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# 高通多媒体技术期刊 20151216

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Qualcomm Technologies, Inc.

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# Revision History

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Revision	Date	Description
A	Dec 2015	Initial release

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

- Display
  - LK DSI packets formats 说明
  - 8996 AD 抓 logs的方法
- Graphics - Android M specific 2 issues
  - Qualcomm issue:  
Canvas drawColor(bgColor) cause rendering issue when background color is not opacity (bgColor.A != 0xFF)
  - Google AOB bug:  
SVG image display is messed in rotation, even disappeared



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# Display

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# LK DSI packets formats 说明

- DSI 在kernel 中的格式请参考 kernel\Documentation\devicetree\bindings\fb目录下的全部txt文档.

DSI在LK中也会有各种操作和配置，具体的细节可以参考kernel文档和LK部分的源代码。

这里主要对LK 中间的DSI packets 的具体formats做一个说明。

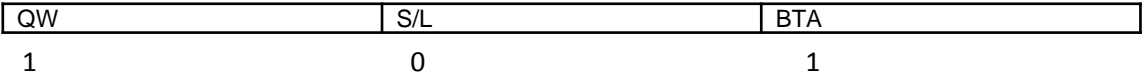
----DSI HW logic controller一般是通过寄存器来控制的，所以DSI的各种控制方法主要是通过寄存器进行设置。

但是有些配置是通过在packets里面直接设置进行的。因为具体到每个packets，通过寄存器进行配置，这种配置的时效性超过了CPU的处理能力。

```
static char read_id_a1h_cmd[4] = { 0xA1, 0x00, 0x06, 0xA0 };
```

这个是LK中间读panel ID的packets。0xA1是panel端的ID 寄存器地址，0xA1,0x00是这个DSI packets的 pay load。0x06是 DSI packet type。0xA0是控制位。DSI packet type的情况请参考DSI spec，这里不进行过多的说明。0xA0是DSI HW logic所使用的控制位，并不会被 DSI HW TX 出去。

实际上这个最后一个bytes的控制位，只有高三位是有含义的。



# LK DSI packets formats 说明

## ▪ 控制位说明

0xA0 10100000

- 1. QW 是1,就是说这个packet是单独发出去的。
- 2. SL是0 ,就是说这个packet是短包。
- 3. BTA是1 ,就是说需要panel的BTA应答。

Queue-wait (QW)	0 = Not the last packet of the current transfer 1 = Last packet of the current transfer	Note: Do not set this bit, as the bit is legacy mode and no longer tested.
S/L packet type	0 = Short packet 1 = Long packet	
BTA request	0 = No BTA request 1 = Request BTA after sending this packet	Set this bit only when QW is set or it is in the last packet

如果是0x80 10000000 , 那么就是说这是一个单独发送的短包 , 不需要BTA应答。

QW	S/L	BTA
1	0	0

# 8996 AD 抓 logs的方法

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1. 8996中的mm-pp-daemon被新的mm-pp-dpps所替换  
/system/bin/mm-pp-dpps是新的AD运行的用户空间的service

抓取 AD的mm-pp-dpps的log方法如下

```
adb root ;adb remount; adb shell setenforce 0;
```

```
1. Adb shell /system/bin/ppd "debug:al;verbose"
```

```
2. adb shell logcat -v threadtime
```

抓取 AD的kernel log的方法如下

```
adb root
```

```
adb remount
```

```
adb shell echo 1 > d/mdp/postproc/ad_debugen
```

```
adb shell "echo -n 'file mdss_mdp_pp.c +tp'> /d/dynamic_debug/control"
```

```
adb shell cat /proc/kmsg
```





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# Graphics

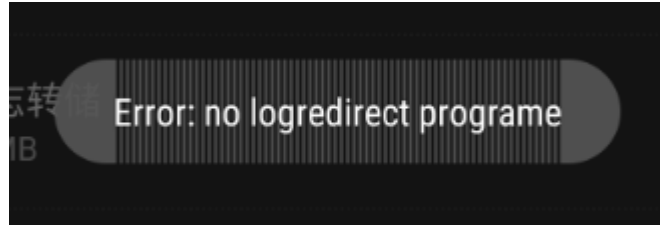
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## Qualcomm issue:

Canvas drawColor(bgColor) cause rendering issue when background color is not opacity (bgColor.A != 0xFF)

### ■ Introduction :

The background shows abnormal like below, some vertical lines are appearing.



This is M8996 android M known issue, and confirmed to be QC SKIA optimization issue.

How to confirm whether a issue is related to QC SKIA optimization?

Remove the following 3 lines from /external/skia/Android.mk, then rebuild

- ifeq (\$(BOARD\_USES\_QCOM\_HARDWARE),true)
- LOCAL\_WHOLE\_STATIC\_LIBRARIES += libqc-skia
- endif

### ■ Conclusion:

The issue has already been fixed in LA.HB.1.1.1-01440-8x96.0-1.

If you are using one build before LA.HB.1.1.1-01440-8x96.0-1, you can upgrade to this build to get the fix.

You can also request the SBA on case if you cannot upgrade build.

## Google AOB bug:

SVG image display is messed in rotation, even disappeared

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- Introduction:

Use SVG image as background, when rotate device 90 degree, the SVG image became messed, and even disappear. If change to PNG image, there is no issue.

From code level, this issue occurs when call `canvas.translate(x, y)`, `canvas.rotate(degree)`, `canvas.translate(-x, -y)`, `drawadble.draw(canvas)` to implement rotate, but does not occur when call `imageview.setRotation(rotation)`.

Both Nexus and other chipsets android M device can also reproduce the issue. so it is mostly Google android Framework issue.

one google bug is created to Google for this issue.

- The google Bug Id 196486

<http://code.google.com/p/android/issues/detail?id=196486>

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## Questions?

<https://support.cdmatech.com>

