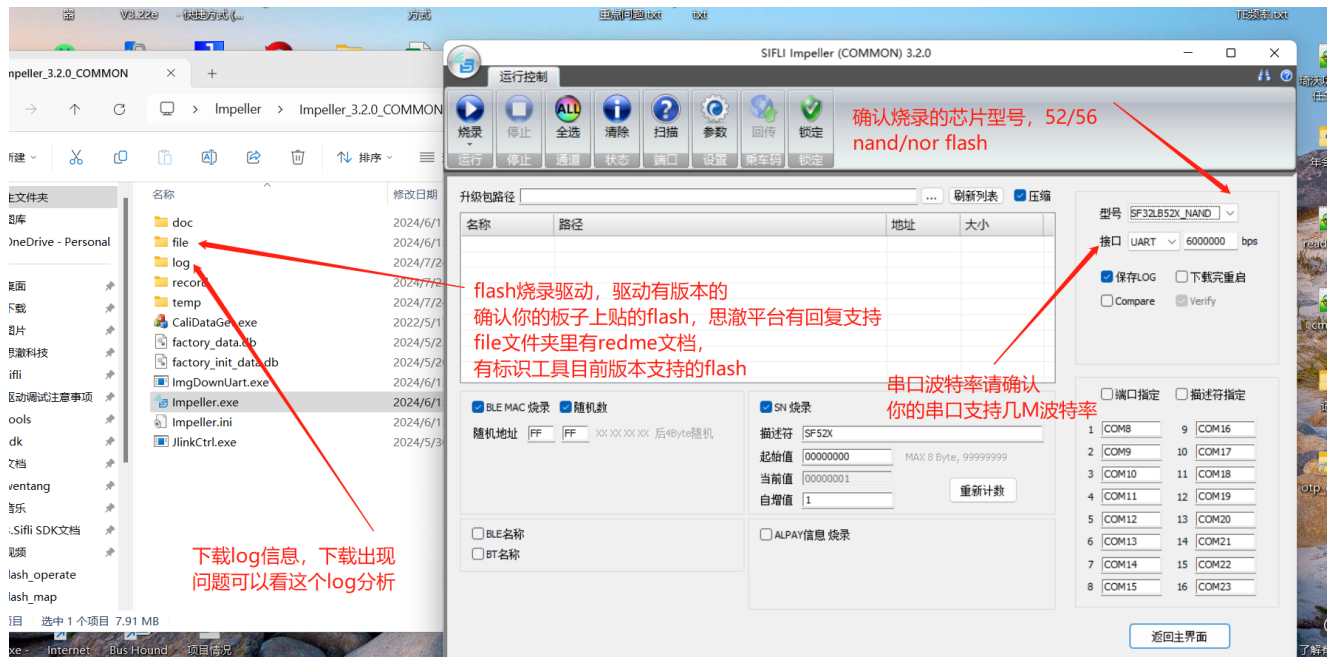


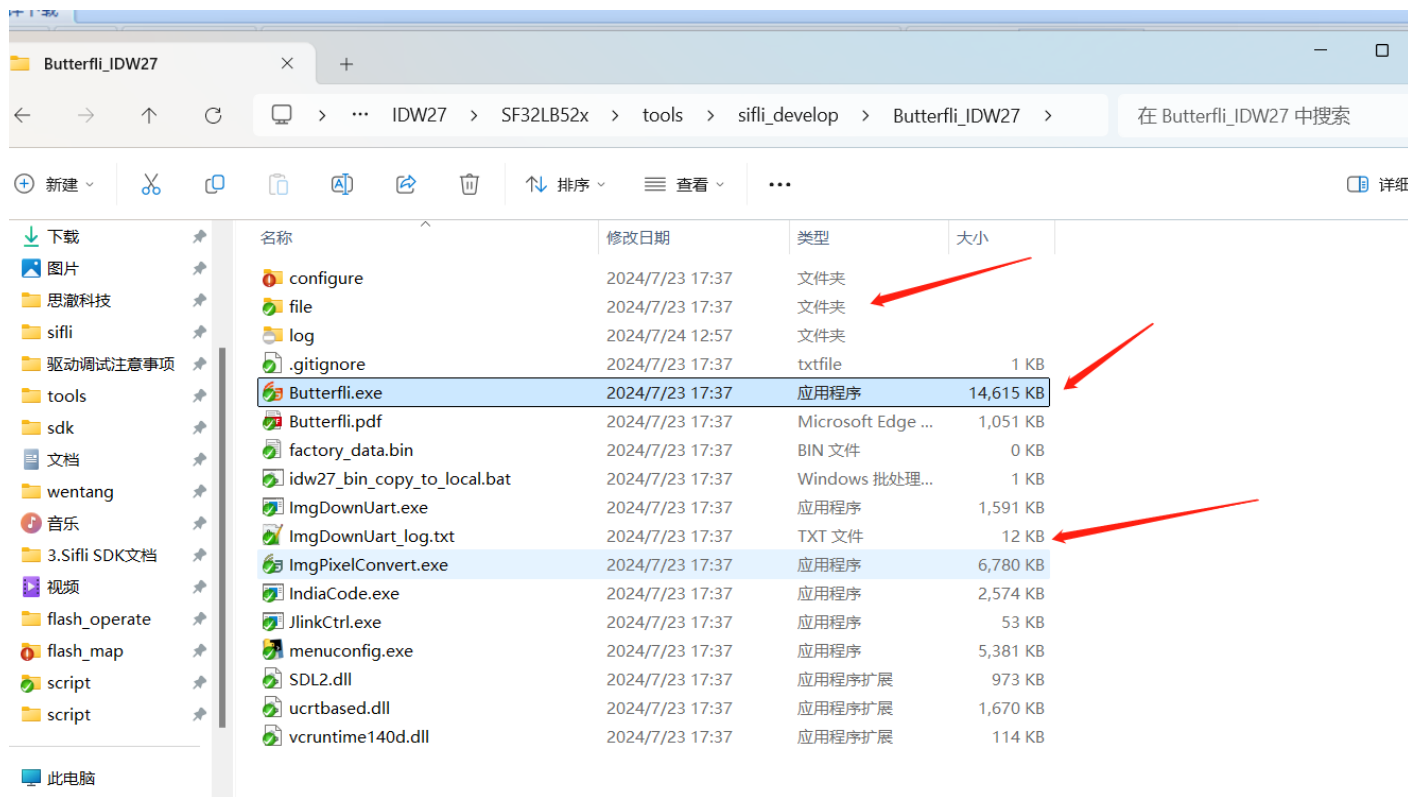
sifli 下载问题 FAQ

1. 下载工具

1) Impeller.exe 产线量产工具



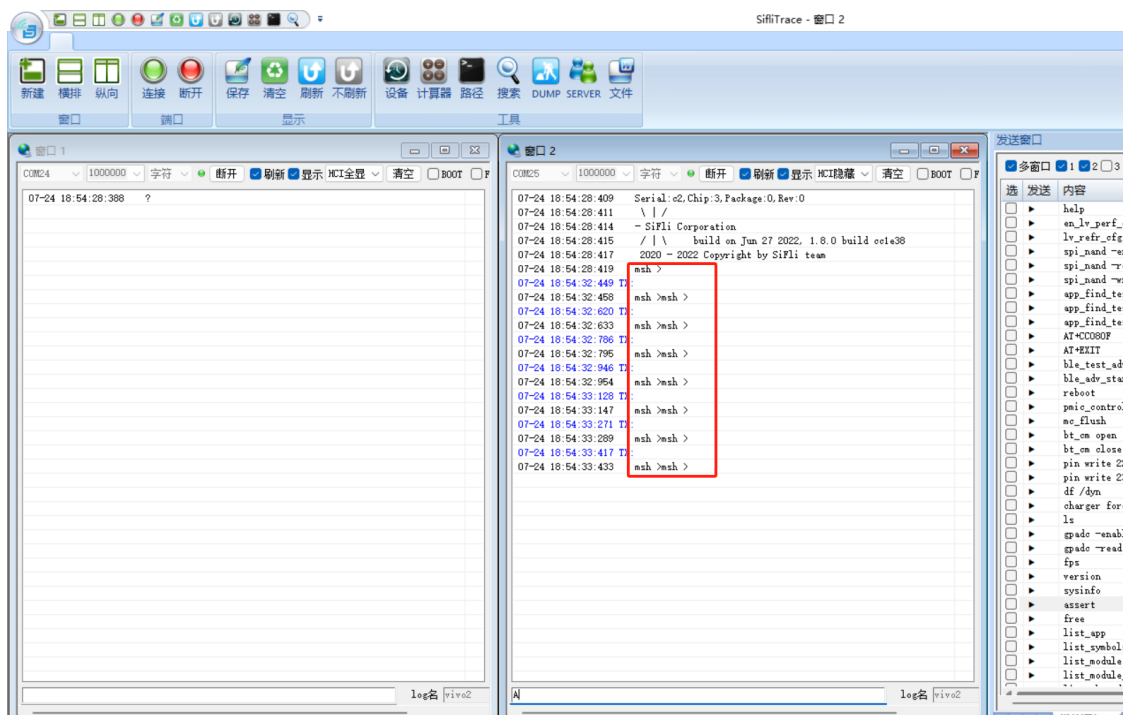
2) Butterfli.exe 开发工具也是差不多的。file 文件夹下是 flash 下载驱动，
下载 log 信息是保存为 ImgDownUart_log.txt



2. 下载失败分析

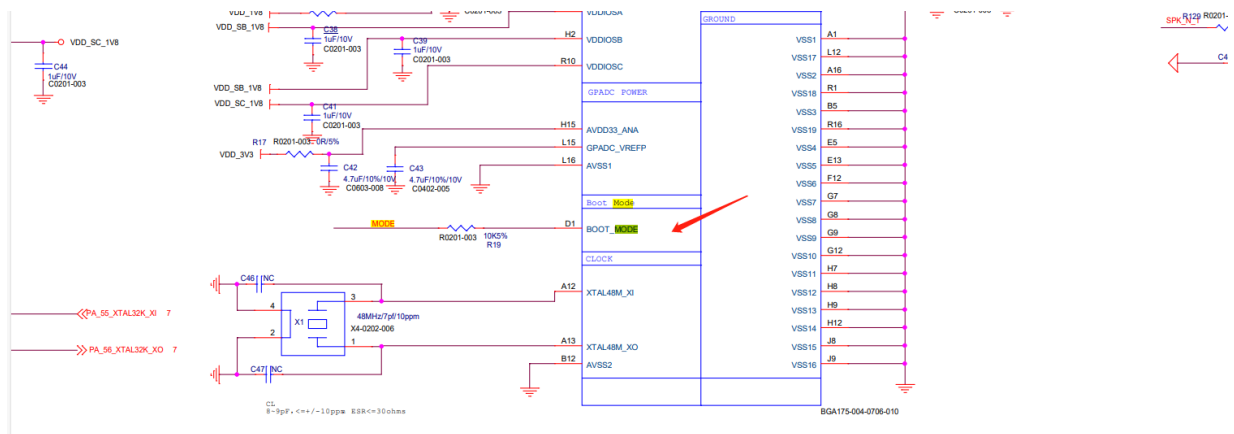
- 1) 确认 flash 电源是否有供电,是否供电不稳
- 2) 确认 flash 驱动, 是否平台有支持板上贴的 flash
- 3) 确认串口板 TX/RX 是多少 V, 思澈芯片的烧录 TX/RX 是多少 V。经常有客户用 5V 接 3.3V 或者 3.3V 接 1.8V。电压不匹配会导致烧录失败, 还会烧毁芯片 IO
- 4) 确认 GDN/TX/RX 焊线正常, 接地正常。经常有客户线没接对, 焊线有问题。输入空格看芯片 tx/rx 是否能正常通讯。

正常会返回 msh

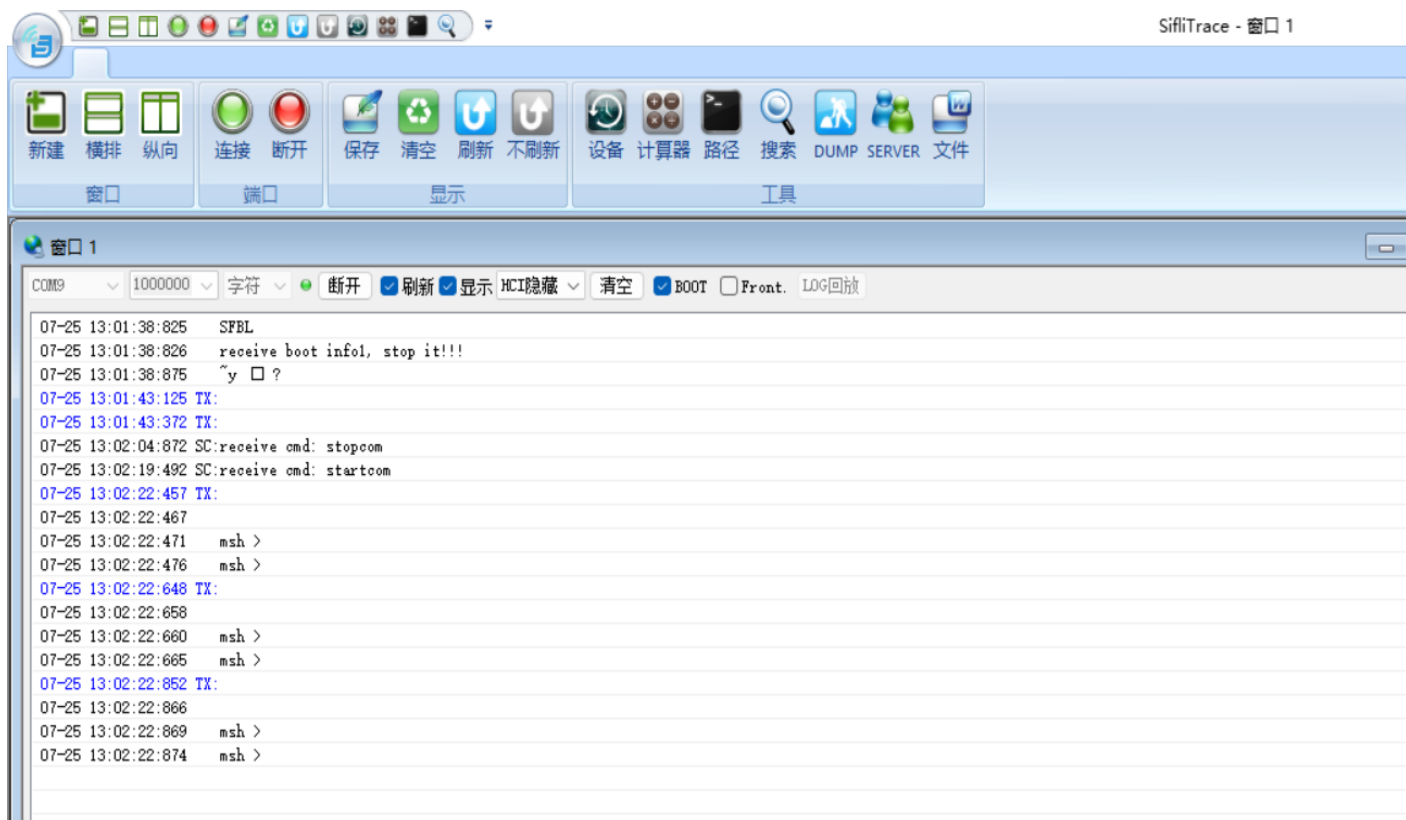


5) 确认有进 boot 模式:

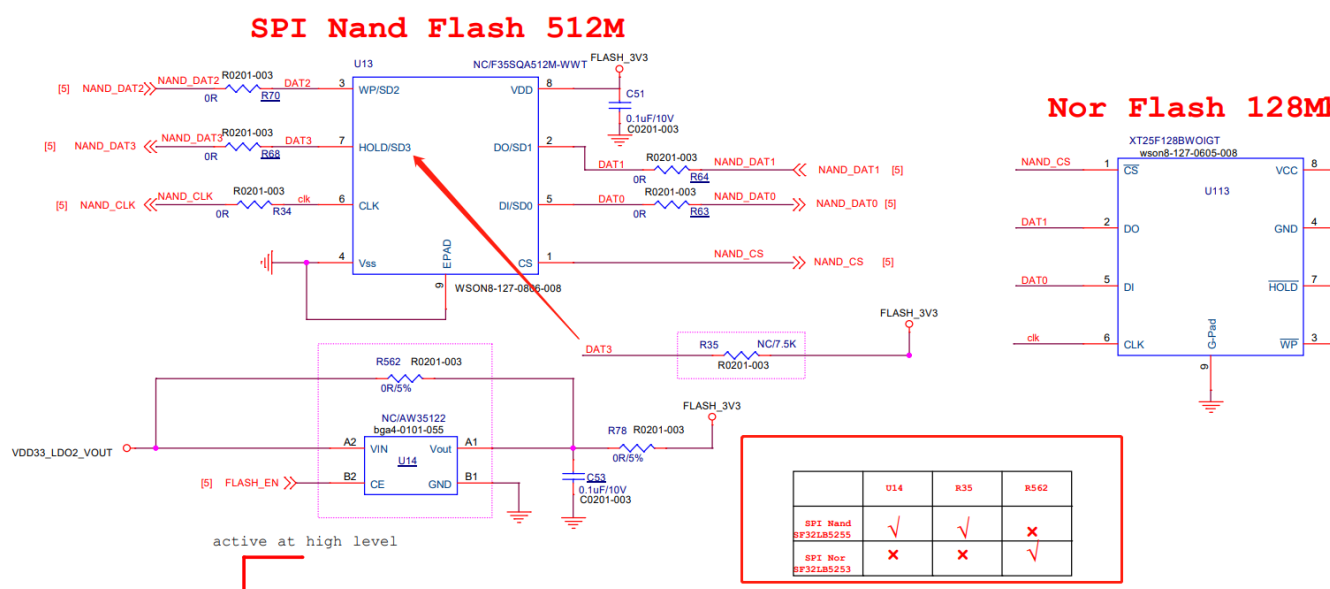
56 有 mode 脚, 硬件接高电平进入 boot 模式。保证能正常下载。



52 没有 boot 脚，但是芯片上电后前 5s 是处于 boot 模式的，用我们的工具勾上 boot 选项。会自动发命令，让芯片停在 boot 模式

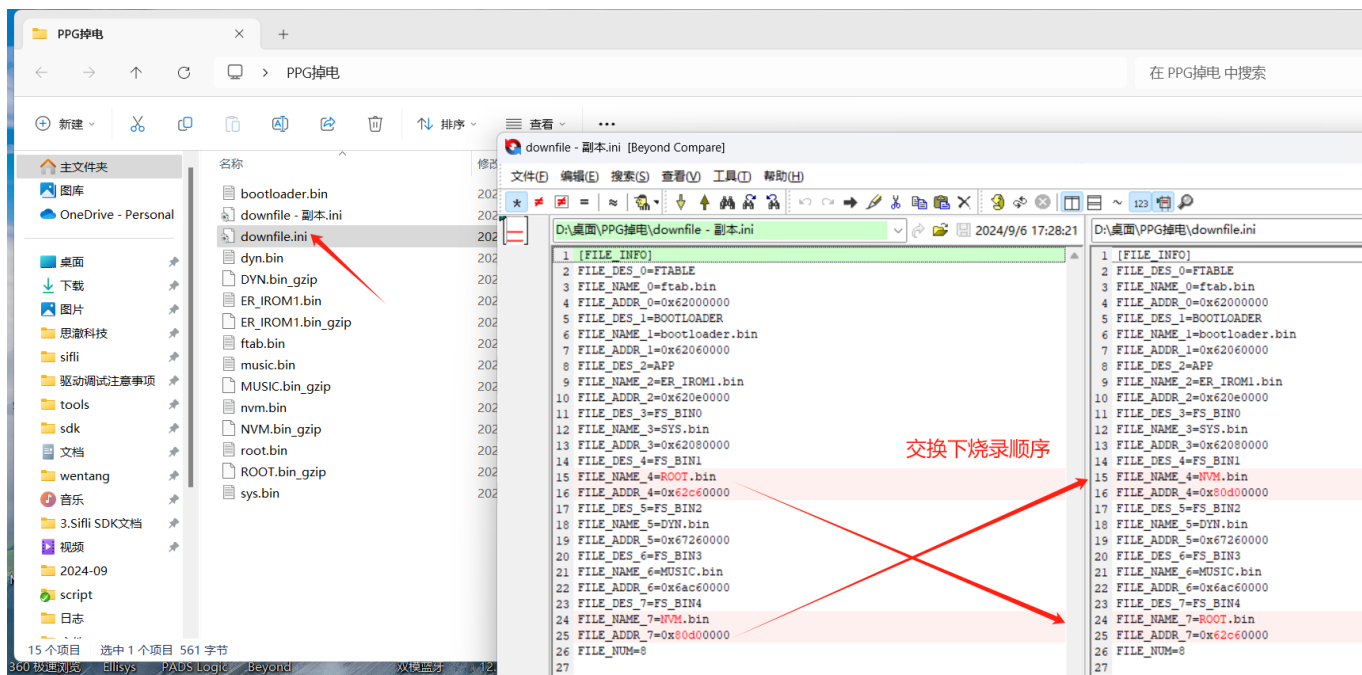


6) 注意 NAND 跟 NOR 的硬件区别, NAND 需要把 HOLD 上拉到 FLASH_VCC. NOR 不需要。



7) 有下载成功一部分的分两种情况注意区分

- 串口烧录数据校验过不了, 一般是串口板质量不好。波特率配置高了有数据下载时出错。
一般降低波特率/关闭压缩下载就行。
可以换高速串口板验证 (FT2322/FT4322)
- 还有一种情况, 内部 flash 能下载完成。外部一直下载失败。这时候确认外部 flash 硬件设计正确, flash 供电正常。
可以怀疑是 flash 驱动问题, 替换最新驱动尝试。驱动目录在工具 file 目录下。
- 指定固件烧录到外部 flash 的某个 bin 文件必现失败
 1. 关闭压缩功能
 2. 降低波特率前两个验证有效, 可以把烧录顺序调整一下。把必现失败的 bin 文件调整到前面烧录。
这个问题目前还未解决, 不知道是什么影响到烧录工具的解压缩了。



8) 检查以上问题都是正常的还是烧录不了

1) 换个电脑

有条件可以用思澈 hdk 板验证下，看是不是环境问题

2) 换个串口板

3.flash 驱动

1) 下载驱动，有思澈原厂提供。量产需要客户自己测试验证。下载驱动在下载工具里有提到，

支持的版本跟 flash 型号都会写在下载工具 file 目录下 read 里

🖥️ > Impeller > Impeller_3.2.0_COMMON > file				
📁 📄 🔗 🗑️ ⬆️ 排序 ▾ ≡ 查看 ▾ ⋮				
名称	修改日期	类型	大小	
📄 factory_cal_i_58X.bin	2023/7/14 9:44	BIN 文件	113 KB	
📄 ram_patch.bin	2023/11/16 16:42	BIN 文件	91 KB	
📄 ram_patch_52X.bin	2024/6/13 14:20	BIN 文件	131 KB	
📄 ram_patch_52X_NAND.bin	2024/6/13 15:09	BIN 文件	144 KB	
📄 ram_patch_52X_NAND_6M.bin	2024/6/13 15:09	BIN 文件	144 KB	
📄 ram_patch_52X_NAND_8M.bin	2024/6/13 15:09	BIN 文件	144 KB	
📄 ram_patch_52X_NAND_NOBBM.bin	2024/6/13 15:09	BIN 文件	138 KB	
📄 ram_patch_52X_SD.bin	2023/10/25 9:58	BIN 文件	121 KB	
📄 ram_patch_56X.bin	2024/6/13 15:09	BIN 文件	106 KB	
📄 ram_patch_56X_NAND.bin	2024/6/13 15:09	BIN 文件	116 KB	
📄 ram_patch_56X_NAND_6M.bin	2024/6/13 15:09	BIN 文件	116 KB	
📄 ram_patch_56X_NAND_8M.bin	2024/6/13 15:09	BIN 文件	116 KB	
📄 ram_patch_56X_NAND_NOBBM.bin	2024/6/13 15:09	BIN 文件	110 KB	
📄 ram_patch_56X_SD.bin	2024/4/23 15:04	BIN 文件	109 KB	
📄 ram_patch_58X.bin	2024/2/18 19:51	BIN 文件	106 KB	
📄 ram_patch_58X_NAND.bin	2024/2/18 19:51	BIN 文件	115 KB	
📄 ram_patch_58X_NAND_NOBBM.bin	2024/2/18 19:51	BIN 文件	109 KB	
📄 ram_patch_SD.bin	2024/3/16 10:55	BIN 文件	97 KB	
📄 read.txt	2024/6/13 14:29	TXT 文件	7 KB	➡️
📄 sig_pub.der	2022/10/8 18:46	安全证书	1 KB	

.B

```
1 把文件夹中所有文件放到工具路径下的file文件夹中，支持flash列表如下：
2 20240613
3
4 NAND FLASH:
5 .....//.type.0
6 .....{0xef, 0xba, 0x21, 0, 0x80000000}, .....//W25N01GW_RDID
7 .....{0xef, 0xaa, 0x21, 0, 0x80000000}, .....//W25N01GV_RDID
8 .....{0xef, 0xba, 0x23, 0, 0x20000000}, .....//W25N04KW_RDID
9 .....
10 .....//.type.1.....
11 .....{0xc9, 0x81, 0x00, 0x10, 0x80000000}, .....//HYF1GQ4IDACAE_RDID
12 .....{0x81, 0xc9, 0x81, 0x10, 0x80000000}, .....//HYF1GQ4IDACAE_RDID
13 .....{0x01, 0x81, 0xc9, 0x10, 0x80000000}, .....//HYF1GQ4IDACAE_RDID
14 .....{0x01, 0xc9, 0x81, 0x10, 0x80000000}, .....//HYF1GQ4IDACAE_RDID
15 .....{0x5e, 0x44, 0x5e, 0, 0x20000000}, .....//ZB35Q04A_RDID, used as 2KB page
16 .....{0x0b, 0x31, 0x00, 0x40, 0x80000000}, .....//XT26G01DXXX_RDID
17 .....{0x8c, 0x01, 0x8c, 0x10, 0x80000000}, .....//XCSP1AAPK-IT_RDID
18 .....{0x0b, 0x33, 0x00, 0x44, 0x20000000}, .....//XT26G04DXXX_RDID
19 .....{0xc8, 0xd9, 0xc8, 0x10, 0x80000000}, .....//GD5F1GQ4UxxH_RDID
20 .....{0xc8, 0xc9, 0xc8, 0x10, 0x80000000}, .....//GD5F1GQ4RxxH_RDID
21
22 .....//.type.2
23 .....{0xE5, 0x21, 0xE5, 0, 0x80000000}, .....//DS35X1GAXXX_RDID
24 .....{0xE5, 0xA5, 0xE5, 0x20, 0x40000000}, .....//DS35M12BXXX_RDID
25 .....{0xE5, 0xF5, 0xE5, 0x20, 0x40000000}, .....//DS35Q12BXXX_RDID
26 .....{0xE5, 0xF1, 0xE5, 0x20, 0x80000000}, .....//DS35Q1GBXXX_RDID
27 .....{0xE5, 0xA1, 0xE5, 0x20, 0x80000000}, .....//DS35M1GBXXX_RDID
28 .....{0xE5, 0xF4, 0xE5, 0x22, 0x20000000}, .....//DS35X4GMXXX_RDID rev01
29 .....{0xE5, 0x74, 0xE5, 0x22, 0x20000000}, .....//DS35X4GMXXX_RDID
30 .....{0xE5, 0xB4, 0xE5, 0x20, 0x20000000}, .....//DS35Q4GBXXX_RDID
31 .....{0xCD, 0x70, 0x70, 0, 0x40000000}, .....//F35SQA512MX_RDID
32 .....{0xCD, 0x60, 0x60, 0, 0x40000000}, .....//F35UQA512MXXX_RDID
33 .....{0xCD, 0x71, 0x71, 0, 0x80000000}, .....//F35SQA0001GXXX_RDID
34 .....{0xCD, 0x72, 0x72, 0, 0x10000000}, .....//F35SQA0002GXXX_RDID
35 .....{0x0B, 0x51, 0x00, 0x40, 0x80000000}, .....//XT26Q01DXXX_RDID
36 .....{0x0B, 0x11, 0x00, 0x50, 0x80000000}, .....//XT26G01CXXX_RDID
37 .....{0x3C, 0xD1, 0xD1, 0, 0x80000000}, .....//HSESYHDSW1G_RDID
38 .....{0x3C, 0xD2, 0xD2, 0, 0x10000000}, .....//HSESYHDSW2G_RDID
```

The screenshot shows a code editor with the following elements:

- Top Bar:** Project name: LUKE Project - Source Insight 4.0 - [nand_table.c (D:\LUKE\SF32LB56x\...\hal)]
- Menu Bar:** File, Edit, Search, Project, Options, Tools, View, Window, Help
- Toolbar:** Standard code editing and development tools.
- Tab Bar:** dfu_flash.c, fal_flash_sifli_port.c, flash_config.h, mem_map.h, nand_table.c (selected).
- Left Panel (Project Files):**
 - Symbol Name (Alt+L)
 - include <string.h>
 - include "flash_table.h"
 - ifdef CFG_BOOTLOADER
 - CONST
 - else
 - CONST
 - endif
 - anonNAND_CMD_TABLE_ID_T
 - NAND_TYPE0
 - NAND_TYPE1
 - NAND_TYPE2
 - NAND_TYPE3
 - NAND_TYPE4
 - NAND_TYPE5
 - NAND_CMD_TABLE_CNT
 - NAND_CMD_TABLE_ID_T
 - nand_cmd_table_list
 - nand_cmd_id_pool.type0
 - nand_cmd_id_pool.type1
 - nand_cmd_id_pool.type2
 - nand_cmd_id_pool.type3
 - nand_cmd_id_pool.type4
 - nand_cmd_id_pool.type5
 - nand_cmd_get_rdid
 - sifli_nand_get_rdid
 - sifli_nand_get_cmd_by_id
 - HAL_GET_FLASH_DEFAULT_INX
 - sifli_nand_get_default_ctable
 - sifli_nand_get_rdid
- Main Editor (nand_table.c):**

```

503: {0x0b, 0x33, 0x00, 0x44, 0x20000000}, //XT26G04DXXX_RDID
504: {0xc8, 0xd9, 0xc8, 0x10, 0x80000000}, //GDSF1GQ4RxxH_RDID
505: {0xc8, 0xc9, 0xc8, 0x10, 0x80000000}, //GDSF1GQ4RxxH_RDID
506: {FLASH_INVALID_ID, 0, 0, 0, 0}, //last one
507: };
508:
509: CONST FLASH_RDID_TYPE_T nand_cmd_id_pool_type2[] =
510: {
511: {0x05, 0x21, 0x05, 0, 0x80000000}, //DS35X1GAXXX_RDID
512: {0x05, 0xA5, 0x05, 0x20, 0x40000000}, //DS35X1B2XXX_RDID
513: {0x05, 0xF5, 0x05, 0x20, 0x40000000}, //DS35Q12BXXX_RDID
514: {0x05, 0xF1, 0x05, 0x20, 0x80000000}, //DS35Q11GBXXX_RDID
515: {0x05, 0xA1, 0x05, 0x20, 0x80000000}, //DS35Q11GBXXX_RDID
516: {0x05, 0xF4, 0x05, 0x22, 0x20000000}, //DS35X4GMOXX_RDID rev01
517: {0x05, 0x74, 0x05, 0x22, 0x20000000}, //DS35X4GMOXX_RDID diff version?
518: {0x05, 0x84, 0x05, 0x20, 0x20000000}, //DS35Q4GBXXX_RDID
519: {0xC0, 0x70, 0x70, 0, 0x40000000}, //F35QA512MX_RDID
520: {0xC0, 0x60, 0x60, 0, 0x40000000}, //F35QA512MX_RDID
521: {0xC0, 0x71, 0x71, 0, 0x80000000}, //F35QA0001GXXX_RDID
522: {0xC0, 0x72, 0x72, 0, 0x10000000}, //F35QA0002GXXX_RDID
523: {0x08, 0x51, 0x00, 0x40, 0x80000000}, //XT26Q01DXXX_RDID
524: {0x08, 0x11, 0x00, 0x50, 0x80000000}, //XT26Q01CXXX_RDID
525: {0x3C, 0xD1, 0xD1, 0, 0x80000000}, //HSE5YH05H1G_RDID
526: {0x3C, 0xD2, 0xD2, 0, 0x10000000}, //HSE5YH05H2G_RDID
527: {0xA1, 0xD4, 0xA1, 0x20, 0x80000000}, //FM25L01B13_RDID
528: {0xC9, 0xD4, 0xC9, 0x14, 0x20000000}, //HYF4G04UAAACB_RDID
529: {FLASH_INVALID_ID, 0, 0, 0, 0}, //last one
530: };
531:
532: CONST FLASH_RDID_TYPE_T nand_cmd_id_pool_type3[] =
533: {
534: {0x98, 0xd2, 0x40, 0x10, 0x80000000}, //TC58CVG053HRA1J_RDID
535: {0x3C, 0xD1, 0x3C, 0, 0x80000000}, //HSE5D005H1G_RDID
536: {0x01, 0x15, 0x01, 0x60, 0x80000000}, //HYF1GQ4UTXCxE_RDID
537: {FLASH_INVALID_ID, 0, 0, 0, 0}, //last one
538: };
539:
540: CONST FLASH_RDID_TYPE_T nand_cmd_id_pool_type4[] =
541: {
542: {0xA1, 0xA5, 0x7F, 0, 0x80000000}, //FM25L01_RDID
543: {0xC9, 0x21, 0xC9, 0x10, 0x80000000}, //HYF1GQ4U0A_RDID

```
- Right Panel (Project Files):**
 - Project Files
 - table
 - File Name
 - flash_table.c
 - flash_table.h
 - nand_table.c
 - arm_common_tables.h
 - arm_mve_tables.h
 - arm_nn_tables.h
 - battery_curve_table.h
 - lv_table.c
 - lv_table.h
 - complex_fft_tables.h
- Annotations:**
 - A red box highlights the code between lines 509 and 538.
 - Red arrows point from the text "代码加载会从flash里读芯片id" to the code.
 - Red arrows point from the text "不同芯片ID不同，驱动也会不同" to the code.
 - Red arrows point from the text "思澈平台根据ID，使用的不同的cmd" to the code.
 - Red arrows point from the text "NOR" to the code.
 - Red arrows point from the text "NAND" to the code.
 - Red arrows point from the text "flash_table.c" to the Project Files list.
 - Red arrows point from the text "flash_table.c" to the Project Files list.