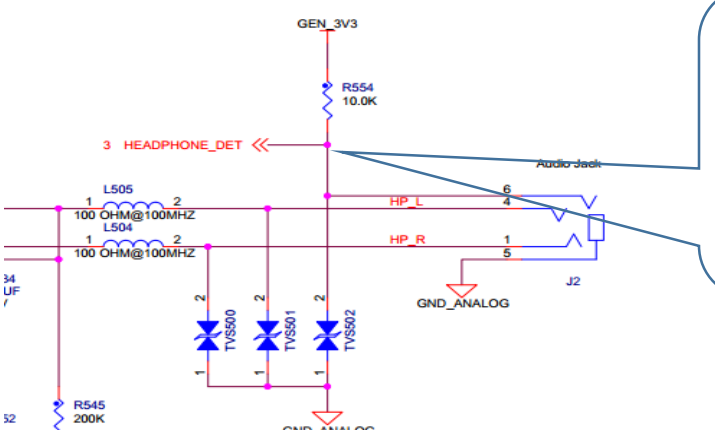
IMX6-sabresd 开发板修改成自己产品问题汇总

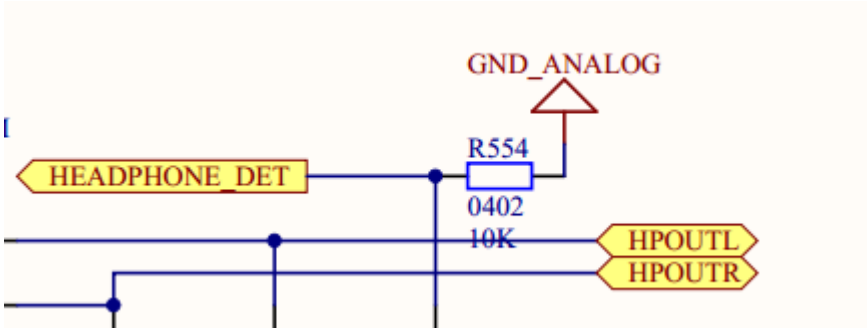
IMX6_CPI 识别音频信号开关问题：

修改原理图里面的 mic 和 headphone 口



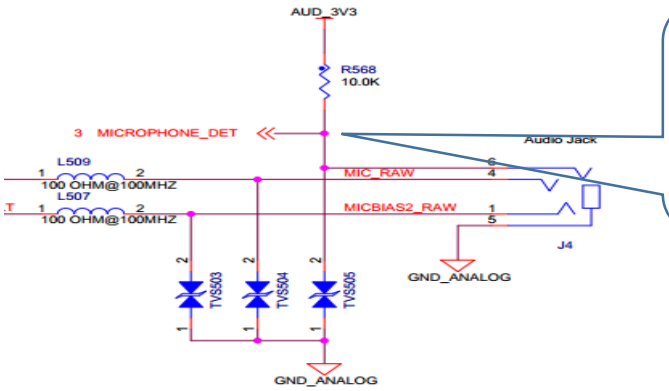
如果你要外接喇叭的话，这个 headphone 要接地，否则 aplay 是没有声音输出的，除非你插入耳机。那你赢了，插入耳机可以 aplay 播放，不插入耳机外接喇叭就需要 headphone 接地

像这样

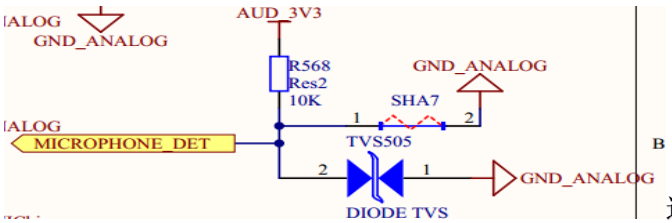


这样就可以正常播放音乐了

录音的时候要修改 mic



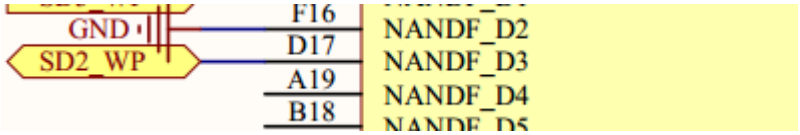
和上面 headphone 一样，外接麦克风录音是，MICROPHONE 要接地，否则 arceod 录音时没有声音进来的，除非你插入耳机麦克风。



这样就可以了

SD 卡槽插入 wifi 模块问题：

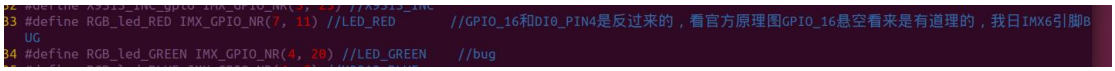
如果是插 SD 卡那倒是没什么问题，因为是热插拔，如果是热插拔 wifi 模块的话。也没有问题。但是我不想每次开机都去热插拔 wifi 模块，所以我要修改下电路，让开机就能识别 wifi 模块的 SDIO 总线。



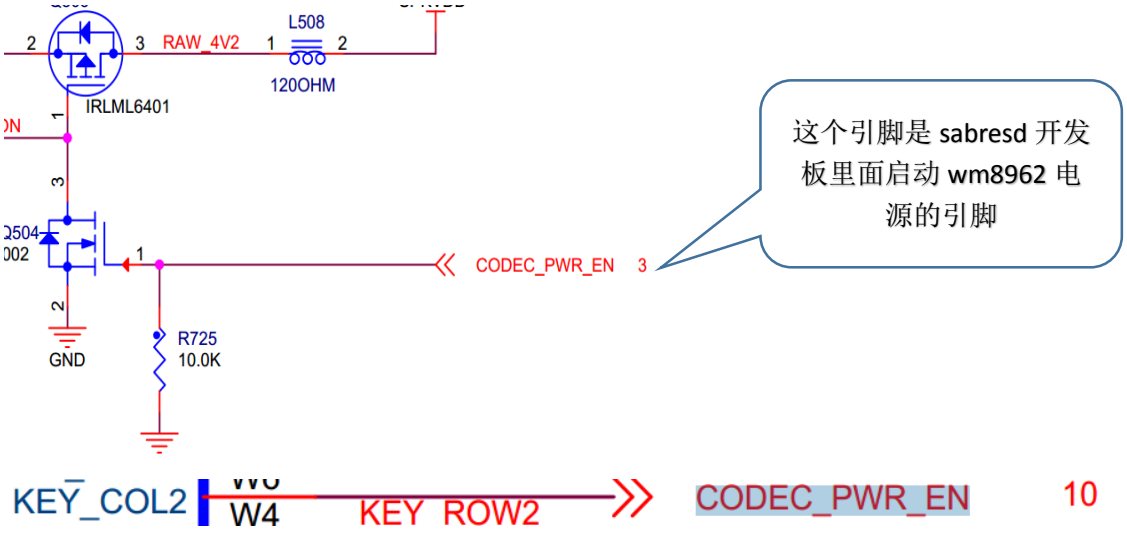
就像原理图这样 SD2_CD_B 也就是 NANDF_D2 要接地。如果你将该引脚接到了 SD 卡槽上，那么你又要开机手动去热插拔了。所以直接接地就可以卡机识别 SDIOwifi 总线了。

GPIO 问题

我不知道官方为什么要让 GPIO_16 引脚悬空，但是要注意的是这个引脚我设计三基色 led 的时候有 bug，他和 DI0_PIN4 是相反槽在的，也就是你操作 GPIO_16 其实是操作 DI0_PIN4 你槽在 DI0_PIN4 其实是操作 GPIO_16。



音频芯片 wm8962 启动问题:



如果你不加这些 MOS 管可以不用这个引脚去启动电源，直接将 wm8962VDD 链接电源

EMMC 从 Sandisk 换成 SKhynix 厂家的问题

Cpu :IMX6

EMMC : SDIN8DE2-16 (厂家 SanDisk)

```
kjournald starting.  Commit interval 5 seconds
EXT3-fs (mmcblk3p2): using internal journal
EXT3-fs (mmcblk3p2): recovery complete
EXT3-fs (mmcblk3p2): mounted filesystem with ordered data mode
VFS: Mounted root (ext3 filesystem) on device 179:10.
devtmpfs: mounted
Freeing unused kernel memory: 324K (80d0c000 - 80d5d000)
INIT: version 2.88 booting
Starting udev
udevd[176]: starting version 182
random: nonblocking pool is initialized
FAT-fs (mmcblk2p1): Volume was not properly unmounted. Some data may be corrup
n fsck.
bootlogd: cannot allocate pseudo tty: No such file or directory
ALSA: Restoring mixer settings...
```

这是内核正常初始化 EMMC 的 log

现在我换一个现代的 SKhynix EMMC

CPU ： IMX6

EMMC : H26M31001HPR (厂家 SKhynix)

```
EXT3-fs (mmcblk3p2): using internal journal
EXT3-fs (mmcblk3p2): recovery complete
EXT3-fs (mmcblk3p2): mounted filesystem with ordered data mode
VFS: Mounted root (ext3 filesystem) on device 179:2.
devtmpfs: mounted
Freeing unused kernel memory: 320K (80cec000 - 80d3c000)
INIT: version 2.88 booting
Starting udev
udevd[183]: starting version 182
random: nonblocking pool is initialized
mmcblk3rpmb: error -110 transferring data, sector 8064, nr 8, cmd response 0x900, card status 0xb00
mmcblk3rpmb: retrying using single block read
mmcblk3rpmb: timed out sending r/w cmd command, card status 0x400900
mmcblk3rpmb: timed out sending r/w cmd command, card status 0x400900
mmcblk3rpmb: timed out sending r/w cmd command, card status 0x400900
mmcblk3rpmb: timed out sending r/w cmd command, card status 0x400900
mmcblk3rpmb: timed out sending r/w cmd command, card status 0x400900
mmcblk3rpmb: timed out sending r/w cmd command, card status 0x400900
end_request: I/O error, dev mmcblk3rpmb, sector 8064
Buffer I/O error on device mmcblk3rpmb, logical block 1008
```

出现 EMMC 分区初始化问题

问题是在于最新的 EMMC 是由一个 OEM 密匙的安全区域，比如 SDIN8DE2-16 可以在 RPMB 区域进行初始化，但是现代这个款 H26M31001HPR 可能不能在 RPMB 区域上初始化分区，所以要跳过 rpmb 在 EMMC 后面地址进行分区。

经过分析，修改 fsl-linux/drivers/mmc/card/block.c 文件

```
static int mmc_blk_alloc_parts(struct mmc_card *card, struct mmc_blk_data *md)
{
        int idx, ret = 0;

        if (!mmc_card_mmc(card))
                return 0;

        for (idx = 0; idx < card->nr_parts; idx++) {
                if (card->part[idx].size) {
                        ret = mmc_blk_alloc_part(card, md,
                                card->part[idx].part_cfg,
                                card->part[idx].size >> 9,
                                card->part[idx].force_ro,
                                card->part[idx].name,
                                card->part[idx].area_type);
                        if (ret)
                                return ret;
                }
        }
```

取消这句


```
2209 static int mmc_blk_alloc_parts(struct mmc_card *card, struct mmc_blk_data *md)
2210 {
2211         int idx, ret = 0;
2212
2213         if (!mmc_card_mmc(card))
2214                 return 0;
2215
2216         for (idx = 0; idx < card->nr_parts; idx++) {
2217                 //if (card->part[idx].size) { //-----
2218                 if (card->part[idx].size && !(card->part[idx].area_type & MMC_BLK_DATA_AREA_RPMB)){  //+++
2219                         ret = mmc_blk_alloc_part(card, md,
2220                                 card->part[idx].part_cfg,
2221                                 card->part[idx].size >> 9,
2222                                 card->part[idx].force_ro,
2223                                 card->part[idx].name,
2224                                 card->part[idx].area_type);
2225                         if (ret)
2226                                 return ret;
2227                 }
2228         }
```

增加 if (card->part[idx].size && !(card->part[idx].area_type & MMC_BLK_DATA_AREA_RPMB))
问题得到解决

IMX6+ EMMC(H26M31001HPR) 启动后

```
EXT3-fs (mmcblk3p2): using internal journal
EXT3-fs (mmcblk3p2): recovery complete
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n fsck.
FAT-fs (mmcblk3p1): Volume was not properly unmounted. Some data may be corrupt. Please ru
n fsck.
```

我们在和 SanDisk 的 EMMC 对比下输出

```
kjournald starting.  Commit interval 5 seconds
EXT3-fs (mmcblk3p2): using internal journal
EXT3-fs (mmcblk3p2): recovery complete
EXT3-fs (mmcblk3p2): mounted filesystem with ordered data mode
VFS: Mounted root (ext3 filesystem) on device 179:10.
devtmpfs: mounted
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