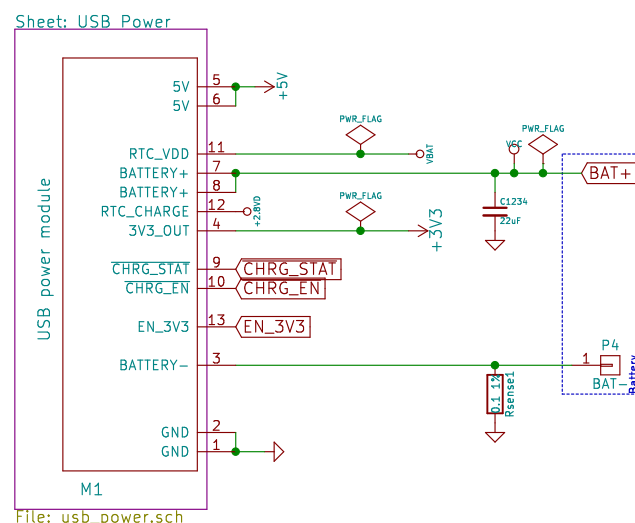
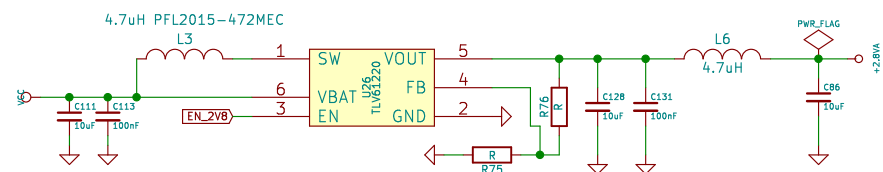
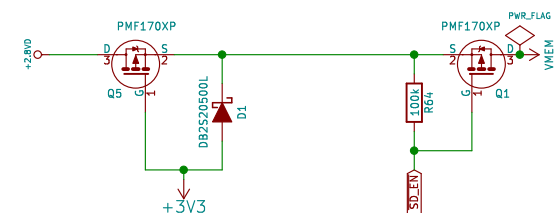
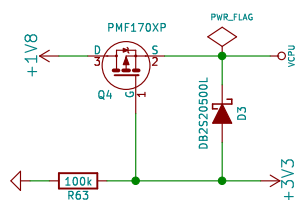
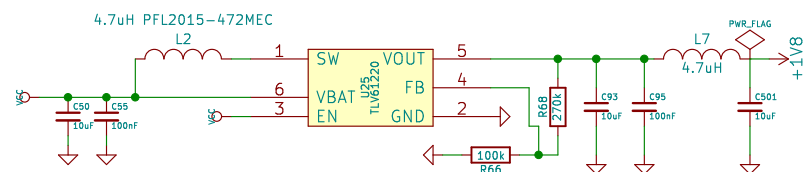
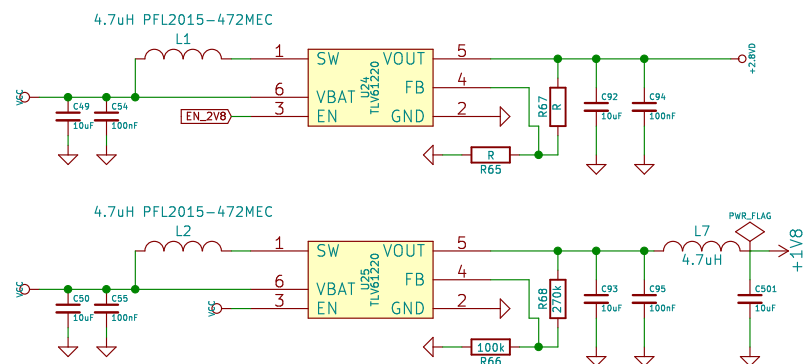


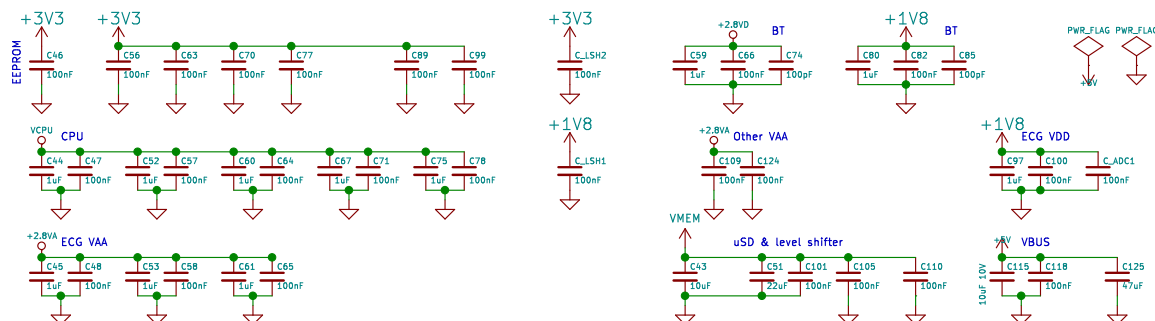
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The CPU can be powered either from battery or from USB 3.3V:

- When on battery, it is running from 1.8V, and the SD card can be either powered down or can run from the 2.8V supply.
- When on USB, step up converters are turned off (so that the battery can be charged). The CPU and the SD are switched to a +3.3V stepdown and everything else is turned off.

The level shifter between the card reader and the uSD is needed, even through when USB is plugged in, they run on the same voltage. The level shifter is used as a switch: when one of its power supplies are missing, it disables all of its outputs. So when running from battery, no current can flow through IOs into the powered down card reader IC.



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**Peter Isza, Robert Csordas**

Sheet: /Power/

File: power.sch

**Title: MobilECG II power supply**

Size: A4	Date: 2014. sept 10.
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Size: A4	Date: 2014. sept. 10.
KiCad E.D.A.	kicad 4.0.2-stable

Rev: 1.0

Id: 2/3

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ECG mainboard

M2

5V 5

5V 6

PWR\_FLAG

+5P

RTC\_VDD 11

BATTERY+ 7

BATTERY+ 8

BAT+

RTC\_CHARGE 12

3V3\_OUT 4

+3.3VP

DB2520500L D4

PWR\_FLAG

RTC for 5 minutes without battery

TPSC337M006R0080 C62

GNDPWR

CHRG\_STAT 9

CHRG\_STAT CHRG\_EN 10

EN\_3V3 13

EN\_3V3

BATTERY- 3

BAT-

PWR\_FLAG

GND 2

GND 1

GNDPWR

+5P

PMF170XP Q2

100k R69

1uF 10V C108

100nF C112

GNDPWR

150 R70

10k R71

100k R72

47k R73

GNDPWR

+5P

NTR4101PT1G Q3

15uH SRR6038 L4

D\_Schottky D7

10uF C116

100nF C120

GNDPWR

10uF C126

100nF C127

GNDPWR

D\_Schottky D2

270k R74

1k R77

+5P

BAT+

BAT-

DS2710 U28

CS 2

VDD 3

VSS 1

STATUS 5

TMR 7

CTEST 6

VP1 10

VN1 9

VN0 8

THM 4

PAD 11

GNDPWR

NTC 10k TH1

GNDPWR

+5P

EN\_3V3

100k R3

10uF 10V C119

100nF C121

GNDPWR

LM3571 U27

VIN 1

GND 2

EN 3

SW 4

FB 5

2.2uH L5

10uF C129

100nF C130

GNDPWR

PWR\_FLAG

+3.3VP

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**Peter Isza, Robert Csordas**  
 Sheet: /Power/USB Power/  
 File: usb\_power.sch  
**Title: MobilECG II USB power module**  
 Size: A4 Date: 2015. oct 5. Rev: 1.0  
 KiCad E.D.A. kicad 4.0.2-stable Id: 3/3

Size: At	Date: 2019. 0
KiCad E.D.A.	kicad 4.0.2-stable