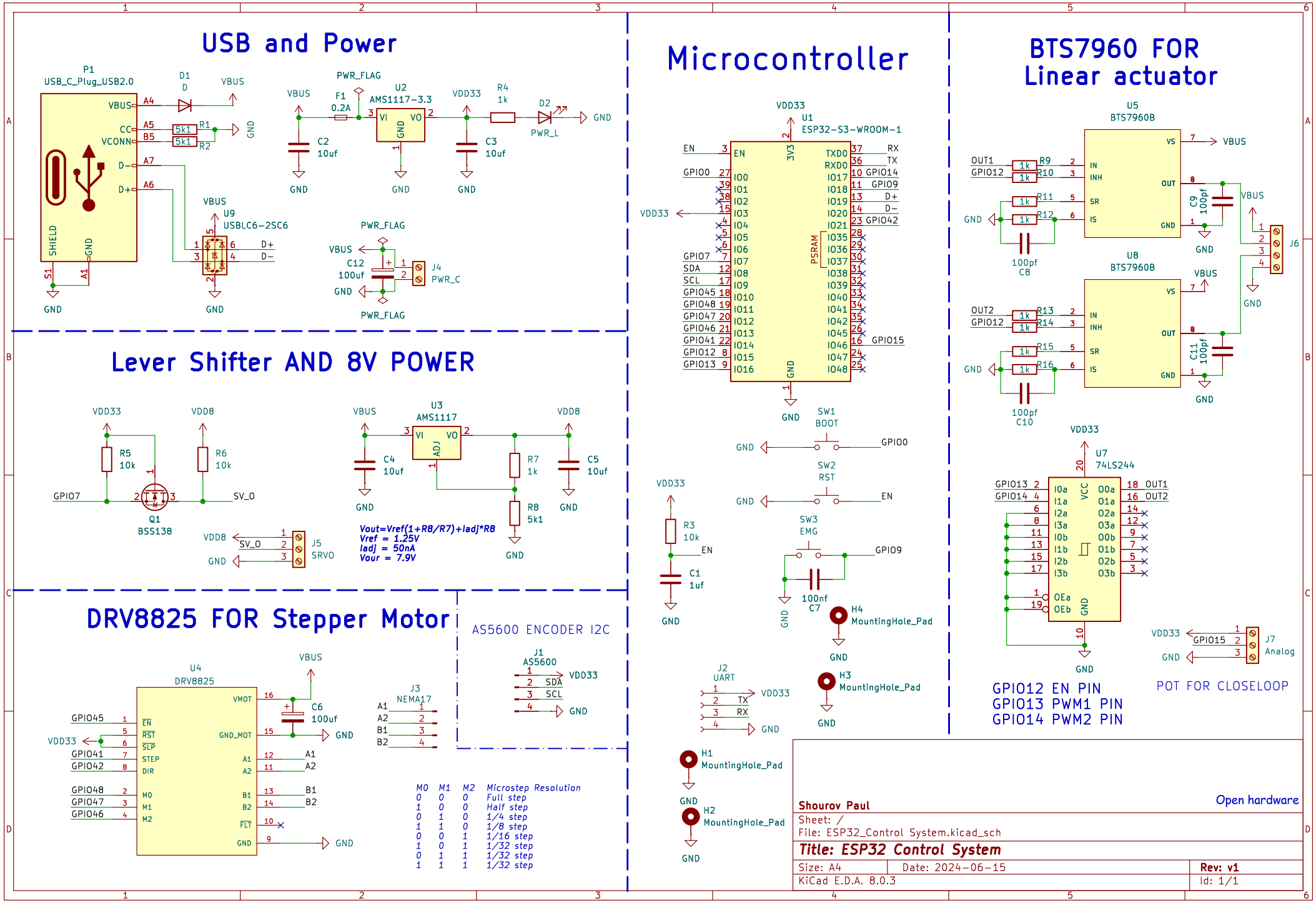
USB and Power
P1
USB_C_Plug_USB2.0
VBUS
CC
VCONN
D-
D+
SHIELD
GND
A4
A5
B5
A7
A6
S1
A1
5k1
R1
R2
D1
D
VBUS
PWR_FLAG
F1
0.2A
U2
AMS1117-3.3
VI
VO
GND
C2
10uf
C3
10uf
R4
1k
D2
PWR_L
U9
USBLC6-2SC6
D+
D-
C12
100uf
J4
PWR_C
Lever Shifter AND 8V POWER
VDD33
VDD8
R5
10k
R6
10k
GPIO7
SV_0
Q1
BSS138
U3
AMS1117
ADJ
C4
10uf
C5
10uf
R7
1k
R8
5k1
Vout=Vref(1+R8/R7)+Iadj*R8
Vref = 1.25V
Iadj = 50nA
Vour = 7.9V
J5
SRVO
DRV8825 FOR Stepper Motor
U4
DRV8825
VMOT
GND_MOT
EN
RST
SLP
STEP
DIR
M0
M1
M2
A1
A2
B1
B2
FLT
C6
100uf
J3
NEMA17
AS5600 ENCODER I2C
J1
AS5600
SDA
SCL
M0 M1 M2 Microstep Resolution
0 0 0 Full step
1 0 0 Half step
0 1 0 1/4 step
1 1 0 1/8 step
0 0 1 1/16 step
1 0 1 1/32 step
0 1 1 1/32 step
1 1 1 1/32 step
Microcontroller
U1
ESP32-S3-WROOM-1
3V3
PSRAM
TXD0
RXD0
SW1
BOOT
SW2
RST
SW3
EMG
R3
10k
C1
1uf
100nf
C7
H4
MountingHole_Pad
H3
MountingHole_Pad
H1
MountingHole_Pad
H2
MountingHole_Pad
J2
UART
TX
RX
BTS7960 FOR
Linear actuator
U5
BTS7960B
U8
BTS7960B
IN
INH
SR
IS
VS
OUT
R9
R10
R11
R12
R13
R14
R15
R16
C9
100pf
C11
100pf
C8
100pf
C10
J6
U7
74LS244
GPIO12 EN PIN
GPIO13 PWM1 PIN
GPIO14 PWM2 PIN
POT FOR CLOSELOOP
J7
Analog
Shourov Paul
Open hardware
Sheet: /
File: ESP32_Control System.kicad_sch
Title: ESP32 Control System
Size: A4
Date: 2024-06-15
Rev: v1
KiCad E.D.A. 8.0.3
Id: 1/1