

Android - Download bootcode

2019年5月30日 15:18

概述

三步:

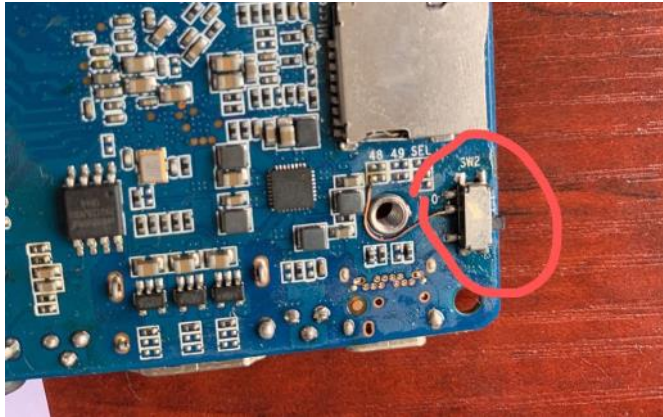
下载 Hwsetting/Recovery 到 emmc

下载 Main Bootloader 到 emmc

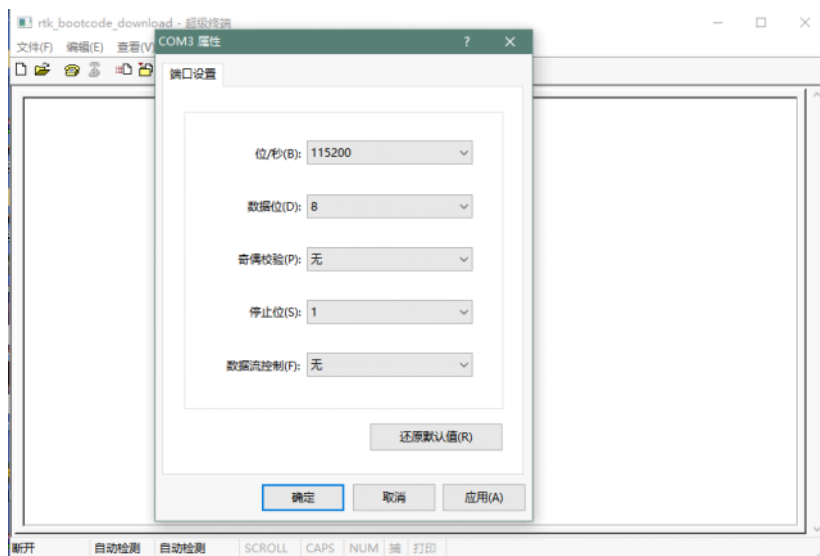
下载 SPI Bootloader 到 spi flash

下载 hwsetting/recovery

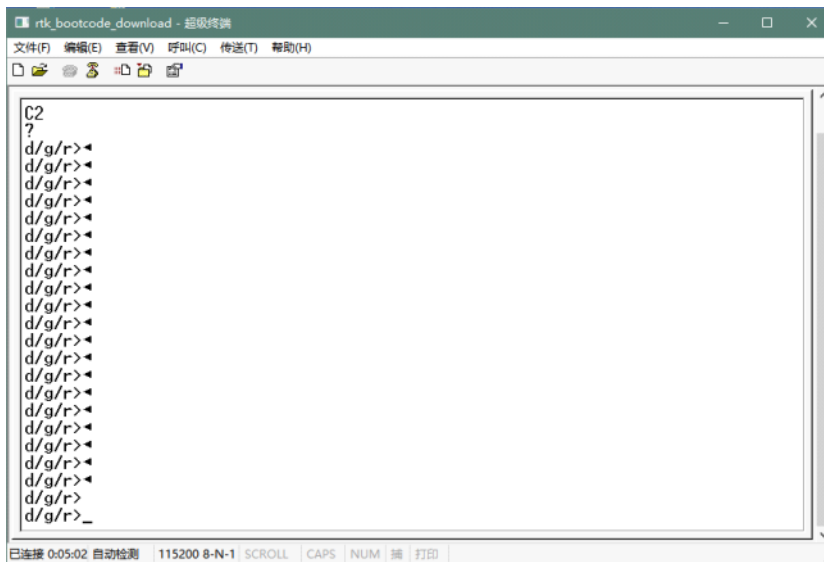
SW2 开关拨到 1 (emmc boot)



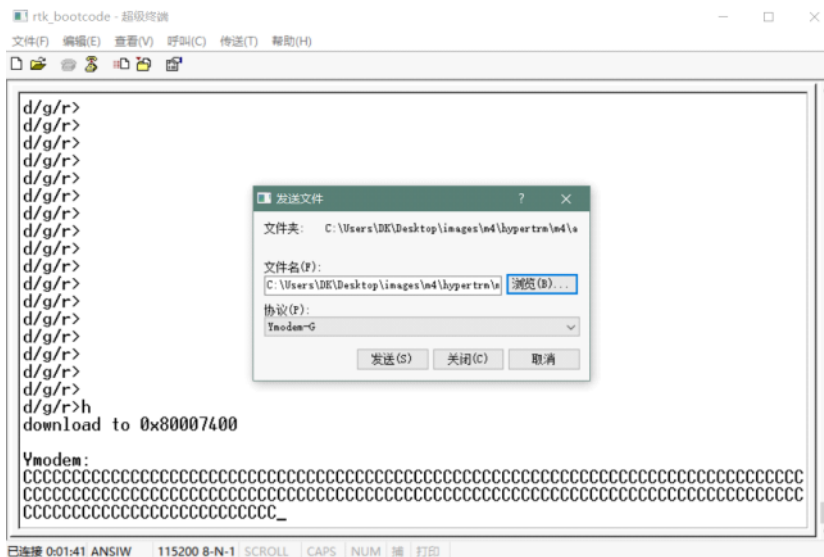
打开 hyptrm, 配置('Baud rate: 115200', 'data bit: 8 bit', 'stop bit: 1 bit', 'Parity: NONE', 'Flow control: NONE')



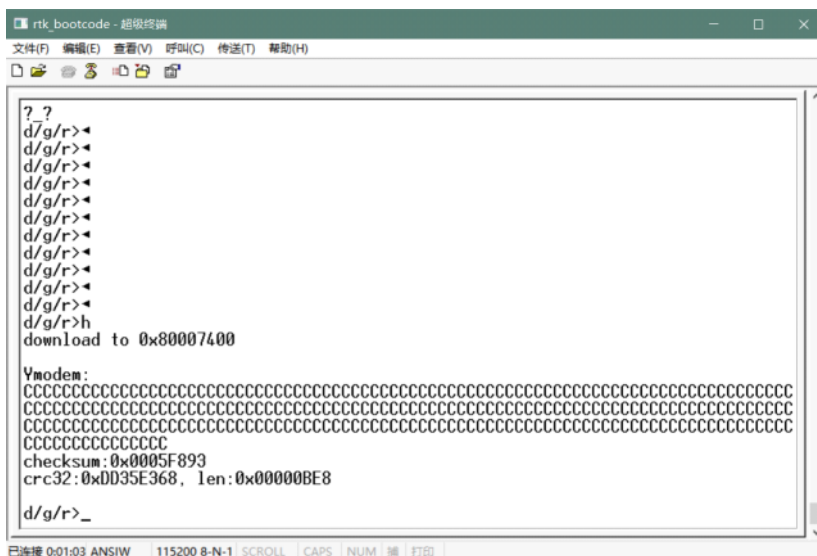
主机端串口按住 Ctrl+q, m4 板子上电或者 hardware reset , 当看到下图有 /d/g/r 打印放开按键。



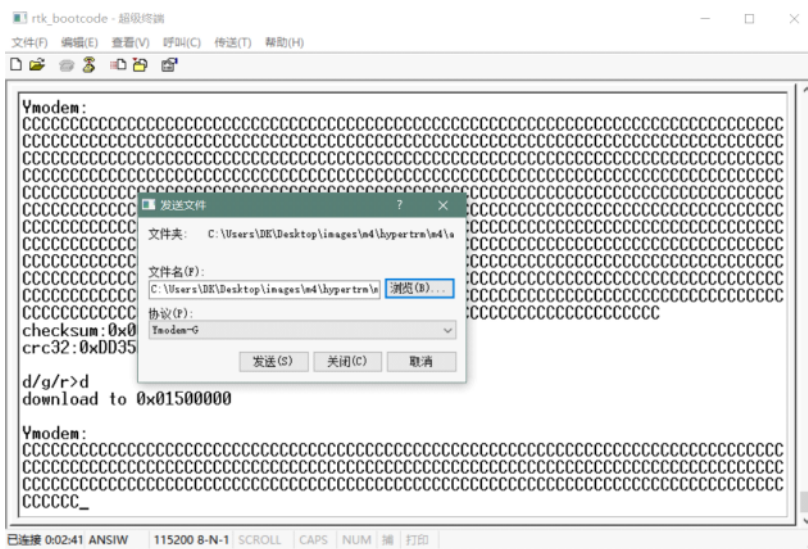
串口按一下 **h** 键，菜单栏选择传送->发送文件，选择 [bootcode/android_2133/hwsetting.bin](#)(或者[RTD1395_hwsetting_BOOT_2DDR4_8Gb_s2133.bin](#))，协议选择 **Ymodem-G**。



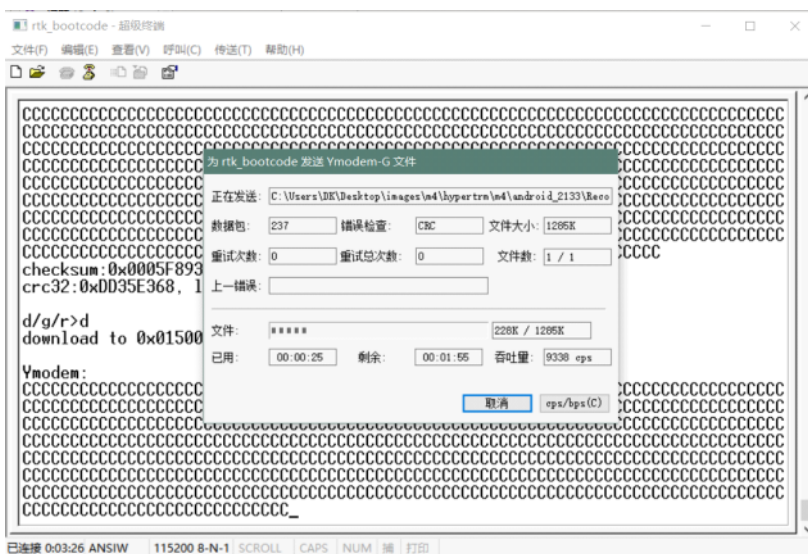
点击发送，发送成功后如下图



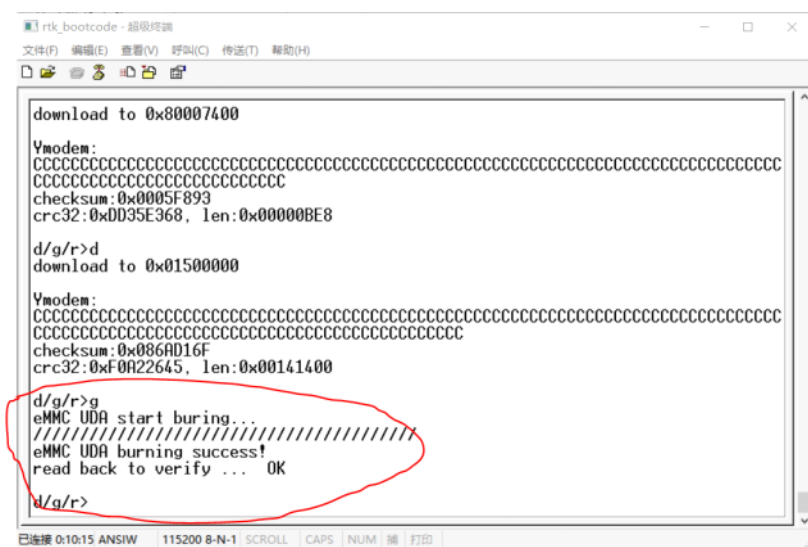
串口按一下 **d** 键，菜单栏选择传送->发送文件，选择 [bootcode/android_2133/recovery.bin](#)(或者[Recovery-bananapi-0001-RTD1395_hwsetting_BOOT_2DDR4_8Gb_s2133.bin](#))，协议选择 **Ymodem-G**。



发送过程



发送成功后，串口按 **g** 键，执行结果如下图



下载 Main Bootloader

将 [bootcode/android_2133/bootloader.bin](#)(或者[bananapi-0001-RTD1395_hwsetting_BOOT_2DDR4_8Gb_s2133.bin](#)) 放到 fat32 的 U 盘根目录，插入 m4 usb 口，串口按住 Esc 键，hardware reset 或者 power on，进入 bootloader command line mode（回车键），如下图：

```
rtk_bootcode - 超级终端
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)
[log]src w/h=1920/1080 dst w/h=3840/2160
Default Power-Config
INIT: cpu 1, calling hook 0x32974 (slave_cpu_spin) at level 0x3ffff, flags 0x2
INIT: cpu 3, calling hook 0x32974 (slave_cpu_spin) at level 0x3ffff, flags 0x2
INIT: cpu 2, calling hook 0x32974 (slave_cpu_spin) at level 0x3ffff, flags 0x2
mmc_boot_read_gpt, reading 17408 bytes to 0x14499b90 from LBA:0
mmc_boot_read_gpt, reading 16896 bytes to 0x1449df90 from LBA:e8ffdf
*** ESC Pressed ***
HDMIix_HPD=False
-----param partition found
-----param ONE_STEP_INFO found
Sink changed, Prefac 7d1 Now[00 00], skip ONE_STEP_FORMAT
tv_system=25 mode=1
starting app rtkboot
Enter Console...
entering main console loop
Realtek> starting app pmic
Realtek> _
```

串口中分别执行下列三条命令。

//识别 Udisk

Realtek> **usb start**

//从 Udisk 加载 bootloader

Realtek> **fatload usb 0:1 0x01500000 bootloader.bin**

或者

Realtek> **fatload usb 0:1 0x01500000 bananapi-0001-RTD1395_hwsetting_BOOT_2DDR4_8Gb_s2133.bin**

//烧录

Realtek> **chain 0x01500000**

等待运行完成，会看到finish 字样， 就烧录完成。

```
rtk_bootcode - 超级终端
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)
read from UDA
*****
write bootcode: block 0x00000106, size 0x000A6420
write data to UDA
read back bootcode: block 0x00000106, size 0x000A6420
read from UDA
*****
write fsbl: block 0x00000639, fsbl size 0x0000AC08
write data to UDA
read back data(fsbl): block 0x00000639, fsbl size 0x0000AC08
read from UDA
*****
write fsbl_os: block 0x00000690, fsbl_os size 0x00084F88
write data to UDA
read back data(fsbl_os): block 0x00000690, fsbl_os size 0x00084F88
read from UDA
*****
write b131: block 0x00000AB8, b131 size 0x0000A248
write data to UDA
read back data(b131): block 0x00000AB8, b131 size 0x0000A248
read from UDA
Finish
Total dump 0x00141400 at 0x03000000
--
```

下载 spi bootloader

将 [bootcode/android_2133/spiloader.bin](#) 放到 fat32 的 U 盘根目录，插入 m4 usb 口， 串口按住 Esc 键， hardware reset 或者 power on, 进入 bootloader command line mode（回车键）， 如下图：

```
rtk_bootcode - 超级终端
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)

calling apps_init()
Set ACPU share memory
-----tmp/factory/000BootParam.h found
[logolsrc w/h=1920/1080 dst w/h=3840/2160
Default Power-Config
INIT: cpu 1, calling hook 0x32974 (slave_cpu_spin) at level 0x3ffff, flags 0x2
INIT: cpu 3, calling hook 0x32974 (slave_cpu_spin) at level 0x3ffff, flags 0x2
INIT: cpu 2, calling hook 0x32974 (slave_cpu_spin) at level 0x3ffff, flags 0x2
mmc_boot_read_opt, reading 17408 bytes to 0x14499b90 from LBA:0
mmc_boot_read_opt, reading 16896 bytes to 0x1449df90 from LBA:e8ffdf
*** ESC Pressed ***
HDMIix_HPD=False
-----param partition found
-----param ONE_STEP_INFO found
Sink changed, Prelac 7d1 Now[00 00], skip ONE_STEP_FORMAT
tv_system=25 mode=1
starting app rtkboot
Enter Console...
entering main console loop
Realtek> starting app pmic
Realtek> _

已连接 0:11:19 ANSIW 115200 8-N-1 SCROLL CAPS NUM 键 打印
```

串口中分别执行下列三条命令。

//识别 Udisk

Realtek> **usb start**

//从 Udisk 加载 bootloader

Realtek> **fatload usb 0:1 0x01500000 spiloader.bin**

//烧录

Realtek> **chain 0x01500000**

烧录过程如图：

```
rtk_bootcode - 超级终端
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)

Realtek> fatload usb 0:1 0x01500000 spiloader.bin
reading spiloader.bin
Filesize: 775136 bytes
775136 bytes

.....Size: 775136, got: 775136
Realtek>
Realtek> chain 0x01500000
flash_type: SPI
begin:

nor flash id [0x00EF4018]
sector 256k en: 0x00000000
sector 64k en: 0x00000001
sector 32k en: 0x00000001
sector 4k en: 0x00000001
page_program : 0x00000001
max capacity : 0x01000000
spi type name : WINBOND_W325Q128BV_128Mbit

init
spi : erase 0x00200000 bytes from 0x88100000
////////////////////////////////////
spi : write hw setting&signature, start=0x88130800, len=0x000008E8
..
spi : write bootcode, start=0x881313E8, len=0x000841C0
.....

已连接 0:00:46 ANSIW 115200 8-N-1 SCROLL CAPS NUM 键 打印
```

等待运行完成，会看到finish 字样， 然后会自动 reset 重启

```
rtk_bootcode - 超级终端
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)

nor flash id [0x00EF4018]
sector 256k en: 0x00000000
sector 64k en: 0x00000001
sector 32k en: 0x00000001
sector 4k en: 0x00000001
page_program : 0x00000001
max capacity : 0x01000000
spi type name : WINBOND_W325Q128BV_128Mbit

init
spi : erase 0x00200000 bytes from 0x88100000
////////////////////////////////////
spi : write hw setting&signature, start=0x88130800, len=0x000008E8
..
spi : write bootcode, start=0x881313E8, len=0x000841C0
.....
```

```
rtk_bootcode - 超级终端
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)

nor flash id [0x00EF4018]
  sector 256k en: 0x00000000
  sector 64k en: 0x00000001
  sector 32k en: 0x00000001
  sector 4k en: 0x00000001
  page_program : 0x00000001
  max capacity : 0x01000000
  spi type name : WINBOND_W325Q128BV_128Mbit
init
spi : erase 0x00200000 bytes from 0x88100000
//////////
spi : write hw setting&signature, start=0x88130800, len=0x00000BE8
..
spi : write bootcode, start=0x881313E8, len=0x000041C0
.....
spi : write bootcode signature, start=0x881B55A8, len=0x00000020
spi : write fsbl, start=0x881B55C8, len=0x00007A08
spi : write parameter, start=0x88130000, len=0x00000428
.exit
Finish
reset...

< 已连接 0:02:05 ANSIW 115200 8-N-1 SCROLL CAPS NUM 键 打印 >
```