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# 高通多媒体技术期刊 20160413

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Qualcomm Technologies, Inc.

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# Revision History

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Revision	Date	Description
A	Apr. 2016	Initial release

**Note:** There is no Rev. I, O, Q, S, X, or Z per Mil. standards.

# 内容

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- Display for Panel Bring up on 8953
  - 如何计算DSI panel timing on 8953
  - AMOLED panel bring up on 8953
  - LK changes for AMOLED panel support on 8953
  - Kernel changes for AMOLED panel support on 8953
- Audio
  - adspbin.so, OTA SW upgrading issue
  - 请根据硬件设计开关PMIC BOOST
  - Audio common issues



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# Display

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# 如何计算DSI panel timing on 8953

- 对于panel 的bring up :
  - 首先要计算DSI panel timing, 请下载[80-NH713-1](#) Version G文档.
  - 对于8953来说, 需要使用DSI PHY 2.0.0 timing setting, 且同样适用于8996.
  - 需要注意的是, DSI panel timings的属性为  
qcom,mdss-dsi-panel-timings-8996 =  
[23 1e 08 09 05 03 04 a0  
23 1e 08 09 05 03 04 a0  
23 1e 08 09 05 03 04 a0  
23 1e 08 09 05 03 04 a0  
23 1a 08 09 05 03 04 a0];
- 如何得到上面的panel timing, 请参看[80-NU323-31](#)中DSI PHY timing calculation章节。
- 如果**仅考虑到Single DSI panel**的bring up, 此文档适用于8996和8953平台, 但注意, DSC和split mode在8953上不支持。
- 对于qcom,mdss-dsi-panel-timings, 在8953和8996平台上不会使用。

# AMOLED panel bring up on 8953

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- 对于AMOLED panel 支持，首先必须有下面的changes，如下
- In LK side:
  - target: msmtitanium: Add swire control support for AMOLED panels  
[https://us.codeaurora.org/cgit/quic/la/kernel/lk/commit/?h=LA.UM.5.3\\_rb1.1&id=3dd859bd4604e48a49ff7898684d183223abb4ca](https://us.codeaurora.org/cgit/quic/la/kernel/lk/commit/?h=LA.UM.5.3_rb1.1&id=3dd859bd4604e48a49ff7898684d183223abb4ca)
- In Kernel side:
  - regulator: qnpn-labibb: Add support for TTW on PMI8950  
[https://us.codeaurora.org/cgit/quic/la/kernel/msm-3.18/commit/?h=LA.UM.5.3\\_rb1.1&id=660b219c02e869eded42129e3f8a67c74420d23f](https://us.codeaurora.org/cgit/quic/la/kernel/msm-3.18/commit/?h=LA.UM.5.3_rb1.1&id=660b219c02e869eded42129e3f8a67c74420d23f)
  - regulator: qnpn-labibb: Add logic to skip second SWIRE command  
[https://us.codeaurora.org/cgit/quic/la/kernel/msm-3.18/commit/?h=LA.UM.5.3\\_rb1.1&id=18b50de6136c9eb9e99ec5289ca1610d2d9b69e1](https://us.codeaurora.org/cgit/quic/la/kernel/msm-3.18/commit/?h=LA.UM.5.3_rb1.1&id=18b50de6136c9eb9e99ec5289ca1610d2d9b69e1)
  - regulator: qnpn-labibb: Update settings for AMOLED mode  
[https://us.codeaurora.org/cgit/quic/la/kernel/msm-3.18/commit/?h=LA.UM.5.3\\_rb1.1&id=a5f72ee3bdf4d6b09fd7dabddce3dc0396fc297c](https://us.codeaurora.org/cgit/quic/la/kernel/msm-3.18/commit/?h=LA.UM.5.3_rb1.1&id=a5f72ee3bdf4d6b09fd7dabddce3dc0396fc297c)
  - regulator: qnpn-labibb: modify IBB\_SPARE\_CTL setting during TTW mode exit  
[https://us.codeaurora.org/cgit/quic/la/kernel/msm-3.18/commit/?h=LA.UM.5.3\\_rb1.1&id=810aa28ba0d9ad97d32f465d0d71c48856201ffc](https://us.codeaurora.org/cgit/quic/la/kernel/msm-3.18/commit/?h=LA.UM.5.3_rb1.1&id=810aa28ba0d9ad97d32f465d0d71c48856201ffc)

# LK changes for AMOLED panel support on 8953

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- 在LK，需要增加对lab/ibb的修改，如下：
- a) 在 panel 的头文件中  
/bootable/bootloader/lk/dev/gcdb/display/include/panel\_vendor\_amoled\_xx\_type.h

```
static struct labibb_desc vendor_amoled_xxx_type_labibb = {  
    1, 0, 4600000, 4600000, 4600000, 4600000, 3, 3, 1, 1  
};
```

- b) 在 OEM panel 文件中  
/bootable/bootloader/lk/target/msm8953/oem\_panel.c

```
pinfo->labibb = &vendor_amoled_xxx_type_labibb;
```

- 其中，
  - LAB 代表 LCD AMOLED Boost
  - IBB 代表 Inverting Buck Boost



# LK changes for AMOLED panel support on 8953 –cont1

- 关于labibb\_desc的定义，如下：
- /bootable/bootloader/lk/platform/msm\_shared/include/msm\_panel.h

```
struct labibb_desc {  
    char amoled_panel; /* lcd = 0, amoled = 1 */  
    char force_config; /* 0 to use default value */  
    uint32_t ibb_min_volt;  
    uint32_t ibb_max_volt;  
    uint32_t lab_min_volt;  
    uint32_t lab_max_volt;  
    char pwr_up_delay; /* ndx to => 1250, 2500, 5000 and 10000 us */  
    char pwr_down_delay; /* ndx to => 1250, 2500, 5000 and 10000 us */  
    char ibb_discharge_en;  
    bool swire_control;  
};
```

# Kernel Changes for AMOLED panel support on 8953

- 1：在kernel，首先从panel vendor 获得panel 相关的配置参数，比如所有参数在dsi-panel-vendor-amoled-xxx-type.dtsi
- 2：然后在/arch/arm/boot/dts/qcom/msm8953-mdss-panels.dtsi 中添加下面的修改，举例如下：

```
+ #include "dsi-panel-vendor-amoled-xxx-type.dtsi"
```

```
+ &dsi_vendor_amoled_xxx_type {
```

```
+     qcom,mdss-dsi-panel-timings-8996 = [22 1e 07 08 04 03 04 a0
```

```
+         22 1e 07 08 04 03 04 a0
```

```
+         22 1e 07 08 04 03 04 a0
```

```
+         22 1e 07 08 04 03 04 a0
```

```
+         22 18 07 08 04 03 04 a0];
```

```
+};
```

- 请注意，对于上面的DSI panel timing值，随着panel的参数变化而变化。

# Kernel Changes for AMOLED panel support on 8953 –cont1

- 对于AMOLED panel支持，还需要额外的配置，如下
- 1：在/arch/arm/boot/dts/qcom/msm-pmi8950.dtsi

```
qcom,leds@d800 {  
    compatible = "qcom,qpnp-wled";  
    reg = <0xd800 0x100>,  
    ... ..  
    qcom,ibb-pwrap-dly = <8>;  
    qcom,led-strings-list = [00 01];  
    qcom,en-ext-pfet-sc-pro;  
    qcom,disp-type-amoled;  
};
```

+

# Kernel Changes for AMOLED panel support on 8953 –cont2

- 2 : 在/arch/arm/boot/dts/qcom/msm8953-<platform>.dtsi , 用amoled来代替lcd

```
&labibb {  
    status = "ok";  
-    qnpn,qnpn-labibb-mode = "lcd";  
+    qnpn,qnpn-labibb-mode = "amoled";  
+    qnpn,swire-control;  
+};
```

- 3 : 在上面文件中 , 同时需要disable pulse skipping for lab regulator.

```
+&lab_regulator {  
+    /delete-property/ qcom,qnpn-lab-ps-enable;  
+};
```



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# Audio

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# adspbin.so, OTA SW upgrading issue

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- 问题：OTA升级软件，adspso.bin分区不能访问
- 解决办法：
  - Step1. Build adspso.bin by passing two additional flags to make\_ext4fs on Linux:
    - a. Get the file\_contexts file from
      - LINUX\android\out\target\product\<msm>\root\file\_contexts
    - b. Build a new adspso.bin with the correct SELinux flags
      - \$cd adsp\_proc
      - \$find . -iname make\_ext4fs
        - ./build/ext4fs\_tools/ubuntu/make\_ext4fs
      - \$cp build/dynamic\_signed/shared\_obj .
      - \$mkdir temp
      - \$./build/ext4fs\_tools/ubuntu/make\_ext4fs -s -T -1 -S **file\_contexts** -L dsp -l 16777216 -a dsp ./temp/adspso\_sparse.bin ./build/dynamic\_signed/shared\_obj
      - \$./build/ext4fs\_tools/ubuntu/simg2img temp/adspso\_sparse.bin temp/adspso.bin

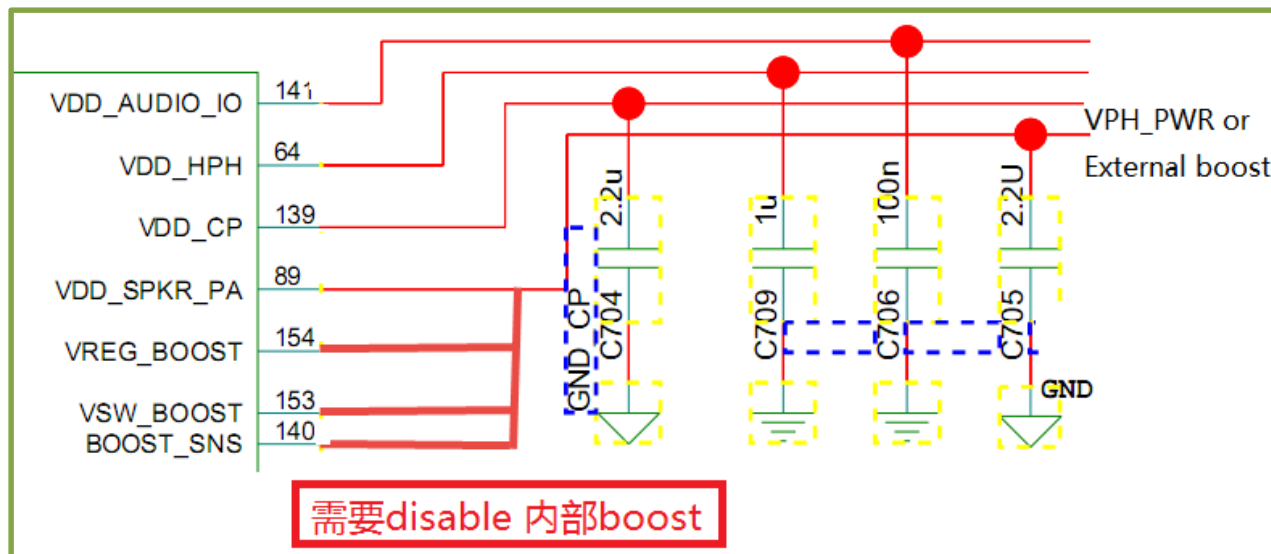
# adspbin.so, OTA SW upgrading issue

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- Step2. Modify init.target.rc to mount /dsp as a read only partition (and removed restorecon)
  - diff --git a/init.target.rc b/init.target.rc
  - index c748c84..432c44d 100644
  - @@ -54,8 +54,8 @@ on fs
  - mkdir /persist/data 0700 system system
  - wait /dev/block/bootdevice/by-name/dsp
  - - mount ext4 /dev/block/bootdevice/by-name/dsp /dsp nosuid nodev barrier=1
  - - restorecon\_recursive /dsp
  - **+ mount ext4 /dev/block/bootdevice/by-name/dsp /dsp ro nosuid nodev barrier=1**
  - **+# restorecon\_recursive /dsp**

# 请根据硬件设计开关PMIC BOOST

- Platforms : MSM8916/39/52/56/76 + PMIC codec
- If you have adopted our HW design connecting BOOST\_SNS/VSW\_BOOST/VREG\_BOOST to VPH\_PWR to avoid PMIC overshoot issue, please disable PMIC codec BOOST with SW.



- All mixer paths xml file should be configured to enable or disable the Boost as per the HW design. Below is the mixer path change details :

	PMIC Codec BOOST is used	PMIC Codec BOOST is not used
Speaker Amp	<ctl name="Speaker Boost" value="ENABLE" />	<ctl name="Speaker Boost" value="DISABLE" />
Ear Amp	<ctl name="EAR PA Boost" value="ENABLE" />	<ctl name="EAR PA Boost" value="DISABLE" />



# Audio common issues ( 1 )

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- 描述 : Line app calling will be ended if enable handfree mode
- 复现步骤和现象 :
  - 1. Build a LINE call
  - 2. Enable handfree mode
- 基线 : MSM8916/39
- CR : 784149
- 代码修改 :
  - <https://codeaurora.org/cgit/quic/la/platform/hardware/qcom/audio/patch/?id=05555ee4801e1f200e6c1fd51e7fbe54a673f4a8>

## Audio common issues ( 2 )

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- 描述：QUIN MI2S is not configured with voice path
- 复现步骤和现象：
  - QUIN MI2S is configured for external speaker path
  - When switch to speaker, it become silence in call mode
- 基线：MSM8953等, kernel/msm-3.18
- CR：999811
- 代码修改：
  - 请提case获取

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## Questions?

<https://support.cdmatech.com>

