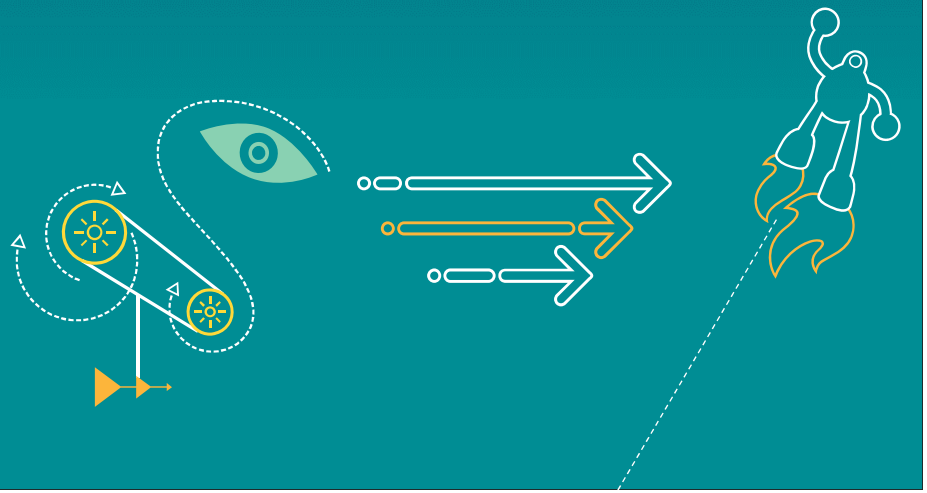
高通硬件基带技术期刊2015-9-30

Qualcomm Technologies, Inc.



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Revision History

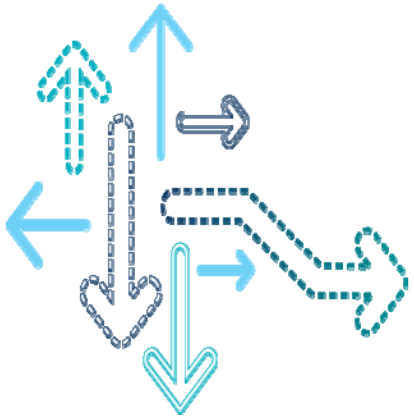
Revision	Date	Description
A	Sep 2015	Initial release

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

Contents

- Baseband
- PMIC and SMB

Baseband



平台功耗文档

- 适用平台：所有平台
- 问题描述：所有的功耗数据都在平台的80-xxxxx-7系列文档中，例如
  - MSM8952 80-NT665-7_MSM8952_LA_Current_Consumption_Data
  - MSM8939 80-NM683-7_MSM8936_MSM8939_LA_Current_Consumption_Data

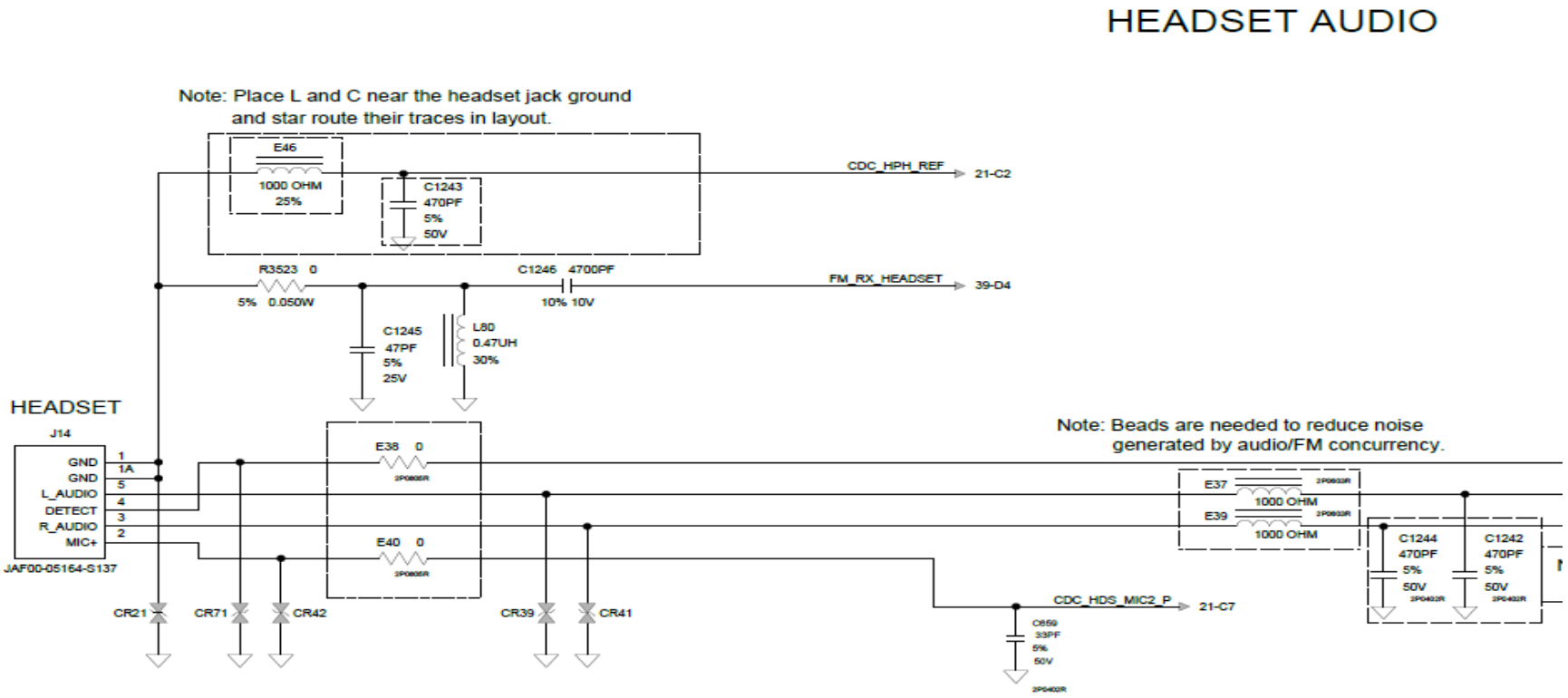
- 高通硬件文档编号：
- 80-xxxxx-1:芯片的datasheet
- 80-xxxxx-2x: 芯片的寄存器手册
- 80-xxxxx-4: Device Revision Guide，芯片的硬件版本信息和已知问题列表。
- 80-xxxxx-5: 芯片的培训文档

Audio

CDC_HPH_REF对地电感的选型

- 适用平台：MSM8909/8916/8952/8956/8976

- 问题描述：CDC_HPH_REF对地电感的选型请按照参考设计的part number.具体为L80 of 80-NK807-42_G.
- 此电感若有过高的DCR，会在耳机大音量播放时由于audio signal swing，在CDC_HPH_REF上产生可观的负电压，在-0.6V以下会导致HPH PA产生额外的电流，此时HPH PA的OCP过流保护也无法作用导致VDD_HPH/VDD_CP（VREG_S4）上产生巨大drop，device进入蓝屏或者死机。

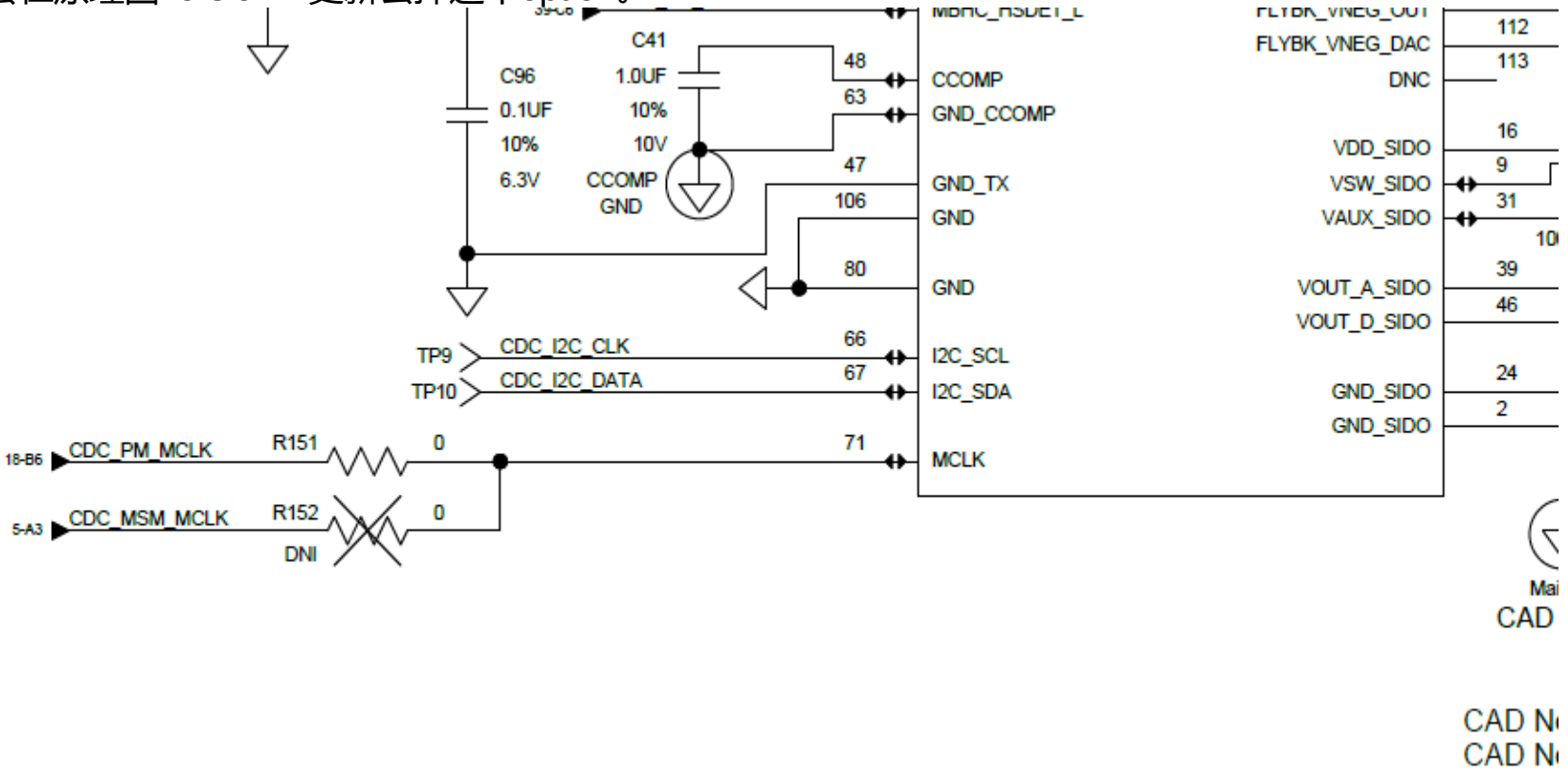


Audio

WCD9335/WCD9326 MCLK source

- 适用平台：MSM8956/8976/8996

- 问题描述：目前在参考原理图80-NT667-41_C中，WCD9326的MCLK有2个选择，默认从CDC_PM_MCLK，即由PM8956 GPIO_01提供。在参考原理图中的CDC_MSM_MCLK是由MSM8956/8976的GPIO提供时钟给WCD CODEC，目前没有相关软件版本支持，请不要使用此选项，后面会在原理图version D更新去掉这个option。

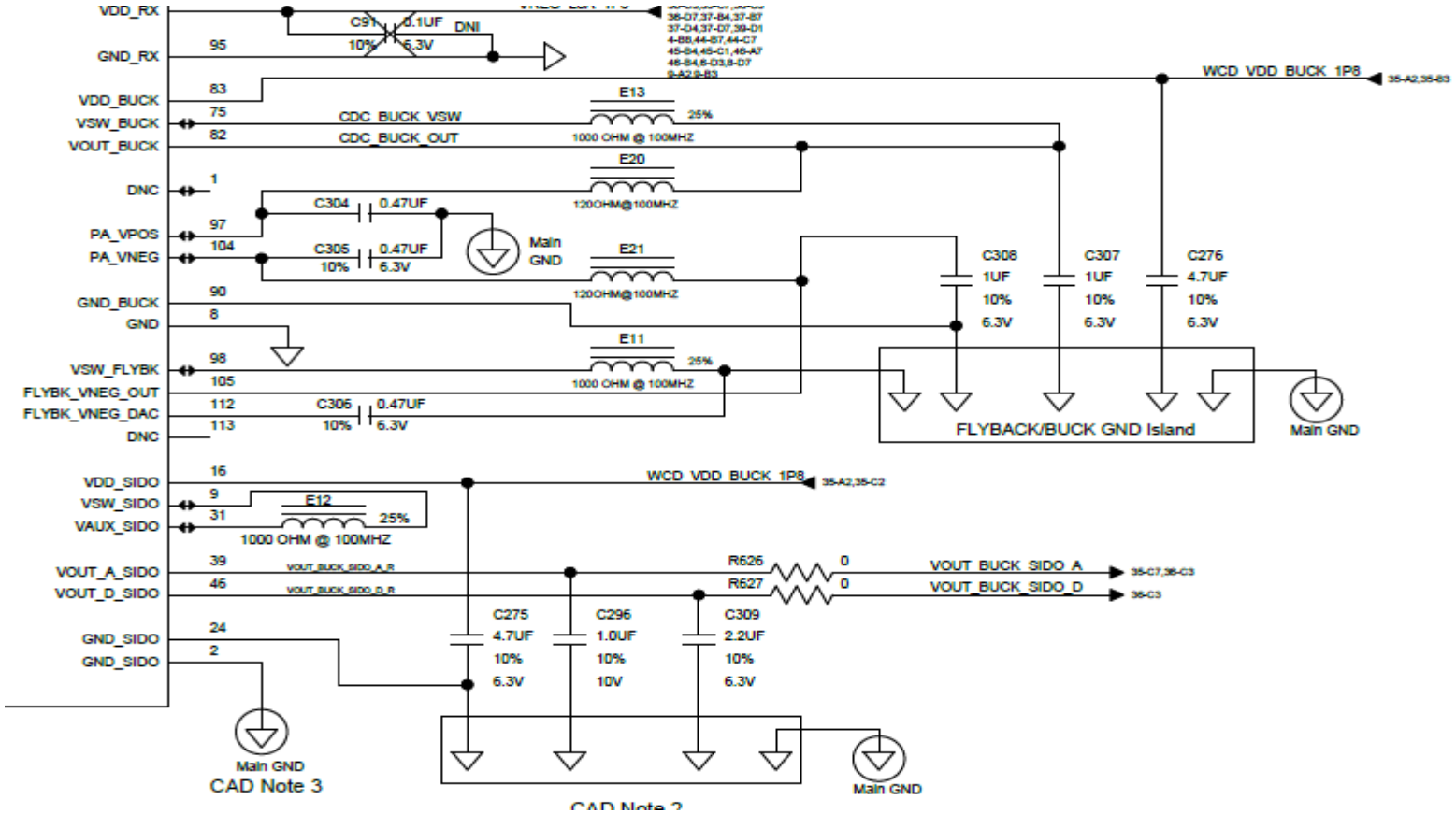


Audio

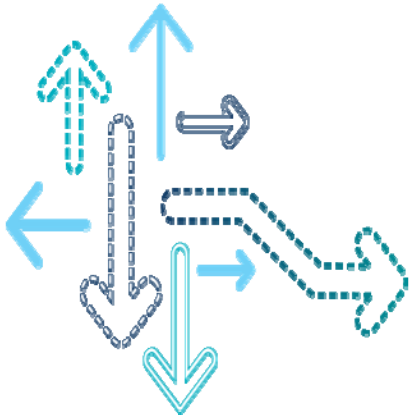
Ferrite Bead for VSW_BUCK/VSW_SIDO of WCD9335/9326

- 适用平台：MSM8956/8976/8996

- 问题描述：目前只有唯一MPZ1608S102A经过验证，请尽量使用此型号以确保音频performance。之前WCD9330 VSW_BUCK可选型号MPZ1608S601AT已不再推荐。即下图E11/E12/E13

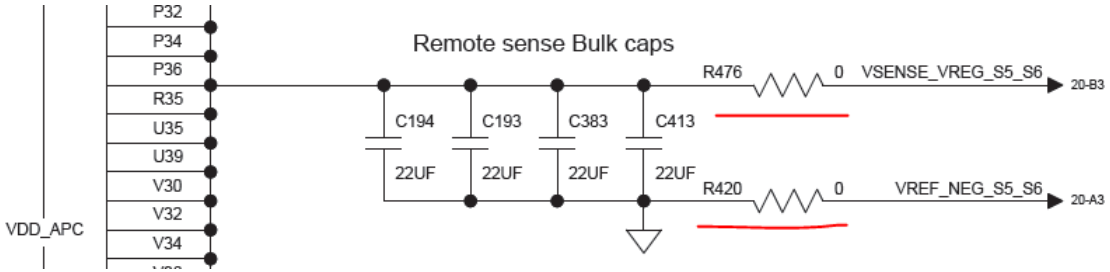


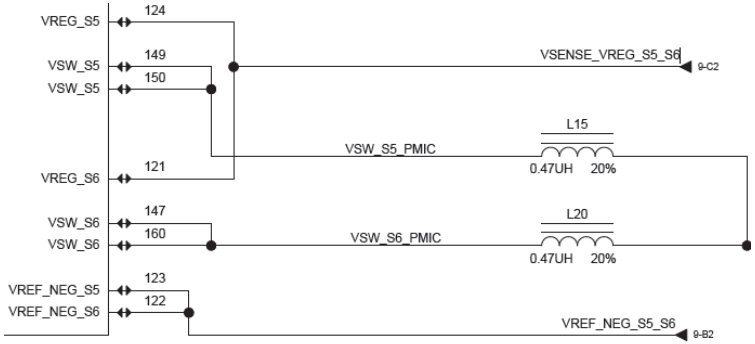
PMIC and SMB



How to understand serial 0ohm on Buck's feedback route

Take an example about serial 0ohm on buck's feedback route in MSM8952 reference design 80-NT665-41, see below, R476 and R420 are serial 0ohm on buck S5&S6's Feedback route





Let's first look at function of R476 and R420 in the schematic;

1. them tell us where is feedback point for BUCK;
2. We add two different net names in two sides of 0ohm;

The function of this 0ohm in schematic isn't the key point I want to highlight here, what I highlighted is , what's them in the layout? are they real resistor in the PCB ?

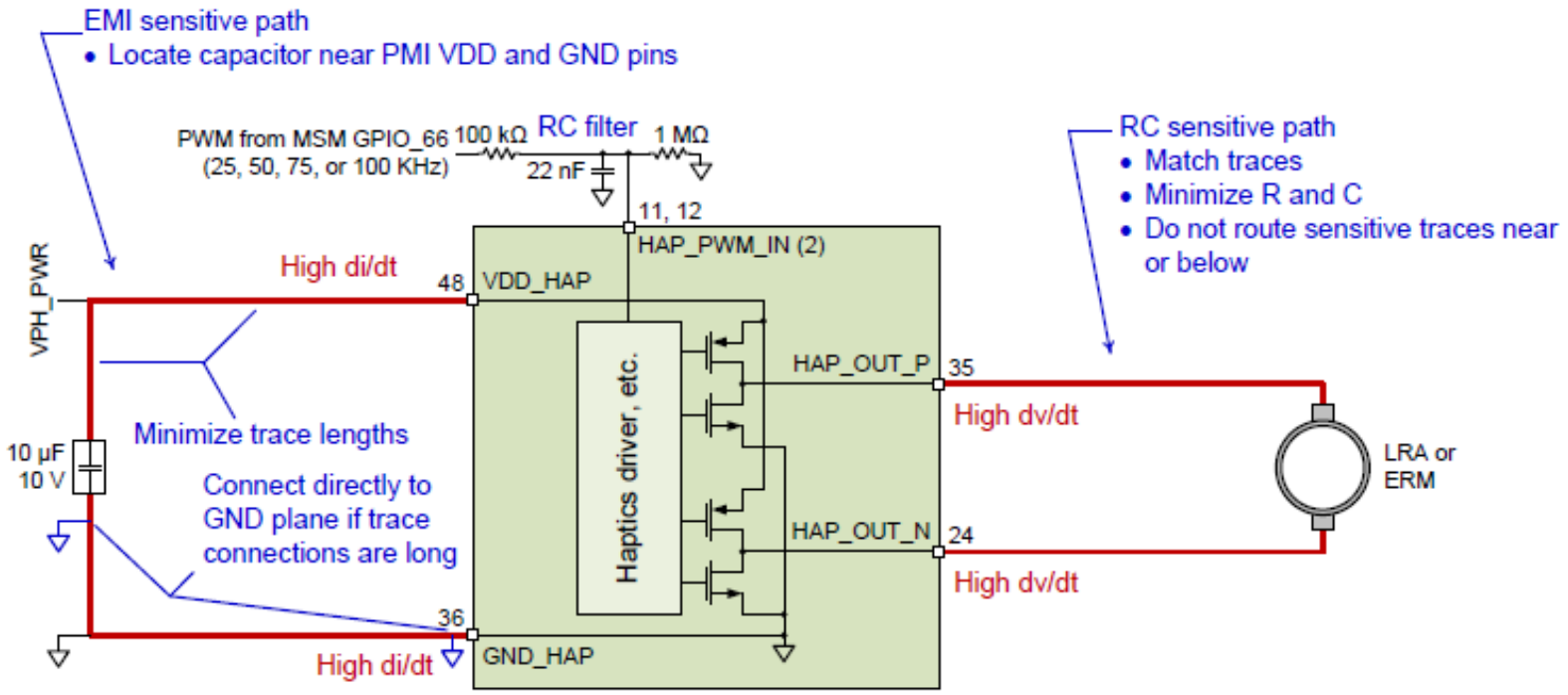
The answer is NO.
they are not real resistor in the PCB. And in the layout, they are just a shorter. Or you can directly connect VSENSE_VREG_S5_S6 with VREG_S5_S6, PCB drawing tool may report this is an error ,but we know it isn't. with this method, we can save BOM cost Also, we can save the space in the back side of MSM.

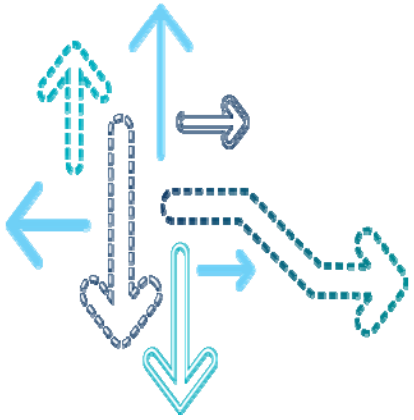
PMIC功能简介——Haptics

- PMI8994, PMI8952使用Haptics支持震动马达的功能
- Haptics支持ERM和LRA两种工作模式
- ERM模式，就是传统的偏心振子
- LRA模式，是新的线性谐振器
- ERM模式
- 不直接调整电压
- 通过调整PWM信号的占空比，调节驱动能力
- 无需使用电容滤波，因为电机无法响应高频信号，本身可以视作带有滤波电路
- LRA模式
- 可以支持炫酷的新功能
- 触觉反馈，低音增强
- 需要immersion公司的效果库

原理图设计：

1. 对ERM来说不需要外部防止续流二极管。
2. 不要在HAP_OUT_P/N上面放置大的电容，例如100nF，inrash电流有可能会导致HAP输出OCP





Questions?

https://support.cdmatech.com