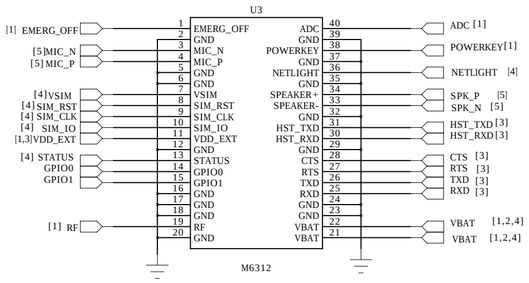
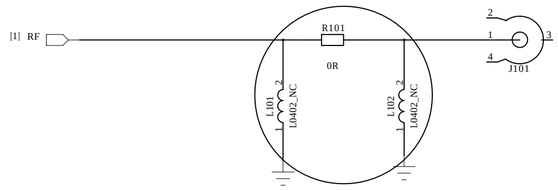
模组接口

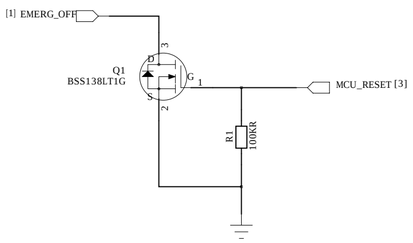


GSM天线

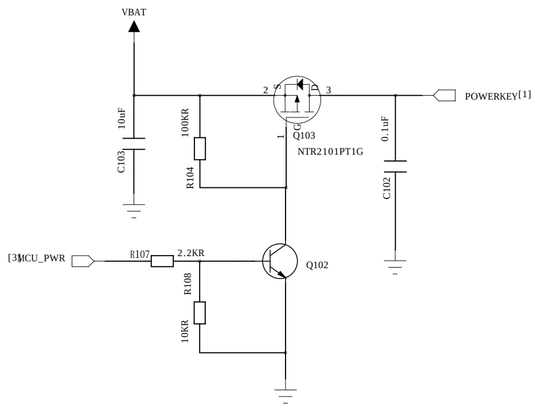
靠近天线座子端预留PI型匹配电路，天线控制50欧姆阻抗



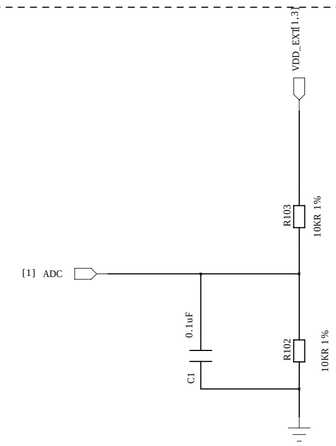
EMERG_OFF电路



POWERKEY电路



ADC参考电路



中移物联网			
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CHECKED: <Checked By>	DATED: <Checked Date>	SIZE: A2	REV: V1.1
			SHEET: 1 OF 5

电源供应

1、模组供电范围3.4V-4.6V，典型值4V,电源至少能够提供2A电流

2、去耦电容靠近模组电源脚放置

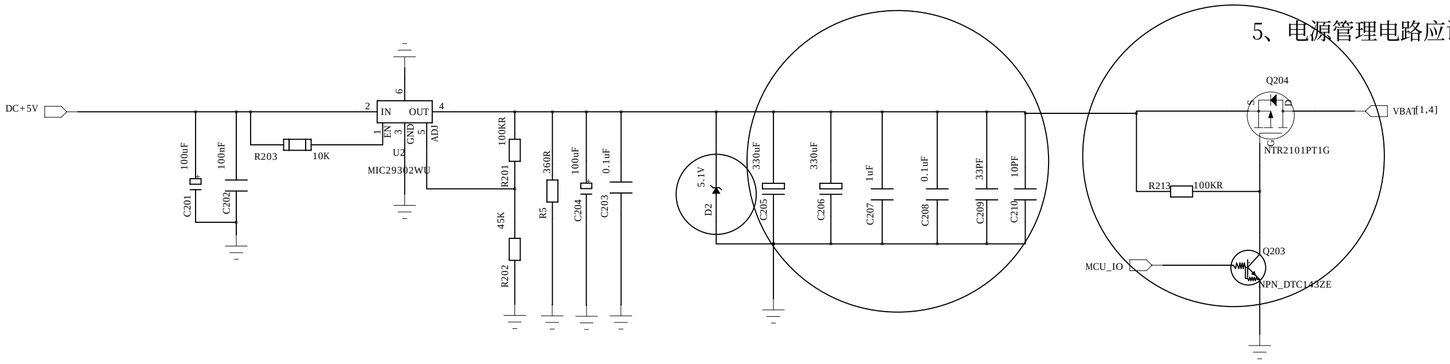
3、建议增加5.1V/1W的稳压二极管，提高抗浪涌能力

4、电源layout走线尽量短且粗

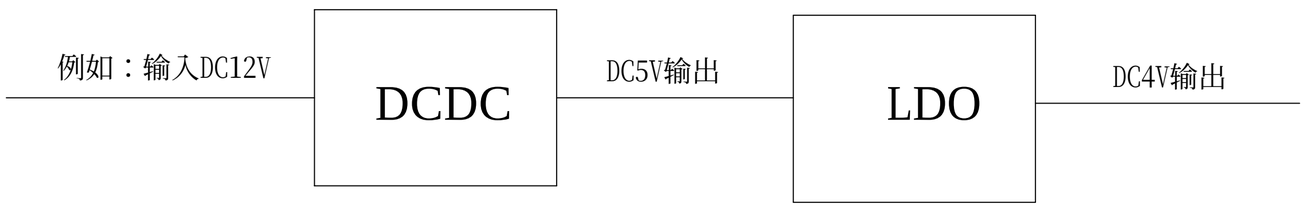
5、电源管理电路应设计在去耦电容后端

压差较小的话建议使用LDO

5V转4V



若输入输出压差较大，建议先使用DCDC降压到5V,再使用LDO



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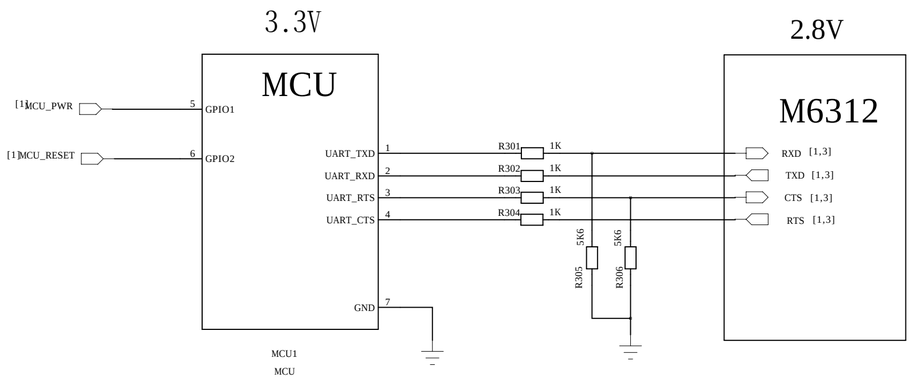
CHECKED: <Checked By>	DATED: <Checked Date>	SIZE: A2	REV: V1.1	SHEET: 2 OF 5

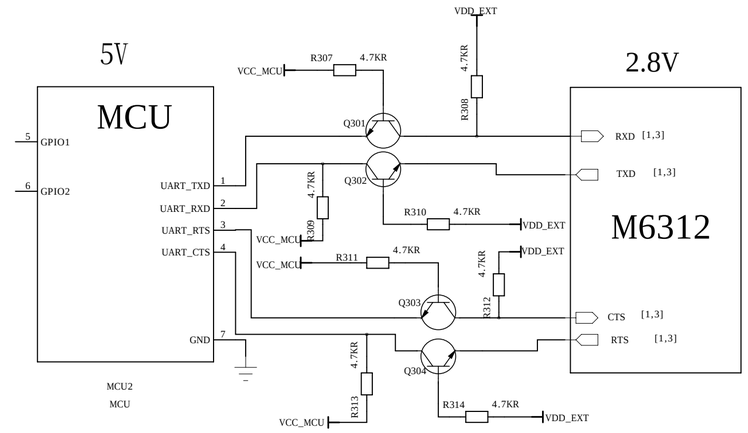
UART

3.3V单片机



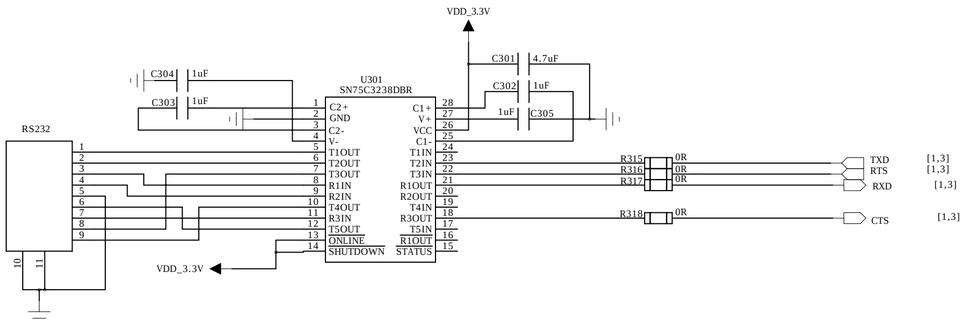
5V单片机

VCC_MCU是单片机的IO电压，VDD_EXT是模块输出的IO电压



TTL转RS232电路

如需转换为RS232电平可参考此电路



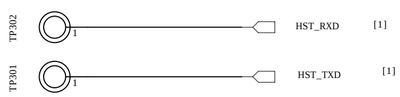
1、主串口提供4线串口，支持硬件流控功能

2、无需硬件流控可只使用RXD和TXD

3、模组串口为2.8V电平，注意电平匹配

3.3V采用电阻分压，5V采用三极管推动

4、HST_UART留测试点，用于debug和固件下载



中移物联网				
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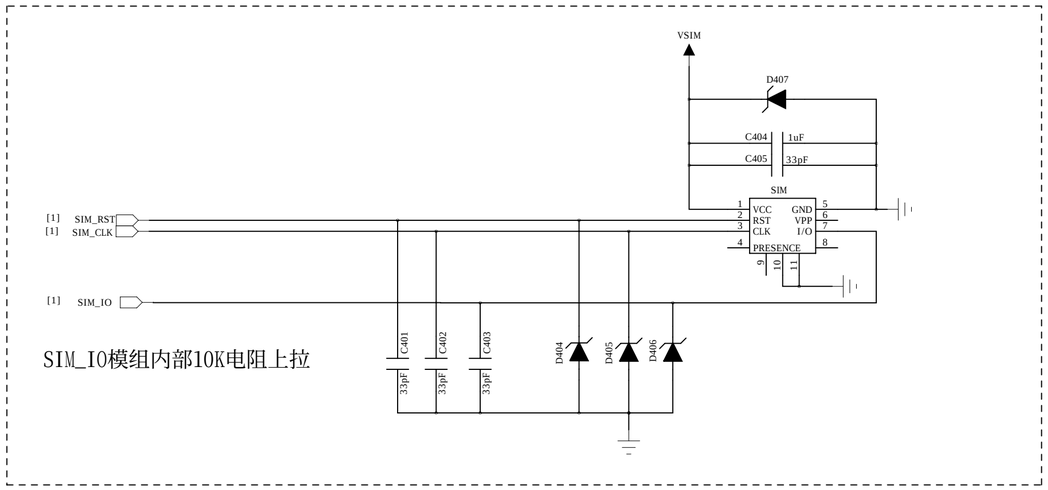
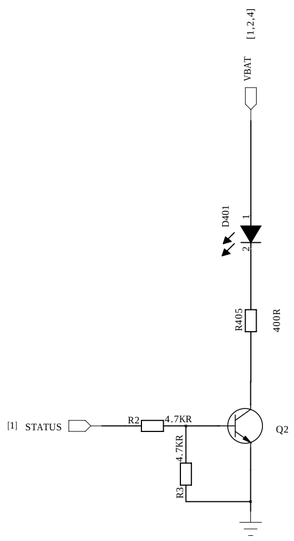
外置SIM卡

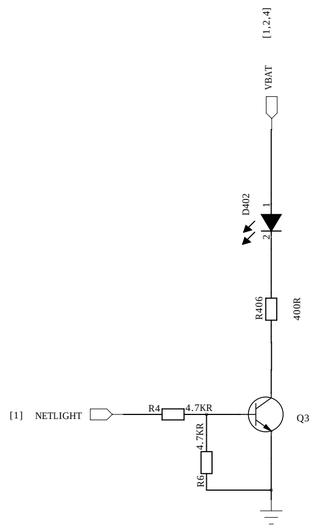


SIM_IO模组内部10K电阻上拉

LED指示



STATUE指示模块的开机状态



NETLIGHT指示网络状态

中移物联网				
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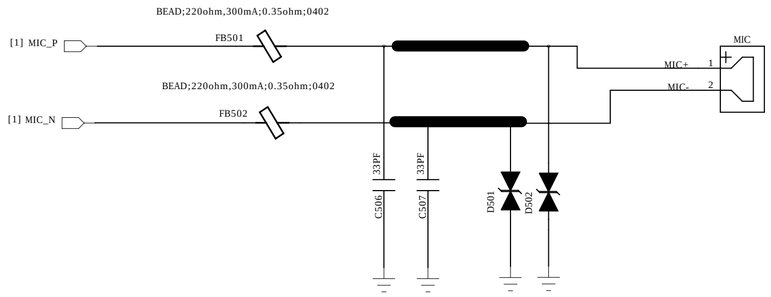
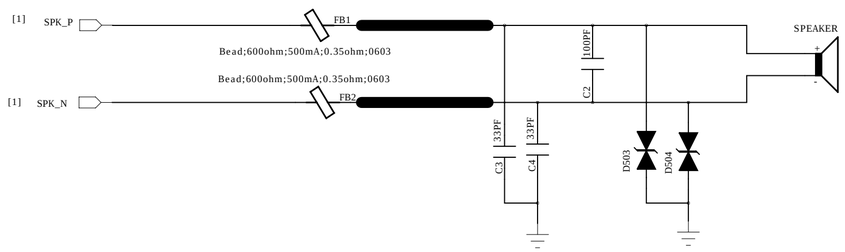
CHECKED: <Checked By>	DATED: <Checked Date>	SIZE: A2	REV: V1.1	SHEET: 4 OF 5

音频电路

MIC



Speaker



1、Speaker最大驱动功率为1.5W,如果需要驱动更大功率的扬声器需要使用外部PA

2、音频信号为模拟信号，增加滤波器件提升音质

3、音频信号为差分信号，layout时走差分线，线宽必须满足过流要求

4、添加ESD器件防静电，布局靠近音频器件

中移物联网			
DRAWN: zhangle	DATED: 2018/04/02	TITLE: AUDIO	PORJECT: M6312参考设计
CHECKED: <Checked By>	DATED: <Checked Date>	SIZE: A2	REV: V1.1
			SHEET: 5 OF 5