



SIM8905 Series Smart Module Compilation and Burning

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About Document

Document Information

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Revision	Date	Owner	Status / Comments
1.00	April 8, 2018	Mingyang.yuan	First Release.
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Related Documents

This document applies to the following products:

Name	Type	Size (mm)	Comments
SIM8905A/E/AU	Smart Module	40.5*40.5*2.8	N/A

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1 Purpose of this document

Firstly, this document describes the establishment of environment that is required to compile firmware for SIMCom smart module SIM8905 series. Also in the document, it provides the steps and commands to compile firmware with examples. Finally, it illustrates how to burn images into SIM8905 series module with QFIL tool.

2 Compiling environment

2.1. Compiling environment (Recommended hardware or above)

The following is an example of the android compiling environment.

CPU: Intel (R) Core (TM) i7-4790 CPU @ 3.60GHz

Memory: 16G

Hard Disk: 500G

Ubuntu: Ubuntu 64bit 14.04.5 LTS

2.2. How to compile the entire Android software

1. Use “apt-get” command to install software packages as below:

The order is as follows:

```
sudo apt-get update
sudo apt-get install git-core gnupg flex bison gperf build-essential zip curl
zlib1g-dev libc6-dev lib32ncurses5-dev ia32-libs x11proto-core-dev libx11-dev
lib32readline-gplv2-dev lib32z-dev libgl1-mesa-dev g++ - multilib mingw32
toftodos python-markdown libxml2-utils xsltproc
```

2. Set bash as the default shell mode

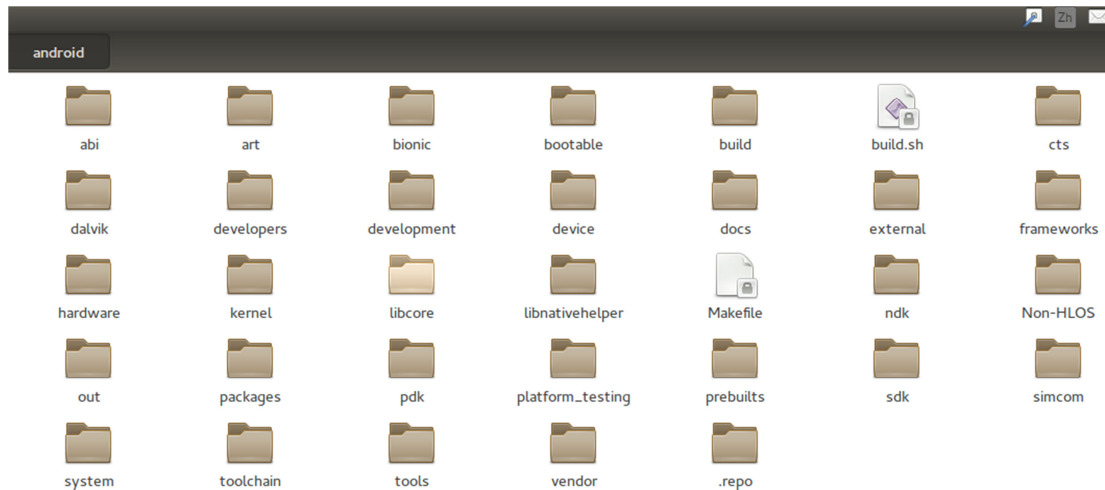
```
$ sudo dpkg-reconfigure dash
$ sudo rm /bin/sh
$ sudo ln -s /bin/bash /bin/sh
```

3. Use “apt-get” command to install JDK

```
sudo apt-get install openjdk-8-jdk
```

4. Compile android code

Copy android code to "workspace/android" directory as below:



Then, in android directory, run command below:

- 1 `cd simcom` (For example, ABCDE company is SIMCOM customer, and if "simcom/ABCDE" exists, please go to step 2, and if the "simcom/projectname" does not exist, please go to step 3)
- 2 `sh projectname.sh` (For example, run "sh sim8905_versea-copy.sh")
return "android" directory.
- 3 `source build/envsetup.sh`
- 4 `lunch msm8905-userdebug`
- 5 `make -j4` ("4" means the thread numbers of CPU)

5. After compiling, it will generate many BIN files in directory of "/android/out/target/product/msm8905"

Generate the files as the below:

android-info.txt	data	kernel	oem4.img	previous_build_config.mk	root	unsigned
boot.img	emmc_appsboot.mbn	module-info.json	OTA_Binary_Packs	ramdisk.img	secimage.log	userdata.img
build_fingerprint.txt	fake_packages	obj	OTA_Target_Files	ramdisk-recovery.img	signed	
cache	gen	oem	ota.zip	recovery	symbols	
cache.img	installed-files.json	oem2.img	persist	recovery.id	system	
clean_steps.mk	installed-files.txt	oem3.img	persist.img	recovery.img	system.img	

(Red marked file is required)

3 Sub-image compiler

1. Compile aboot:

Input Command:

```
<make aboot -j4>
```

Target Folder:

```
<top_dir / out / target / product / msm8905 />
```

Target File:

```
<emmc_appsboot.mbn>
```

2 Compile kernel:

Input Command:

```
<make bootimage -j4>
```

Target Folder:

```
<top_dir / out / target / product / msm8905 >
```

Target File:

```
<boot.img>
```

3. Compile system:

Input Command:

```
<make systemimage -j4>
```

Target Folder:

```
<top_dir / out / target / product / msm8905 >
```

Target File:

```
<system.img>
```

4.Compile userdata:

Input Command:

```
<make userdataimage -j4>
```

Target Folder:

```
<top_dir / out / target / product / msm8905 >
```

Target File:

```
<userdata.img>
```

5. Compile recovery:

Input Command:

```
<make recoveryimage -j4>
```

Target Folder:

```
<top_dir / out / target / product / msm8905 >
```

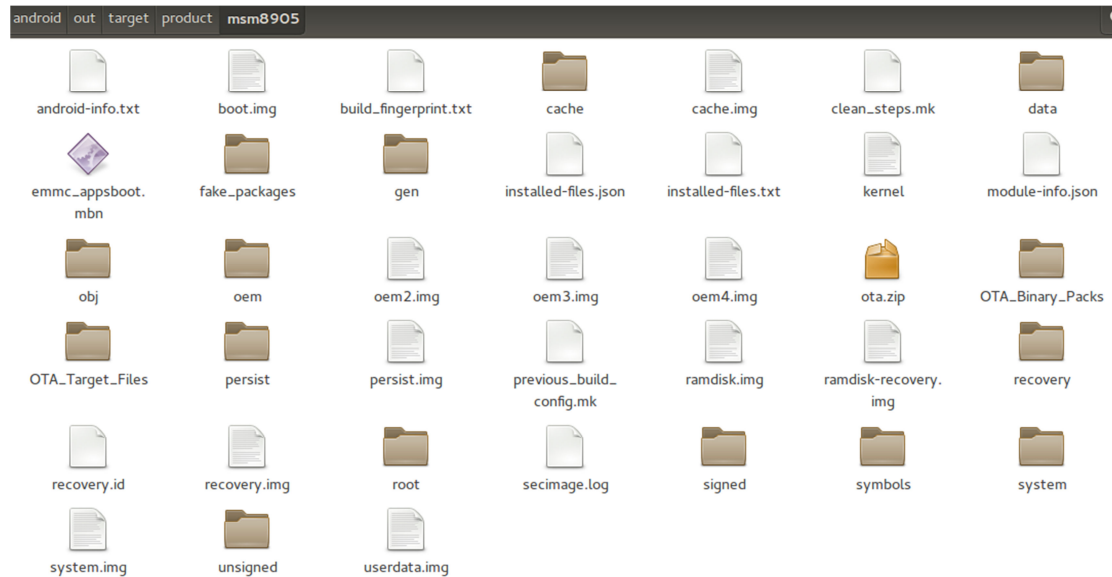
Target File:<recovery.img>

4 Burning tool

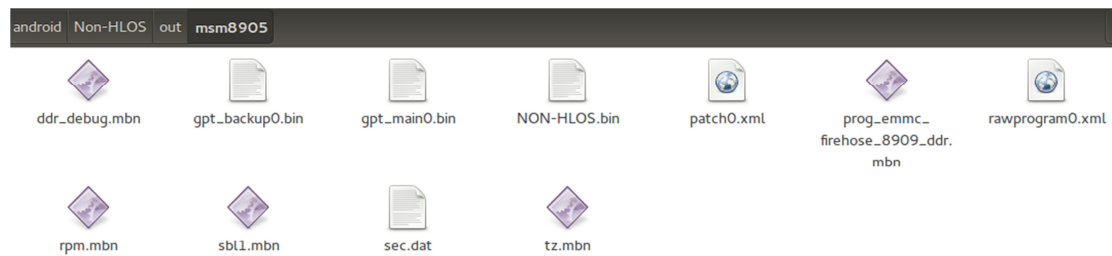
Put compiled files (the following directories) into the same folder.

For example, SIM8905 (the directory as below)

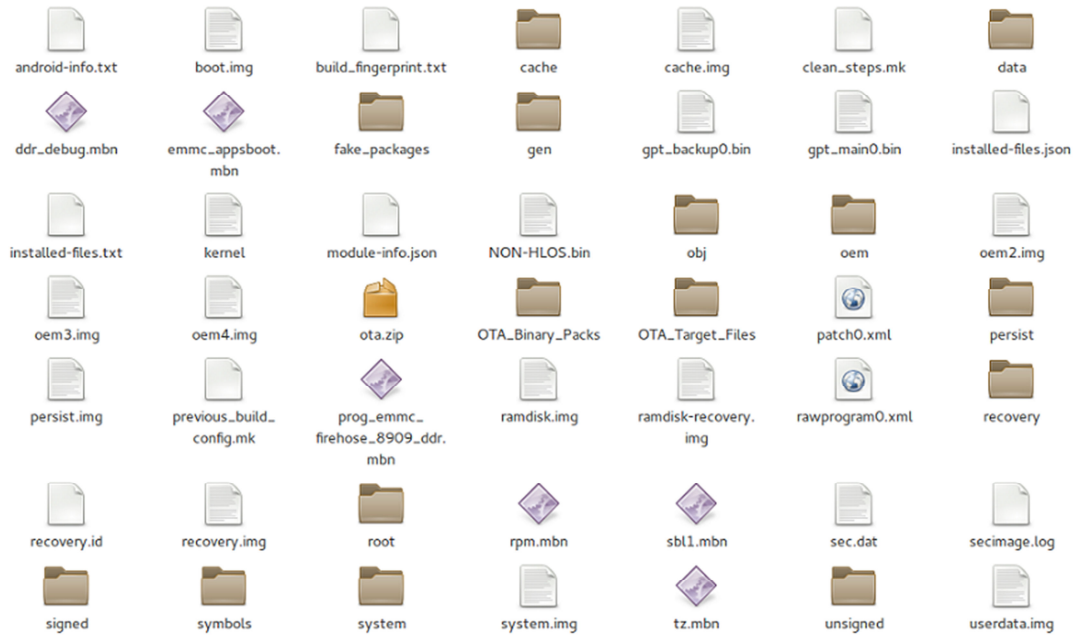
/android/out/target/product/msm8905/



/android/Non-HLOS/out/msm8905/



Move above files into the same folder:



Download images with QFIL tool

1. First, please make sure that QPST software and USB driver have been installed on your PC.
2. The device should be power on.
3. Connect USB cable to the computer.
4. Open the QFIL tool.
5. Select 9008 port to boot load. (Input “adb reboot edl” in terminal first)
6. The configuration steps as Figure 1.

Click “Browse” to select *prog_emmc_firehose_8909_ddr.mbn* file

Click “Load XML” to select *rawprogram0.xml* file

Click the download button.

7. When completion, a prompt is shown as Figure 2.
8. Restart the device.

Figure 1

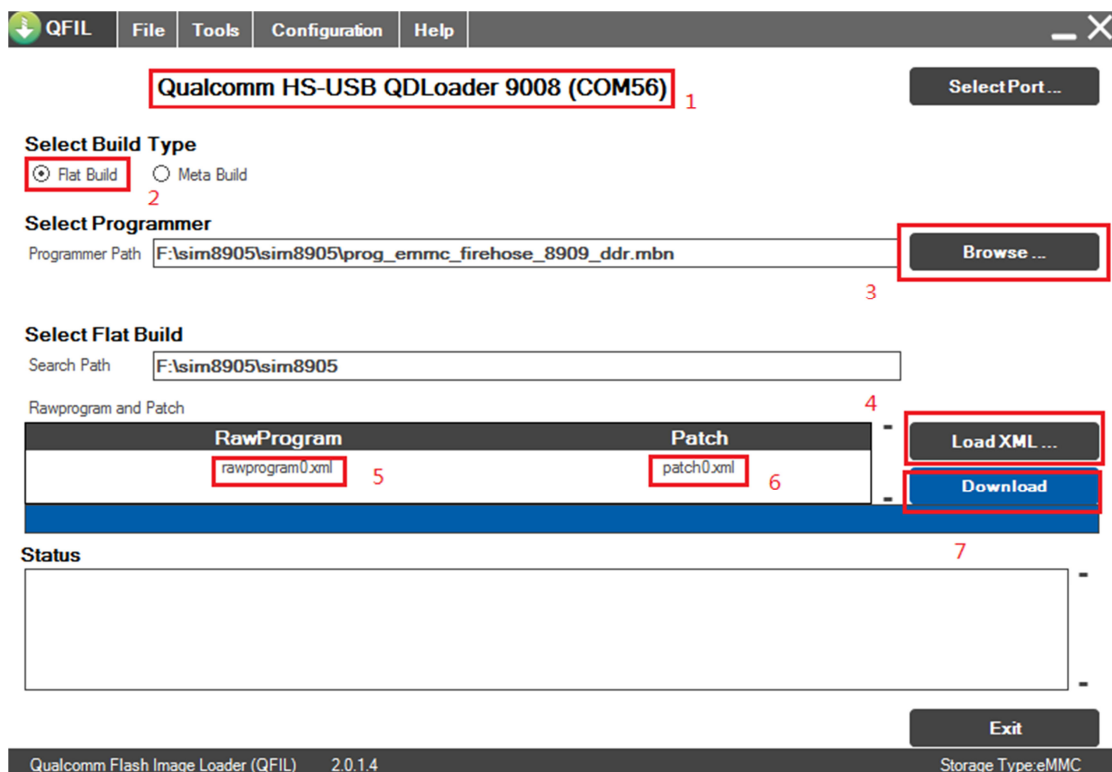
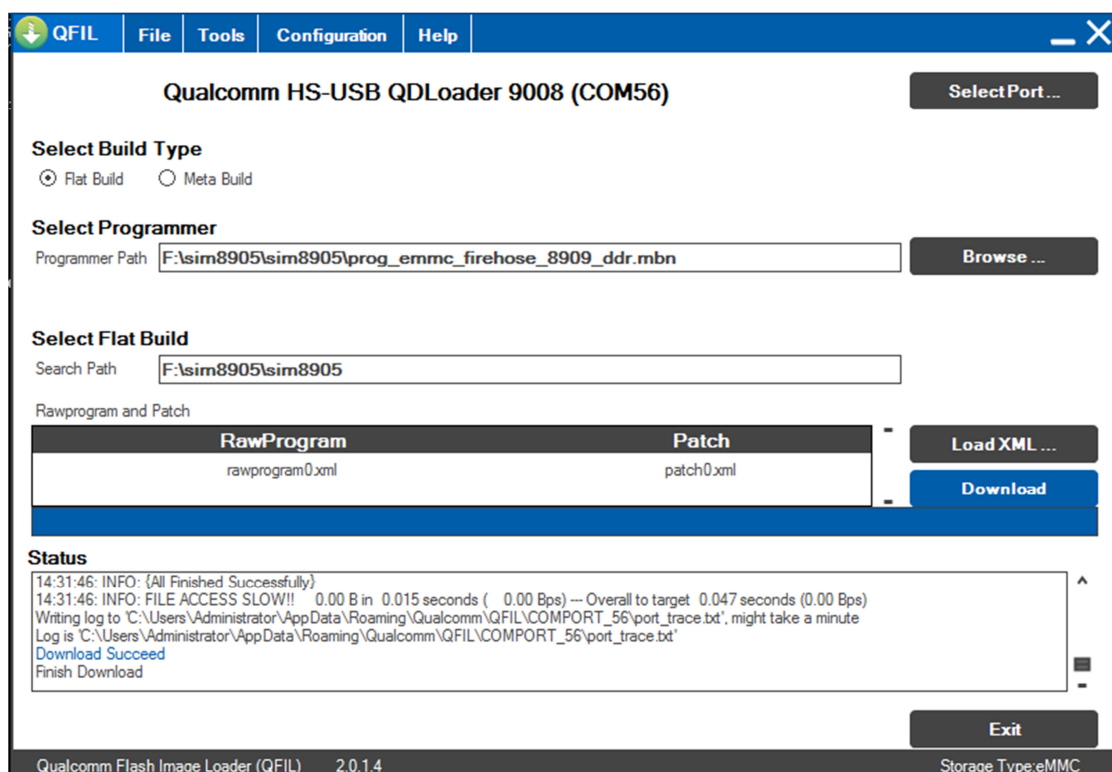


Figure 2



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