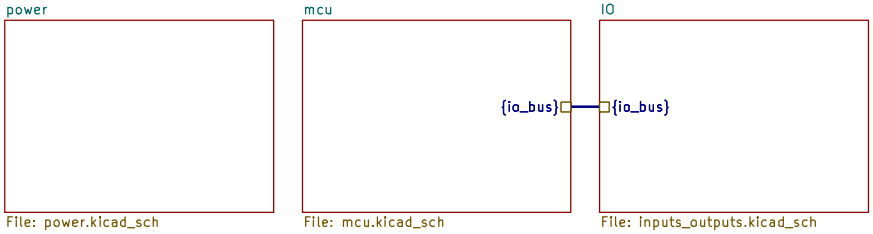
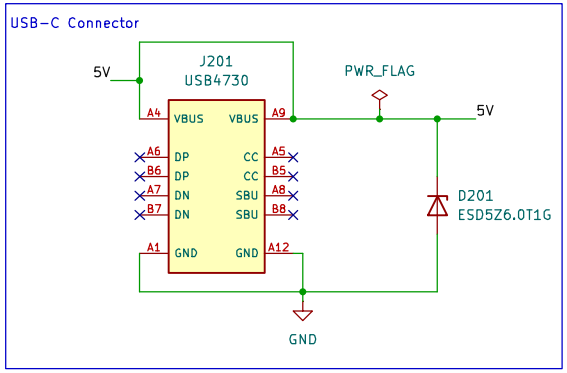
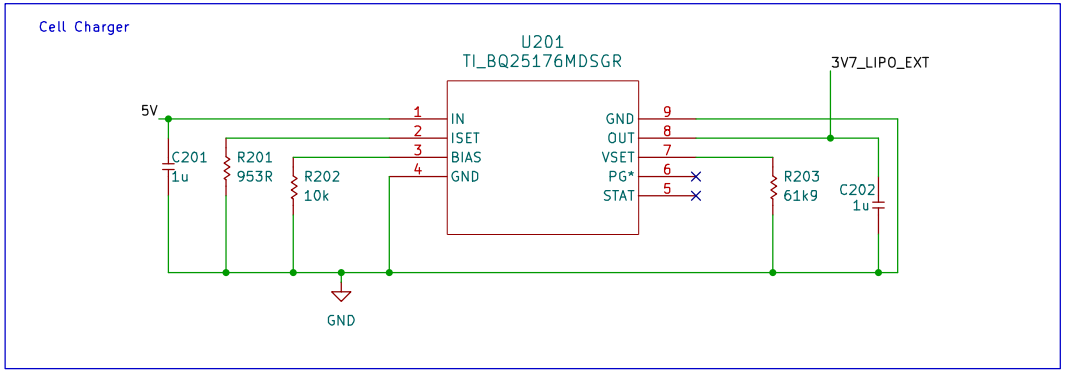
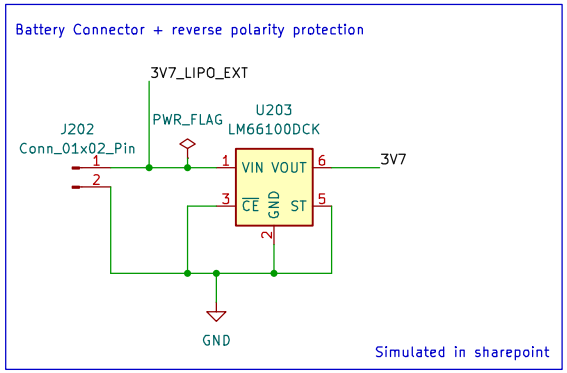

power
mcu
IO
{io_bus}
{io_bus}
File: power.kicad_sch
File: mcu.kicad_sch
File: inputs_outputs.kicad_sch

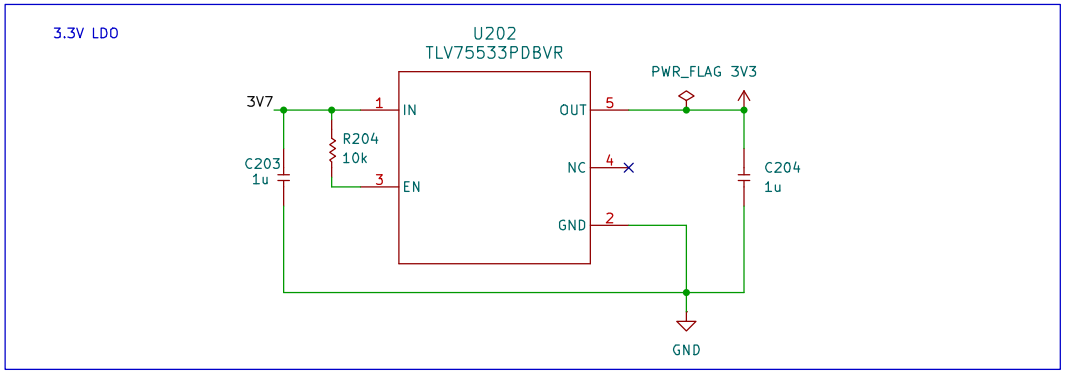
Battery used: https://www.amazon.ca/dp/B0B215N9R8/ref=sspa_dk_detail_2?pd_rd_i=B0B215N9R8&pd_rd_w=B0lvE&content-id=amzn1.sym.e33a1a1f-9190-427f-b07a-458b2621d6c1&pf_rd_p=e33a1a1f-9190-427f-b07a-458b2621d6c1&pf_rd_r=A4N4RVHDHAB1HKVE85AB&pd_rd_wg=Vuk5U&pd_rd_r=938be9a9-09b3-4bf2-9067-4c2ab2c9072a&sp_csd=d2lkZ2VOTmFtZT1zcF9kZXRhaWxfdGhibWF0aWM&th=1





RISET = [300 AΩ/0.32 A] = 937.5 Ω -> 953 Ω



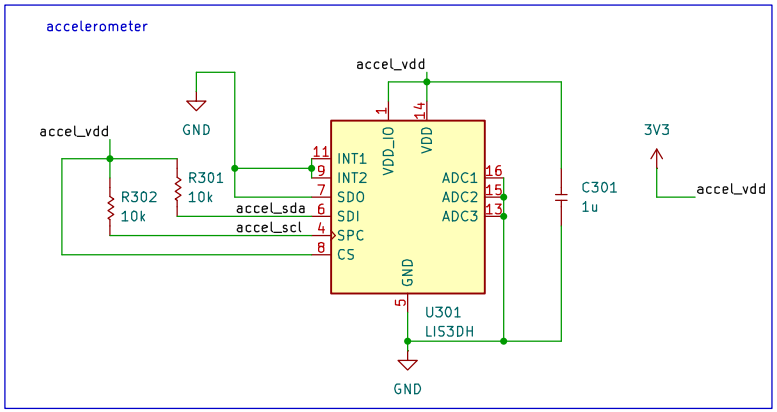


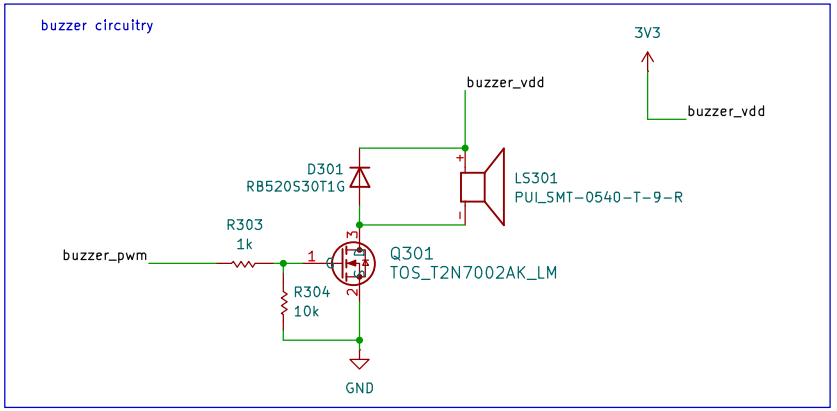
7.3.1.2 VSET Pin Detection

VSET pin is used to program the device regulation voltage at end-of-charge using a ±1% pulldown resistor. The available pulldown resistor and corresponding charging levels are:

Table 7-1. VSET Pin Resistor Value Table

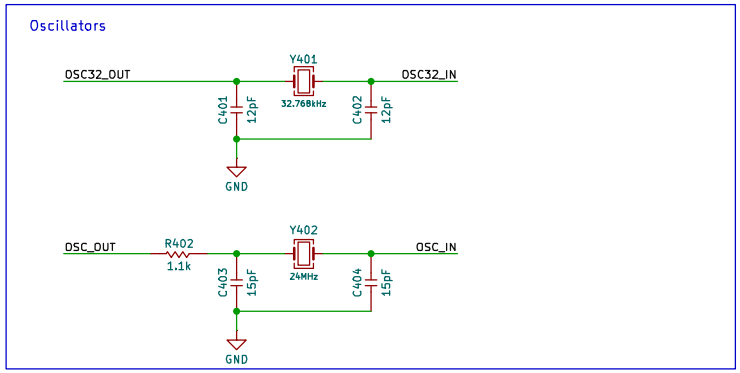
RESISTOR	CHARGE VOLTAGE (V)
> 150 kΩ	No Charge (open-circuit)
100kΩ	1-cell LiFePO$_4$: 3.50 V
82.5kΩ	1-cell LiFePO$_4$: 3.60 V
61.9kΩ	1-cell LiFePO$_4$: 3.70 V
47.5kΩ	1-cell LiIon: 4.05 V
35.7kΩ	1-cell LiIon: 4.15 V
27.4kΩ	1-cell LiIon: 4.20 V
24.3kΩ	1-cell LiIon: 4.35 V
18.2kΩ	1-cell LiIon: 4.40 V
< 3.0 kΩ	No Charge (short-circuit)

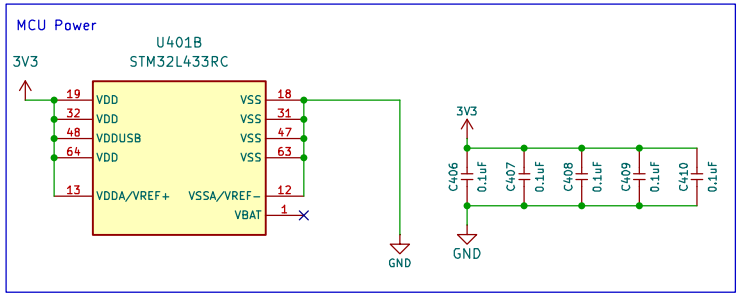

accelerometer
accel_vdd
GND
accel_vdd
R301
10k
R302
10k
accel_sda
accel_scl
INT1
INT2
SDO
SDI
SPC
CS
VDD_IO
VDD
GND
ADC1
ADC2
ADC3
U301
LIS3DH
C301
1u
3V3
accel_vdd
GND

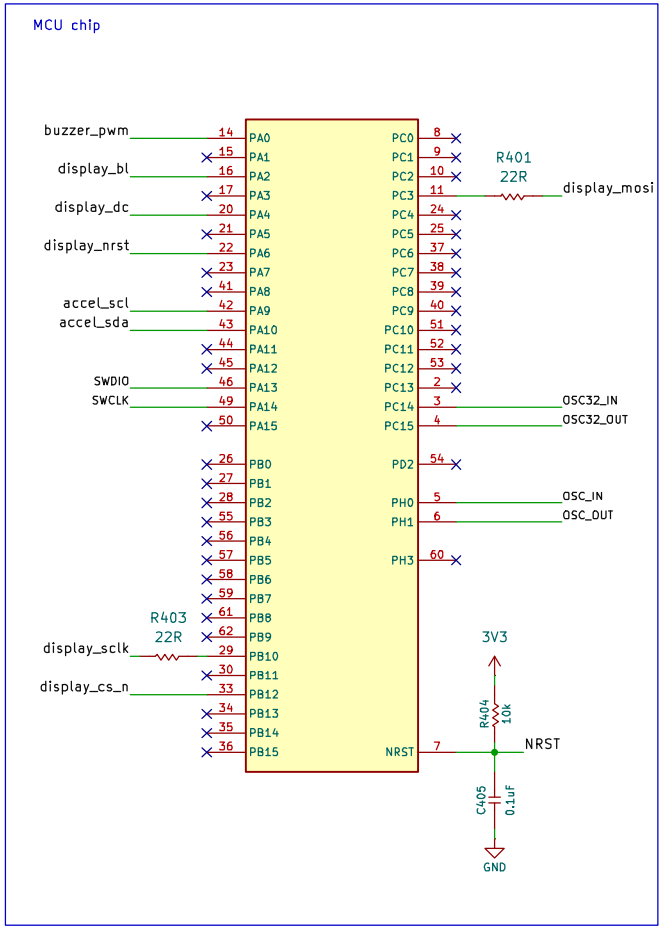

buzzer circuitry
3V3
buzzer_vdd
buzzer_vdd
D301
RB520S30T1G
LS301
PUI_SMT-0540-T-9-R
R303
1k
buzzer_pwm
Q301
TOS_T2N7002AK_LM
R304
10k
GND

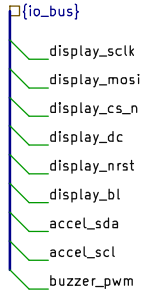

display
{io_bus}
display_sclk
display_mosi
display_cs_n
display_dc
display_nrst
display_bl
accel_sda
accel_scl
buzzer_pwm
J301
1
2
3
4
5
6
7
8
display_vdd
display_mosi
display_sclk
display_cs_n
display_dc
display_nrst
display_bl
GND
N301
Display
3V3
display_vdd
1.69inch LCD Module
240 × 280 Pixels
ST7789V2
VCC
GND
DIN
CLK
CS
DC
RST
BL
1.69inch LCD Module


Debugging Circuitry
J401
Conn_01x05_Pin
3V3
1
2
SWDIO
3
SWCLK
4
NRST
5
GND


Oscillators
OSC32_OUT
Y401
32.768kHz
OSC32_IN
C401
12pF
C402
12pF
GND
OSC_OUT
R402
1.1k
Y402
24MHz
OSC_IN
C403
15pF
C404
15pF
GND


MCU Power
U401B
STM32L433RC
3V3
19
VDD
32
VDD
48
VDDUSB
64
VDD
13
VDDA/VREF+
18
VSS
31
VSS
47
VSS
63
VSS
12
VSSA/VREF−
1
VBAT
GND
3V3
C406
0.1uF
C407
0.1uF
C408
0.1uF
C409
0.1uF
C410
0.1uF
GND


MCU chip
buzzer_pwm
14
PA0
display_bl
15
PA1
16
PA2
display_dc
17
PA3
20
PA4
display_nrst
21
PA5
22
PA6
23
PA7
41
PA8
accel_scl
42
PA9
accel_sda
43
PA10
44
PA11
45
PA12
SWDIO
46
PA13
SWCLK
49
PA14
50
PA15
26
PB0
27
PB1
28
PB2
55
PB3
56
PB4
57
PB5
58
PB6
59
PB7
R403
22R
61
PB8
62
PB9
display_sclk
29
PB10
30
PB11
display_cs_n
33
PB12
34
PB13
35
PB14
36
PB15
PC0
8
PC1
9
PC2
10
PC3
11
R401
22R
display_mosi
PC4
24
PC5
25
PC6
37
PC7
38
PC8
39
PC9
40
PC10
51
PC11
52
PC12
53
PC13
2
PC14
3
OSC32_IN
PC15
4
OSC32_OUT
PD2
54
PH0
5
OSC_IN
PH1
6
OSC_OUT
PH3
60
NRST
7
3V3
R404
10k
NRST
C405
0.1uF
GND


{io_bus}
display_sclk
display_mosi
display_cs_n
display_dc
display_nrst
display_bl
accel_sda
accel_scl
buzzer_pwm