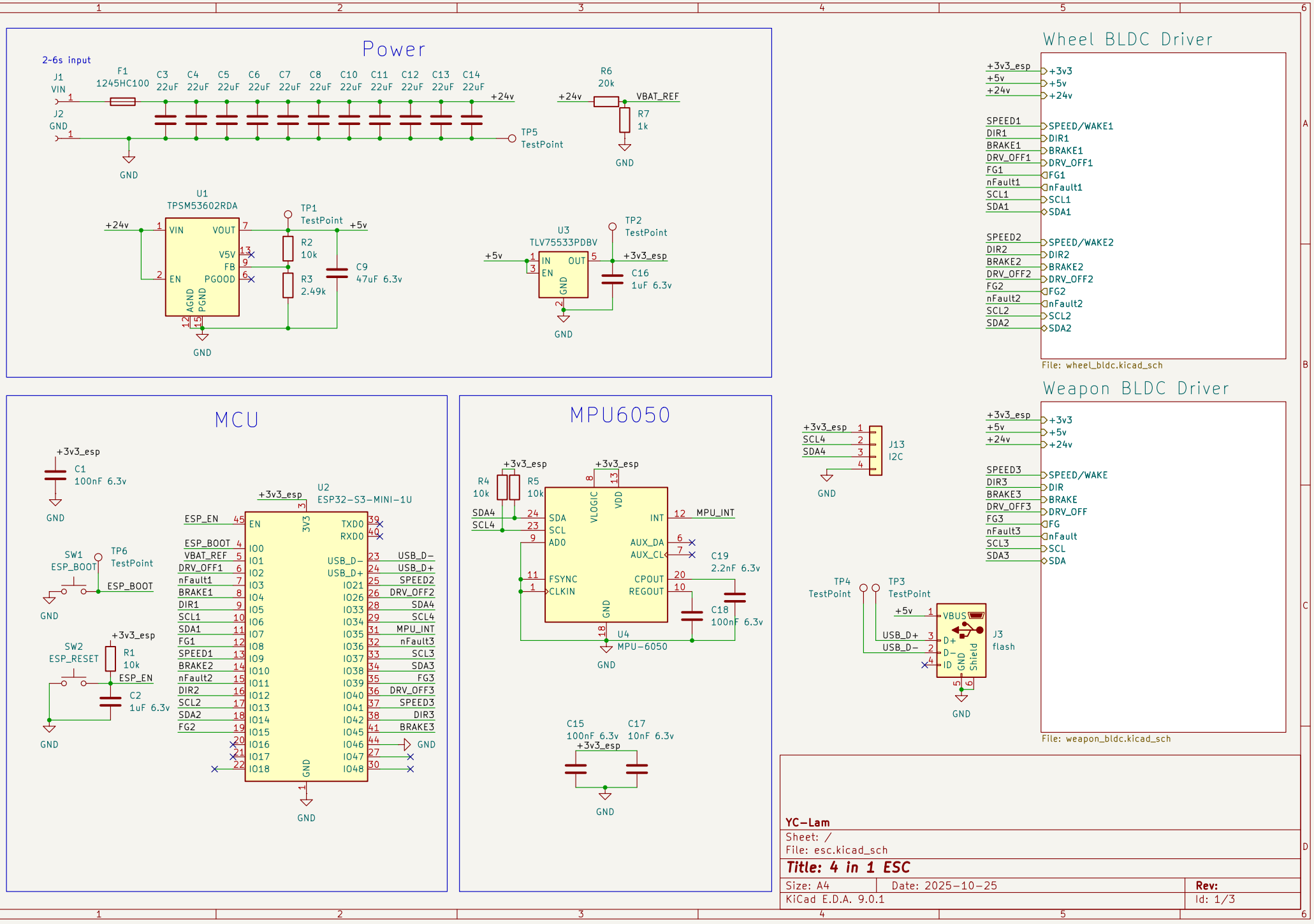
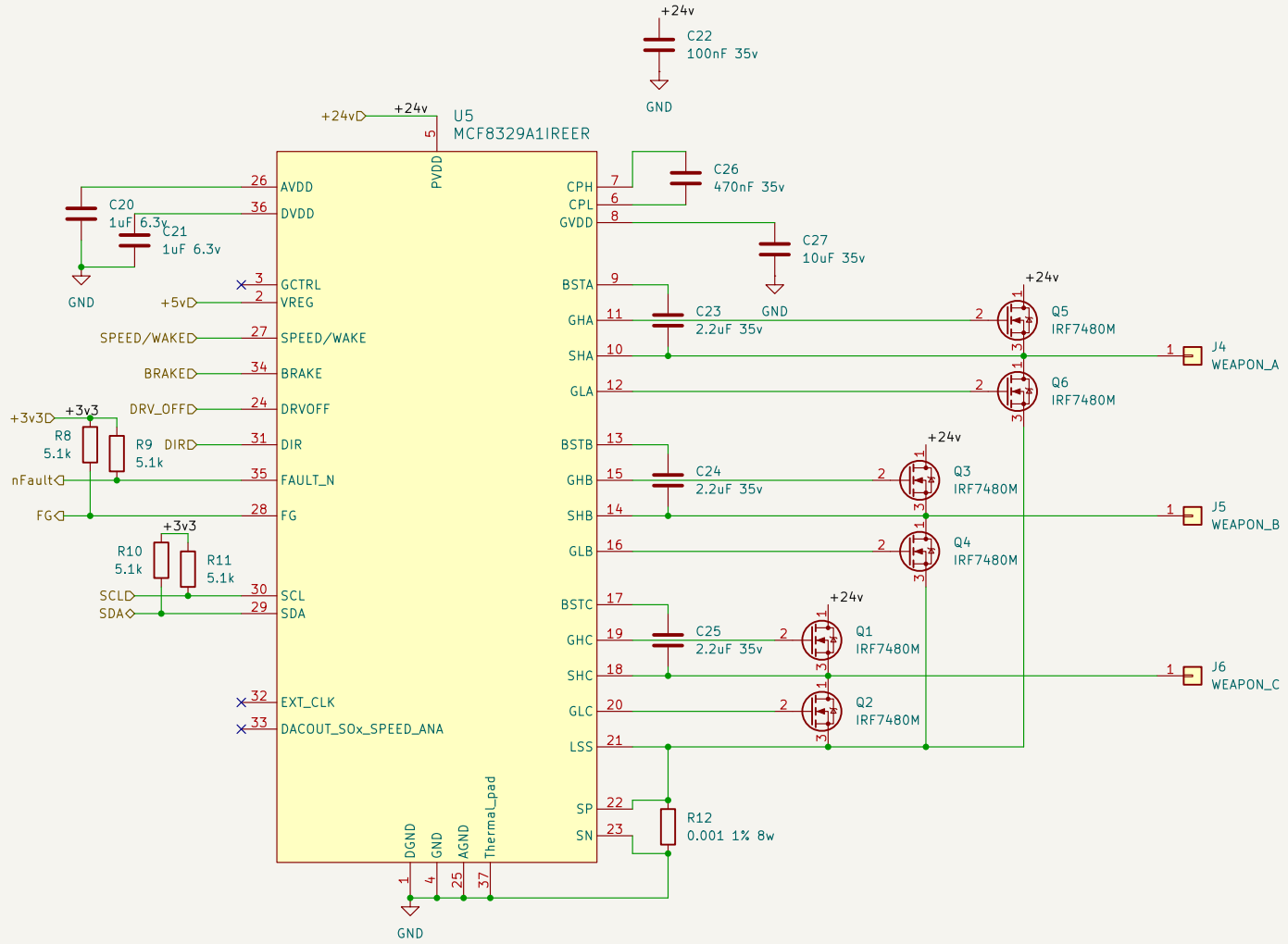
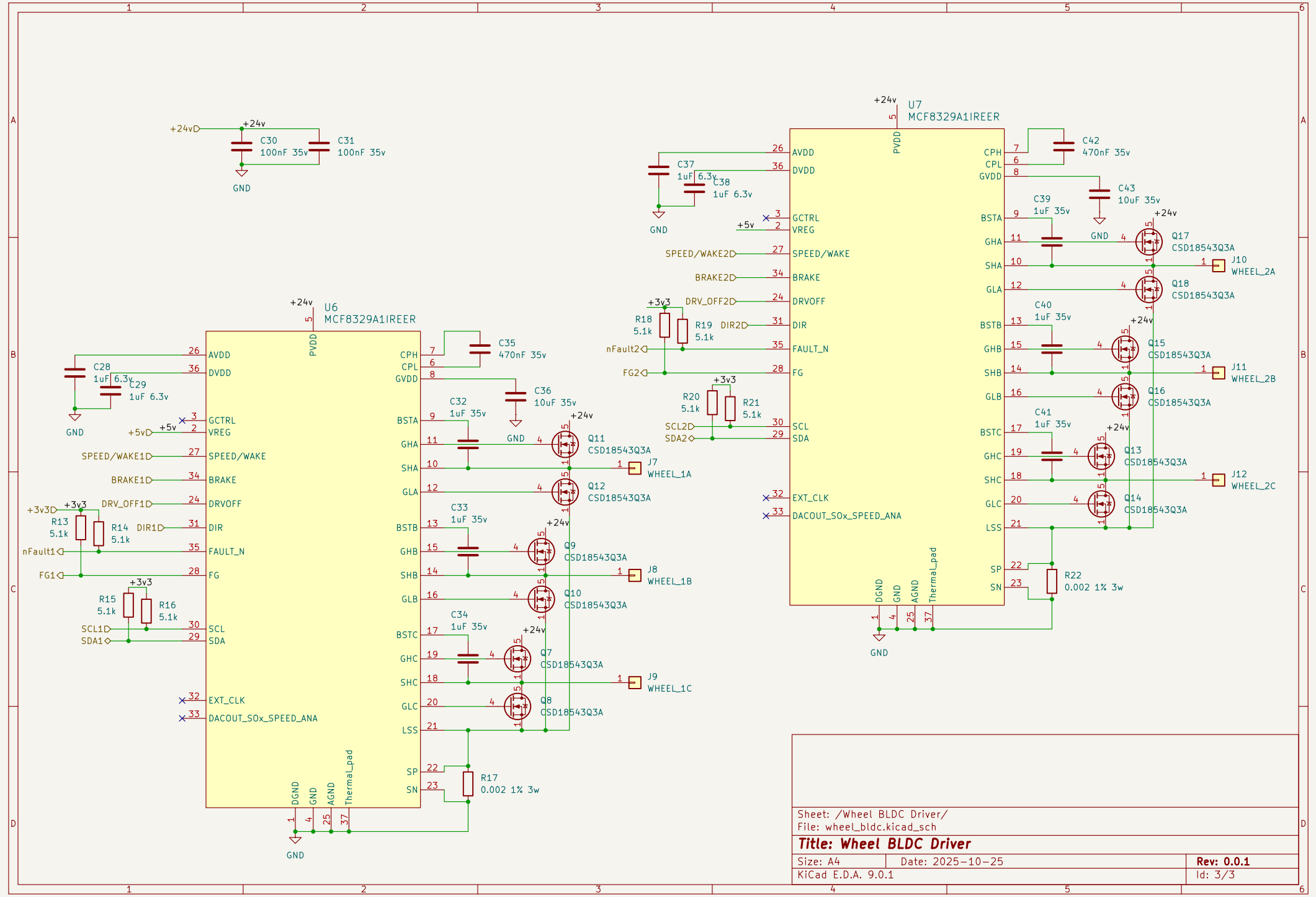

Power
2-6s input
J1
VIN
J2
GND
F1
1245HC100
C3 22uF
C4 22uF
C5 22uF
C6 22uF
C7 22uF
C8 22uF
C10 22uF
C11 22uF
C12 22uF
C13 22uF
C14 22uF
+24v
TP5
TestPoint
R6
20k
R7
1k
VBAT_REF
U1
TPSM53602RDA
VIN
VOUT
V5V
FB
EN
PGOOD
AGND
PGND
TP1
TestPoint
+5v
R2
10k
R3
2.49k
C9
47uF 6.3v
U3
TLV75533PDBV
IN
OUT
EN
GND
TP2
TestPoint
+3v3_esp
C16
1uF 6.3v
Wheel BLDC Driver
+3v3_esp
+5v
+24v
SPEED1
DIR1
BRAKE1
DRV_OFF1
FG1
nFault1
SCL1
SDA1
SPEED2
DIR2
BRAKE2
DRV_OFF2
FG2
nFault2
SCL2
SDA2
+3v3
SPEED/WAKE1
SPEED/WAKE2
File: wheel_bldc.kicad_sch
MCU
C1
100nF 6.3v
SW1
ESP_BOOT
TP6
TestPoint
SW2
ESP_RESET
R1
10k
C2
1uF 6.3v
U2
ESP32-S3-MINI-1U
EN
3V3
GND
TXD0
RXD0
USB_D-
USB_D+
MPU6050
R4
10k
R5
10k
SDA4
SCL4
SDA
SCL
AD0
VLOGIC
VDD
INT
MPU_INT
AUX_DA
AUX_CL
FSYNC
CLKIN
CPOUT
REGOUT
C19
2.2nF 6.3v
C18
100nF 6.3v
U4
MPU-6050
C15
100nF 6.3v
C17
10nF 6.3v
J13
I2C
Weapon BLDC Driver
SPEED3
DIR3
BRAKE3
DRV_OFF3
FG3
nFault3
SCL3
SDA3
SPEED/WAKE
DIR
BRAKE
DRV_OFF
FG
nFault
SCL
SDA
File: weapon_bldc.kicad_sch
TP4
TestPoint
TP3
TestPoint
J3
flash
VBUS
D+
D-
ID
Shield
YC-Lam
Sheet: /
File: esc.kicad_sch
Title: 4 in 1 ESC
Size: A4
Date: 2025-10-25
Rev:
KiCad E.D.A. 9.0.1
Id: 1/3



YC Lam		
Sheet: /Weapon BLDC Driver/		
File: weapon_bldc.kicad_sch		
Title: Weapon BLDC Driver		
Size: A4	Date: 2025-10-25	**Rev: 0.0.1**
KiCad E.D.A. 9.0.1		Id: 2/3


+24v
C30
100nF 35v
C31
100nF 35v
GND
U6
MCF8329A1IREER
PVDD
AVDD
DVDD
GCTRL
VREG
SPEED/WAKE
BRAKE
DRVOFF
DIR
FAULT_N
FG
SCL
SDA
EXT_CLK
DACOUT_SOx_SPEED_ANA
CPH
CPL
GVDD
BSTA
GHA
SHA
GLA
BSTB
GHB
SHB
GLB
BSTC
GHC
SHC
GLC
LSS
SP
SN
DGND
GND
AGND
Thermal_pad
C28
1uF 6.3v
C29
1uF 6.3v
C32
1uF 35v
C33
1uF 35v
C34
1uF 35v
C35
470nF 35v
C36
10uF 35v
R13
5.1k
R14
5.1k
R15
5.1k
R16
5.1k
R17
0.002 1% 3w
Q11
CSD18543Q3A
Q12
CSD18543Q3A
Q9
CSD18543Q3A
Q10
CSD18543Q3A
Q7
CSD18543Q3A
Q8
CSD18543Q3A
J7
WHEEL_1A
J8
WHEEL_1B
J9
WHEEL_1C
U7
MCF8329A1IREER
C37
1uF 6.3v
C38
1uF 6.3v
C39
1uF 35v
C40
1uF 35v
C41
1uF 35v
C42
470nF 35v
C43
10uF 35v
R18
5.1k
R19
5.1k
R20
5.1k
R21
5.1k
R22
0.002 1% 3w
Q17
CSD18543Q3A
Q18
CSD18543Q3A
Q15
CSD18543Q3A
Q16
CSD18543Q3A
Q13
CSD18543Q3A
Q14
CSD18543Q3A
J10
WHEEL_2A
J11
WHEEL_2B
J12
WHEEL_2C
SPEED/WAKE2
BRAKE2
DRV_OFF2
DIR2
nFault2
FG2
SCL2
SDA2
Sheet: /Wheel BLDC Driver/
File: wheel_bldc.kicad_sch
Title: Wheel BLDC Driver
Size: A4
Date: 2025-10-25
Rev: 0.0.1
KiCad E.D.A. 9.0.1
Id: 3/3