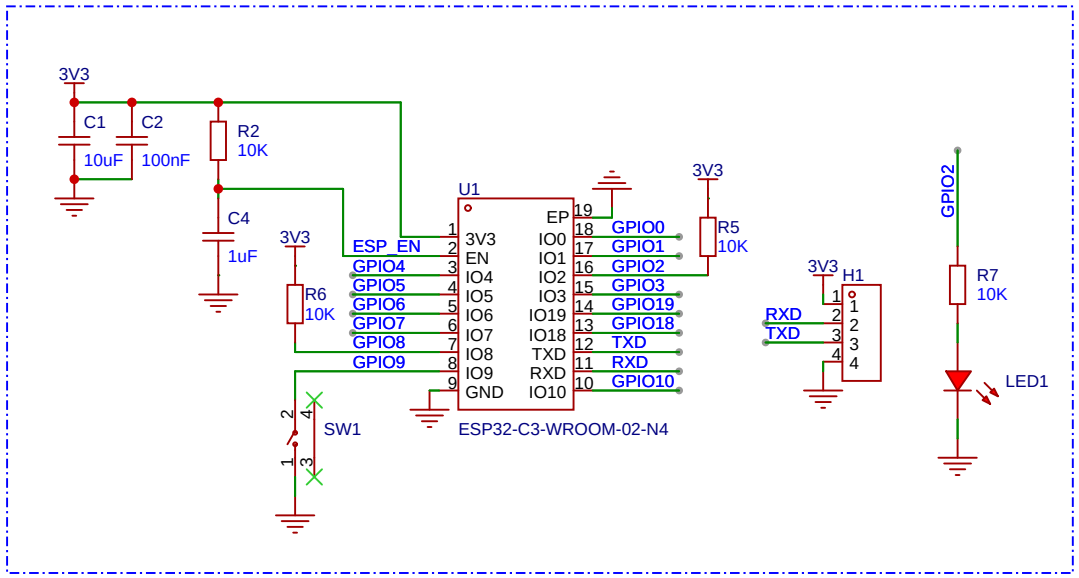
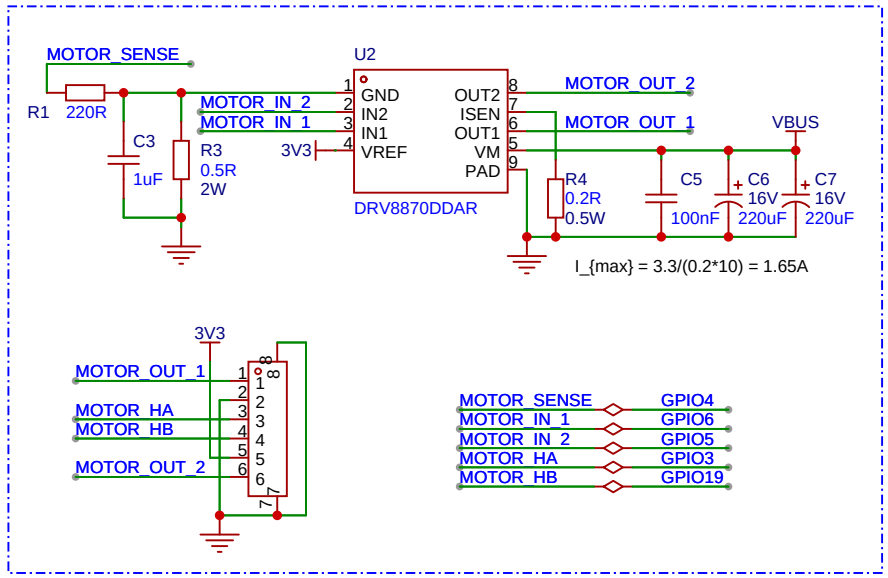
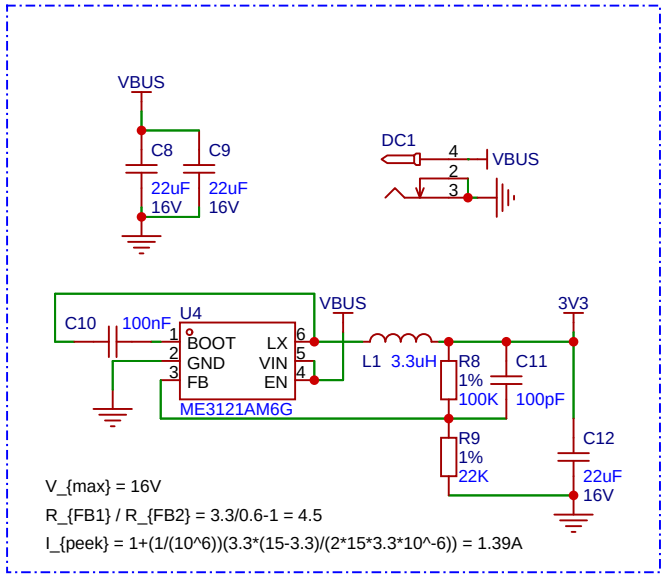
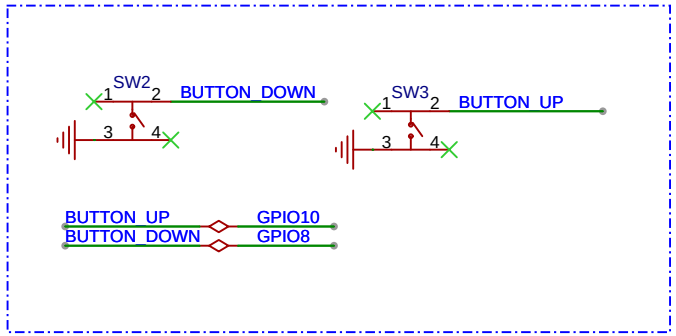

3V3
C1
10uF
C2
100nF
R2
10K
C4
1uF
3V3
R6
10K
SW1
U1
ESP_EN
GPIO4
GPIO5
GPIO6
GPIO7
GPIO8
GPIO9
3V3
EN
IO4
IO5
IO6
IO7
IO8
IO9
GND
EP
IO0
IO1
IO2
IO3
IO19
IO18
TXD
RXD
IO10
GPIO0
GPIO1
GPIO2
GPIO3
GPIO19
GPIO18
TXD
RXD
GPIO10
ESP32-C3-WROOM-02-N4
3V3
R5
10K
3V3
H1
RXD
TXD
GPIO2
R7
10K
LED1


MOTOR_SENSE
R1
220R
C3
1uF
R3
0.5R
2W
U2
MOTOR_IN_2
MOTOR_IN_1
3V3
GND
IN2
IN1
VREF
OUT2
ISEN
OUT1
VM
PAD
DRV8870DDAR
MOTOR_OUT_2
MOTOR_OUT_1
VBUS
R4
0.2R
0.5W
C5
100nF
C6
16V
220uF
C7
16V
220uF
I_{max} = 3.3/(0.2*10) = 1.65A
3V3
MOTOR_OUT_1
MOTOR_HA
MOTOR_HB
MOTOR_OUT_2
MOTOR_SENSE
MOTOR_IN_1
MOTOR_IN_2
MOTOR_HA
MOTOR_HB
GPIO4
GPIO6
GPIO5
GPIO3
GPIO19


VBUS
C8
22uF
16V
C9
22uF
16V
DC1
VBUS
C10
100nF
U4
BOOT
GND
FB
LX
VIN
EN
ME3121AM6G
VBUS
L1 3.3uH
R8
1%
100K
C11
100pF
3V3
R9
1%
22K
C12
22uF
16V
V_{max} = 16V
R_{FB1} / R_{FB2} = 3.3/0.6-1 = 4.5
I_{peek} = 1+(1/(10^6))(3.3*(15-3.3)/(2*15*3.3*10^-6)) = 1.39A


SW2
BUTTON_DOWN
SW3
BUTTON_UP
BUTTON_UP
BUTTON_DOWN
GPIO10
GPIO8