

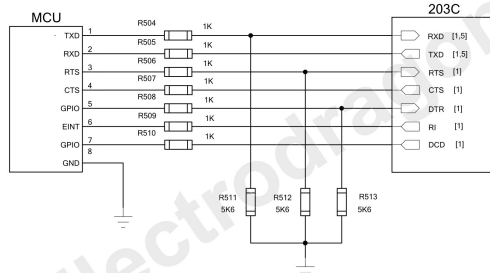
串口 Serial Port Design

模块串口的DC特性: **Module serial DC characters**

VOHmin=0.85*VDD_EXT
VOLmax=0.15*VDD_EXT
VILmax=0.25*VDD_EXT
VIHmin=0.75*VDD_EXT
VIHmax=VDD_EXT+0.2V
VDD_EXT=2.8V (典型值)

3.3V电平的全功能串口连接

3.3V Logic Full Function Serial Connection

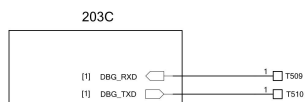


备注

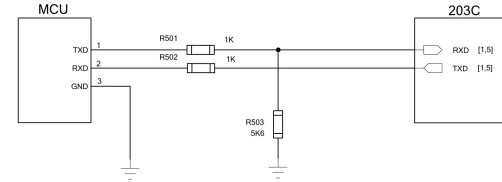
1. When a lot of data transfer, CTS and RTS used as hardware flow control
 2. When set comands AT+QSCCLK=1 to module, user can use DTR pin to control module enter into sleep mode. When DTR=1, and no interrupt, module enter into slep mode
 3. When call incomming, RI pin will outpu signal
 4. DCD used for modern communicaton(PPP), when DCD signal active, means connection established.
 - 5 Note to match signal logic level
- 5、在产品应用中请注意串口的电平匹配。

Test point for debugging, better reserved.

建议预留这些测试点以便调试



3.3V电平下三线制串口连接参考 3.3V logic 3-wires serial connection reference.

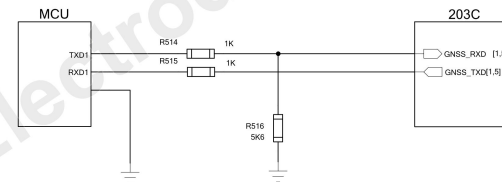


在产品应用中请注意串口的电平匹配。

Circuit in stand-alone mode, all-in-one mode on need this.

在Stand-alone方案里, 3.3V电平下GNSS串口的连接设计。

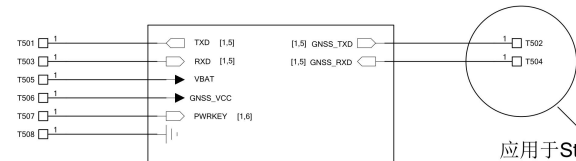
在All-in-one方案里, 无需此电路设计, 可忽略。



在产品应用中请注意串口的电平匹配。

Test point for software update, better reserved.

建议保留这些测试点以便软件升级。



应用于Stand-alone方案。

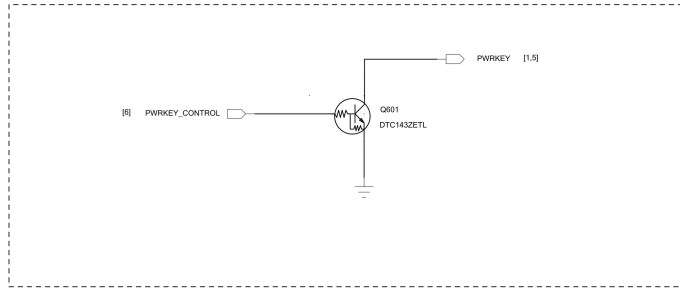
在产品应用中请注意串口的电平匹配。

上

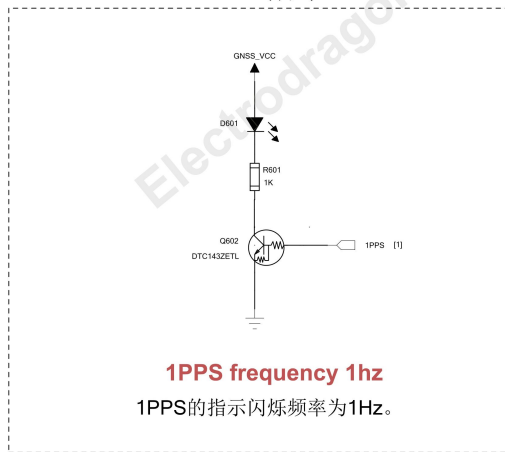
绘制: 李春茂	项目名称: 203C	文档类型: 参考设计
审核: 徐林	尺寸: A2	版本: A
页码: 5 / 6		日期: 2016/9/21

MCU 控制和驱动电路

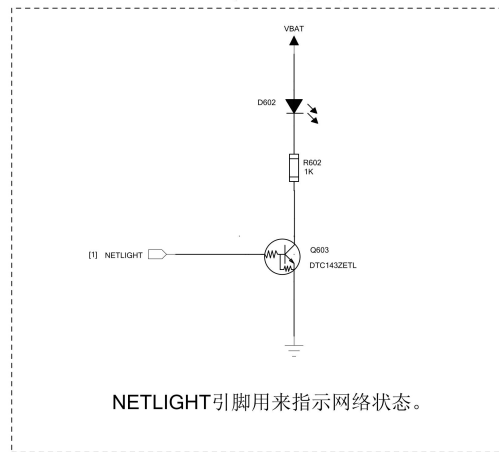
开机/关机电路 Power ON/OFF



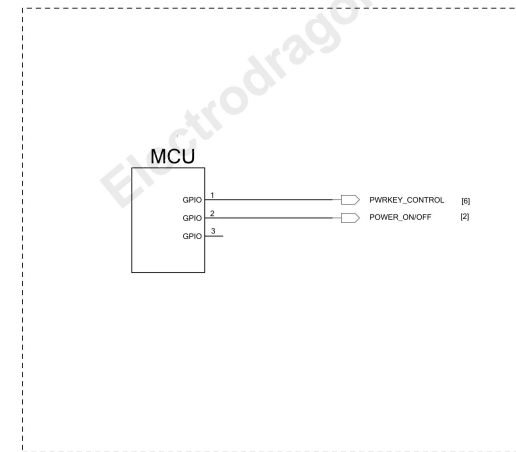
1PPS Indicator 1PPS 指示



Net status indicator 网络状态指示



GPIO MCU GPIO口

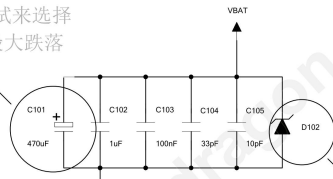


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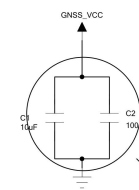
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模块接口

Add this in case 通过调试来选择
voltage drop 以给在突发脉冲阶段的最大跌落
电压不超过400mV。



Better add 5.1V/1W zener diode
建议在VBAT引脚附近放一个5.1V/1W的齐纳二极管。



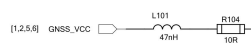
Close to GNSS_VCC pin
靠近GNSS_VCC引脚。

1. VBAT voltage range 3.3-4.6V
 2. in GSM_burst mode, maximum pulse current up to 1.6A
 3. suggest VBAT trace width 2mm
 4. capacitor value in sequence of increasing value, closest should be smallest value, all should close to vbat pin
- 4、这些电容根据电容值升序排列，最小值的电容应靠近VBAT引脚，并让所有电容都尽可能地靠近VBAT引脚。

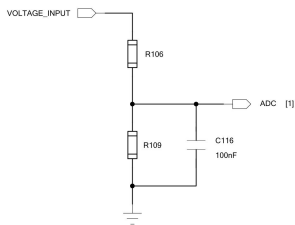
Antenna type	Active antenna power supply circuit
Active antenna	Need 需要
Passive antenna	No need 需要

For RF layout, refer to Quectel RF layout guide
better reserve PI circuit
关于射频LAYOUT，可以参考文档《Quectel_射频LAYOUT_应用指导》。
建议预留PI型电路。

有源天线供电参考电路 Active antenna circuit



ADC reference circuit ADC参考电路



ADC input voltage from 0-2.8V.
please choose high precise resistors



In stand-alone solution, only for software update, close S101, otherwise all open
1、在Stand-alone方案中，仅在软件下载和开码时，关闭S101，除此之外，S101保持断开。
2、更多详情，请参考文档《ZF_203C_硬件设计手册》。

上海

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电源供电

Power Supply

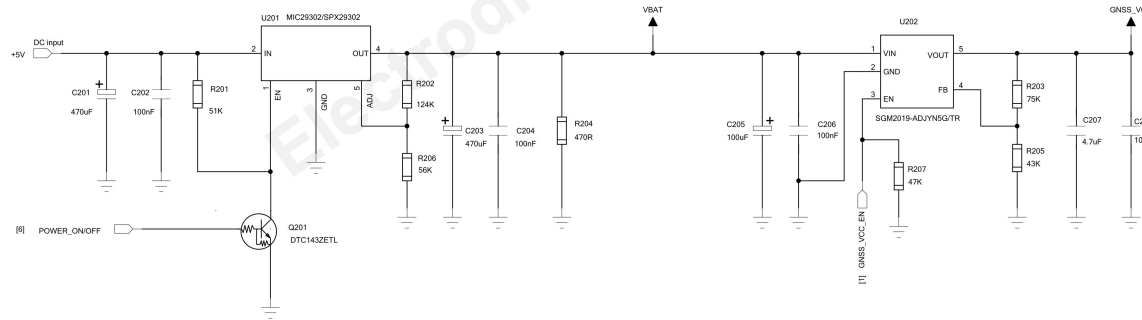
备注

电源转换器的供电电流不小于2.0A。

Power regulator supply current should be no less than 2A

LDO 应用 LDO Application

应用于DC输入电压小于7V时。 For application DC input less than 7V



DC-DC 应用 DC-DC Application

1. For DC input voltage over 7V
 2. Use DC-DC regulator to 5V, and via LDO to 4V for GSM, 4V via LDO to 3.3V for GNSS
- 2、使用DC-DC转换器将电压转换为5V，再经LDO转化为4V供GSM部分使用，4V再经LDO转换为3.3V供GNSS部分使用。



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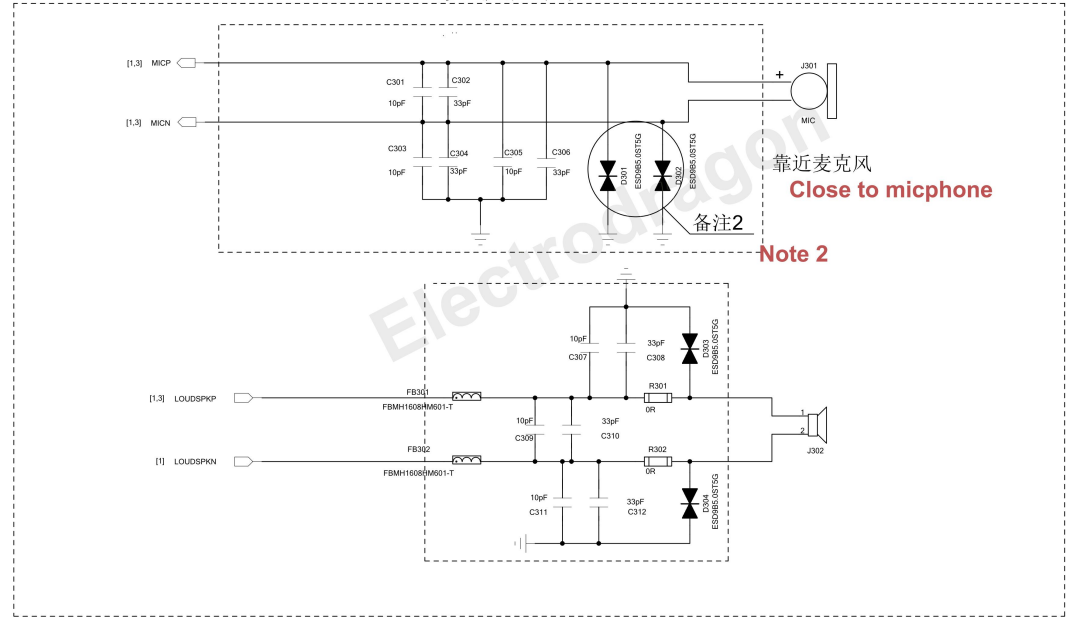
音频设计

Audio Design

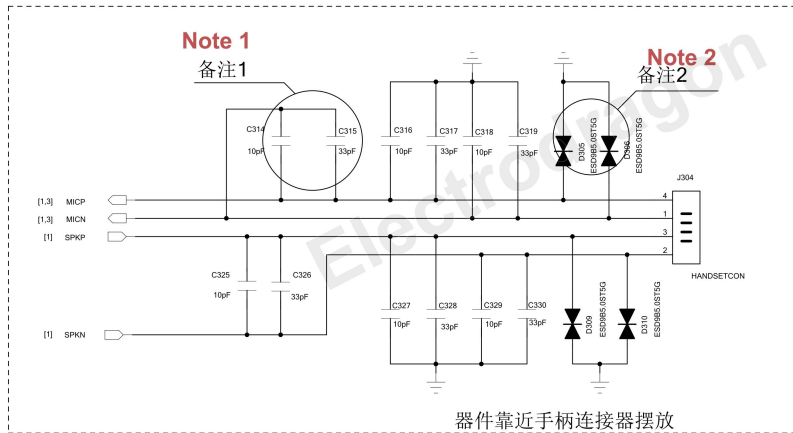
Note:

1. 10pf and 33pf cap for filter TDD noise
2. for MIC signal ESD protection, better keep
3. AIN channel provide MIC bias voltage
4. AOUT1 channel for drive 32ohm load
5. AOUT2 channel for drive 8ohm load
6. when use single-end earphone, need to connect analog ground to main ground

免提应用 hand-free application

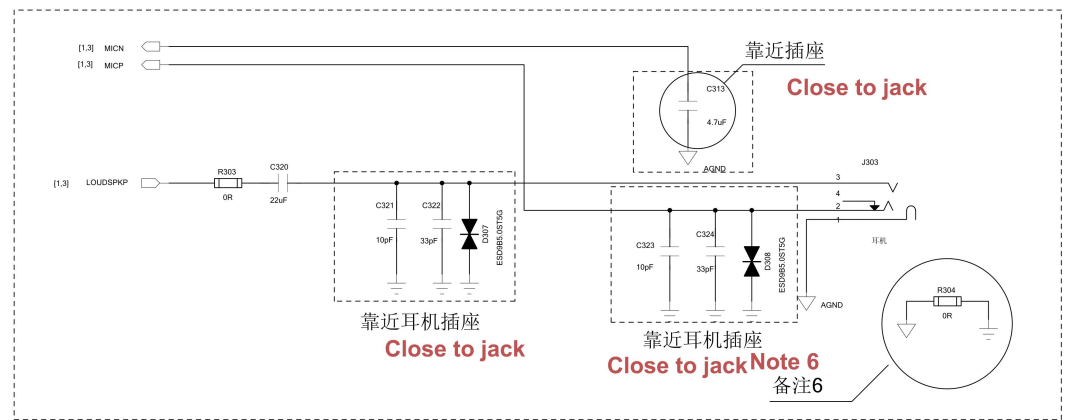


手柄应用 Hand-set application



all parts should be close to hand-set

耳机应用 Earphone application



上

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