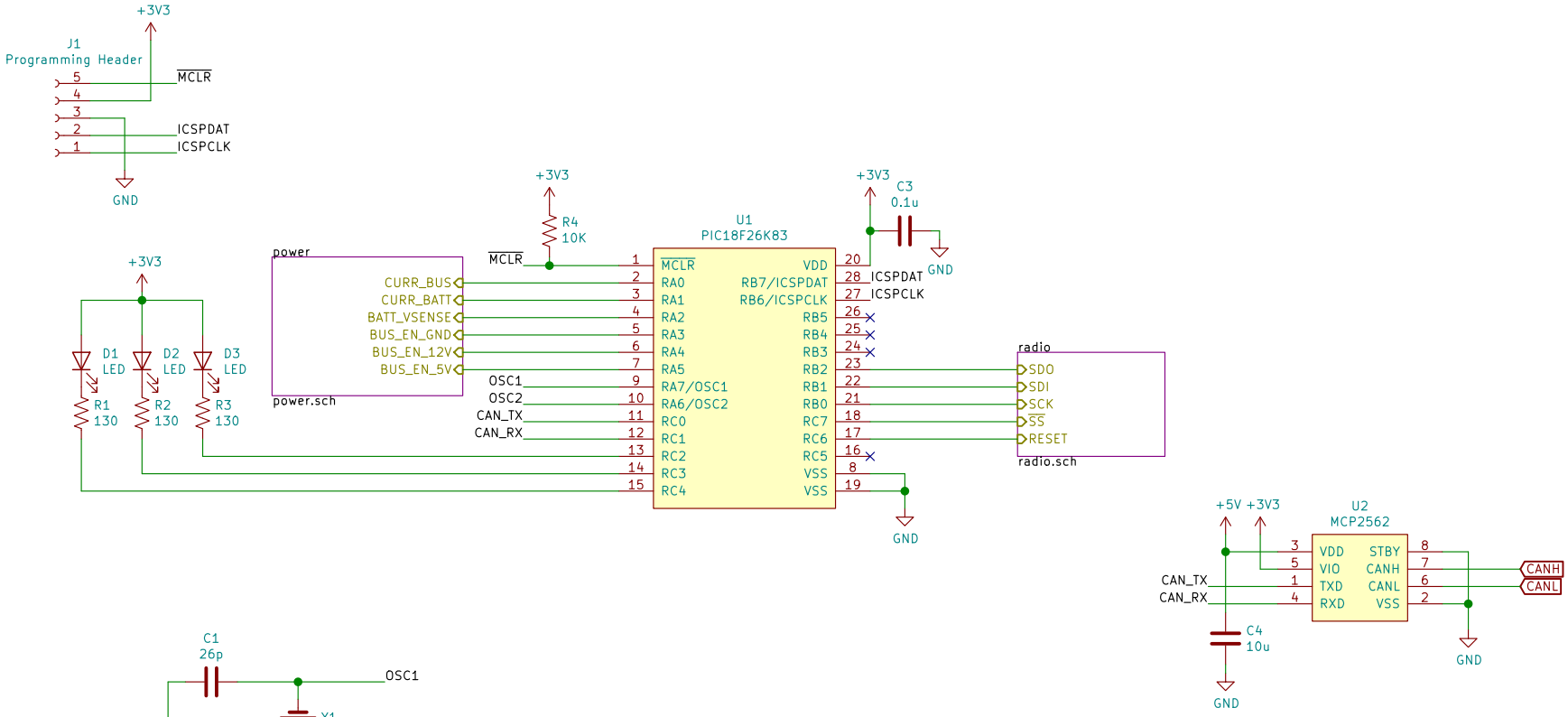

The purpose of the telemetry transmitter board before flight is to communicate and provide power to other boards on the CAN bus to initiate rocket launch. The purpose of the telemetry transmitter board during flight is to supply power and take in data from the CAN bus and transmit this data to the telemetry receiver board. The telemetry transmitter board will transmit this data via a RF module.

Sheet: /
File: telemetry_transmitter.sch

Title:

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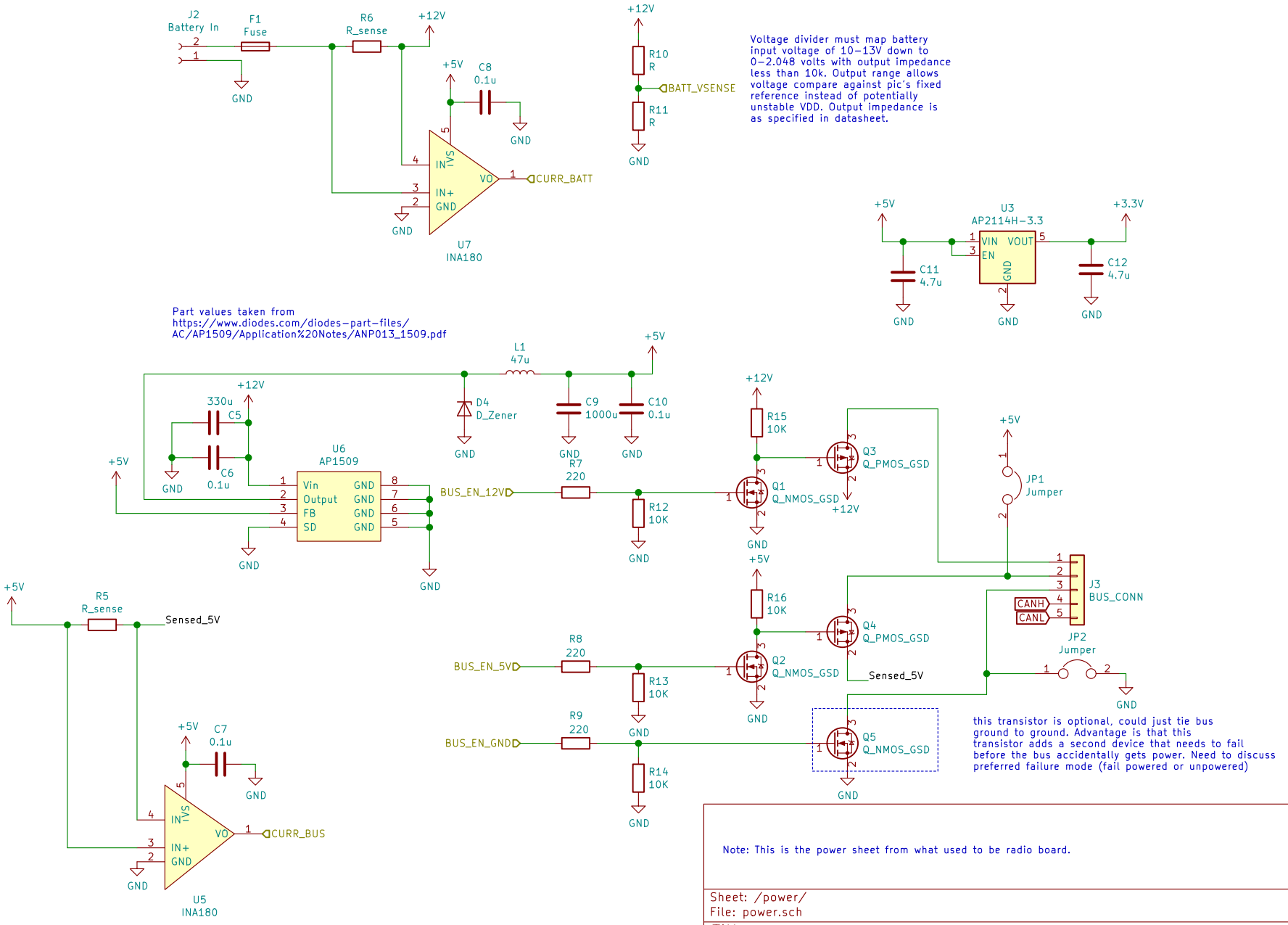
J2
Battery In
F1
Fuse
R6
R_sense
+12V
GND
+5V
C8
0.1u
U7
INA180
IN-
IN+
VS
VO
GND
CURR_BATT
R10
R
R11
R
BATT_VSENSE
Voltage divider must map battery input voltage of 10-13V down to 0-2.048 volts with output impedance less than 10k. Output range allows voltage compare against pic's fixed reference instead of potentially unstable VDD. Output impedance is as specified in datasheet.
U3
AP2114H-3.3
VIN
VOUT
EN
+3.3V
C11
4.7u
C12
4.7u
Part values taken from
https://www.diodes.com/diodes-part-files/
AC/AP1509/Application%20Notes/ANP013_1509.pdf
L1
47u
D4
D_Zener
C9
1000u
C10
0.1u
U6
AP1509
Vin
Output
FB
SD
330u
C5
C6
0.1u
R7
220
BUS_EN_12V
R12
10K
R15
10K
Q1
Q_NMOS_GSD
Q3
Q_PMOS_GSD
JP1
Jumper
J3
BUS_CONN
CANH
CANL
JP2
Jumper
R5
R_sense
Sensed_5V
U5
INA180
C7
0.1u
CURR_BUS
R8
220
BUS_EN_5V
R13
10K
R16
10K
Q2
Q_NMOS_GSD
Q4
Q_PMOS_GSD
R9
220
BUS_EN_GND
R14
10K
Q5
Q_NMOS_GSD
this transistor is optional, could just tie bus ground to ground. Advantage is that this transistor adds a second device that needs to fail before the bus accidentally gets power. Need to discuss preferred failure mode (fail powered or unpowered)
Note: This is the power sheet from what used to be radio board.
Sheet: /power/
File: power.sch
Title:
Size: A4
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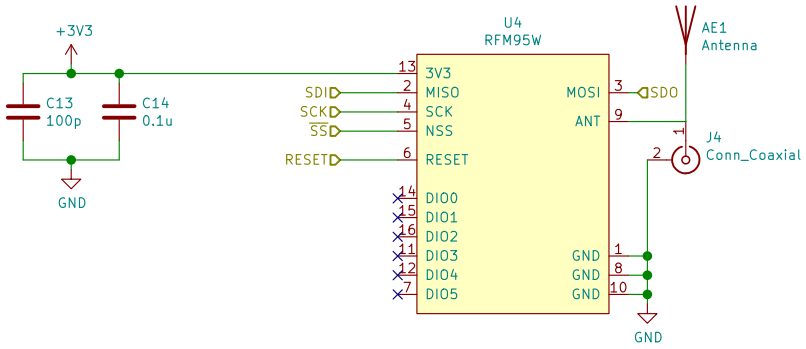

Sheet: /radio/		
File: radio.sch		
Title:		
Size: A4	Date:	**Rev:**
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