

BC95 Firmware Upgrade via UEUpdater User Guide

NB-IoT Module Series

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About the Document

History

Revision	Date	Author	Description
1.0	2017-08-09	Lucifer YAN	Initial
1.1	2017-09-18	Flame YANG	1. Updated UEUpdater to 3.5.0.1 version. 2. Added description of firmware upgrade by UEUpdaterUI.
1.2	2018-01-15	Janet YANG	1. Updated UEUpdater to 3.11.0.5 version. 2. Modified description of firmware upgrade by UEUpdaterCLI and UEUpdaterUI.

Contents

About the Document.....	2
Contents	3
Figure Index	4
1 Introduction	5
2 Tool Installation.....	6
2.1. Microsoft .NET Framework Installation	6
3 Firmware Upgrade	8
3.1. Firmware Upgrade via UEUpdaterCLI.....	8
3.1.1. Install UEUpdaterCLI	8
3.1.2. Erase Flash.....	10
3.1.3. Upgrade Firmware via UEUpdaterCLI.....	11
3.2. Firmware Upgrade via UEUpdaterUI.....	14
3.2.1. Install UEUpdaterUI	14
3.2.2. Upgrade Firmware via UEUpdaterUI.....	16

Figure Index

FIGURE 1: MICROSOFT .NET FRAMEWORK INSTALLATION PACKAGE	6
FIGURE 2: LICENSE AGREEMENT FOR MICROSOFT .NET FRAMEWORK INSTALLATION	6
FIGURE 3: MICROSOFT .NET FRAMEWORK IS INSTALLING	7
FIGURE 4: MICROSOFT .NET FRAMEWORK IS SUCCESSFULLY INSTALLED	7
FIGURE 5: UEUPDATERCLI INSTALLATION PACKAGE	8
FIGURE 6: UEUPDATERCLI SETUP WIZARD	8
FIGURE 7: WAIT WHILE INSTALLING UEUPDATERCLI	9
FIGURE 8: UEUPDATERCLI IS SUCCESSFULLY INSTALLED	9
FIGURE 9: UEUPDATERCLI INTERFACE	10
FIGURE 10: SET PORT AND ERASE FLASH	10
FIGURE 11: FLASH IS COMPLETELY ERASED	11
FIGURE 12: INFORMATION OF UPGRADE PACKAGE	11
FIGURE 13: INFORMATION OF LOCAL PATH	12
FIGURE 14: UPGRADE FIRMWARE.....	12
FIGURE 15: PROMPT FOR RESTARTING THE MODULE	13
FIGURE 16: UPGRADING PROCESS.....	13
FIGURE 17: FIRMWARE IS COMPLETELY UPGRADED.....	14
FIGURE 18: UEUPDATERUI INSTALLATION PACKAGE	14
FIGURE 19: UEUPDATERUI SETUP WIZARD	15
FIGURE 20: WAIT WHILE INSTALLING UEUPDATERUI	15
FIGURE 21: UEUPDATERCLI IS SUCCESSFULLY INSTALLED	16
FIGURE 22: UEUPDATERUI INTERFACE	16
FIGURE 23: SELECT MAIN PORT TO UPGRADE	17
FIGURE 24: CLICK BROWSE TO SELECT THE FIRMWARE PACKAGE	17
FIGURE 25: SELECT THE TARGET FIRMWARE PACKAGE	18
FIGURE 26: CHECK “NO BAUD SWITCH”	18
FIGURE 27: PROMPT FOR UPDATING.....	19
FIGURE 28: UPGRADING PROCESS.....	20
FIGURE 29: FIRMWARE IS COMPLETELY UPGRADED.....	20

1 Introduction

This document mainly introduces how to use UEUpdater tool to upgrade firmware of Quectel BC95 module to V100R100C10B657SP1 version or later via main UART port on Window 7 system.

Currently, UEUpdater tool includes three versions: UEUpdater_3.3.0.3, UEUpdater_3.5.0.1 and UEUpdater_3.11.0.5. And the latest UEUpdater_3.11.0.5 are backward compatible with the previous versions. It is highly recommended to use the latest UEUpdater to upgrade firmware.

2 Tool Installation

Customers need to install “Microsoft .NET Framework” (4.5.2 version or later) on PC before using UEUpdater.

2.1. Microsoft .NET Framework Installation

1. Double-click *microsoft.net framework 4.5.2.exe* to install Microsoft .NET Framework.

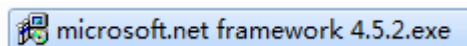


Figure 1: Microsoft .NET Framework Installation Package

2. Wait until the following window shows up, and then click “**I have read and accept the license terms**” and “**Install**” as shown below.

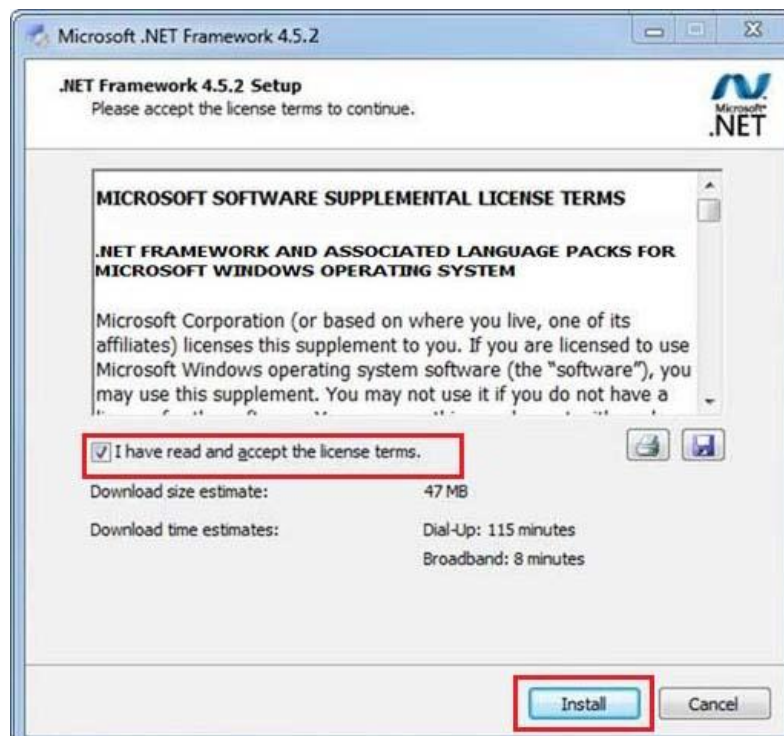


Figure 2: License Agreement for Microsoft .NET Framework Installation

3. Please wait for the program to install.

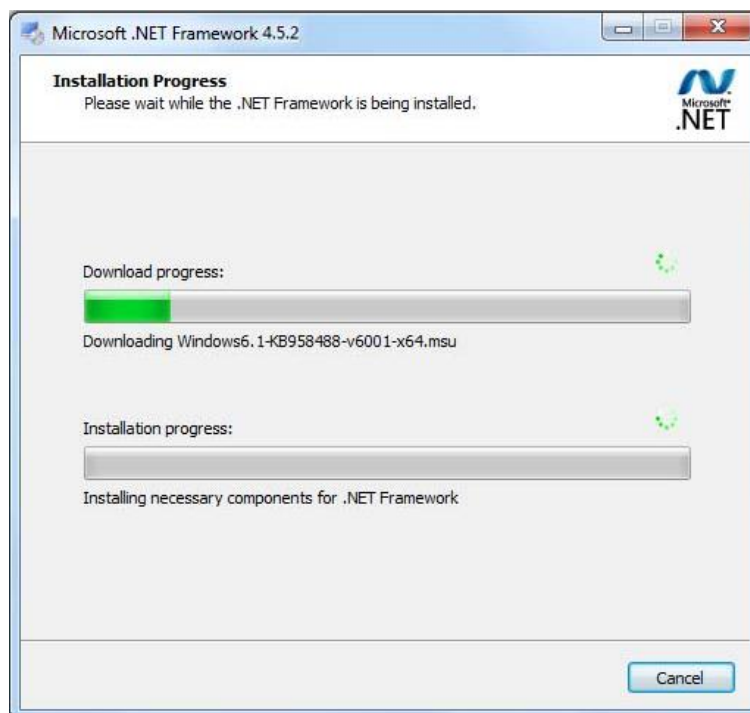


Figure 3: Microsoft .NET Framework is Installing

4. Click “**Finish**” to accomplish installation.

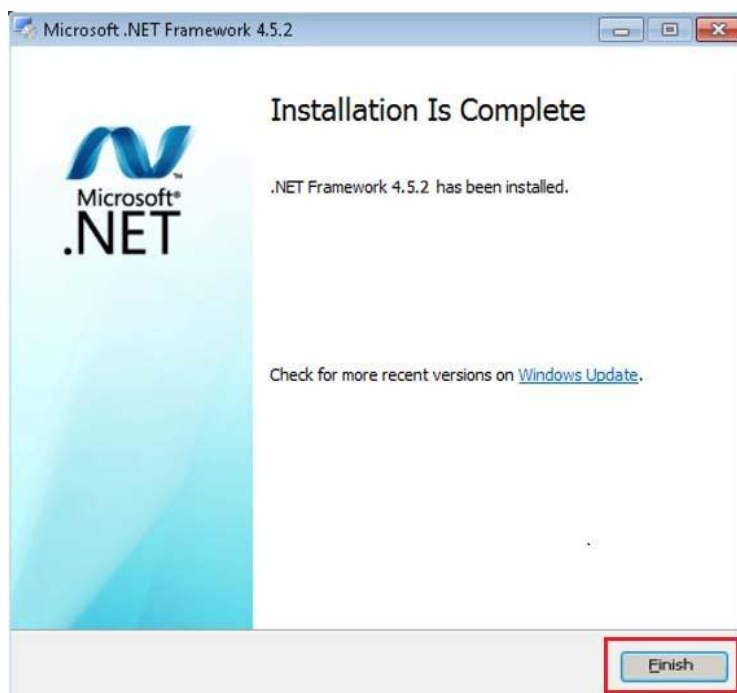


Figure 4: Microsoft .NET Framework is Successfully Installed

3 Firmware Upgrade

3.1. Firmware Upgrade via UEUpdaterCLI

3.1.1. Install UEUpdaterCLI

1. Unzip *UEUpdater_3.11.0.5.zip* and double-click *UEUpdaterCLI-3.11.0.5.msi* to install UEUpdaterCLI.

 BoudicaV100R100C10B657_QUECTEL.zip	2017/12/26 14:10	WinRAR Z...	12,807 KB
 UEUpdater_3.11.0.5.zip	2017/12/7 11:00	WinRAR Z...	3,467 KB
 UEUpdaterCLI-3.11.0.5.msi	2017/10/12 16:14	Windows ...	4,380 KB

Figure 5: UEUpdaterCLI Installation Package

2. Wait until the following window shows up, and then click “Next”.

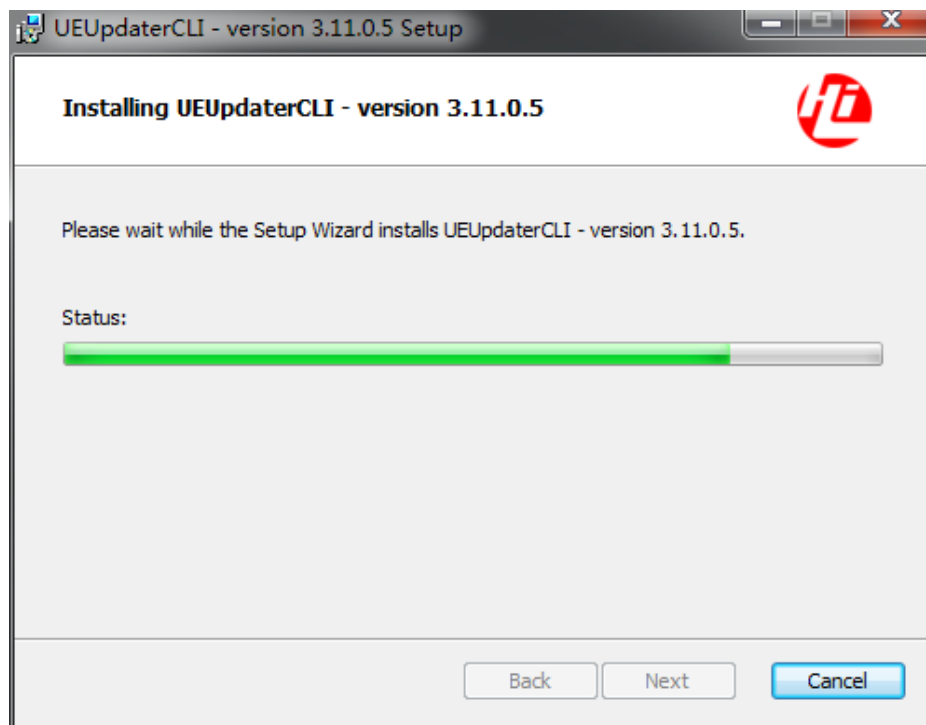


Figure 6: UEUpdaterCLI Setup Wizard

Please wait for the program to install.

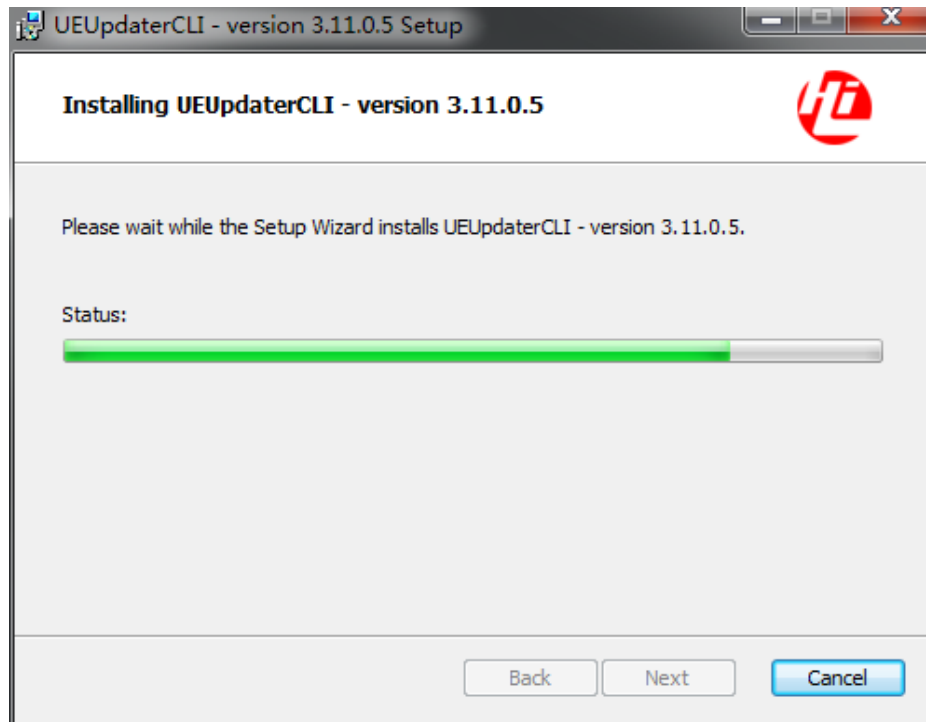


Figure 7: Wait While Installing UEUpdaterCLI

3. Click **Finish** to accomplish installation.

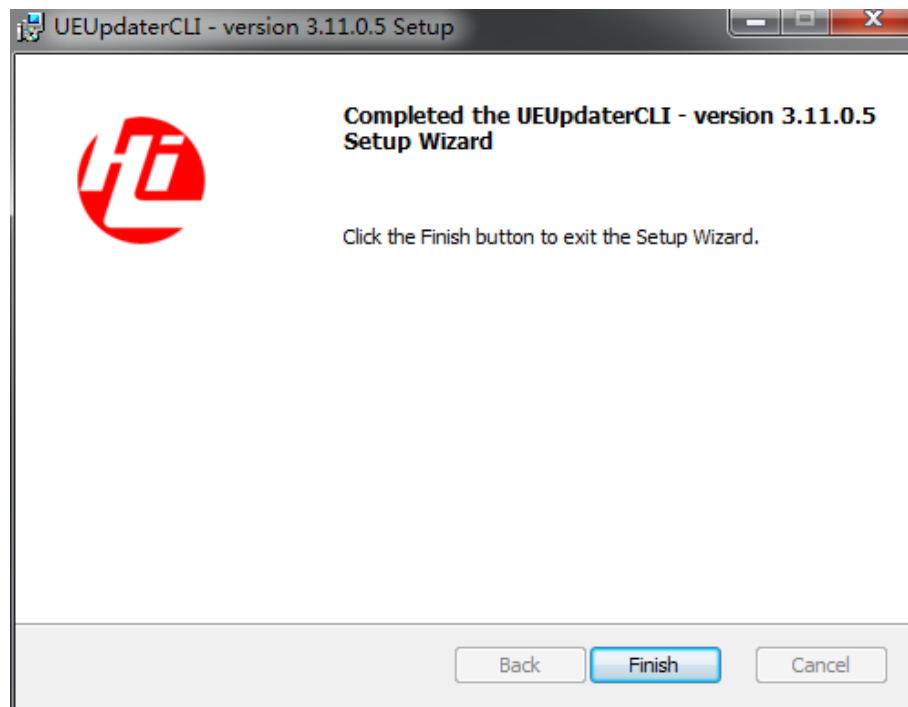


Figure 8: UEUpdaterCLI is Successfully Installed

- Click “**Start**” button on desktop of PC, and find “UEUpdaterCLI” to open the tool, the command-line interface will be shown as below.

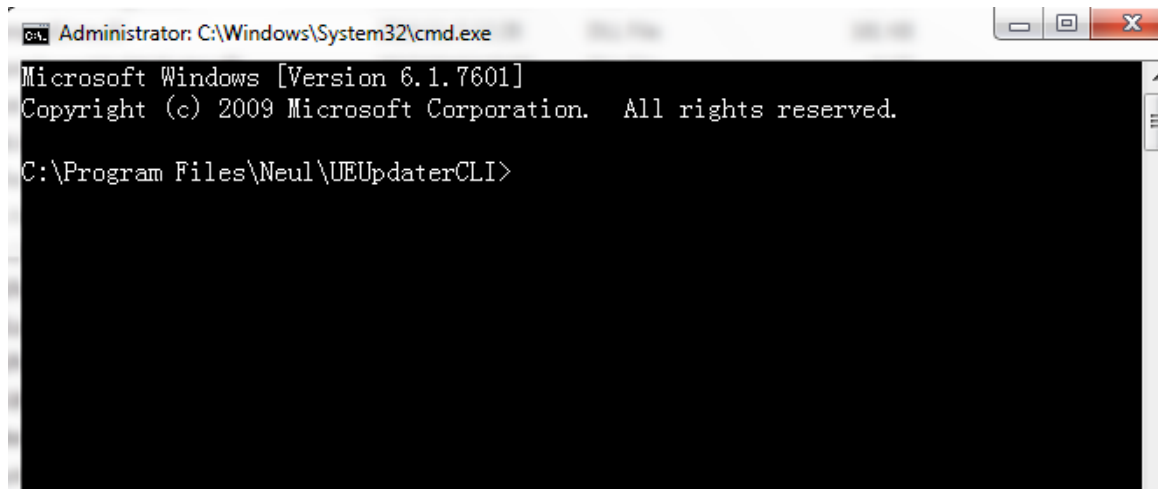


Figure 9: UEUpdaterCLI Interface

3.1.2. Erase Flash

If the original and target versions are both higher than B657SP1, then this step should be omitted.

The original NV (non-volatile) items such as IMEI number will not be preserved after erasing the flash, please read out the IMEI number by **AT+CGSN=1** command before erasing operation.

- Open UEUpdaterCLI interface, and enter command **ueupdater.exe erase --port com44 --noBaudSwitch --passive** to set port and erase flash. Please note that port should be set accordingly.

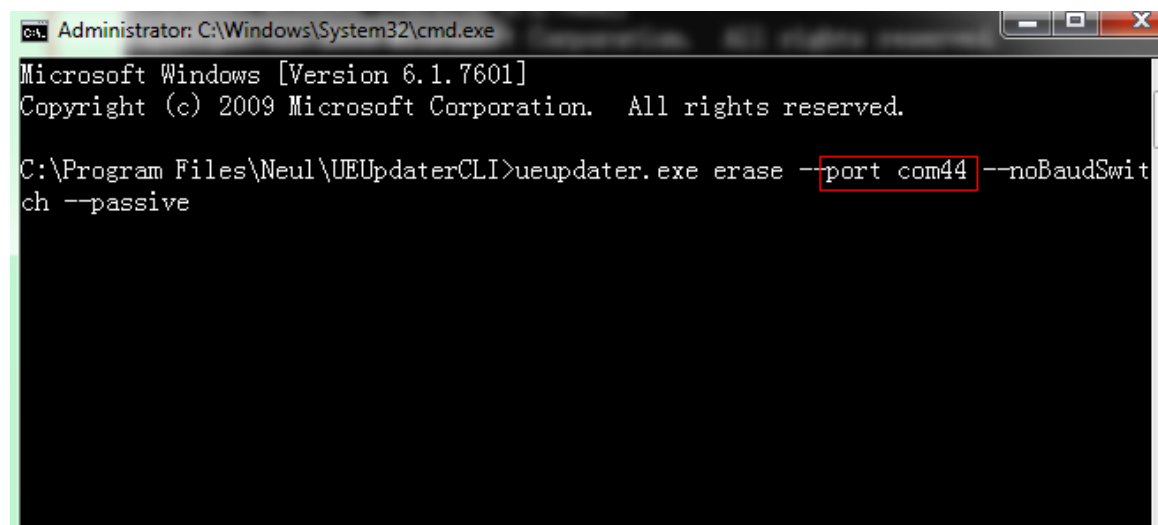


Figure 10: Set Port and Erase Flash

- After the execution of the command above has been completed, press “Enter” key to continue. When “Waiting for bootloader to send info message...” shows up, press “Reset” button on the module, or power off the module and then power on to restart the module, and wait for erasing. When “Application finished” shows up, it means the flash has been completely erased.

```

Administrator: C:\Windows\System32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Program Files\Neul\UEUpdaterCLI>ueupdater.exe erase --port com44 --noBaudSwitch --passive
UEUpdater v3.11.0.5
Attempting to establish communications with UE...
Waiting for bootloader to send info message...
Initial bootInfo
Secondary bootInfo/ack
Secondary bootinfo
Verifying connection...
Connected to bootloader
Comms established to H2110Boudica, bootloader stage FlashSecurity protocol version 29
Established communications with UE
Checking to see if a full chip erase can be performed...
Initial bootInfo
Secondary bootInfo/ack
Verifying connection...
Wiping using the flash limits...
Erase complete.
Application finished.
  
```

Figure 11: Flash is Completely Erased

3.1.3. Upgrade Firmware via UEUpdaterCLI

- Open the upgrade package and record the local path.

BoudicaV100R100C10B657_QUECTEL.zip	2017/12/26 14:10	WinRAR Z...	12,807 KB
UEUpdater_3.11.0.5.zip	2017/12/7 11:00	WinRAR Z...	3,467 KB
UEUpdaterCLI-3.11.0.5.msi	2017/10/12 16:14	Windows ...	4,380 KB

Figure 12: Information of Upgrade Package

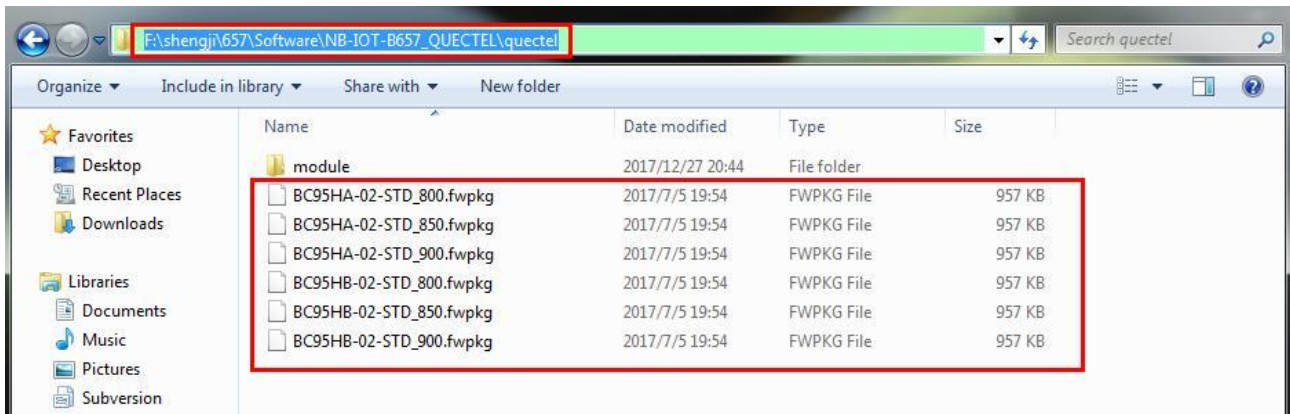


Figure 13: Information of Local Path

- In the UEUpdaterCLI interface, enter the upgrade command: `ueupdater.exe updateall --in F:\shengji\657\Software\NB-IOT-B657_QUECTEL\quectel\BC95HB-02-STD_850.fwpkg --port com44 --noBaudSwitch --passive`, in which the local path, .fwpkg file name, and port should be set accordingly. After the execution of the command has been finished, press “Enter” key to upgrade.

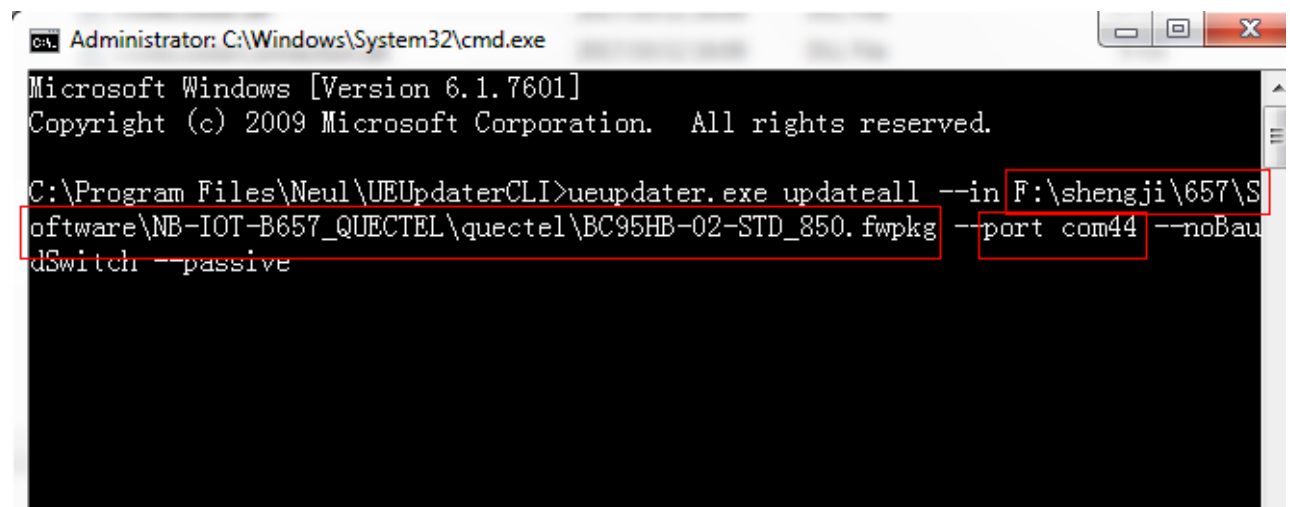
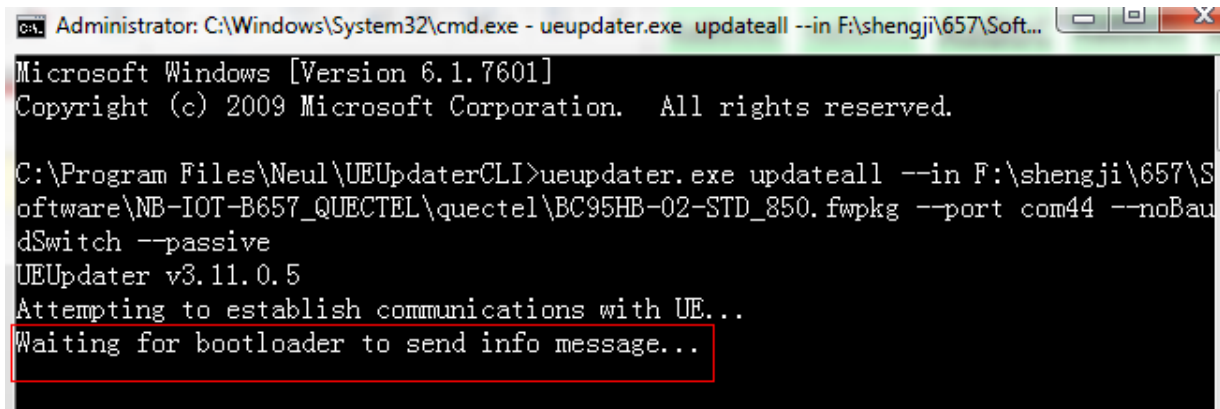


Figure 14: Upgrade Firmware

NOTE

The “BC95HB-02-STD_850.fwpkg” in the command is the filename of the version package. “HB” indicates the hardware version, 700 corresponds to Band 28, 800 corresponds to Band 20, 850 corresponds to Band 5, and 900 corresponds to Band 8. Please select corresponding file according to the ordering code on the module.

3. When "Waiting for bootloader to send info message..." shows up, press "Reset" button on the module, or power off the module and then power on to restart the module.

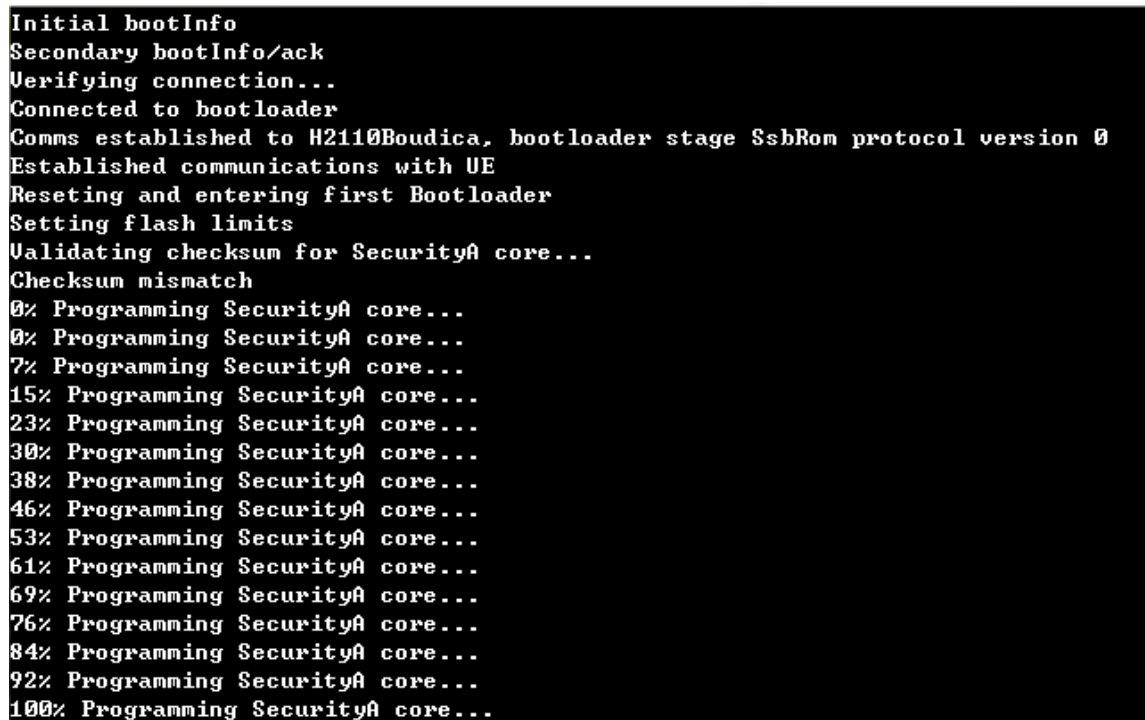


```
Administrator: C:\Windows\System32\cmd.exe - ueupdater.exe updateall --in F:\shengji\657\Soft...
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Program Files\Neul\UEUpdaterCLI>ueupdater.exe updateall --in F:\shengji\657\Software\NB-IOT-B657_QUECTEL\quectel\BC95HB-02-STD_850.fwpkg --port com44 --noBaudSwitch --passive
UEUpdater v3.11.0.5
Attempting to establish communications with UE...
Waiting for bootloader to send info message...
```

Figure 15: Prompt for Restarting the Module

4. After restarting the module, it starts upgrading the firmware, please wait during the process.



```
Initial bootInfo
Secondary bootInfo/ack
Verifying connection...
Connected to bootloader
Comms established to H2110Boudica, bootloader stage SsbRom protocol version 0
Established communications with UE
Resetting and entering first Bootloader
Setting flash limits
Validating checksum for SecurityA core...
Checksum mismatch
0% Programming SecurityA core...
0% Programming SecurityA core...
7% Programming SecurityA core...
15% Programming SecurityA core...
23% Programming SecurityA core...
30% Programming SecurityA core...
38% Programming SecurityA core...
46% Programming SecurityA core...
53% Programming SecurityA core...
61% Programming SecurityA core...
69% Programming SecurityA core...
76% Programming SecurityA core...
84% Programming SecurityA core...
92% Programming SecurityA core...
100% Programming SecurityA core...
```

Figure 16: Upgrading Process

- When “**Application finished**” shows up, it indicates the firmware is upgraded completely.

```
72% Setting general configuration
77% Setting general configuration
83% Setting general configuration
88% Setting general configuration
94% Setting general configuration
100% Setting general configuration
Update complete.
Application finished.
C:\Program Files (x86)\Neul\UEUpdaterCLI>
```

Figure 17: Firmware is Completely Upgraded

- Restart the module, and query the firmware version by **AT+CGMR** or **ATI**¹⁾. If the target version is returned, then the firmware is successfully upgraded.
- Write the IMEI number which has been read out before erasing flash to the module by **AT+NTSETID=1,.....**²⁾ and query the IMEI number by **AT+CGSN=1**. If the original and target versions are both higher than B657SP1, then this step should be omitted.

NOTES

- ¹⁾ If the firmware version is lower than B657SP2, please use **AT+CGMR** to query the revision; otherwise, **ATI** can be used.
- ²⁾ If the firmware version is lower than B657SP3, IMEI number can be written by **AT+NTSETID=1,.....** command; otherwise, please contact Quectel Technical Support to write the IMEI number.
- B657SP3 refers to BC95BxHBR01A03W16 and BC95BxHBR01A04W16 versions (in which “Bx” indicates B5, B8, B20 or B28).

3.2. Firmware Upgrade via UEUpdaterUI

3.2.1. Install UEUpdaterUI

- Unzip *UEUpdater_3.11.0.5.zip* and double-click *UEUpdaterUI-3.11.0.5.msi* to install UEUpdaterUI.

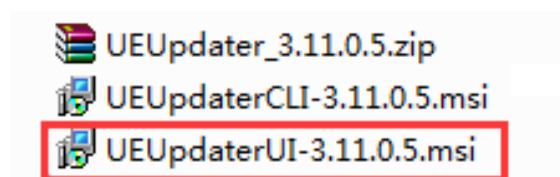


Figure 18: UEUpdaterUI Installation Package

2. Wait until the following window shows up, and then click **Next**.

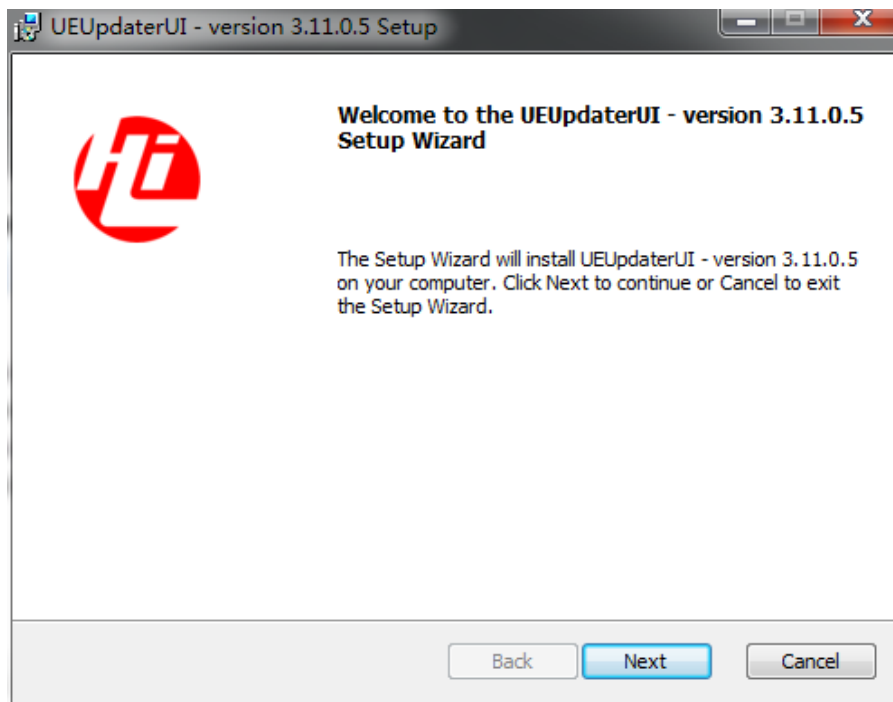


Figure 19: UEUpdaterUI Setup Wizard

3. Please wait for the program to install.

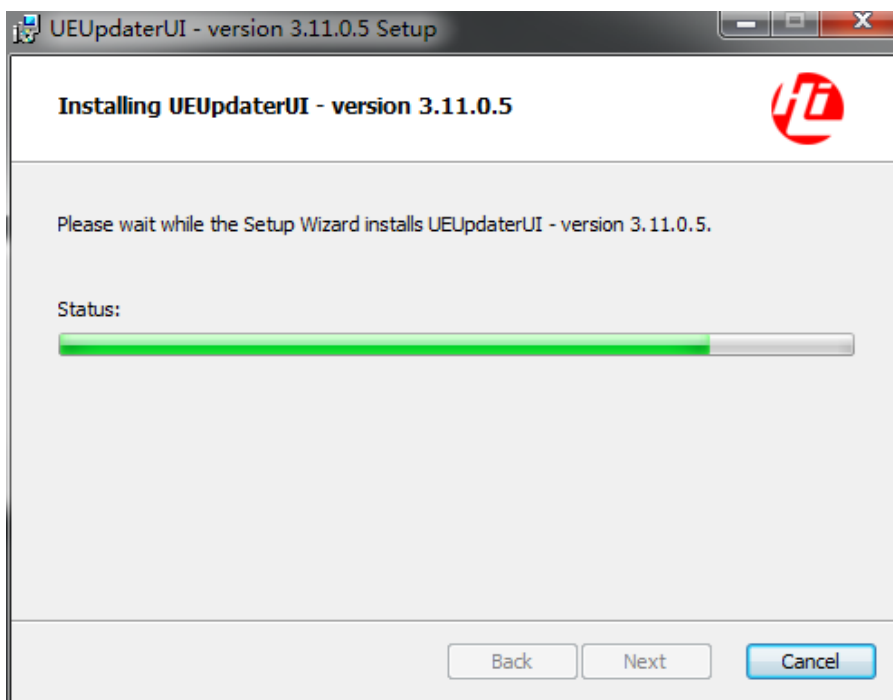


Figure 20: Wait While Installing UEUpdaterUI

- Click **Finish** to accomplish installation. A shortcut will be automatically generated on the desktop.

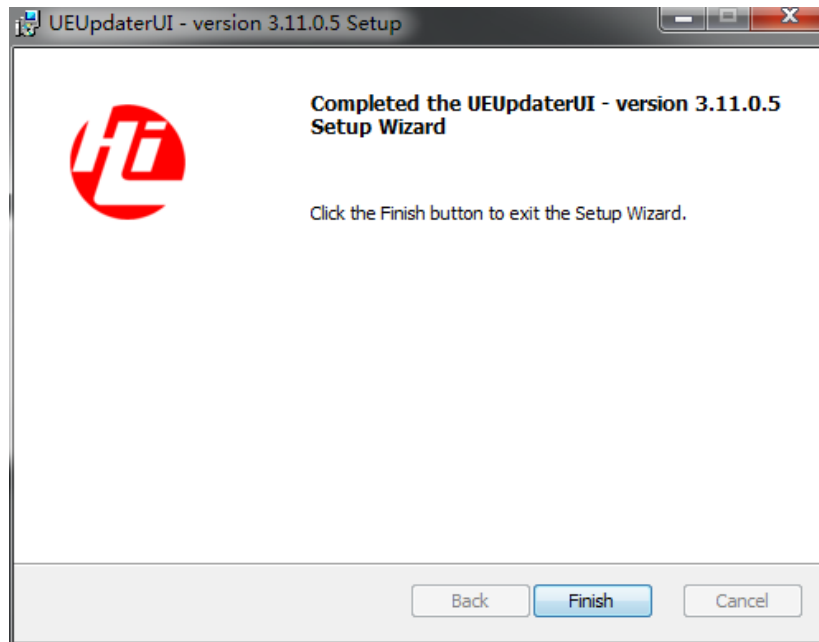


Figure 21: UEUpdaterCLI is Successfully Installed

3.2.2. Upgrade Firmware via UEUpdaterUI

- Double-click the desktop shortcut generated when installing UEUpdaterUI to open the UEUpdaterUI.

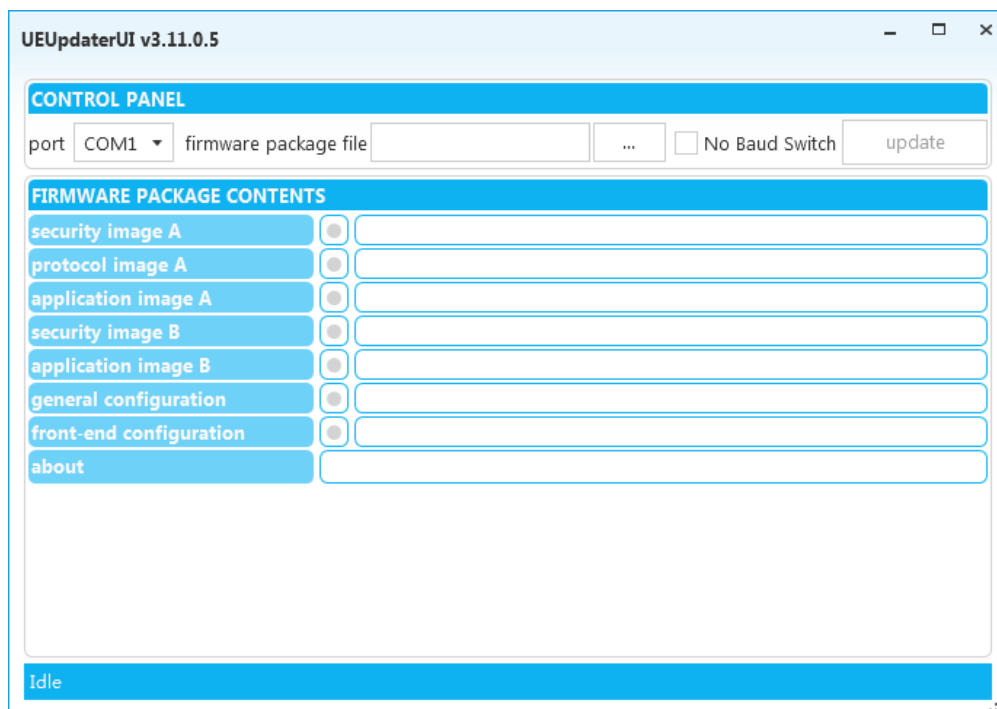


Figure 22: UEUpdaterUI Interface

2. Select the main serial port to upgrade the firmware.

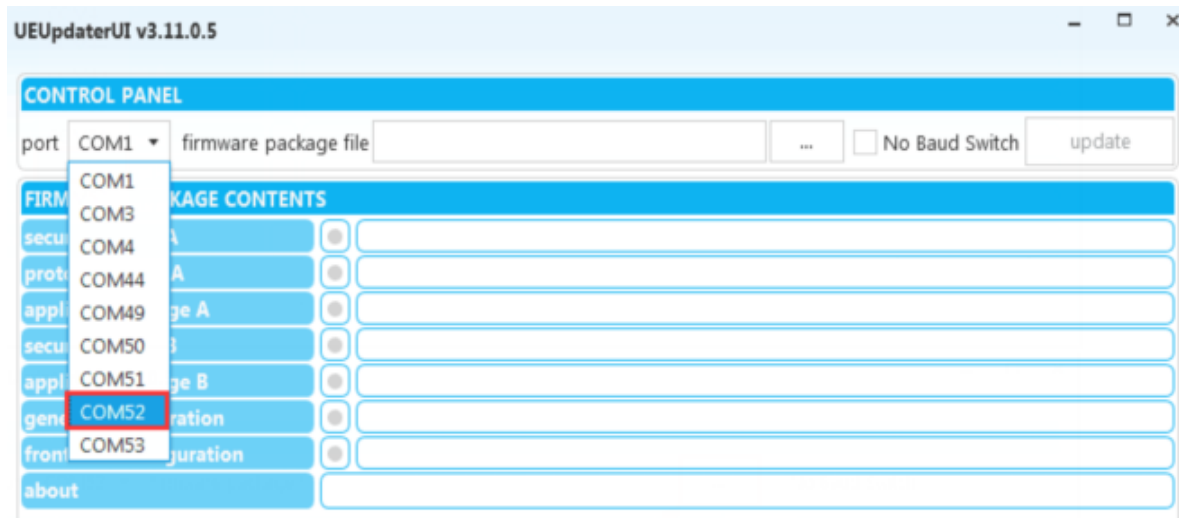


Figure 23: Select Main Port to Upgrade

3. Click the “**browse**” button to select the firmware package.

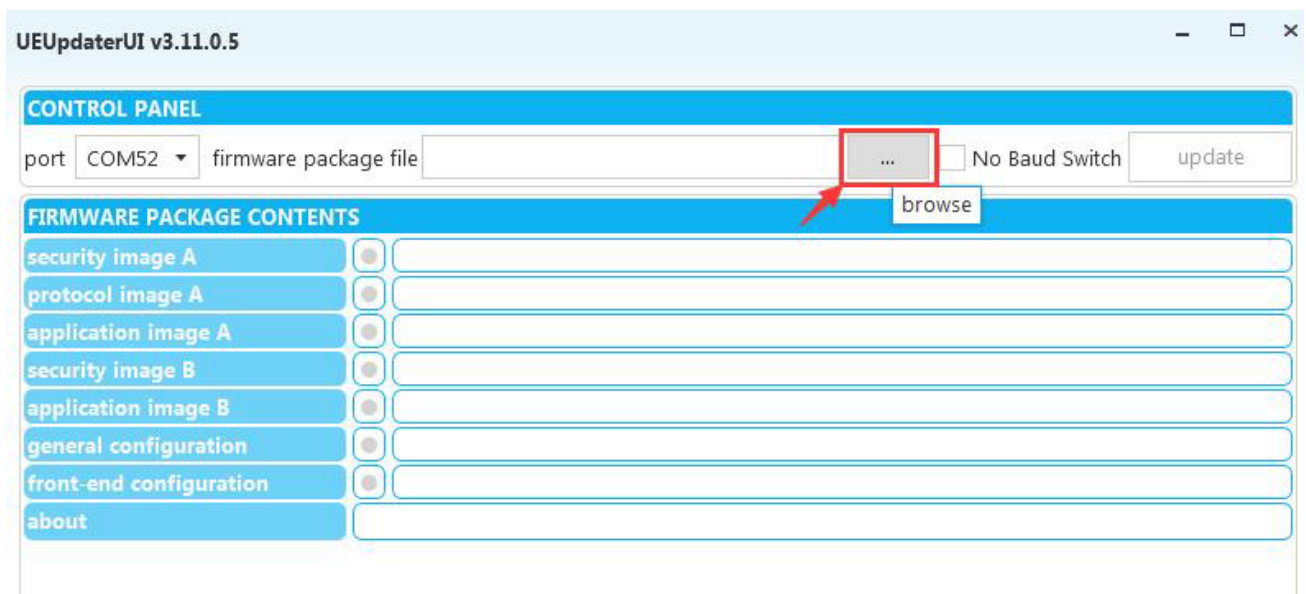


Figure 24: Click Browse to Select the Firmware Package

- Select the target firmware in .fwpkg format, and then check “No Baud Switch”.

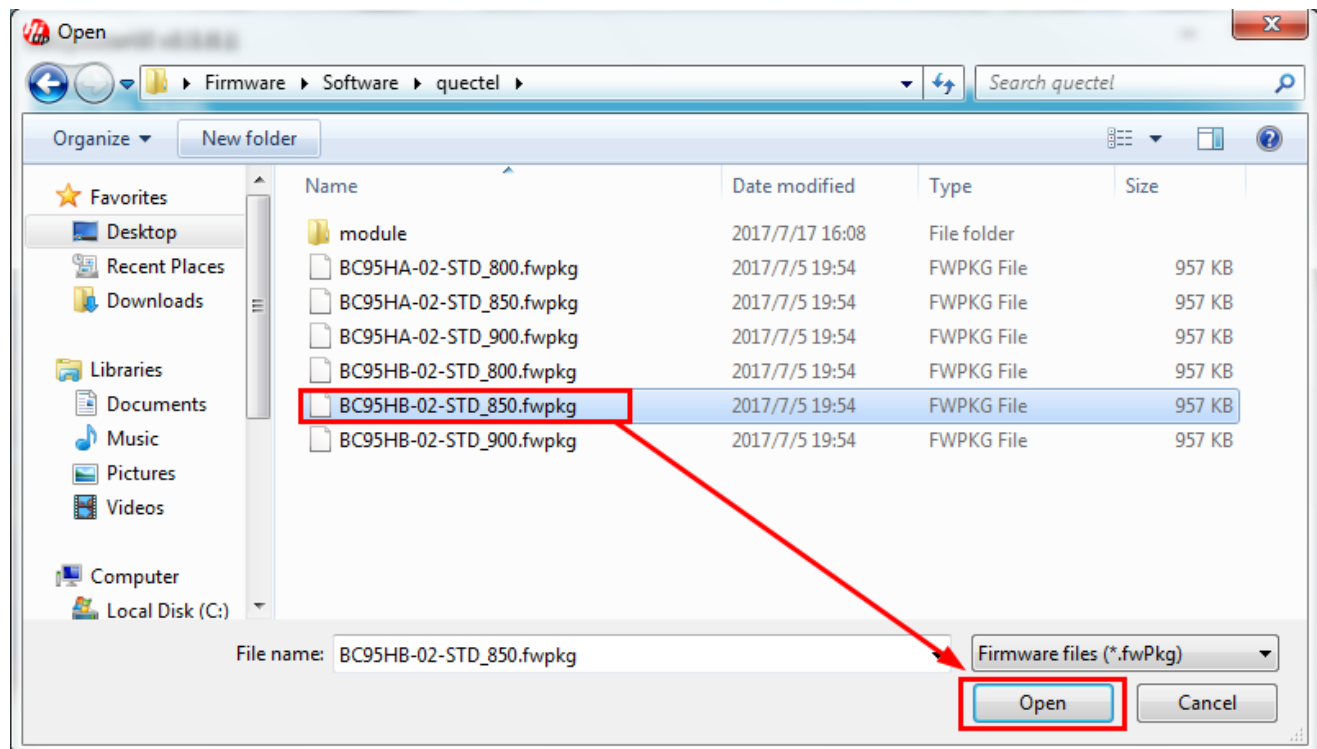


Figure 25: Select the Target Firmware Package

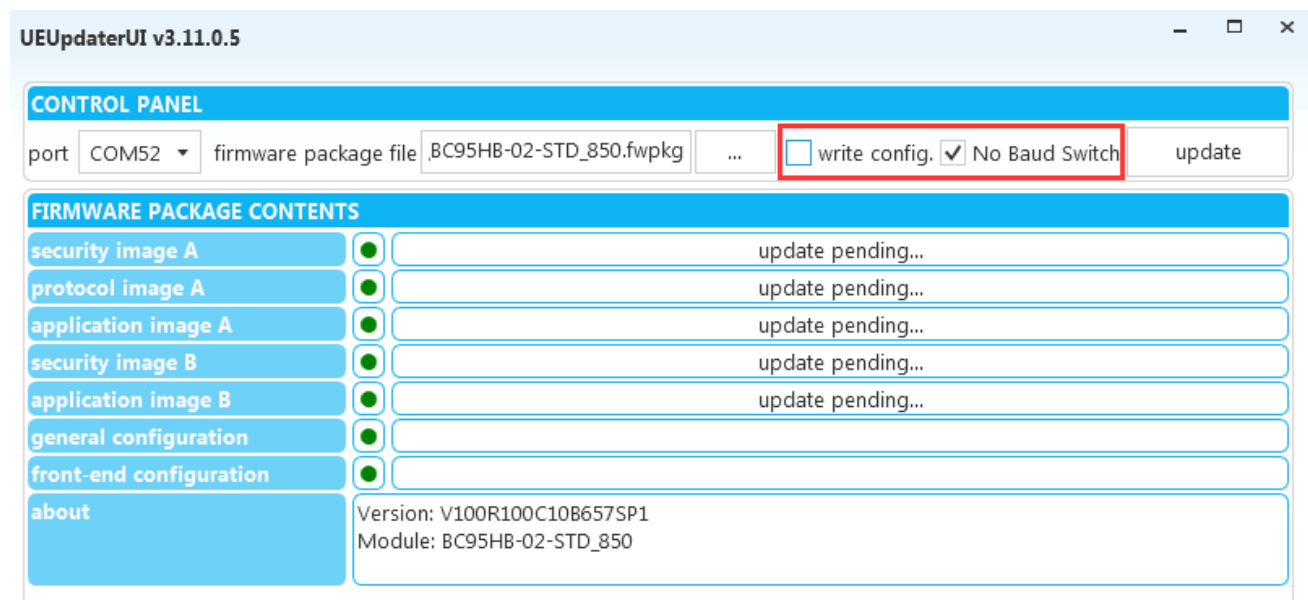


Figure 26: Check “No Baud Switch”

NOTE

The “BC95HB-02-STD_850.fwpkg” in the selection list is the filename of the version package. “HB” indicates the hardware version, 700 corresponds to Band 28, 800 corresponds to Band 20, 850 corresponds to Band 5, and 900 corresponds to Band 8. Please select corresponding file according to the ordering code on the module.

- Click the “**update**” button to start upgrading. When “**update pending...**” shows up, reset the module or power off the module and then power on to restart the module.

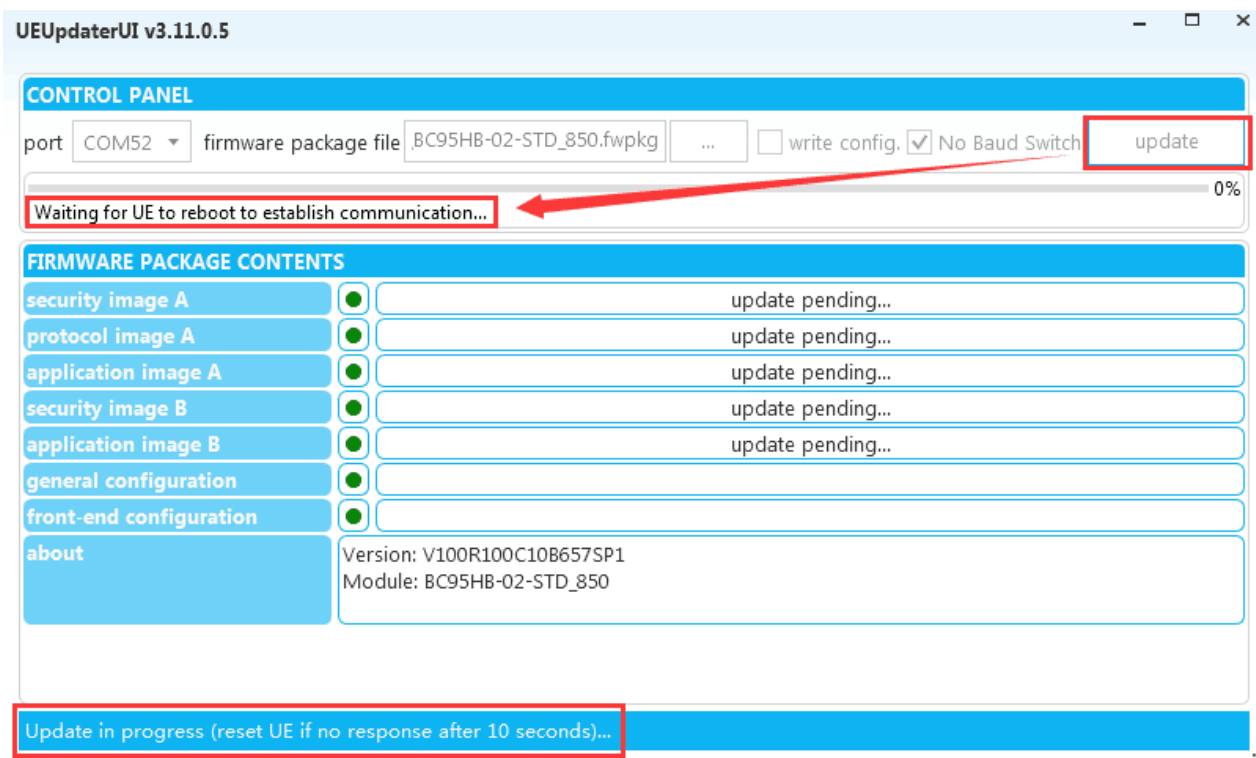


Figure 27: Prompt for Updating

NOTE

Please reset the module within 10 seconds, otherwise UEUpdateUI will be disconnected with the main port.

6. After restarting the module, it starts upgrading the firmware, please wait during the process.

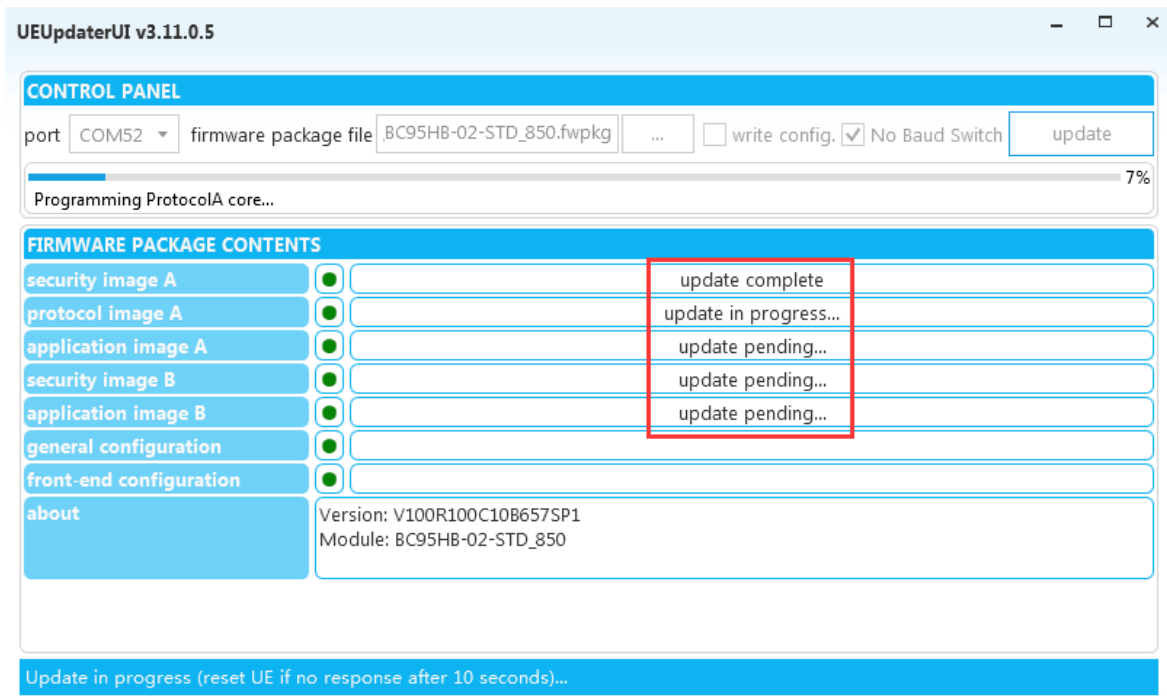


Figure 28: Upgrading Process

7. When all “**update pending...**” status changes to “**update complete**” or “**already loaded**”, it indicates the firmware has upgraded completely.

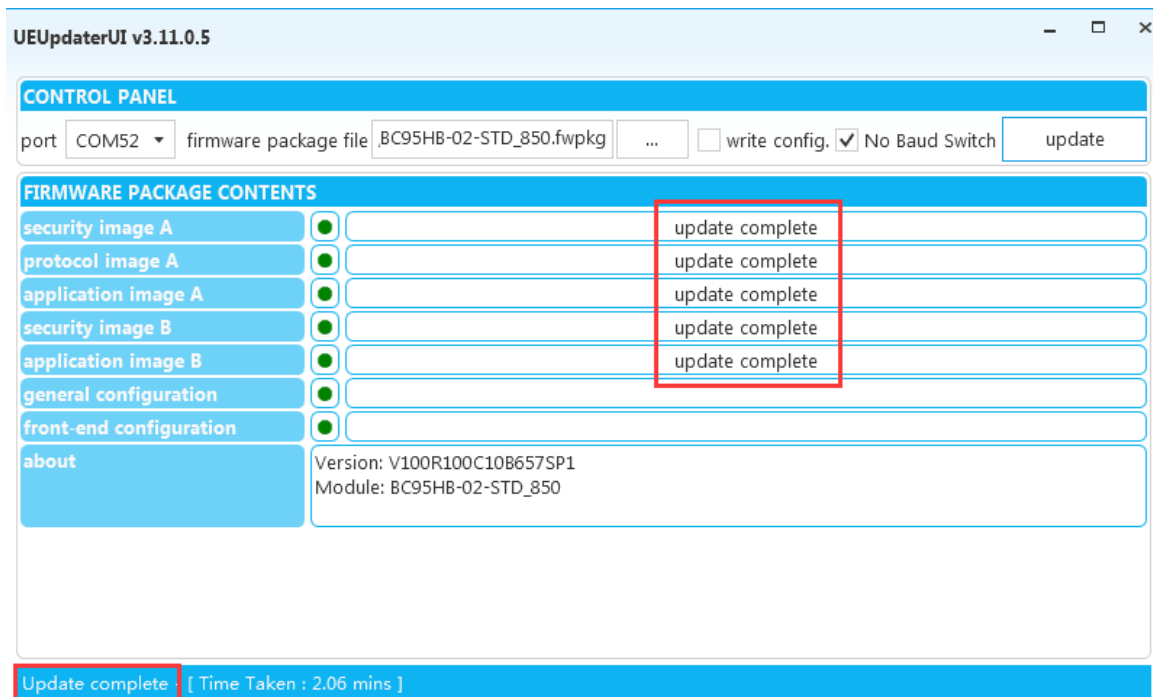


Figure 29: Firmware is Completely Upgraded

8. Restart the module, and query the firmware version by **AT+CGMR** or **ATI**¹⁾. If the returned target version is correct, then the firmware is successfully upgraded.

NOTES

1. ¹⁾ If the firmware version is lower than B657SP3, please use **AT+CGMR** to query the revision; otherwise, **ATI** can be used.
2. B657SP3 refers to BC95BxHBR01A03W16 and BC95BxHBR01A04W16 versions (in which “Bx” indicates B5, B8, B20 or B28).