

# **WCDMA UGxx**

# **Backup And Restore**

# **NVRAM User Guide**

**UMTS/HSPA Module Series**

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# About the Document

## History

Revision	Date	Author	Description
1.0	2014-12-24	Alan WANG	Initial
1.1	2015-03-04	Alan WANG	Changed the document name from “UG95” to “UGxx”.
1.2	2015-04-01	Alan WANG	Updated applicable modules.

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# 1 Introduction

When upgrading UGxx firmware to a newer firmware, RF calibration, IMEI and other important data will be lost, thus making the module fails to register to network. This document describes how to backup and restore these parameters when updating the firmware.

The main procedure is shown as below:

**Step 1:** Backup the parameters.

**Step 2:** Upgrade the firmware.

**Step 3:** Restore the RF calibration data via backup files and rewrite the IMEI by Phone Tool.

This document is applicable to UGxx modules.

## 2 Preparation

The following preparations are needed before backing up and restoring NVRAM:

1. Install Phone Tool via “*PhoneTool\_setup.exe*”.
2. Install UGxx USB driver.

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## 3 NV Backup Procedure

1. Connect the module to PC with USB or Main UART port, then power on the module.
2. Open Phone Tool, as shown in Figure 1.
3. Choose Modem or UART port in the red box (Some Phone Tools may not need to select the UART or Modem port). Then click the button "**Update Info**". If operating successfully, the **Target Details** will display the module information as below.

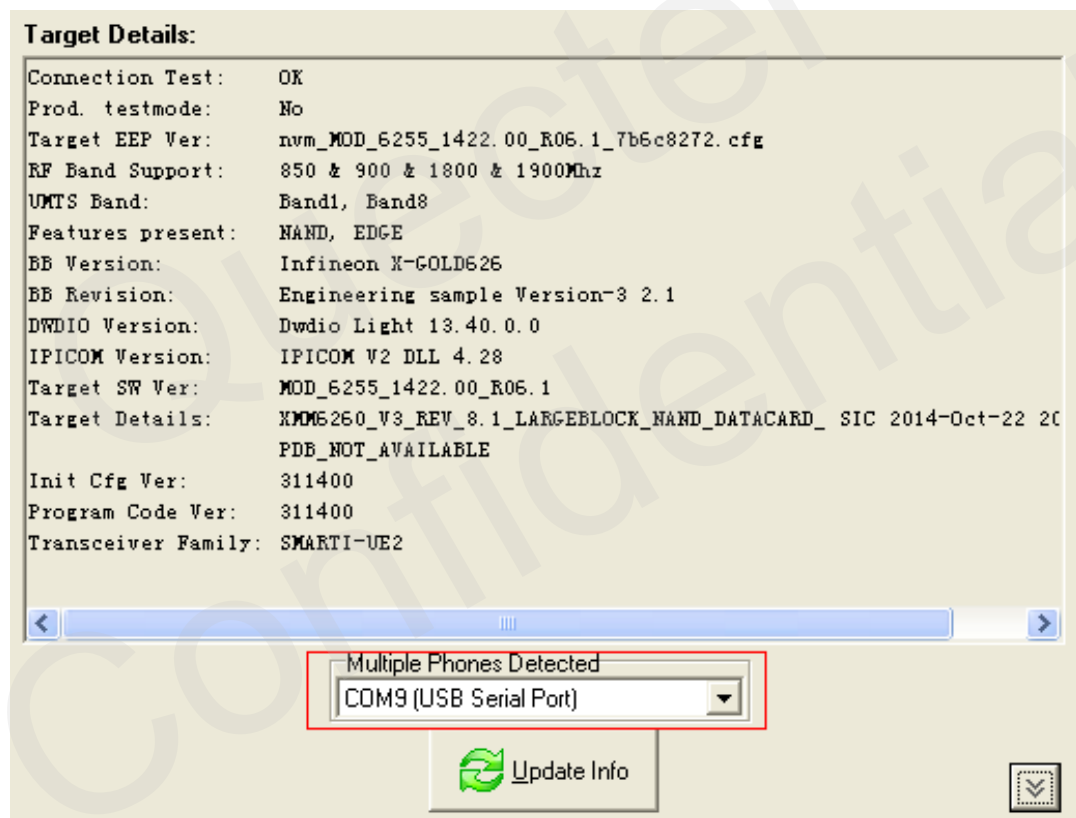


Figure 1: Update Info

4. Choose the "**Modes ->NVM\_Editor\_GTI**" in the menu bar, a new interface will be popped up, as shown in Figure 2 & 3.



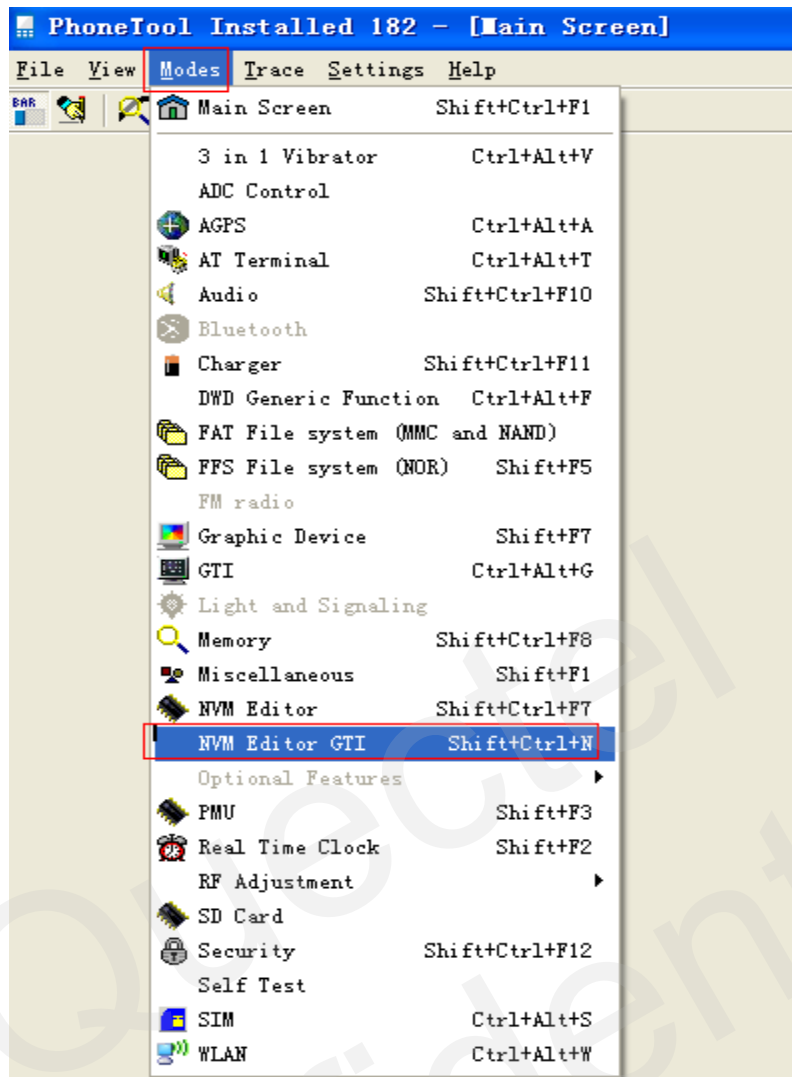


Figure 2: NVM\_Editor\_GTI

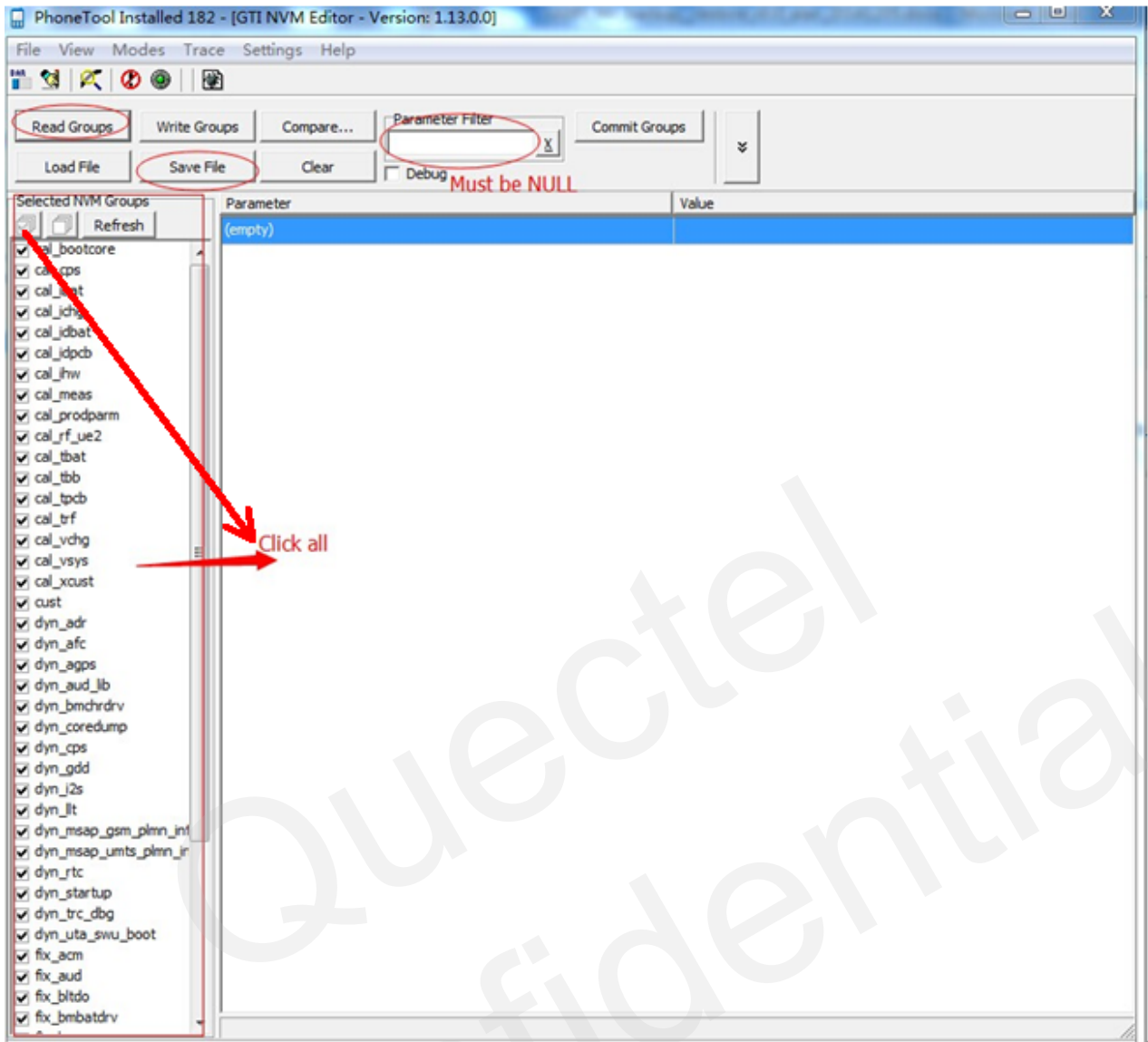


Figure 3: Backup File

5. Keep "**Parameter Filter**" as null and select all NVM groups.
6. Click the button "**Read Groups**", after reading, click the button "**Save File**" to save the file and edit the file name, shown as below.

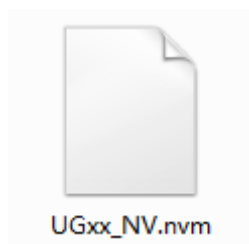


Figure 4: NV\_FILE

## 4 Firmware Upgrading Procedure

Upgrade the firmware by QFlash Tool. About the details, please refer to *Quectel\_QFlash\_User\_Guide*.

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## 5 NV Restoring Procedure

1. Firstly, enter the NVM Editor GTI via Phone Tool. Please refer to the Chapter 3 for detailed steps.
2. Click the button “**Load File**” in the Figure 3, and choose the file to be loaded, as shown in Figure 5.

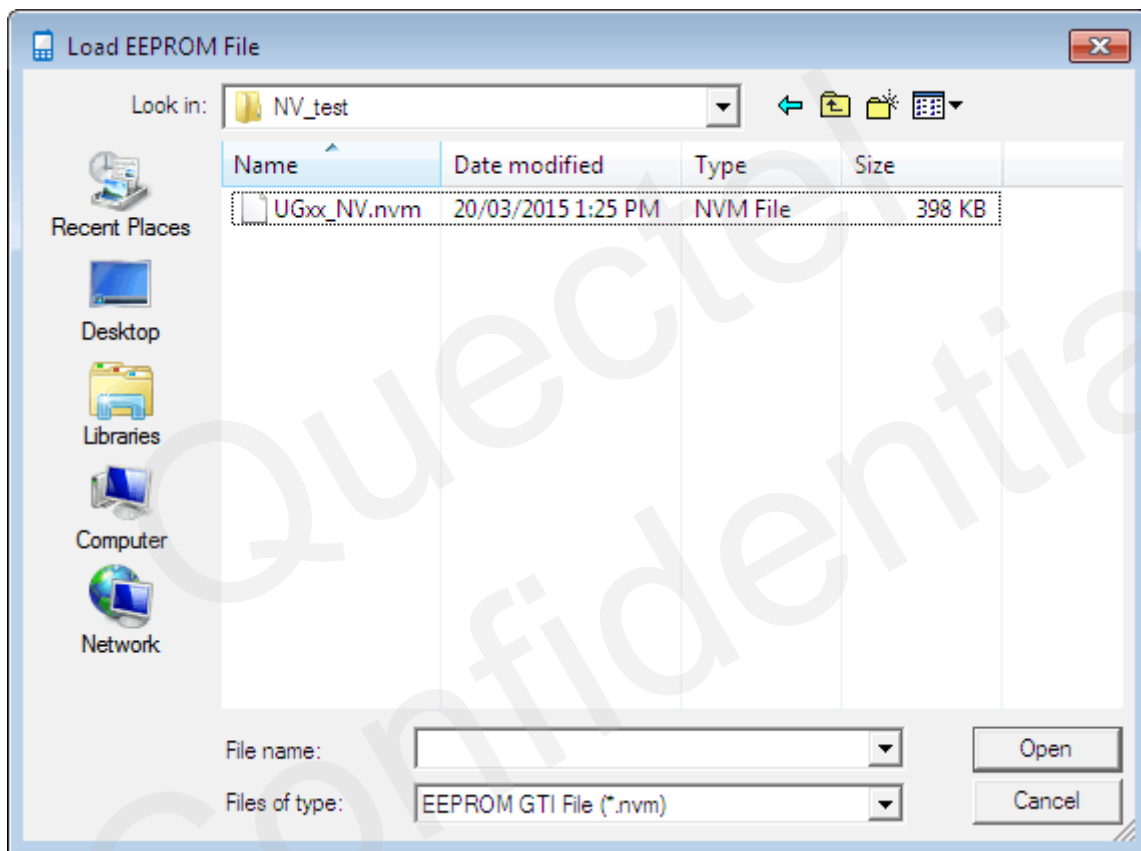


Figure 5: Load File

3. Click the button “**Write Groups**” in the Figure 3. During this step, there may be some errors reported, please ignore them.
4. Click the button “**Commit Groups**”, and then wait for the tool to finish the restoring process.

## 6 IMEI Rewriting Procedure

1. Choose the “**Modes ->security**” in the menu bar of Phone Tool, as shown in Figure 6.

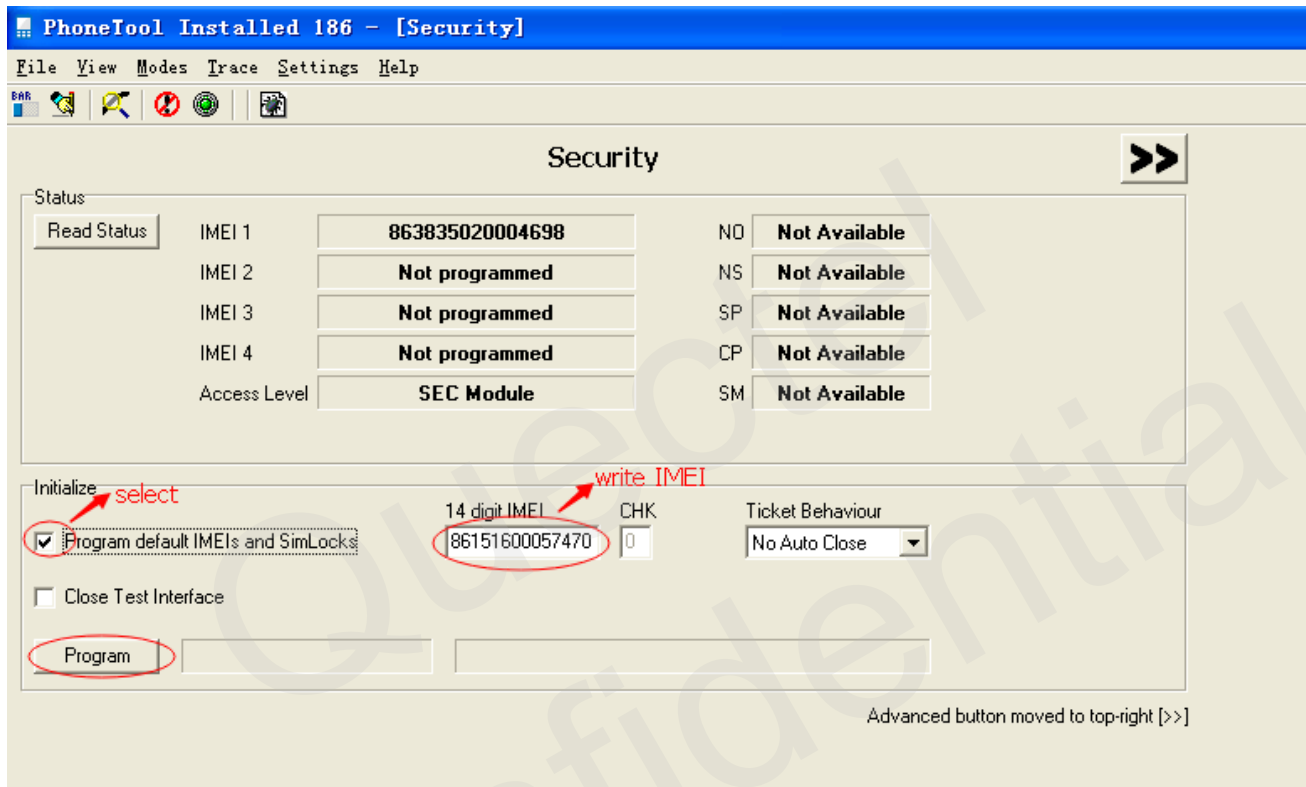


Figure 6: Rewrite IMEI

2. Click “**Program default IMEIs and SimLocks**”, and input IMEI in “**14 digit IMEI**”, then click the button “**Program**”.

### NOTE

You can get the module’s IMEI value with command “**AT+GSN**”.

## 7 Recommended Parameters Validating Procedure

After restoring NV and rewriting IMEI, it is necessary to reboot the module and validate the parameters. The recommended validating procedure is shown as below:

1. Reboot module.
2. Query the network registration status by executing the **"AT+CREG?"**.
3. Query the GPRS network registration status by executing the **"AT+CGREG?"**.
4. Query the current operators and their status by executing the **"AT+COPS?"**.

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