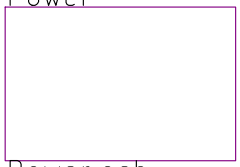
Avionics

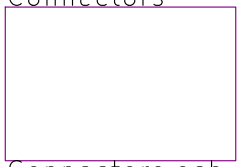
Avionics.sch

Power



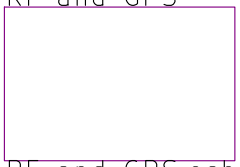
Power.sch

Connectors



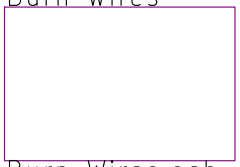
Connectors.sch

RF and GPS



RF_and_GPS.sch

Burn Wires



Burn_Wires.sch

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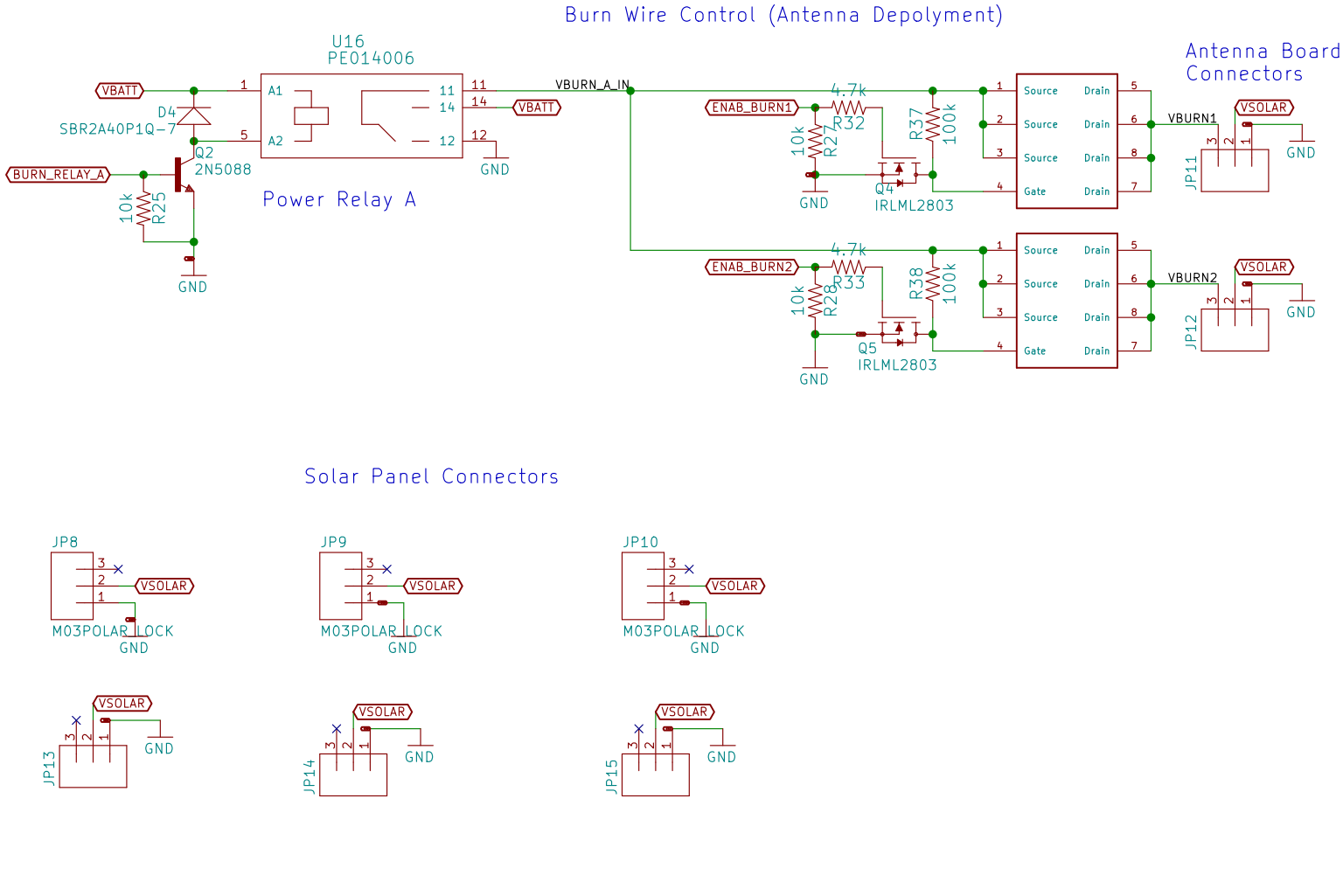
Sheet: /
File: mainboard.sch

Title: PyCubed Mainboard

Size: A4	Date:	**Rev: v03**
KiCad E.D.A. kicad (5.1.0)-1		Id: 1/6



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Burn Wires

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File: Burn_Wires.sch

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Size: User	Date:	**Rev: v03**
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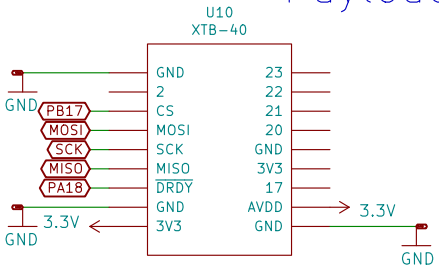
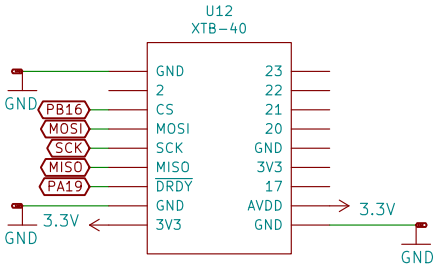
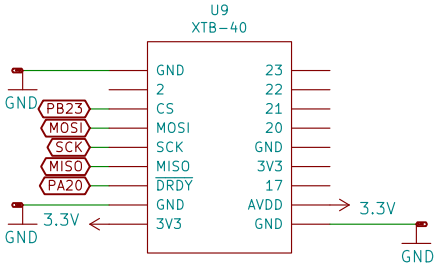
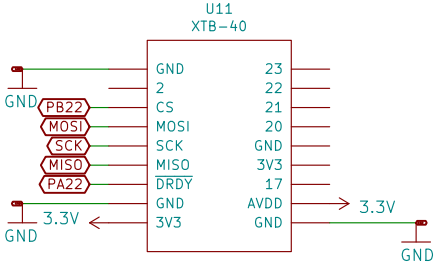
Payload Modules

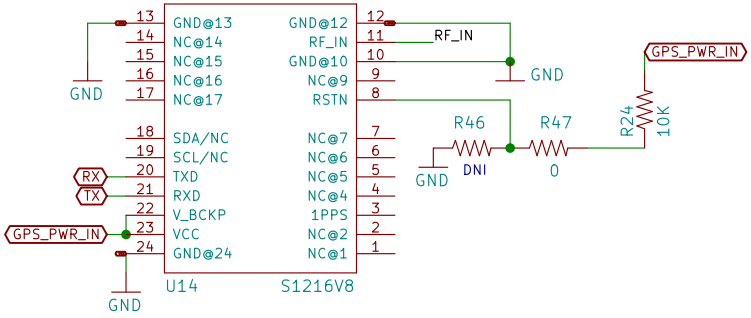




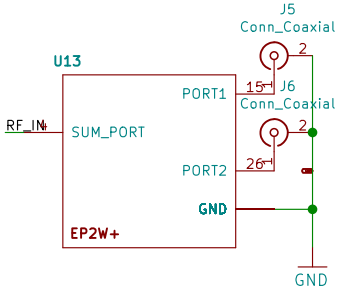




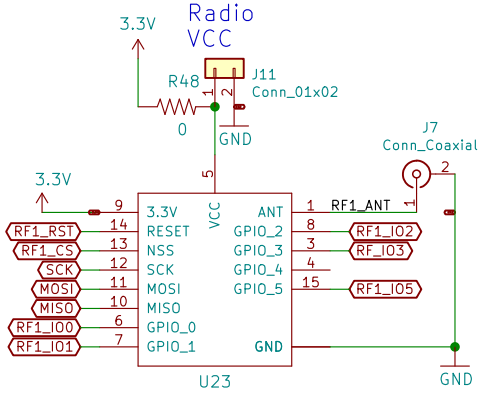
GPS Module

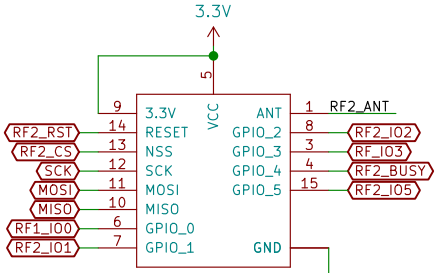


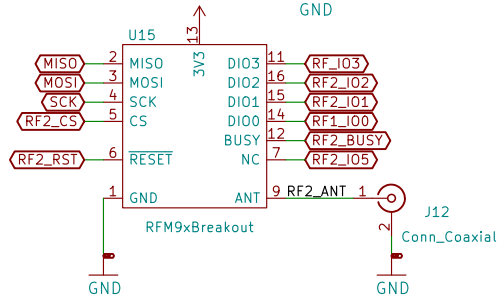
RF Splitter
(2 Way, 0deg DC-Pass)



HopeRF RFM98PW module at 3.3V







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Radio, GPS, Payloads

Sheet: /RF and GPS/
File: RF_and_GPS.sch

Title: PyCubed Mainboard

Size: A4	Date:	**Rev: v03**
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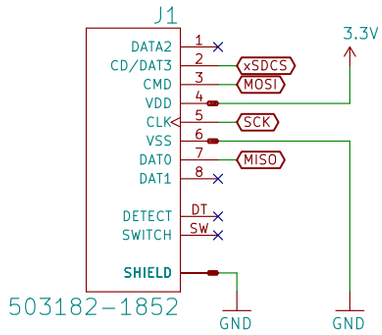
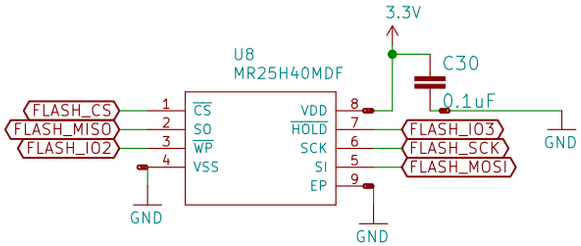
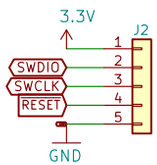
MicroSD Card



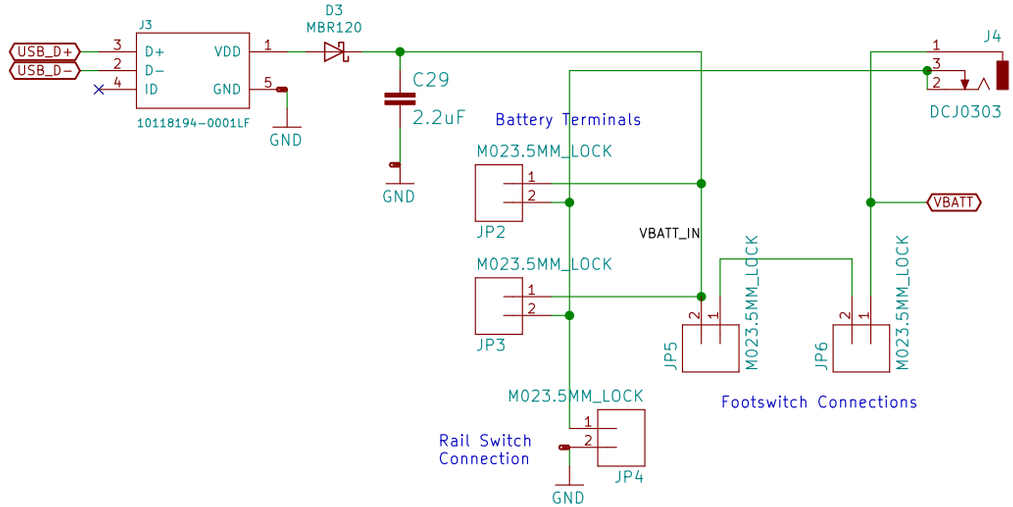
MRAM – Nonvolatile Memory (4MB storage)



JTAG



Power Connectors: USB, Barrel Plug, Battery



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Connectors

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File: Connectors.sch

Title: PyCubed Mainboard

Size: User	Date:	**Rev: v03**
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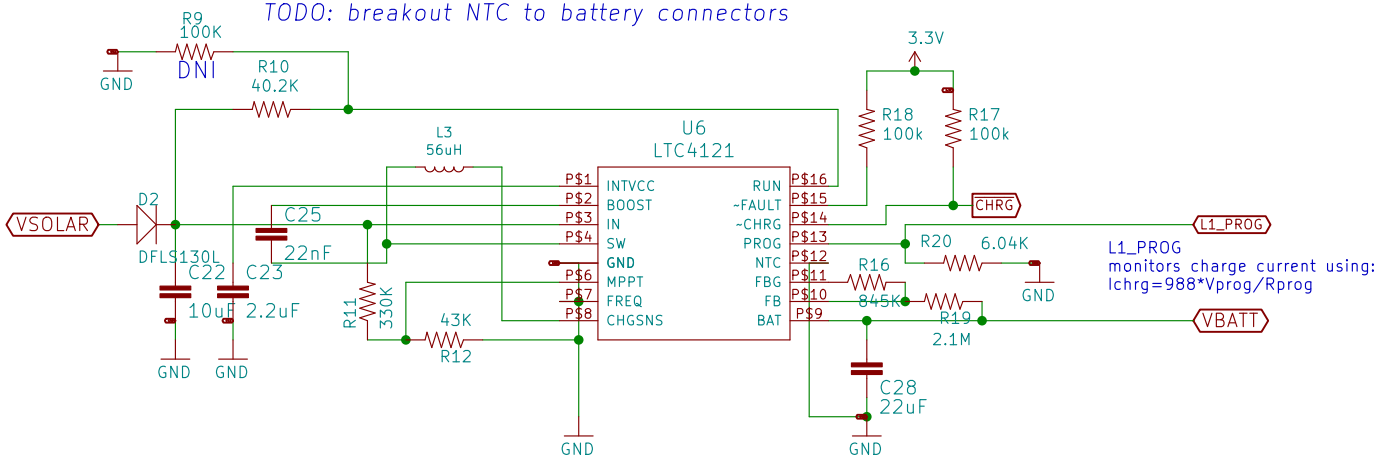
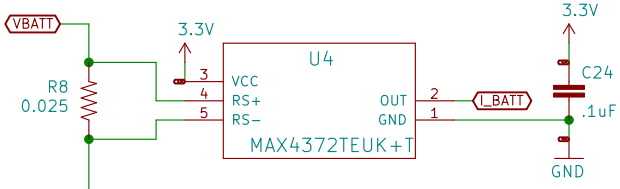
2s2P Li-Ion Battery Charging Circuit

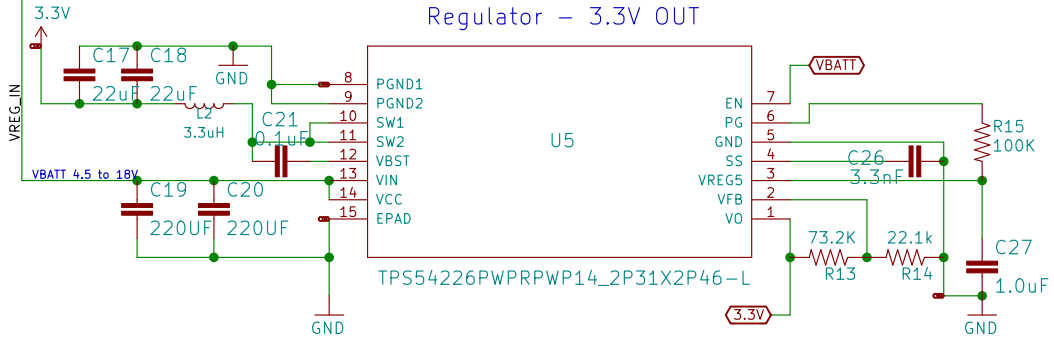
TODO: breakout NTC to battery connectors



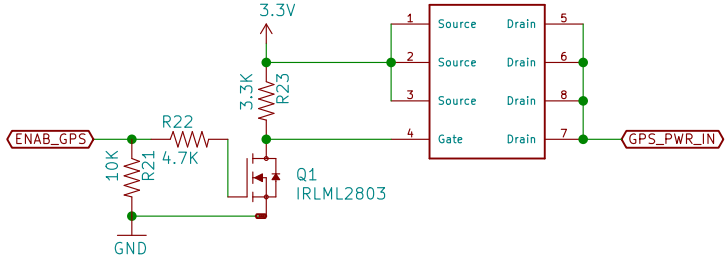
Battery Current Sensor



Regulator – 3.3V OUT



GPS Power



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Power

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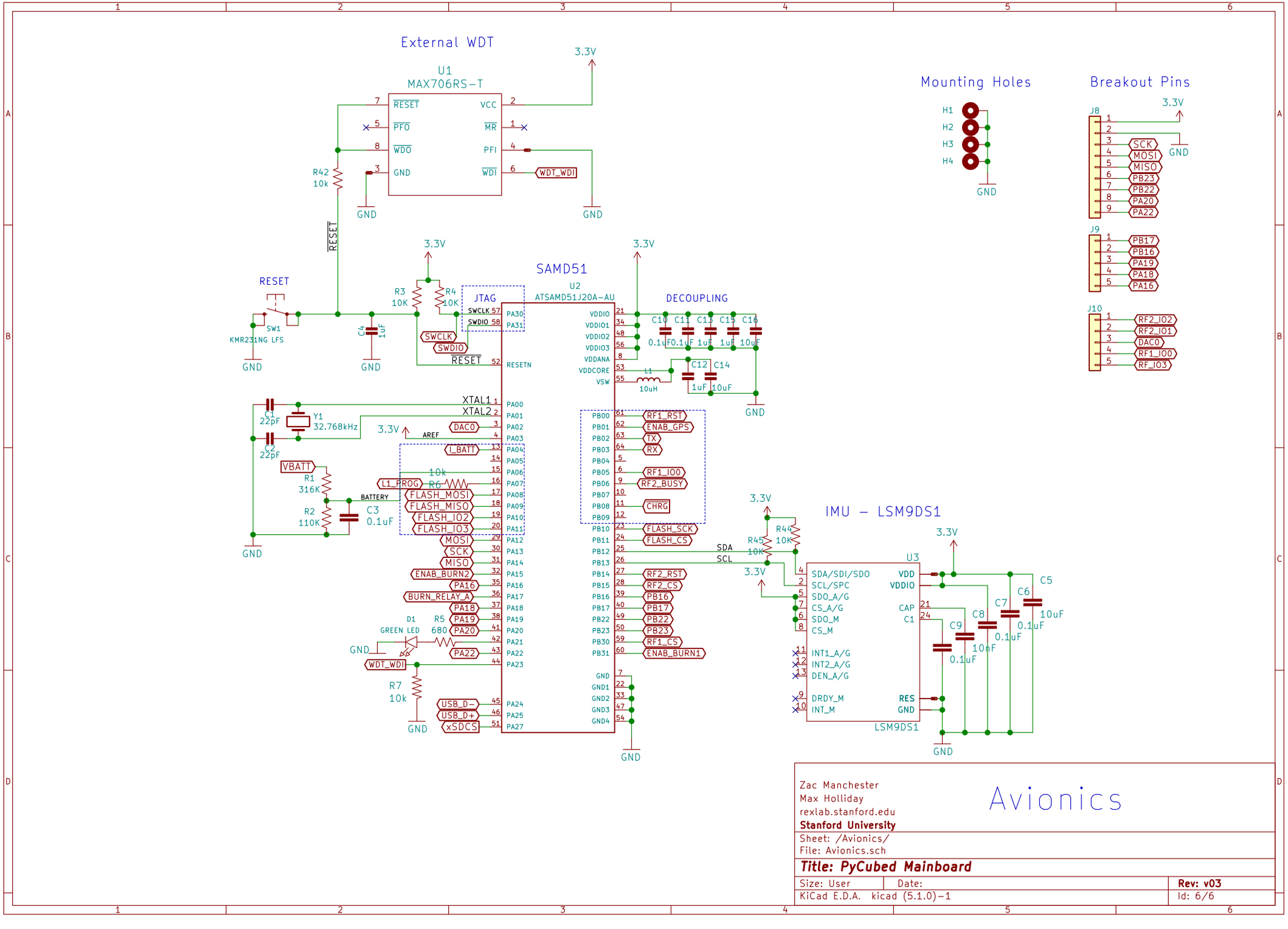
External WDT
U1
MAX706RS-T
RESET
PFO
WDO
GND
VCC
MR
PFI
WDI
WDT_WDI
R42
10k
3.3V
RESET
SAMD51
U2
ATSAMD51J20A-AU
JTAG
SWCLK
SWDIO
RESETN
DECOUPLING
R3
10K
R4
10K
SW1
KMR231NG LFS
C4
1uF
C1
22pF
C2
22pF
Y1
32.768kHz
XTAL1
XTAL2
VBATT
R1
316K
R2
110K
C3
0.1uF
BATTERY
AREF
DAC0
I_BATT
L1_PROG
R6
10k
FLASH_MOSI
FLASH_MISO
FLASH_IO2
FLASH_IO3
MOSI
SCK
MISO
ENAB_BURN2
PA16
BURN_RELAY_A
PA18
PA19
PA20
PA22
D1
GREEN LED
R5
680
R7
10k
USB_D-
USB_D+
xSDCS
RF1_RST
ENAB_GPS
TX
RX
RF1_IO0
RF2_BUSY
CHRG
FLASH_SCK
FLASH_CS
RF2_RST
RF2_CS
PB16
PB17
PB22
PB23
RF1_CS
ENAB_BURN1
SDA
SCL
IMU - LSM9DS1
U3
LSM9DS1
R44
10K
R45
10K
C5
10uF
C6
0.1uF
C7
0.1uF
C8
10nF
C9
0.1uF
Mounting Holes
H1
H2
H3
H4
Breakout Pins
J8
J9
J10
SCK
MOSI
MISO
PB23
PB22
PA20
PA22
PB17
PB16
PA19
PA18
PA16
RF2_IO2
RF2_IO1
DAC0
RF1_IO0
RF_IO3
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Avionics
Sheet: /Avionics/
File: Avionics.sch
Title: PyCubed Mainboard
Size: User
Date:
Rev: v03
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Id: 6/6