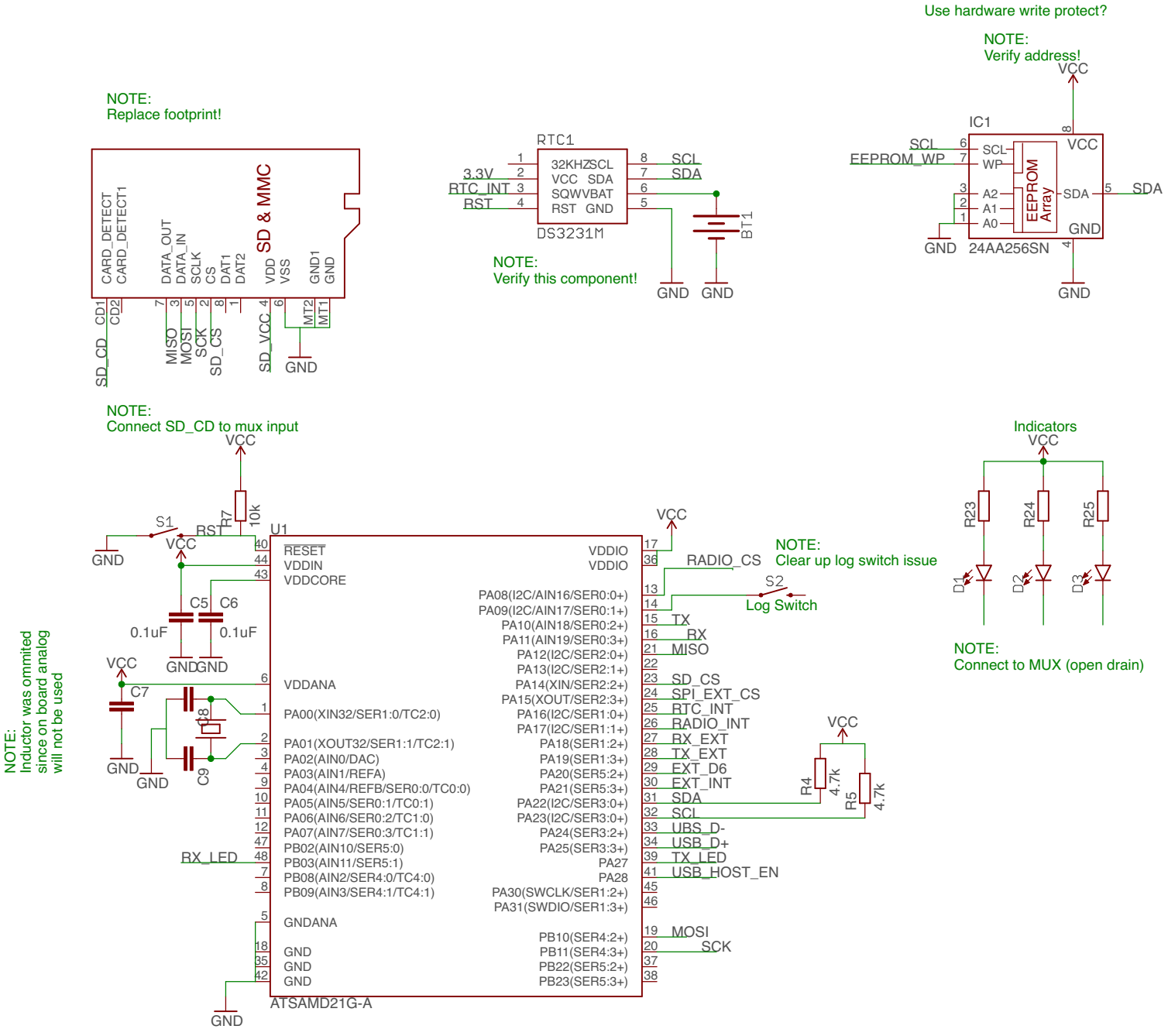
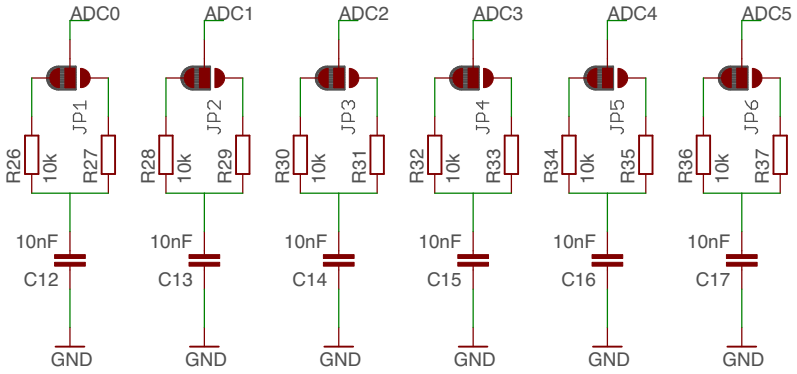
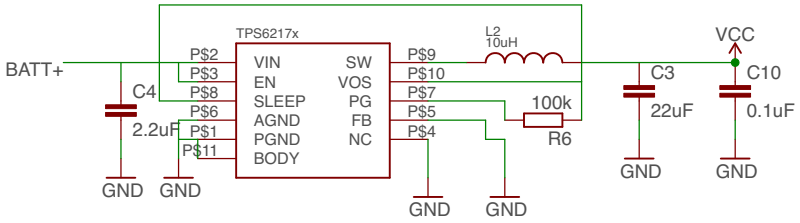

NOTE:
Replace footprint!
SD & MMC
CARD_DETECT
CARD_DETECT1
DATA_OUT
DATA_IN
SCLK
CS
DAT1
DAT2
VDD
VSS
GND1
GND
CD1
CD2
MISO
MOSI
SCK
SD_CS
SD_VCC
MT2
MT1
SD_CD
GND
RTC1
32KHZ
SCL
VCC
SDA
SQW
VBAT
RST
GND
3.3V
RTC_INT
RST
DS3231M
BT1
NOTE:
Verify this component!
Use hardware write protect?
NOTE:
Verify address!
IC1
EEPROM_WP
WP
A2
A1
A0
EEPROM
Array
24AA256SN
NOTE:
Connect SD_CD to mux input
U1
ATSAMD21G-A
RESET
VDDIN
VDDCORE
VDDANA
GNDANA
VDDIO
PA00(XIN32/SER1:0/TC2:0)
PA01(XOUT32/SER1:1/TC2:1)
PA02(AIN0/DAC)
PA03(AIN1/REFA)
PA04(AIN4/REFB/SER0:0/TC0:0)
PA05(AIN5/SER0:1/TC0:1)
PA06(AIN6/SER0:2/TC1:0)
PA07(AIN7/SER0:3/TC1:1)
PB02(AIN10/SER5:0)
PB03(AIN11/SER5:1)
PB08(AIN2/SER4:0/TC4:0)
PB09(AIN3/SER4:1/TC4:1)
PA08(I2C/AIN16/SER0:0+)
PA09(I2C/AIN17/SER0:1+)
PA10(AIN18/SER0:2+)
PA11(AIN19/SER0:3+)
PA12(I2C/SER2:0+)
PA13(I2C/SER2:1+)
PA14(XIN/SER2:2+)
PA15(XOUT/SER2:3+)
PA16(I2C/SER1:0+)
PA17(I2C/SER1:1+)
PA18(SER1:2+)
PA19(SER1:3+)
PA20(SER5:2+)
PA21(SER5:3+)
PA22(I2C/SER3:0+)
PA23(I2C/SER3:0+)
PA24(SER3:2+)
PA25(SER3:3+)
PA27
PA28
PA30(SWCLK/SER1:2+)
PA31(SWDIO/SER1:3+)
PB10(SER4:2+)
PB11(SER4:3+)
PB22(SER5:2+)
PB23(SER5:3+)
RADIO_CS
TX
RX
MISO
SD_CS
SPI_EXT_CS
RTC_INT
RADIO_INT
RX_EXT
TX_EXT
EXT_D6
EXT_INT
SDA
SCL
UBS_D-
USB_D+
TX_LED
USB_HOST_EN
MOSI
SCK
RX_LED
S1
RST
R7
10k
C5
C6
0.1uF
C7
C8
C9
S2
Log Switch
NOTE:
Clear up log switch issue
R4
R5
4.7k
Indicators
R23
R24
R25
D1
D2
D3
NOTE:
Connect to MUX (open drain)
NOTE:
Inductor was ommited since on board analog will not be used
VCC
GND

Resistors divider defaults to 10k
Populate secondary slot with alternate resistor and jump to other side to use alternate



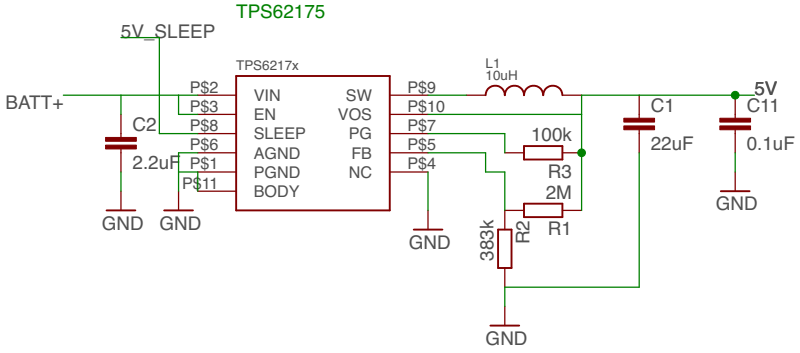
To leave ADCx open (reading from a decive which does not require a resistor divider) leave center tab unjumped

3.3v
TPS62177

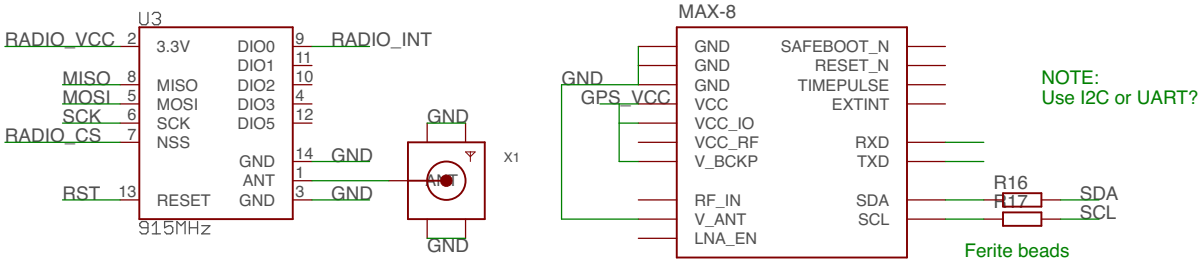


NOTE:
Connect sleep line to mux output!

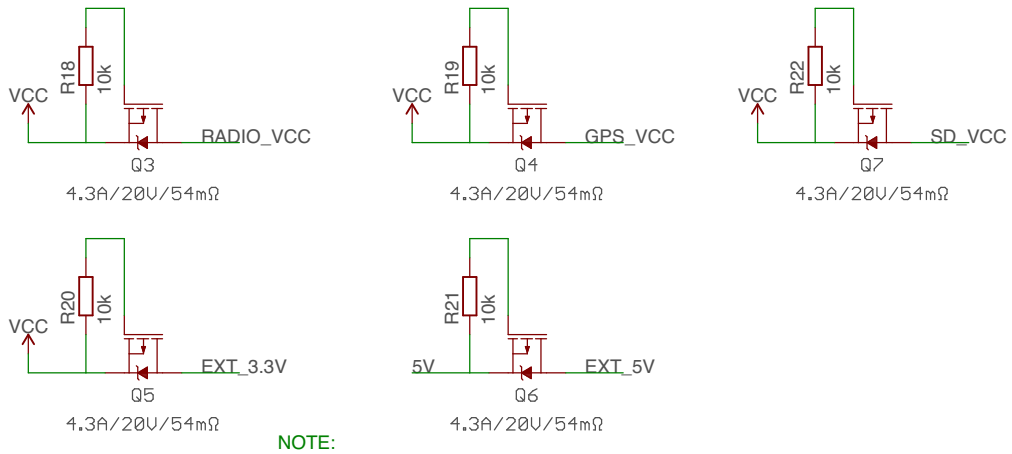
5v
TPS62175



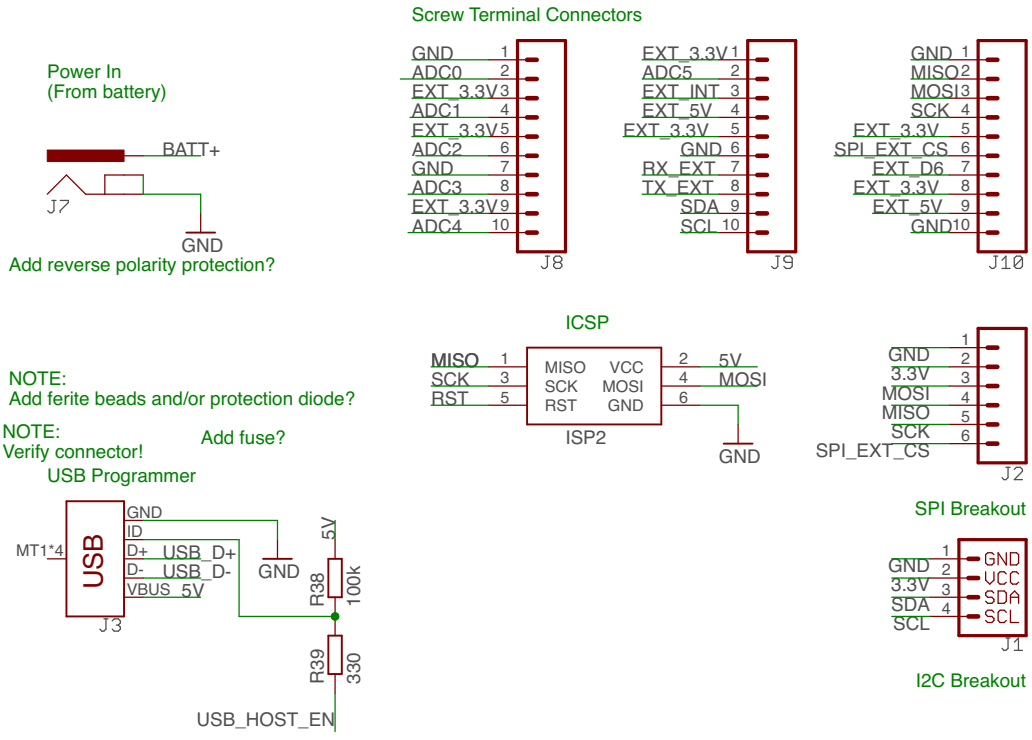
NOTE:
Isolate power for radio and GPS!

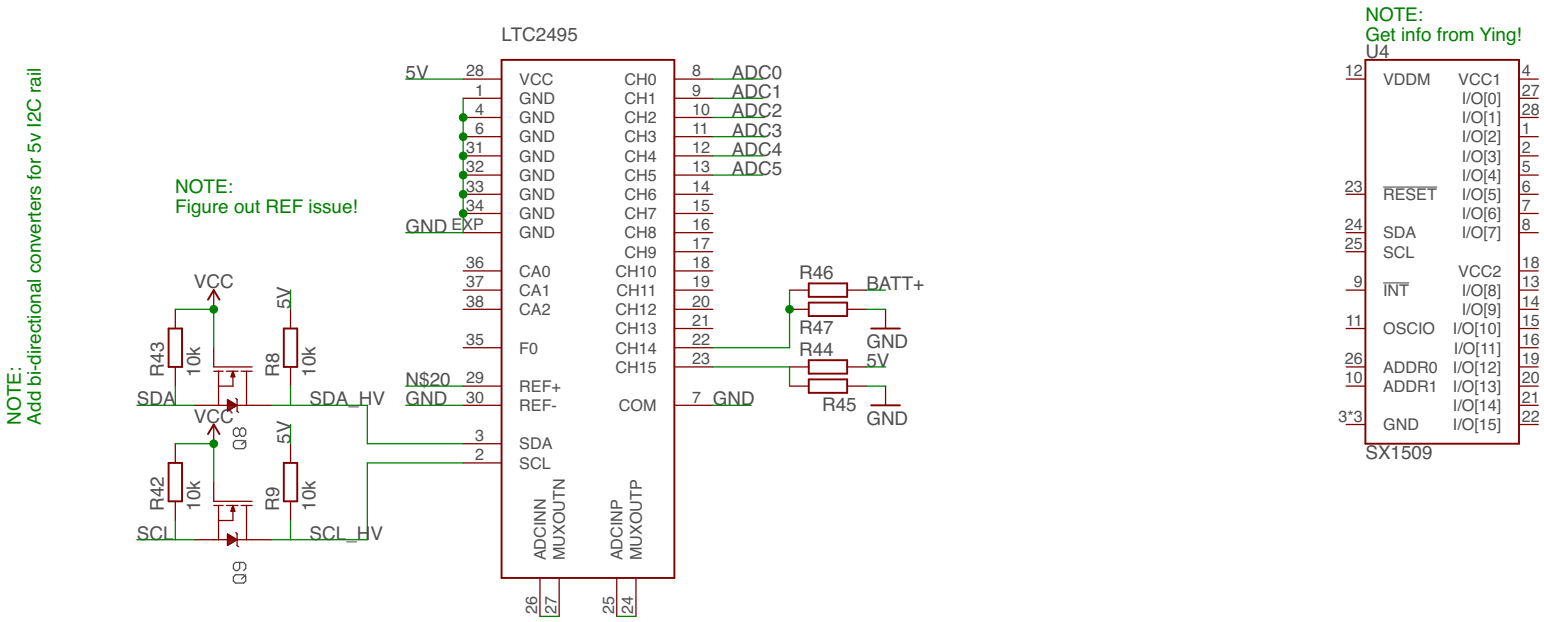


NOTE:
Add control signals!



NOTE:
Add fuse on external 3.3v and 5v


Screw Terminal Connectors
Power In
(From battery)
BATT+
J7
GND
Add reverse polarity protection?
GND 1
ADC0 2
EXT_3.3V 3
ADC1 4
EXT_3.3V 5
ADC2 6
GND 7
ADC3 8
EXT_3.3V 9
ADC4 10
J8
EXT_3.3V 1
ADC5 2
EXT_INT 3
EXT_5V 4
EXT_3.3V 5
GND 6
RX_EXT 7
TX_EXT 8
SDA 9
SCL 10
J9
GND 1
MISO 2
MOSI 3
SCK 4
EXT_3.3V 5
SPI_EXT_CS 6
EXT_D6 7
EXT_3.3V 8
EXT_5V 9
GND 10
J10
ICSP
MISO 1
SCK 3
RST 5
MISO VCC
SCK MOSI
RST GND
2
4
6
5V
MOSI
GND
ISP2
NOTE:
Add ferite beads and/or protection diode?
NOTE:
Verify connector!
Add fuse?
USB Programmer
MT1*4
USB
GND
ID
D+ USB_D+
D- USB_D-
VBUS 5V
J3
GND
5V
R38
100k
R39
330
USB_HOST_EN
1
GND 2
3.3V 3
MOSI 4
MISO 5
SCK 6
SPI_EXT_CS
J2
SPI Breakout
1
GND 2
3.3V 3
SDA 4
SCL
GND
VCC
SDA
SCL
J1
I2C Breakout


NOTE:
Add bi-directional converters for 5v I2C rail
NOTE:
Figure out REF issue!
LTC2495
5V
GND EXP
N$20
GND
SDA
SCL
SDA_HV
SCL_HV
VCC
R43
10k
R8
10k
R42
10k
R9
10k
Q8
Q9
R46
R47
R44
R45
BATT+
GND
5V
ADC0
ADC1
ADC2
ADC3
ADC4
ADC5
NOTE:
Get info from Ying!
U4
SX1509
VDDM
VCC1
VCC2
RESET
INT
OSCIO
SDA
SCL
ADDR0
ADDR1
GND