PROTOTYPE V1.0.0

Power

POWER

File: Power.kicad_sch

Sensors

SENSORS

File: Sensors.kicad_sch

MCU

MCU

File: MCU.kicad_sch

Transceiver

TX/RX

File: Transceiver.kicad_sch

GNSS

GNSS

File: GNSS.kicad_sch

Conn

CONN

File: Conn.kicad_sch

TODO: Optimize connectors for weight, replace JSTs with solder pads in final revision. Determine panel arrangement and connection. Port telemetry and pwm connections to power delivery and ESC board.

MECHANICAL

- H1 MountingHole
- H2 MountingHole
- H3 MountingHole
- H4 MountingHole
- FID1 Fiducial
- FID2 Fiducial
- FID3 Fiducial

→UNDER REVISION←
→DO NOT←
→MANUFACTURE←

Sheet: /
File: uas_fc.kicad_sch

Title:

Size: A4	Date:	**Rev:**
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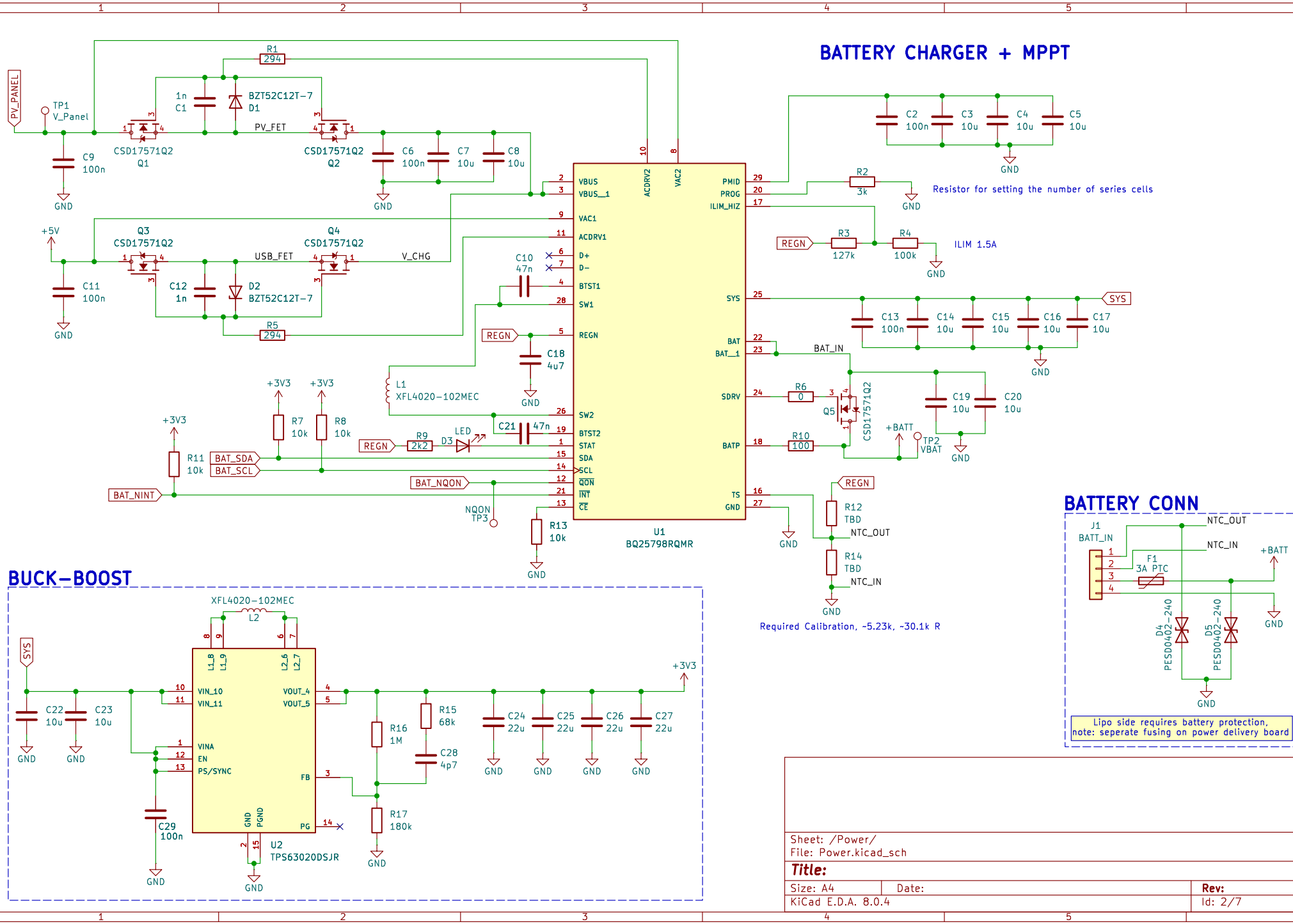
BATTERY CHARGER + MPPT
PV_PANEL
TP1
V_Panel
R1
294
1n
C1
BZT52C12T-7
D1
PV_FET
CSD17571Q2
Q1
CSD17571Q2
Q2
C9
100n
C6
100n
C7
10u
C8
10u
GND
+5V
Q3
CSD17571Q2
Q4
CSD17571Q2
USB_FET
V_CHG
C11
100n
C12
1n
D2
BZT52C12T-7
R5
294
C10
47n
REGN
C18
4u7
L1
XFL4020-102MEC
+3V3
R7
10k
R8
10k
R11
10k
BAT_SDA
BAT_SCL
BAT_NINT
R9
2k2
LED
D3
C21
47n
BAT_NQON
NQON
TP3
R13
10k
U1
BQ25798RQMR
VBUS
VBUS_1
VAC1
ACDRV1
D+
D-
BTST1
SW1
REGN
SW2
BTST2
STAT
SDA
SCL
QON
INT
CE
ACDRV2
VAC2
PMID
PROG
ILIM_HIZ
SYS
BAT
BAT_1
SDRV
BATP
TS
GND
C2
100n
C3
10u
C4
10u
C5
10u
R2
3k
Resistor for setting the number of series cells
R3
127k
R4
100k
ILIM 1.5A
C13
100n
C14
10u
C15
10u
C16
10u
C17
10u
BAT_IN
R6
0
Q5
CSD17571Q2
C19
10u
C20
10u
+BATT
TP2
VBAT
R10
100
R12
TBD
NTC_OUT
R14
TBD
NTC_IN
Required Calibration, ~5.23k, ~30.1k R
BUCK-BOOST
XFL4020-102MEC
L2
SYS
C22
10u
C23
10u
VIN_10
VIN_11
VINA
EN
PS/SYNC
VOUT_4
VOUT_5
FB
PG
GND
PGND
L1_8
L1_9
L2_6
L2_7
R16
1M
R15
68k
C28
4p7
R17
180k
C29
100n
U2
TPS63020DSJR
C24
22u
C25
22u
C26
22u
C27
22u
+3V3
BATTERY CONN
J1
BATT_IN
NTC_OUT
NTC_IN
+BATT
F1
3A PTC
D4
PESD0402-240
D5
PESD0402-240
Lipo side requires battery protection,
note: seperate fusing on power delivery board
Sheet: /Power/
File: Power.kicad_sch
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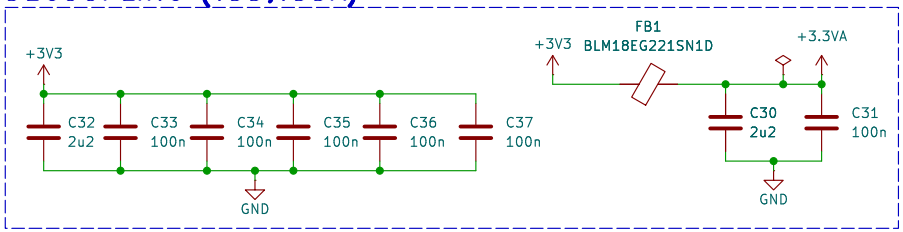
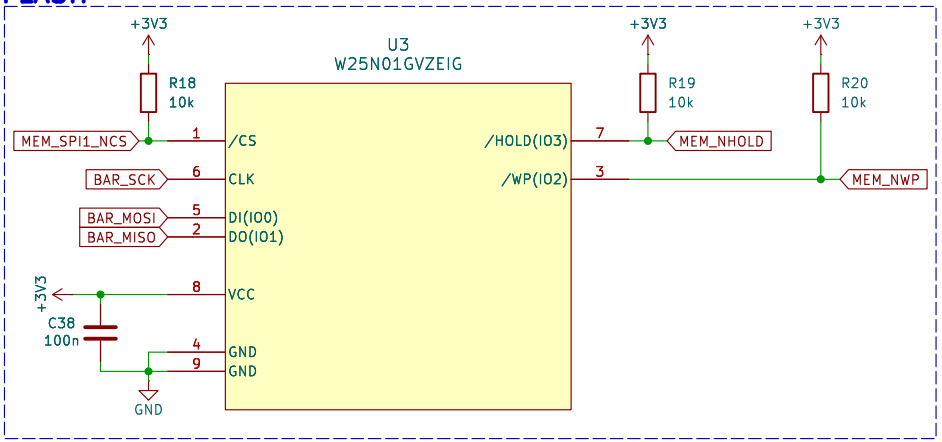
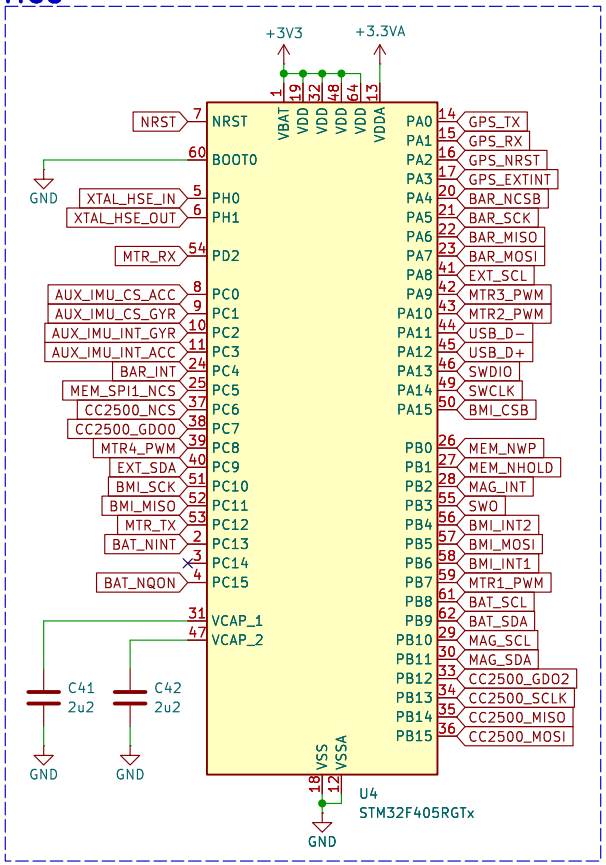
DECOUPLING (VDD,VDDA)



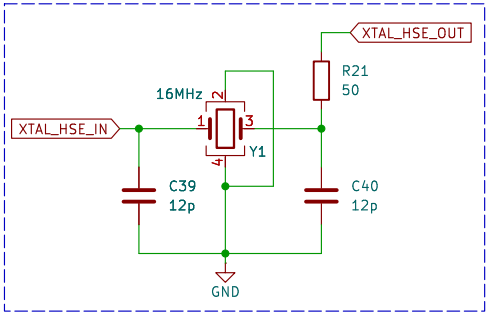
FLASH



MCU



XTAL HSE



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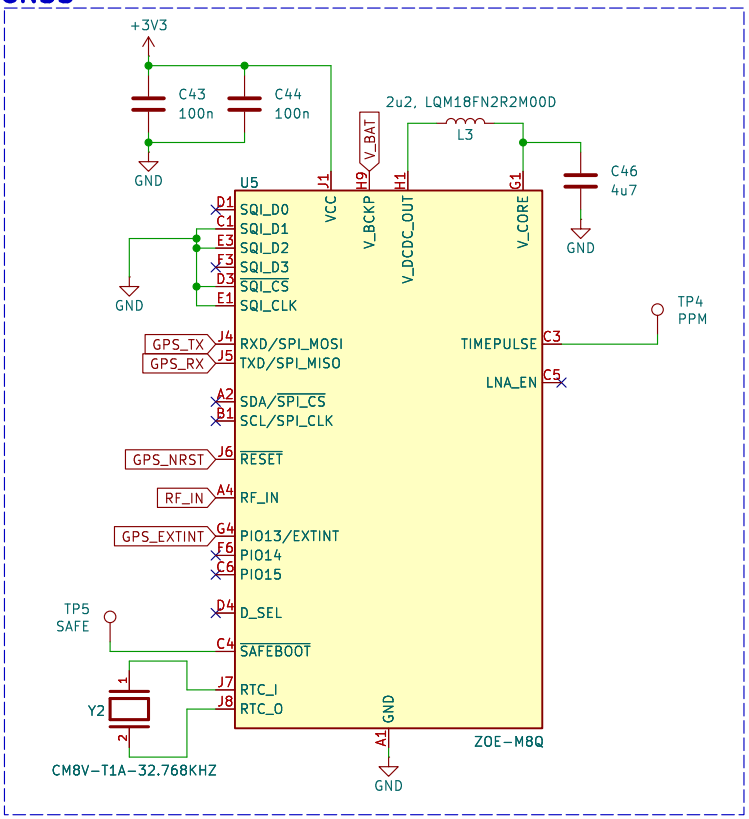
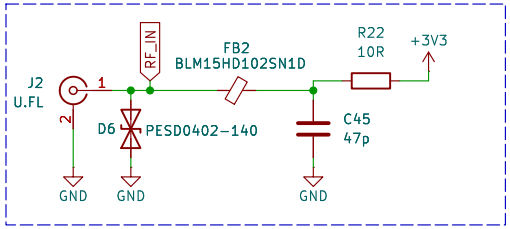
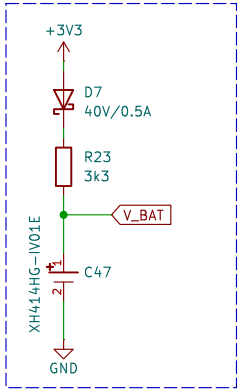
GNSS



SMA BIAS-T



GPS BACKUP



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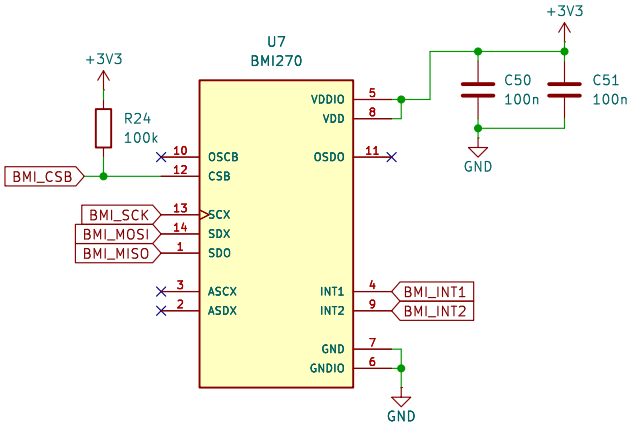
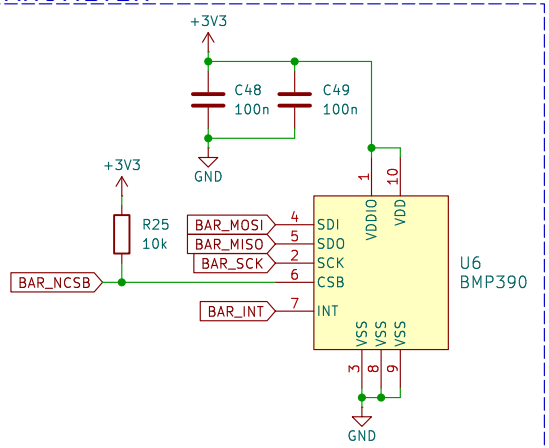
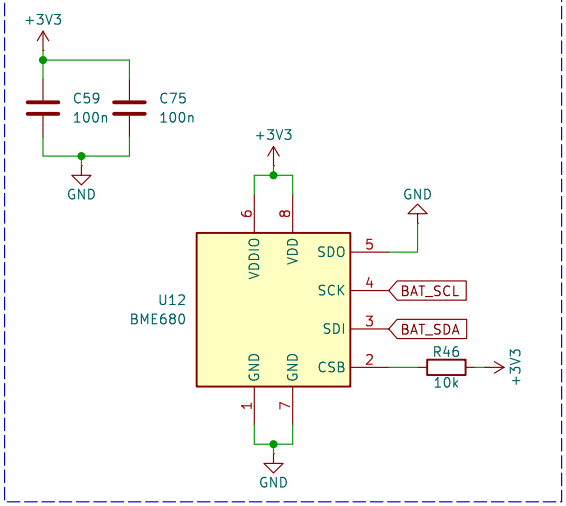
IMU



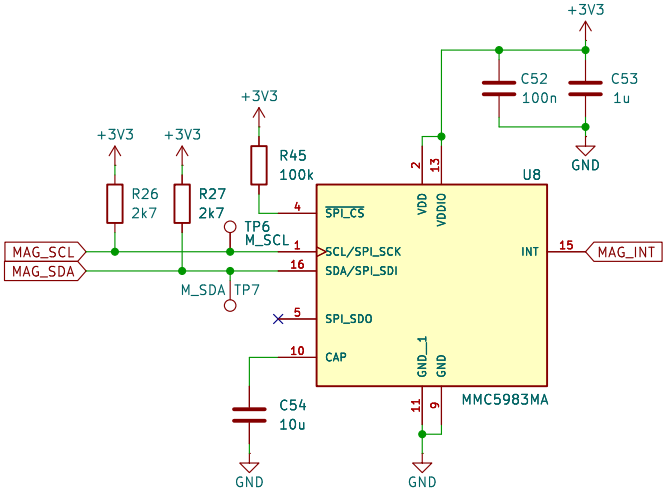
BAROMETER



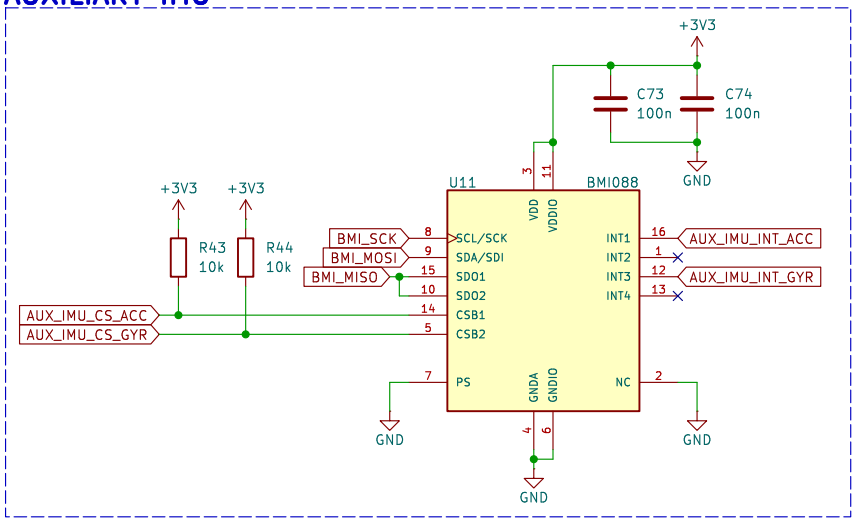
GAS, HUMIDITY, PRESSURE, TEMPERATURE SENSOR



MAGNETOMETER



AUXILIARY IMU



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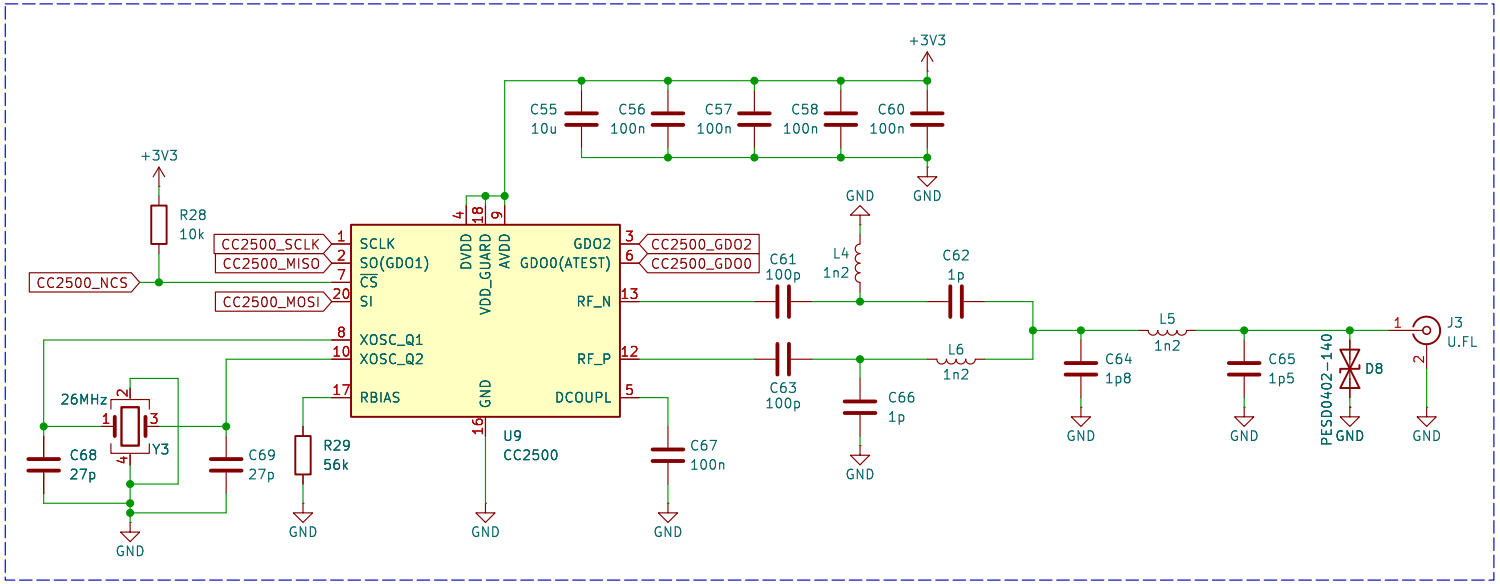
CC2500



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Size: A4	Date:	**Rev:**
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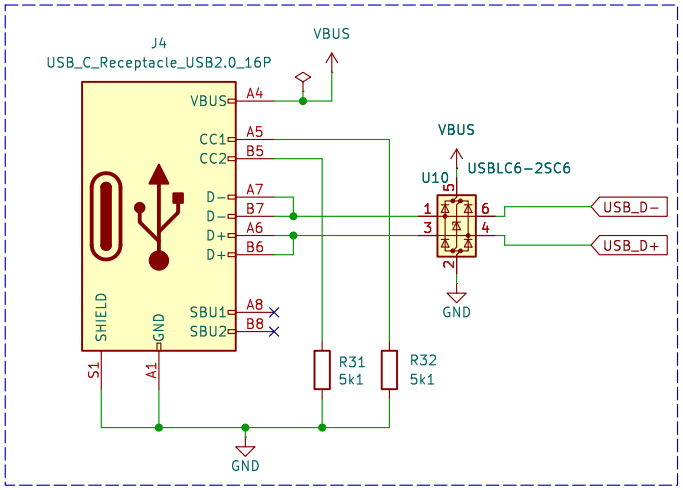
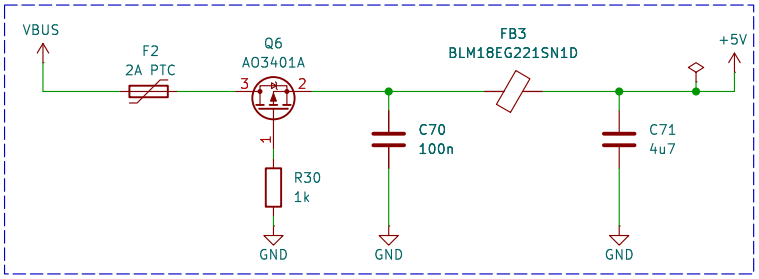
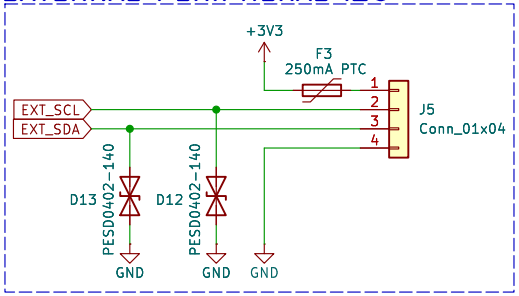
USB-C INPUT + ESD



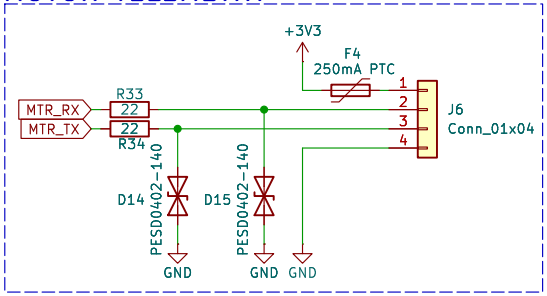
VBUS INPUT FILTERING



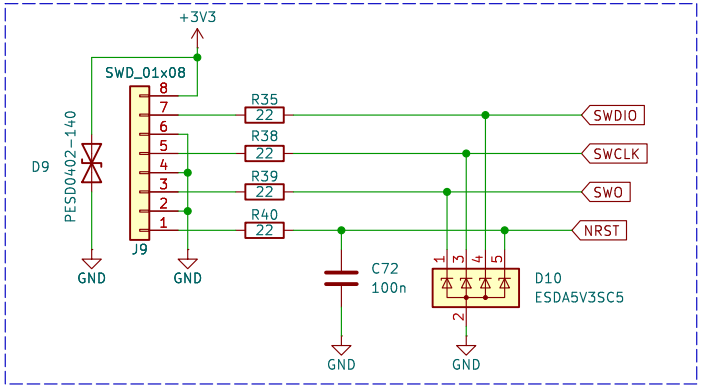
EXTERNAL PERIPHERAL I2C



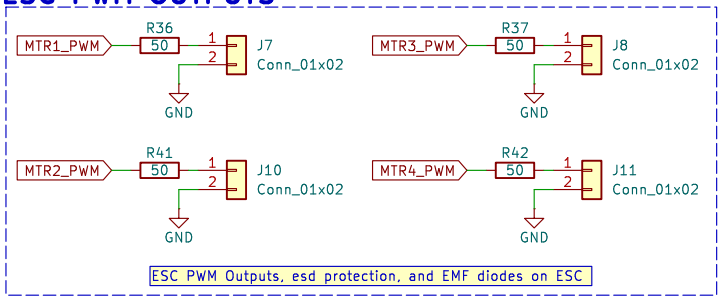
MOTOR TELEMETRY



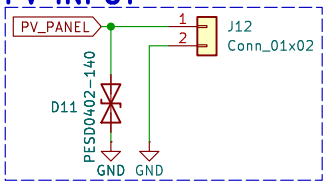
SWD HEADER + ESD



ESC PWM OUTPUTS



PV INPUT



Sheet: /Conn/
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Title:

Size: A4 | Date: | **Rev:**
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