

# **EC25&EC21&EC20 R2.0**

## **QFlash Linux&Android**

### **User Guide**

**LTE Module Series**

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## About the Document

### History

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# 1 Introduction

This document mainly introduces how to use QFlash tool to upgrade firmware on Linux and Android systems for Quectel EC25, EC21 and EC20 R2.0 modules.

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## 2 Introduction on Port

Before using QFlash tool, please ensure that USB driver of the module has been installed successfully in host system. After the module has been connected to the host via USB cable, the corresponding USB virtual ports will be displayed. The UART ports and the descriptors of corresponding USB virtual ports on the host system are listed as below.

- ttyUSB0-----DM Port
- ttyUSB1-----NEMA Port
- ttyUSB2-----AT Port
- ttyUSB3-----Modem Port
- ttyUSB4-----Wireless Ethernet Adapter Port

### NOTE

The descriptors of USB virtual ports listed above are under the assumption that the host is not connected with other USB virtual devices. It is suggested that the host is only connected with Quectel modules when upgrading.

# 3 Operating Parameters of QFlash

QFlash program can specify the operating parameters in command line. The detailed parameters are illustrated as below.

**Table 1: Description of Operating Parameters**

Item	Parameter	Optional/ Non-optional	Description
1	-f <firmware package file name>	Non-optional	The name of the firmware package file which needs to be upgraded
2	-p <port>	Optional	The port on which the firmware is upgraded (ttyUSBx), default value is ttyUSB0.
3	-b <baudrate>	Optional	Baud rate, default value is 115200bps. Only valid for UART port. The currently supported baud rates include: 9600bps, 19200bps, 38400bps, 57600bps, 115200bps, 230400bps, 460800bps and 921600bps.
4	-m <upgrade method>	Optional	Upgrading method: 0 Fastboot 1 Normal method 2 Backup only 3 Restore only 4 Backup, upgrade and restore Default value is 1.
5	-s < transport block size>	Optional	The size of the transport block, unit is KB, default value is 128.

# 4 Upgrade Firmware through QFlash

This chapter mainly introduces how to use the QFlash to upgrade firmware on Linux and Android systems. The firmware can be upgraded via DM port, AT port or modem port which is virtualized by USB driver, or via UART port directly.

Put the QFlash tool and the firmware package file into one directory of the host system. For example, the current directory is *workplace* and firmware package file is *EC25EFAR02A04V03M4G*, please switch to the *workplace* directory first, and then run the QFlash tool by following command.

```
./QFlash -f EC25EFAR02A04V03M4G -p ttyUSB0
```

There are two methods to upgrade the firmware. One is normal method, and the other is fastboot.

## NOTE

Due to the complex operating environment on Linux and Android systems, sometimes customers have to compile source codes under their own development environment to generate the QFlash tool. In this case, customers need to contact Quectel Technical Support to apply for the source codes to run the QFlash.

## 4.1. Upgrade Firmware by Normal Method

Run QFlash by following command:

```
./QFlash -f <Firmware package file name> -p ttyUSB0 -m 1
```

The upgrading process is shown as below:

```
root@hunter-OptiPlex-780:/home/hunter/work_dir/download_tool/EC25# ./QFlash -f ../firmware\ package/ -p ttyUSB0 -m 1
The CPU is little endian

firmware path: /home/hunter/work_dir/download_tool/EC25/./firmware package/
Module upgrade tool, Fri May 5 16:16:19 2017

/home/hunter/work_dir/download_tool/EC25/./firmware package//update/partition_nand.xml
fail to open /home/hunter/work_dir/download_tool/EC25/./firmware package//update//update.qqb
```

**Figure 1: Upgrading Process by Normal Method**

If the prompt in the following red box shows up, then the firmware is upgraded successfully.

```
flash 0:recoveryfs /home/hunter/work_dir/download_tool/EC25/./EC20CEFDR02A09V04M4G//update//mdm-perf-recovery-image-
sending '0:recoveryfs' (10496KB)
progress : 100% finished
OKAY
The file download time is 24s : 321ms : 621us
flash 0:sys_back /home/hunter/work_dir/download_tool/EC25/./EC20CEFDR02A09V04M4G//update//mdm9607-perf-sysfs.ubi
sending '0:sys_back' (47104KB)
progress : 100% finished
OKAY
The file download time is 1min : 49s : 186ms : 898us
flash 0:system /home/hunter/work_dir/download_tool/EC25/./EC20CEFDR02A09V04M4G//update//mdm9607-perf-sysfs.ubi
sending '0:system' (47104KB)
progress : 100% finished
OKAY
The file download time is 1min : 51s : 186ms : 898us
the device restart...

Welcome to use the Quectel module!!!
Upgrade module successfully, Fri May 5 15:58:15 2017
THE TOTAL DOWNLOAD TIME IS 6min : 55s : 186ms : 898us
```

Figure 2: Firmware is Upgraded Successfully by Normal Method

## 4.2. Upgrade Firmware by Fastboot

Run QFlash by following command:

```
./QFlash -f <Firmware package file name> -p ttyUSB0 -m 0
```

The upgrading process is shown as below:

```
root@hunter-OptiPlex-780:/home/hunter/work_dir/download_tool/EC25# ./QFlash -f ../firmware\ package/ -p ttyUSB0 -m 0
The CPU is little endian

firmware path: /home/hunter/work_dir/download_tool/EC25/./firmware package/
Module upgrade tool, Fri May 5 16:22:15 2017

/home/hunter/work_dir/download_tool/EC25/./firmware package//update/partition_nand.xml
fail to open /home/hunter/work_dir/download_tool/EC25/./firmware package//update//update.qqb
```

Figure 3: Upgrading Process by Fastboot

If the prompt in the following red box shows up, then the firmware is upgraded successfully.

```
writing 'system'...  
OKAY [ 12.271s]  
finished. total time: 13.814s  
/home/hunter/work_dir/download_tool/EC25/QLinuxUPG fastboot reboot  
rebooting...  
  
finished. total time: 0.018s  
the device restart...  
  
Wlcome to use the Quectel module!!!  
Upgrade module successfully, Fri May 5 15:49:49 2017  
The file download time is 1min : 21s : 293ms : 544us
```

Figure 4: Firmware is Upgraded Successfully by Fastboot

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