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Open

## EMB1060 Firmware Upgrading Instruction

### Abstract

This document mainly introduces the use of STLink tools and serial tools to upgrade BLEKit-1060 firmware.

### More Help

Log in the official website of Shanghai Qingke: <<http://mxchip.com/>> to get the latest product information of the company.

Login in the Developer Forum: <http://bbs.mxchip.com/forum.php> to exchange module development information.

Log in to the Developer Document Center: <https://en.docs.mxchip.com/#/>, for more development information.

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## Version Record

Data	Version	Update Content
2017-7-20	V1.0	Initial Version

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## 1. Introduction

This document mainly introduces the use of STLink tools and serial tools to upgrade BLEKit-1060 firmware. This document takes BLEKit-1060 development board as an example.

Applicable module type:

- EMB1060 Series

Hardware tools

- 64bit-PC 1, BLEKit-10601, STlink set

Software tool:

- En.STSW-BNRG1STLINK, Firmware Upgrade Tools, EMB1060\_AutoManufactureTools.exe

Firmware:

- EMB1060\_AT15\_20170707

Operating environment:

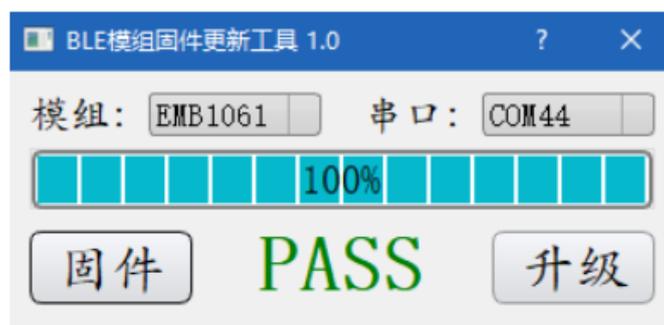
- The en.STSW-BNRG1STLINK and Firmware Upgrade Tools tools can only run on Windows 7 and above 64-bit PCs

## 2. Serial Port Tool Burning Method

- Decompress the compressed package and install the USB driver "CDM 2.08.30 WHQL Certified\_64".
- The development board is powered by USB interface, and the corresponding serial passwords are viewed from the device manager.
- Enter BOOTLOADER mode, confirm that the module has been powered (a red LED lights up next to the USB port), hold the BOOT button and do not release, then reset the module through the Reset button, and release the BOOT button. If the operation is successful, EMB1060 will enter BootLoader mode.
- Open Firmware Upgrade Tools.exe, the firmware upgrade tool software, and select EMB1060 as the module. Select the user serial number and firmware file.
- Select the firmware file you want to upgrade (click the firmware button). If everything works, you will see the upgrade button brighten. Indicates that it can be upgraded. At this point, the mouse hovers over the firmware button to see the absolute path of the firmware that has been selected. As shown in the figure:



- Click the Upgrade button and a dialog box will pop up to prompt the user to confirm that the module is now in BootLoader mode. Click OK to start the upgrade, as shown below:



- When the upgrade is successful, the module will automatically reset and run from the latest

firmware. If an error occurs during the upgrade process, the tool will pop up the corresponding error prompt, which can be further processed by the user.

Note: The upgrade process is irrevocable. Users are prohibited from closing the upgrade tool, otherwise it may cause unpredictable consequences.

Compared with SWD upgrade, serial port upgrade does not erase MAC and other information. It is recommended that customers use this method.

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### 3. STLink Downloading Method

Each Bluetooth module of Qingke factory has a unique MAC address. The default burning address is Flash: page 77, 0x10066800, and the first six bytes of 0x10066800 are the Mac storage location of EMB1060 module.

When customers use STLink to burn firmware in secondary development, the MAC address will be erased and can be scanned by EMB1060 tag and written again.

STLink supports two modes, which are suitable for development, commissioning and production line batch production.

#### 3.1 STLink Download: Development and Debug

Use engineering burning, STLINK with IAR/Keil development tools burning.

#### 3.2 STLink Download: Production

The EMB1060\_AutoManufactureTools.exe tool can be used for production line burning, which is suitable for rapid batch burning.

##### 3.2.1 Usage

1. Configure theconfig.json file, which is in catalog of config.

```
{
  "stlink_max_num": 1,
  "stlink_tool": "C:\\Program Files (x86)\\STMicroelectronics\\BlueNRG-1 ST-Link Utility V 1.0.0\\ST-LINK_UTILITY\\BlueNRG-1_ST-LINK_CLI.exe",
  "address": "0x10040000",
  "firmware": "C:\\Users\\mxchip\\Desktop\\wifi module\\EMB1061\\BLEKIT 1061\\Jlink Update\\EMB1061_APP_ATV15_20170707\\EMB1061_AT15_20170707.bin"
}
```

"firmware"

--- The absolute path to the firmware to be burned (ibid.) is in principle provided by MXCHIP.

"stlink\_max\_num"

--- The maximum number of ST-Links currently known to PC.

2. Start

Double-click the EMB1060\_AutoManufactureTools.exe executable file to start automatically downloading the specified firmware. If a batch of modules have been prompted to complete the burning, you can replace a batch of modules, tool detection will automatically burn.

3. Stop

Close cmd window or input CTRL+C in cmd.

### 3.2.2 Workflow

1. The tool will automatically detect all available ST-LINK on PC after it starts working. It is recommended that the burning tool use ST-LINK/V2.
2. When ST-LINK is detected, it will be automatically burned, and there will be information prompts for completion or failure of burning.
3. Keep burning the next one.
4. When all ST-LINK has been burned, the tool will wait for the user to remove the new module.
5. When the module has been replaced, the tool will automatically start burning again.

This goes on and on until the user closes the tool.1,

### 3.2.3 Attention

1. Be sure to config. JSON files are configured (especially two absolute paths)
2. Tool root directory. Do not delete any files or folders except the configuration files under config folder.

### 3.2.4 Error Handling

1. If the module has been connected to STLINK and the operation is normal, but still indicates burning failure, then it is recommended to reconnect STLINK with PC (once plug-in).
2. If the system prompts that some components are missing (such as vs2015 vc\_redist\_x86), please find and install them in the setup directory.
3. If the above is still unresolved, stop burning tools and re-plug all ST-LINK. Just rewrite it.
4. If it is not possible to solve the problem, please feedback the current error working log file log < current date >. log file under the log folder to MXCHIP in order to help solve the problem.

## 4. Sales Information and Technical Support

For consultation or purchase the product, please contact Mxchip during working hours:

From Monday to Friday, morning 9:00~12:00, afternoon 13:00~18:00

Telephone: +86-21-52655026

Contact address: 9thFloor, No.5, Lane2145 JinshaJiang Road Putuo District, ShangHai.

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