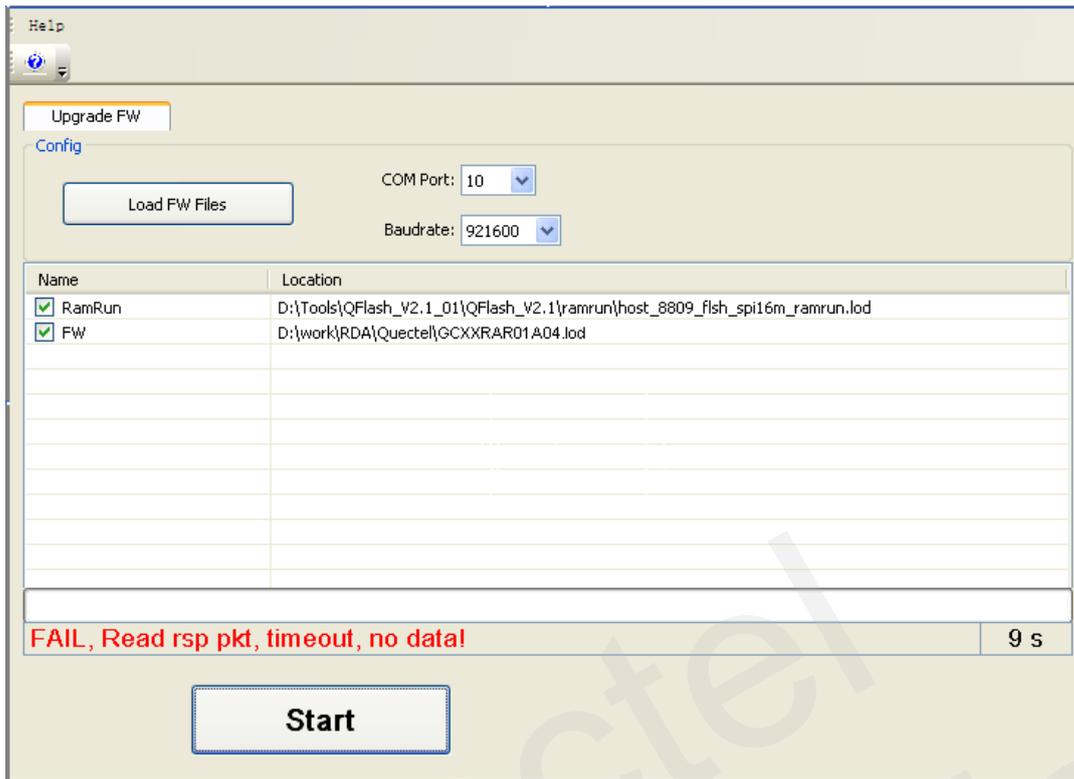


Figure 21: Connected to a Wrong Serial Port (GCXX Module)

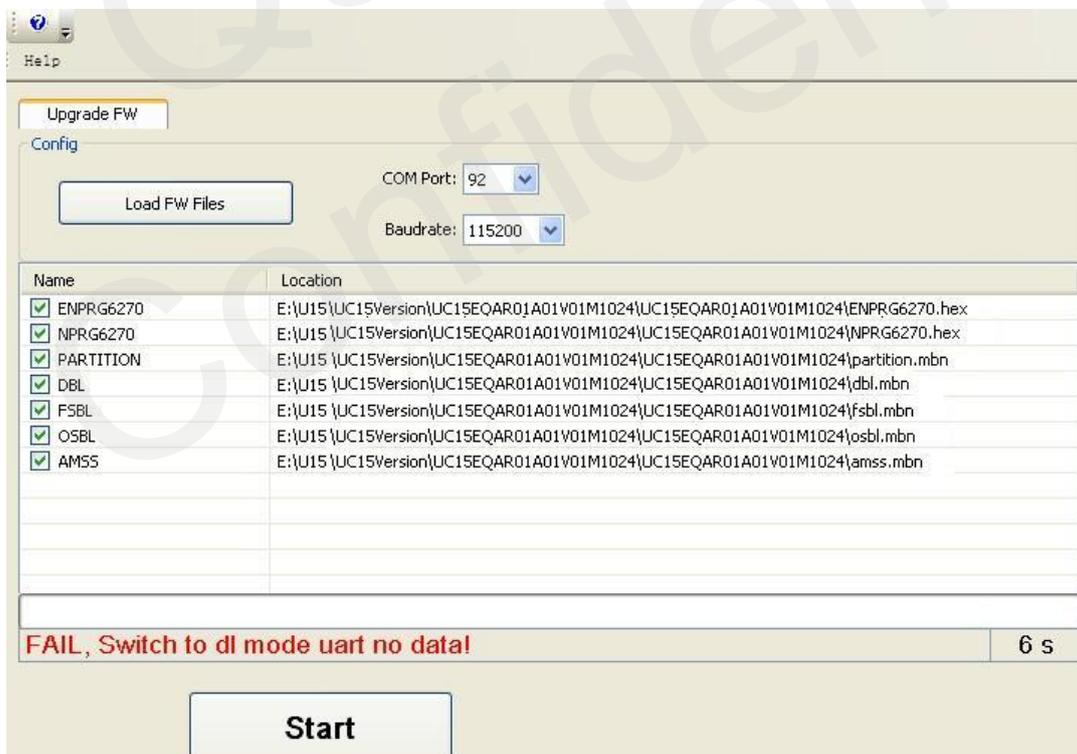


Figure 22: Connected to a Wrong Serial Port (UC15/UC20 Module)

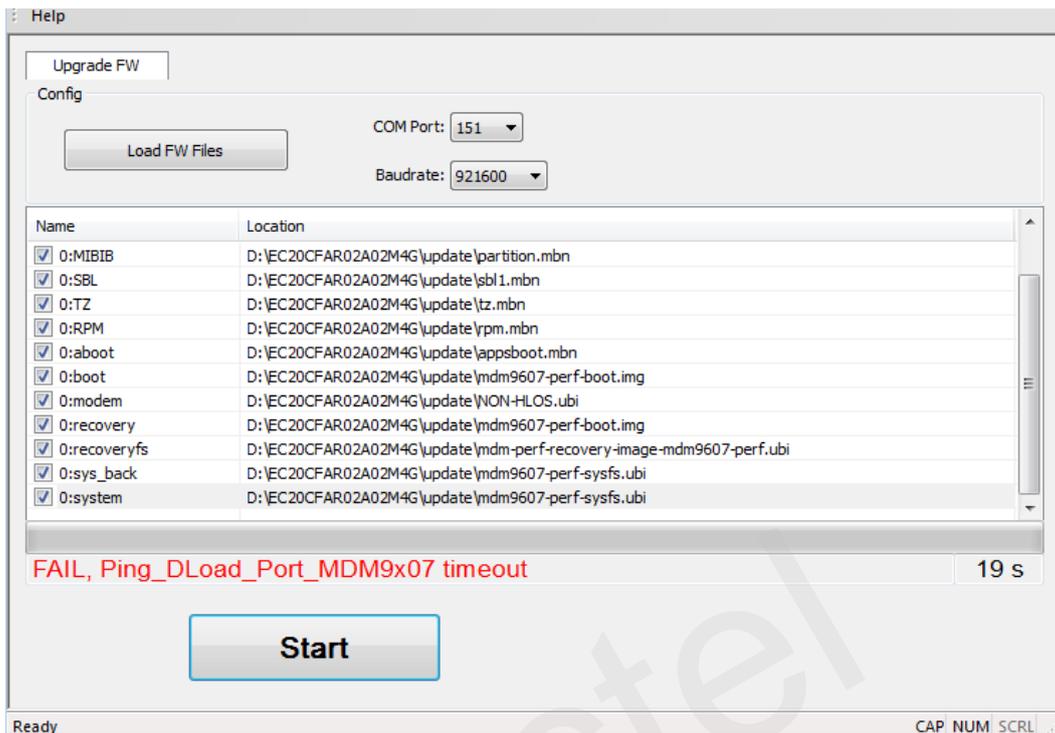


Figure 23: Connected to a Wrong Serial Port (ECXX Module)

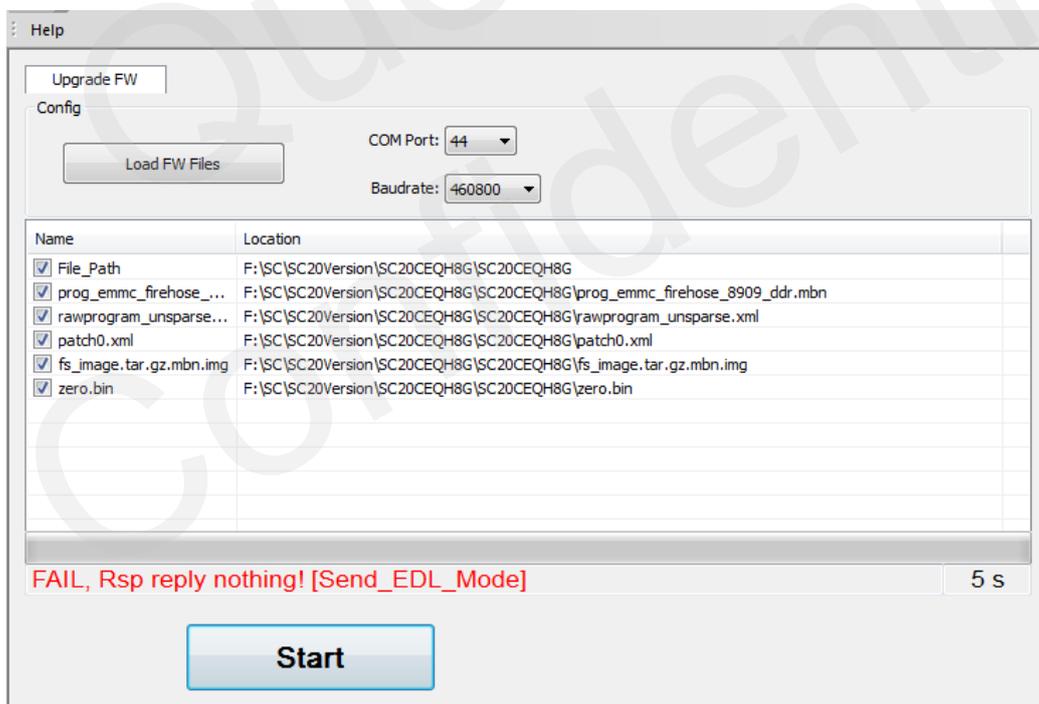


Figure 24: Connected to a Wrong Serial Port (SCXX Module)

### 2.2.2. COM Port Connected to an Occupied Serial Port

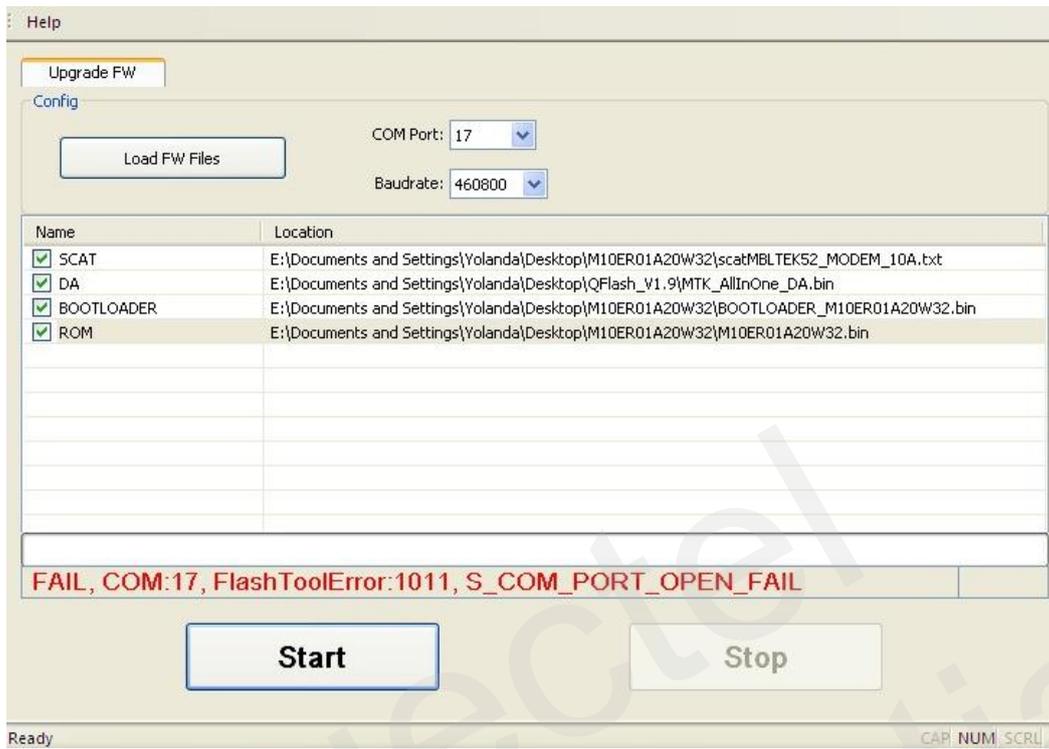


Figure 25: Connected to an Occupied Serial Port

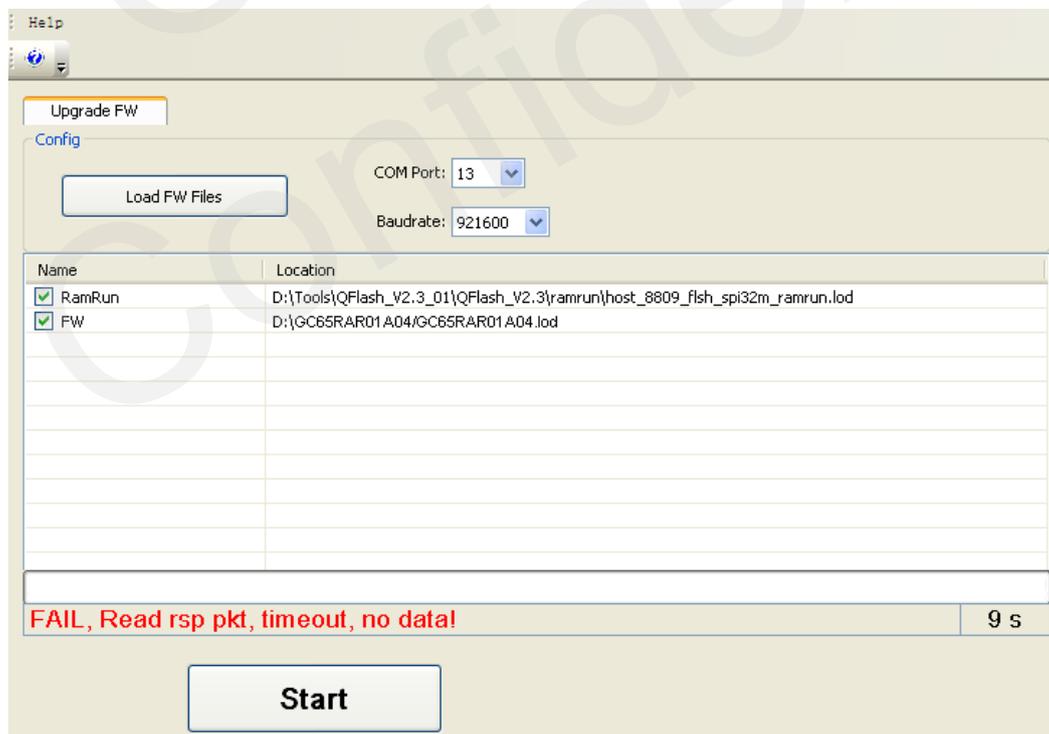


Figure 26: Connected to an Occupied Serial Port (GCXX Module)

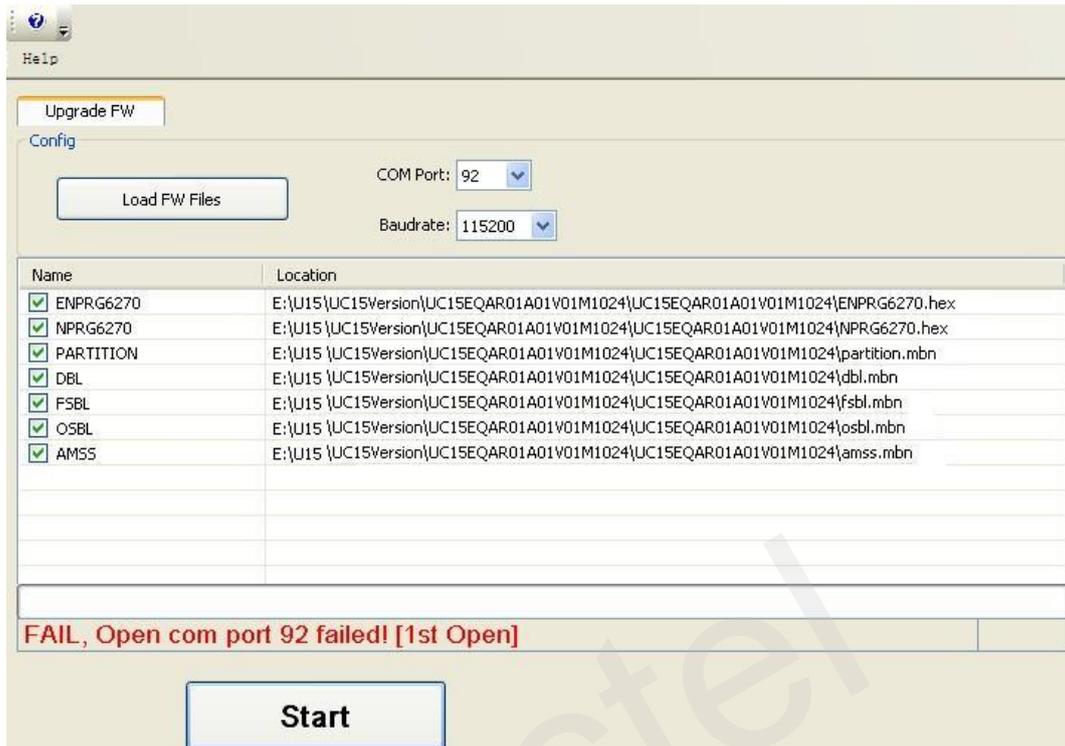


Figure 27: Connected to an Occupied Serial Port (UC15/UC20/ECXX Module)

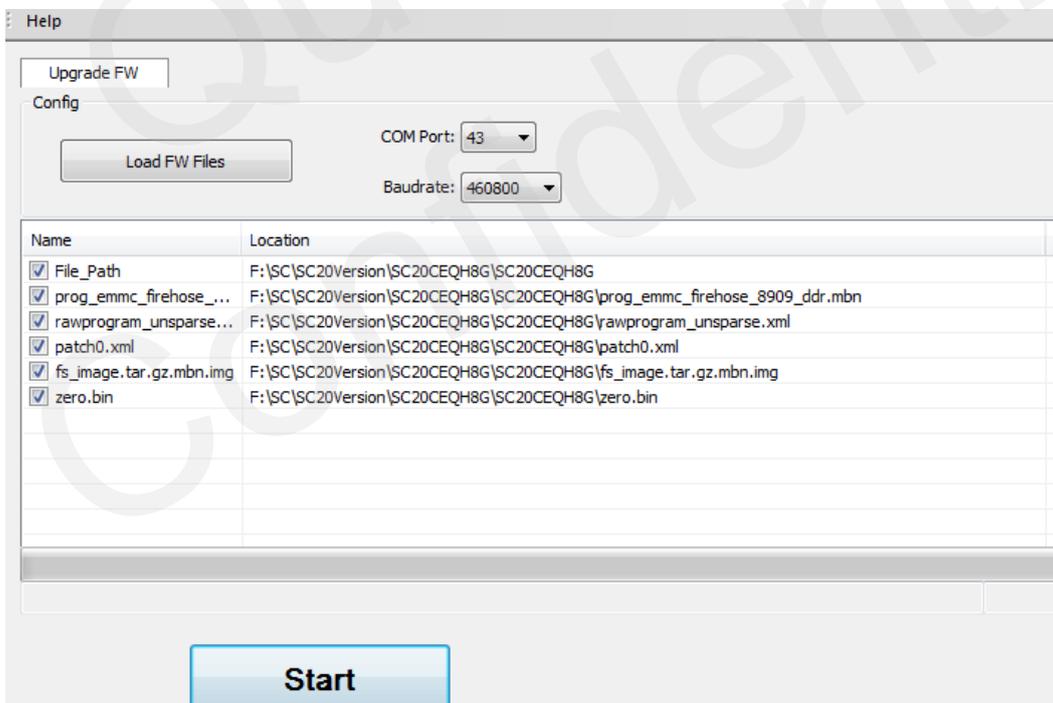


Figure 28: Connected to an Occupied Serial Port (SCXX Module)

### 2.2.3. Selected an Unsupported Baudrate

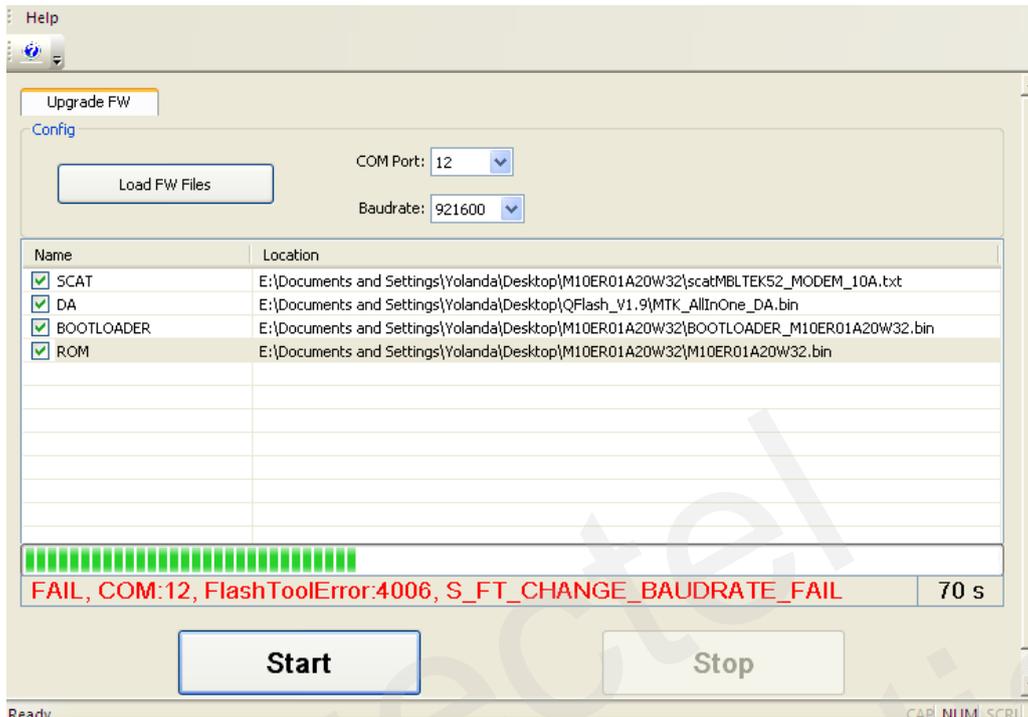


Figure 29: An Unsupported Baudrate is Selected

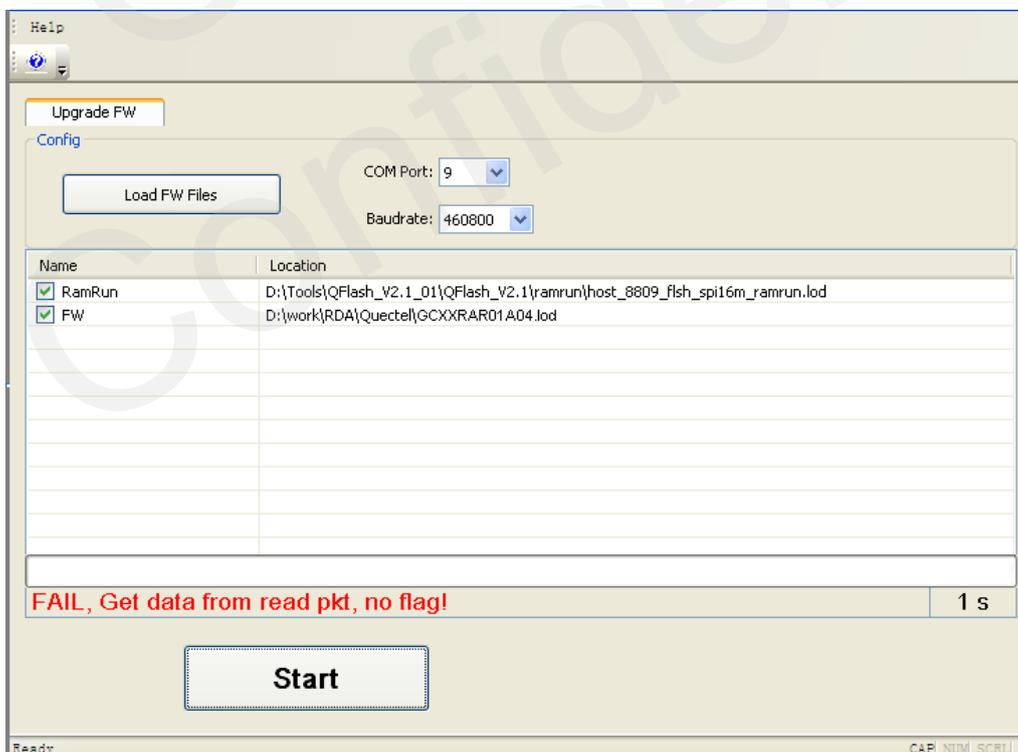


Figure 30: Unsupported Baudrate is Selected (GCXX Module)

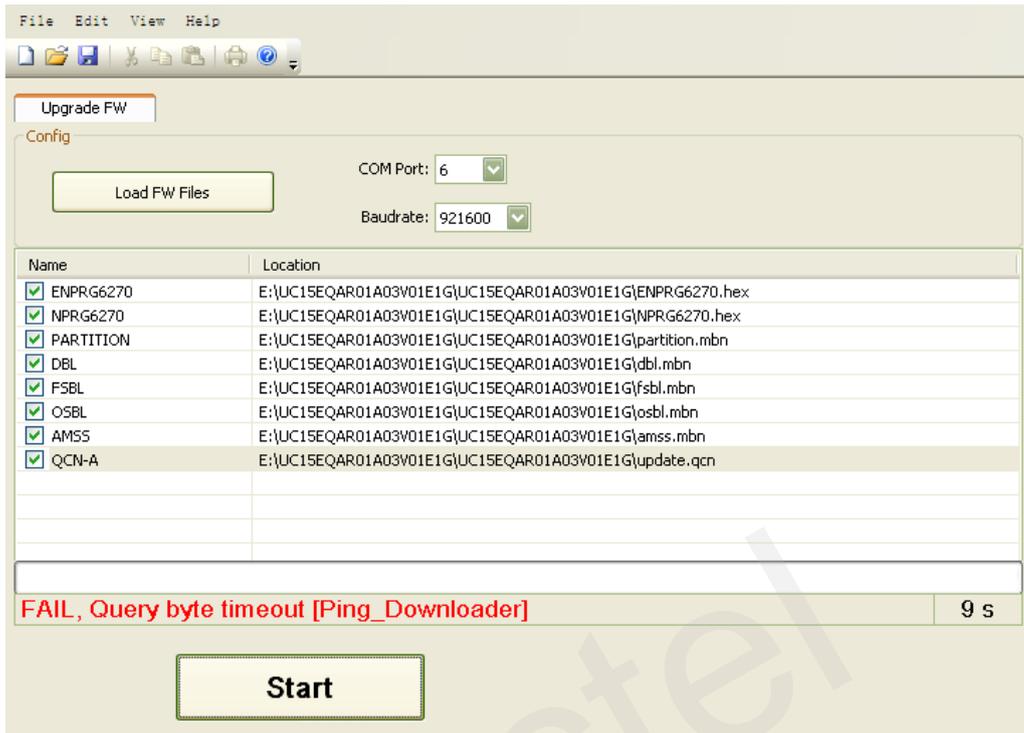


Figure 31: Unsupported Baudrate is Selected (UC15/UC20 Module)

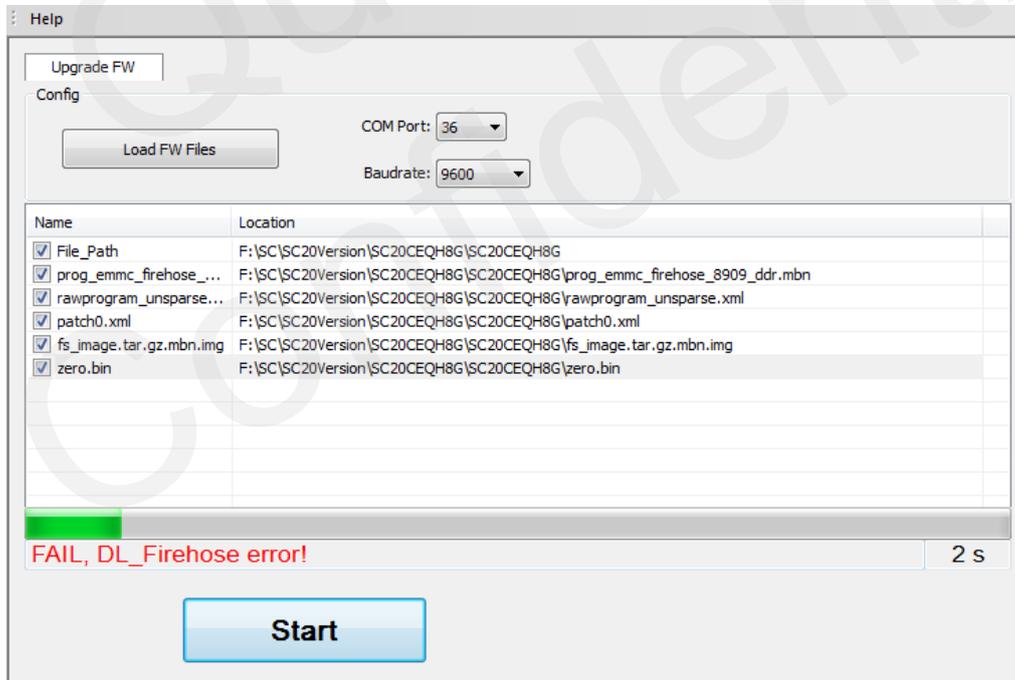


Figure 32: Unsupported Baudrate is Selected (SCXX Module)

### 2.2.4. Selected an Invalid Scatter File

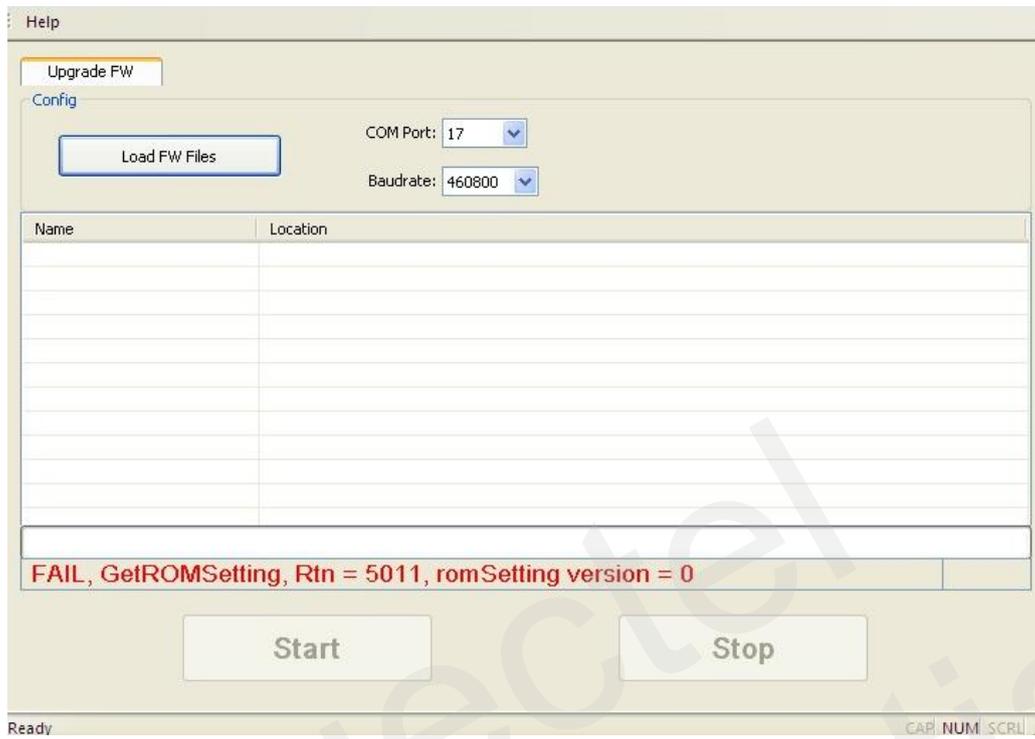


Figure 33: An Invalid Scatter File is Selected

### 2.2.5. Selected an Invalid Load File (GCXX Module)

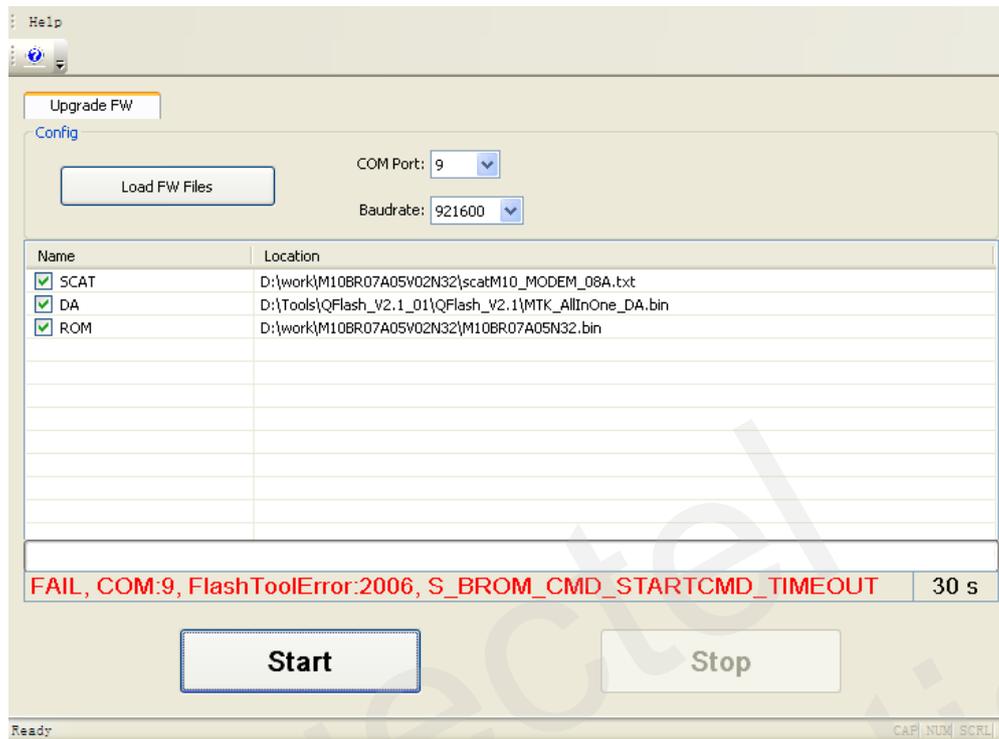


Figure 34: An Invalid Load File is Selected (GCXX Module)

## 2.2.6. Power Supply is Abnormal

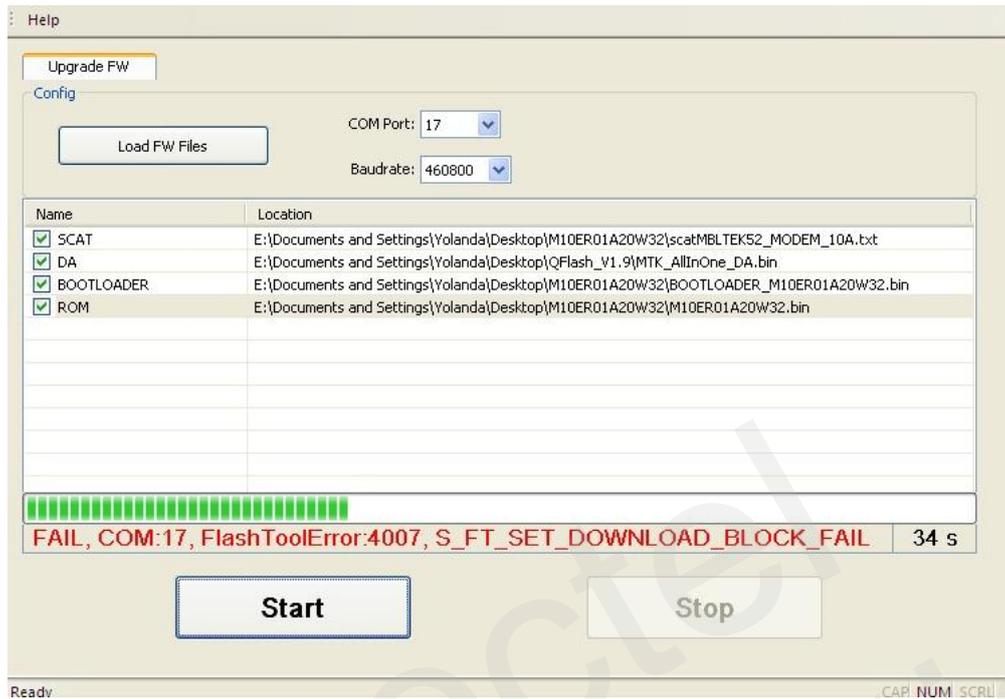


Figure 35: Power Supply is Abnormal (GCXX Module)

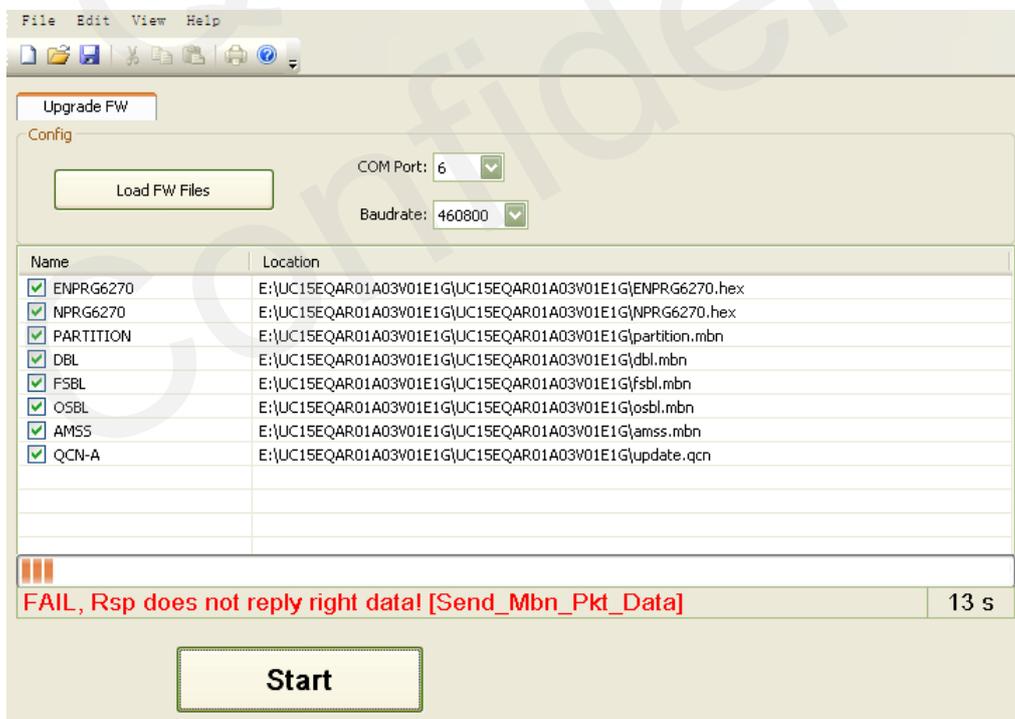


Figure 36: Power Supply is Abnormal (UC15/UC20 Module)

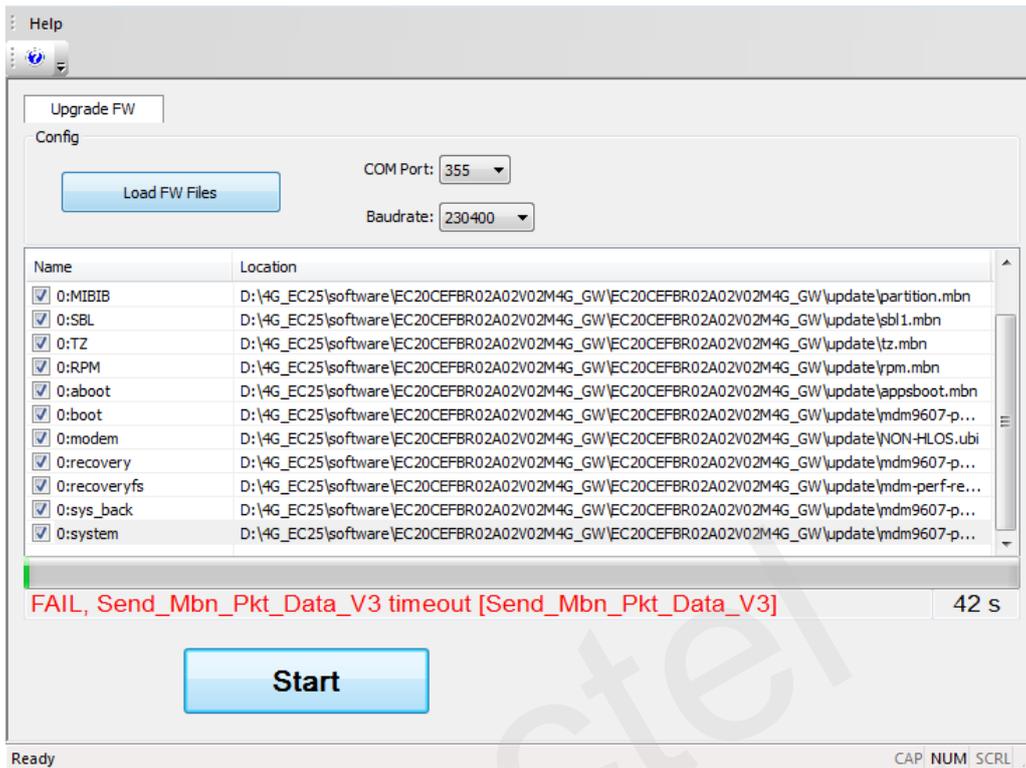


Figure 37: Power Supply is Abnormal (ECXX Module)

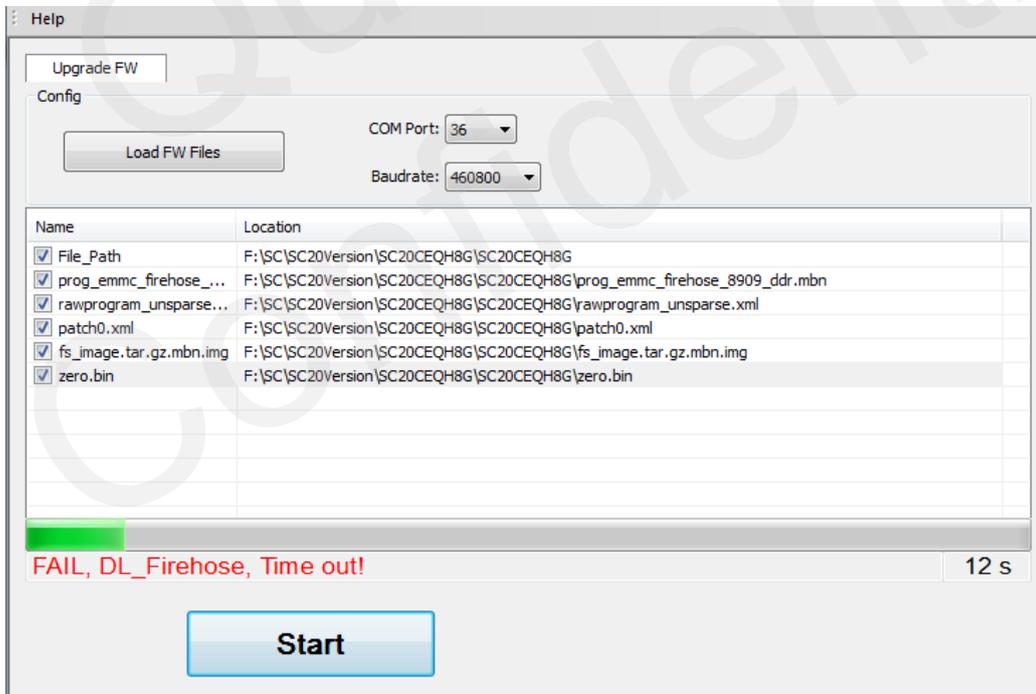


Figure 38: Power Supply is Abnormal (SCXX Module)

### 2.2.7. USB to Serial Cable is Abnormal

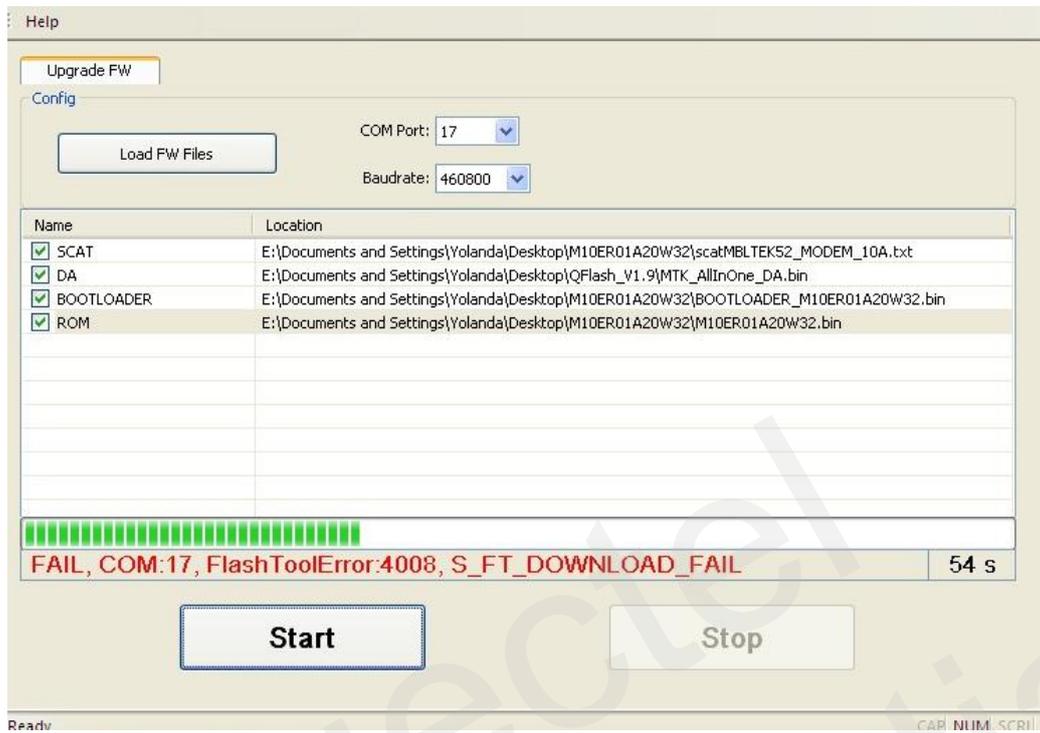


Figure 39: USB to Serial Cable is Abnormal

# 3 Appendix A Reference

**Table 1: Terms and Abbreviations**

Abbreviation	Description
APP	Application
EVB	Evaluation Board
OS	Operating System
PC	Personal Computer
UART	Universal Asynchronous Receiver/Transmitter
USB	Universal Serial Bus

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