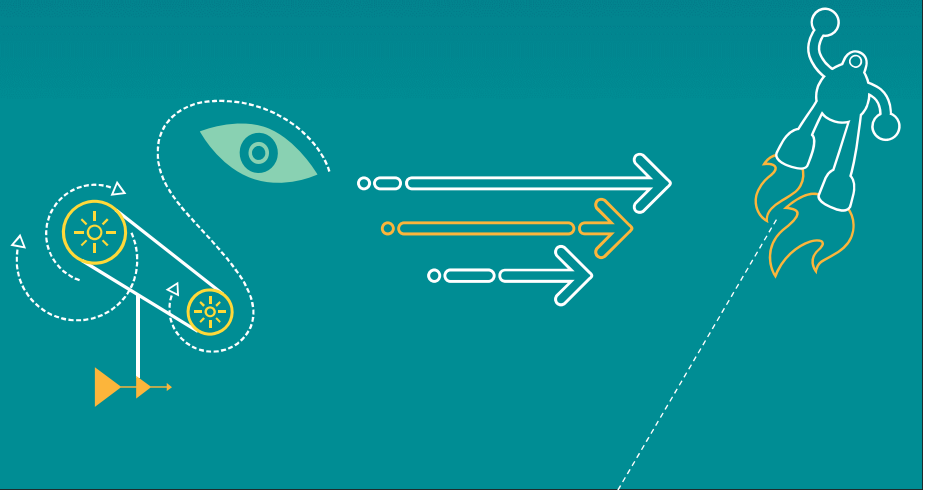
高通硬件基带技术期刊2016-1-5

Qualcomm Technologies, Inc.



Confidential and Proprietary – Qualcomm Technologies, Inc.

Revision History

Revision	Date	Description
A	Jan 2016	Initial release

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

Contents

- Baseband
- audio
- PMIC and SMB

MSM8996 Fingerprint SPI interface

- 适用平台：使用MSM8996的平台
- 问题描述：MSM8996外接fingerprint SPI interface的选择
- 推荐：
  - 如果使用高通的FP

    请接到MSM的SSC接口（SSC4-SSC7)
  - 如果使用第三方FP

    请接到MSM的BLSP接口

MSM8996的最近参考设计会加入相关注释

MDM9X07 原理图更新

- 适用平台：MDM9X07

- MDM9X07 原理图已经更新到C版本，**修正了I2S_MCLK bug 问题。**
  - 原理图文档号：80-P1511-41_C
  - Bug通知文档号：80-P1511-700_AB_MDM9x07-MDM8207-MDM9628_Chipset_Announcement

I2S_MCLK is **not** routed to pad # AA3 as provided in 80-P1511-1 Rev B.

It has to be routed through pin AD02. This impacts only projects that use audio functionality. If I2S_MCLK is needed, above modification in schematic should be done.

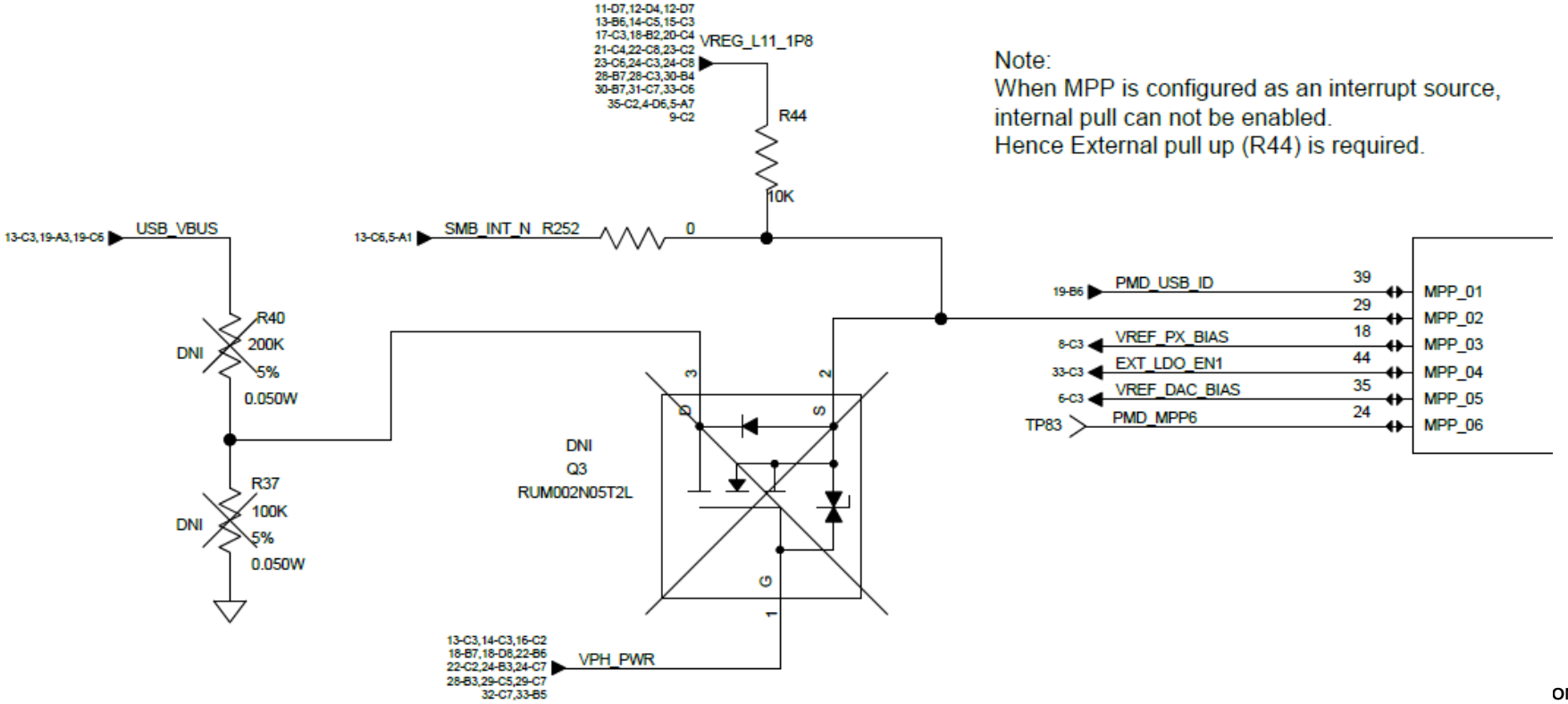
SW CR 939754 needs to be incorporated to ensure I2S_MCLK is available on pin AD02.

MDM9X07 USB detection说明

- USB detection 可以兼容带SMB和不带SMB模块两种方案

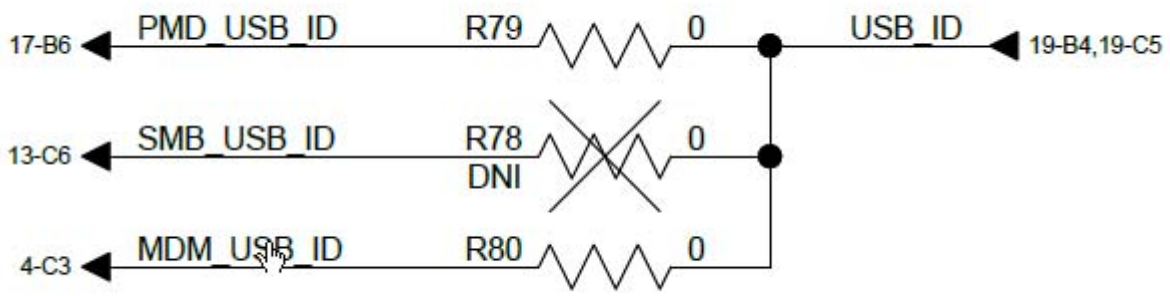
	With SMB	Without SMB
Mount	R44/R252	R40/R37/Q3
DNI	R40/R37/Q3	R44/R252

  - Q3用于过压保护。因为MPP02最高承受电压为VPW+0.3V，高压充电器或USB线插入拔出所产生的高压脉冲会损坏MPP02 PIN。



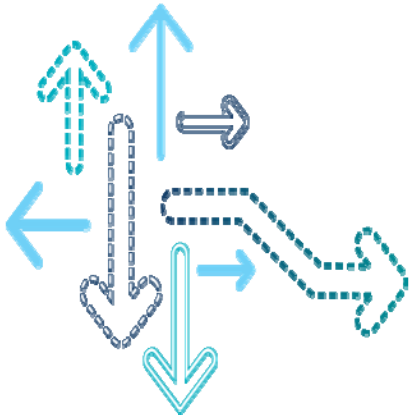
MDM9X07 USB_ID用法说明

- USB_ID 需要同时连接到MDM_USB_ID和PMD_USB_ID。SMB_USB_ID是可选方案，默认不使用。
  - 由于PMD_USB_ID不具有内部上拉功能，需要MDM_USB_ID提供pull-up功能。所以需要R79/R80同时贴片
  - 当客户项目不使用SMB模块时，R79/R80仍然需要贴片。否则需要修改软件disable OTG功能

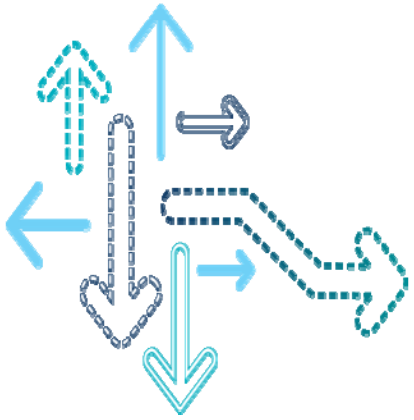


- 详细描述请参考文档< 80-P2200-6_MDM9X07 LINUX USB OVERVIEW >, <80-P1511-5B >

Baseband



Audio



WCD9335/WCD9326 unused pin handle

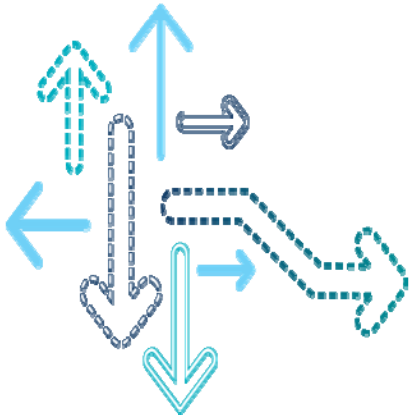
- 适用平台：使用WCD9335/WCD9326的平台
- 问题描述：WCD9335 un-used pin的连接方式
- 推荐：
  - 不要把PDM_DATA和DMIC_DATA连接混淆。
  - 不用的PDM_DATA/CLK pins 悬空
  - 不用的数字DMIC_DATA需要接地

    Tie unused I2C_SCL/SDA, RX_I2S_WS/SCK/SD0/SD1, TX_I2S_WS/SCK and DMIC_DATA to GND

    Bi-directional pins will be configured to digital input by default after codec is out of reset and should be tied to GND.

具体的更多信息可以参考80-NT781-5

PMIC



PMIC – SMB1351和SMB1357版本

- SMB1351和SMB1357有不同的版本。不同的PMIC芯片需要配合相应版本的SMB芯片才能工作。
- 对于SMB1351，请见下表：
  - 其中，芯片丝印的第三行最后两个数字列在chip mark列中

Platform	CSIR	Chip mark	MCN	Ordering PN
PMI8994 (parallel charging) (MSM8992/4)	2352	52	CD90-NP645-10TR	SMB-1351-0-49CWLNSP-TR-01-0-05
PMI8996 (parallel charging) (MSM8996)	2352	52	CD90-NP645-10TR	SMB-1351-0-49CWLNSP-TR-01-0-05
PMI8952 (parallel charging) (MSM8952/56/76)	2352	52	CD90-NP645-10TR	SMB-1351-0-49CWLNSP-TR-01-0-05
PM8909 (MSM8909)	2389	89	CD90-NP645-22	SMB-1351-0-49CWLNSP-TR-02-0-06
PM8916 (MSM8939)	2389	89	CD90-NP645-22	SMB-1351-0-49CWLNSP-TR-02-0-06

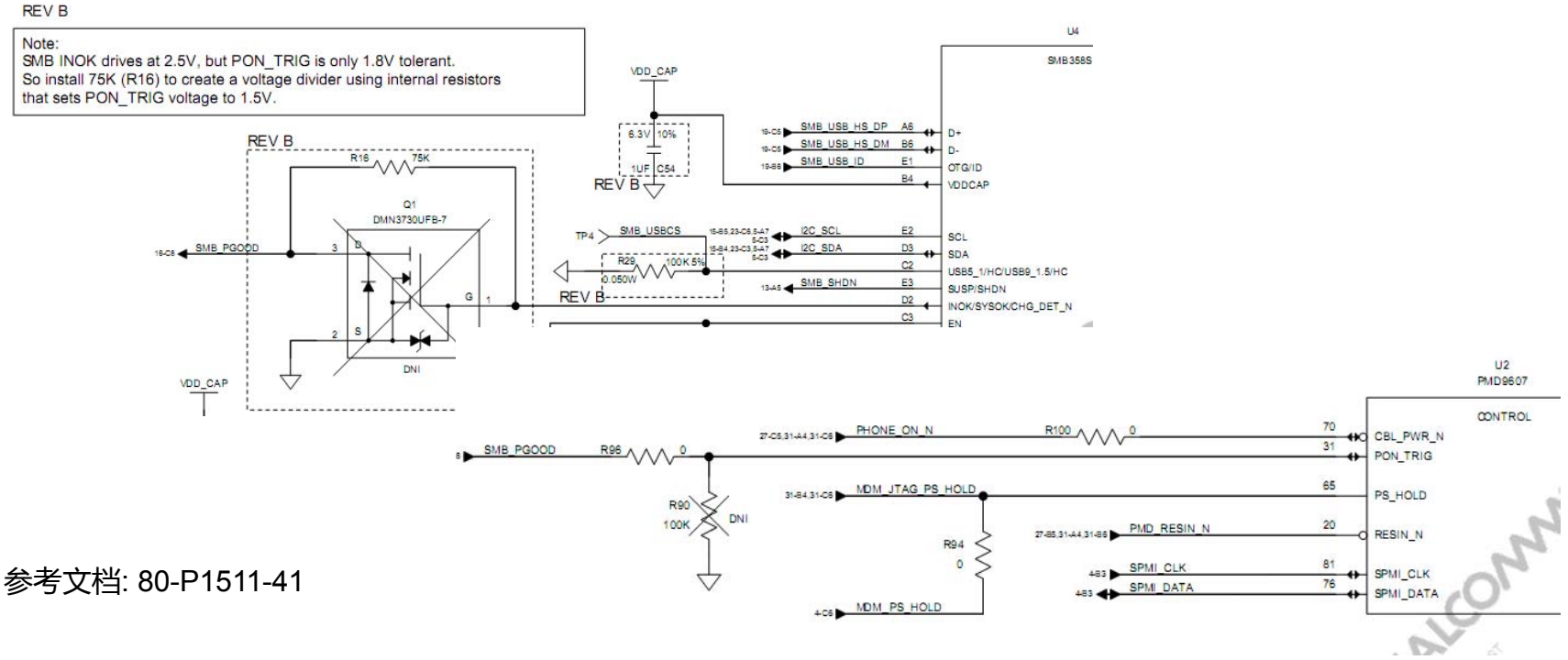
PMIC – SMB1351和SMB1357版本

- 对于SMB1357，请见下表：
  - 其中，芯片丝印的第三行最后两个数字列在chip mark列中

Platform	CSIR	Chip mark	MCN	Ordering PN
PMI8994 (parallel charging) (MSM8992/4)	2144	44	CD90-NF032-18TR	SMB-1357-0-30CWLCSP-TR-05-0-07
PMI8996 (parallel charging) (MSM8996)	2144	44	CD90-NF032-18TR	SMB-1357-0-30CWLCSP-TR-05-0-07
PM8916 (MSM8916/29/39)	2266	66	CD90-NF032-21TR	SMB-1357-0-30CWLCSP-TR-05-0-10
PM8909 (MSM8909)	2343	43	CD90-NF032-24TR	SMB-1357-0-30CWLCSP-TR-05-0-13

PON_TRIG

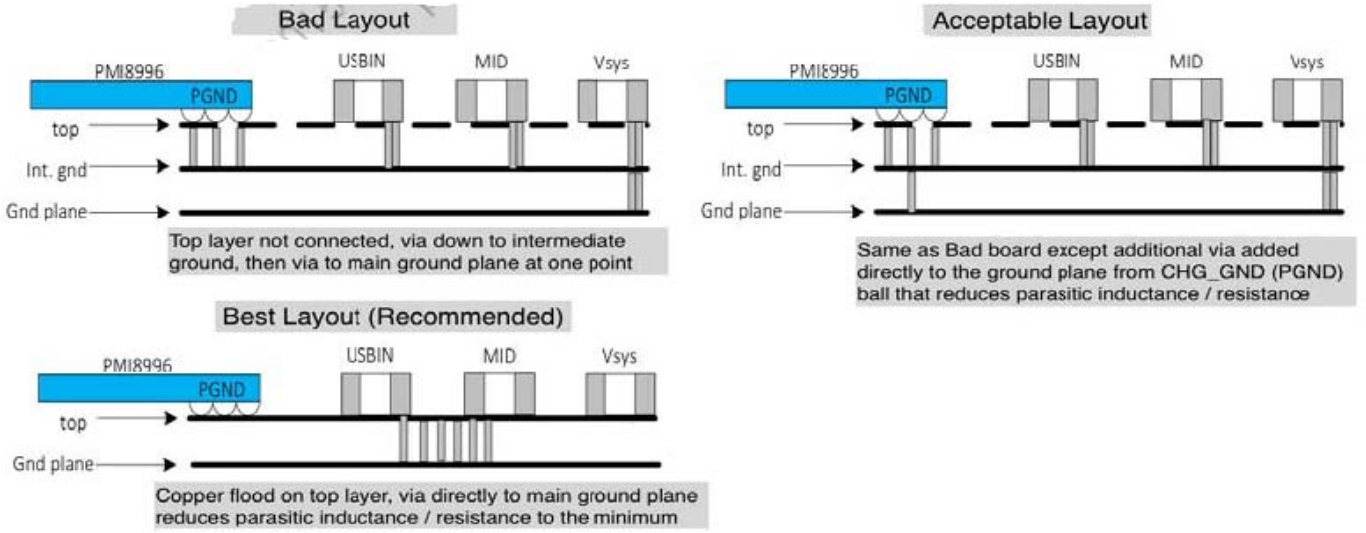
- 适用平台：MDM9x07/9628/9x25/9x25M
- 问题描述：PMD9607/PM8019 的PON_TRIG管脚内部下拉电阻为~200KOHm。
  - 在MiFi router/CPE 的设计中，需要支持插入USB或charger自动开机，使用到PON_TRIG高电平触发上电时序的功能。但是PON_TRIG是1.8V的管脚，最大工作电压1.8+0.3V，和SMB输出的PGOOD电压（2.5V）无法匹配。需要分压之后连接到PON_TRIG。
  - PMD9607/PM8019的PON_TRIG管脚内部有大约200KOhm的下拉电阻。SMB358的SYSOK管脚配置为插入charger输出2.5V，内部有大约50kΩ的上拉阻抗。Calculation is 2.5V *(200kΩ)/(50kΩ + 75kΩ +200kΩ) = 1.54V @ PON_TRIG pin



- 参考文档: 80-P1511-41

PMIC – PMI8996/PMI8994 SCHG layout guideline 更新

- 适用平台：MSM8996
- 问题描述：PMI8996 可能会在闪光的时候烧掉。
- 推荐方案：80-NJ117-5 rev G, 81, 82页， 更新了layout guideline 如下图， 80-NJ118-4 rev K 更新了 Issue 7-8：



- Connect the GND of the charger input capacitors, output capacitor, and GND_CHG pins of PMIC together on the top layers. Connect the common point directly to the main GND using multiple vias. This is to ensure that the parasitic inductance and resistance in the charger ground path is reduced as much as possible. In the event that the layout guidelines cannot be entirely met due to routing constraints, it is recommended to add one or more vias on CHG_GND directly to the main GND, as shown in the figure in the next slide.