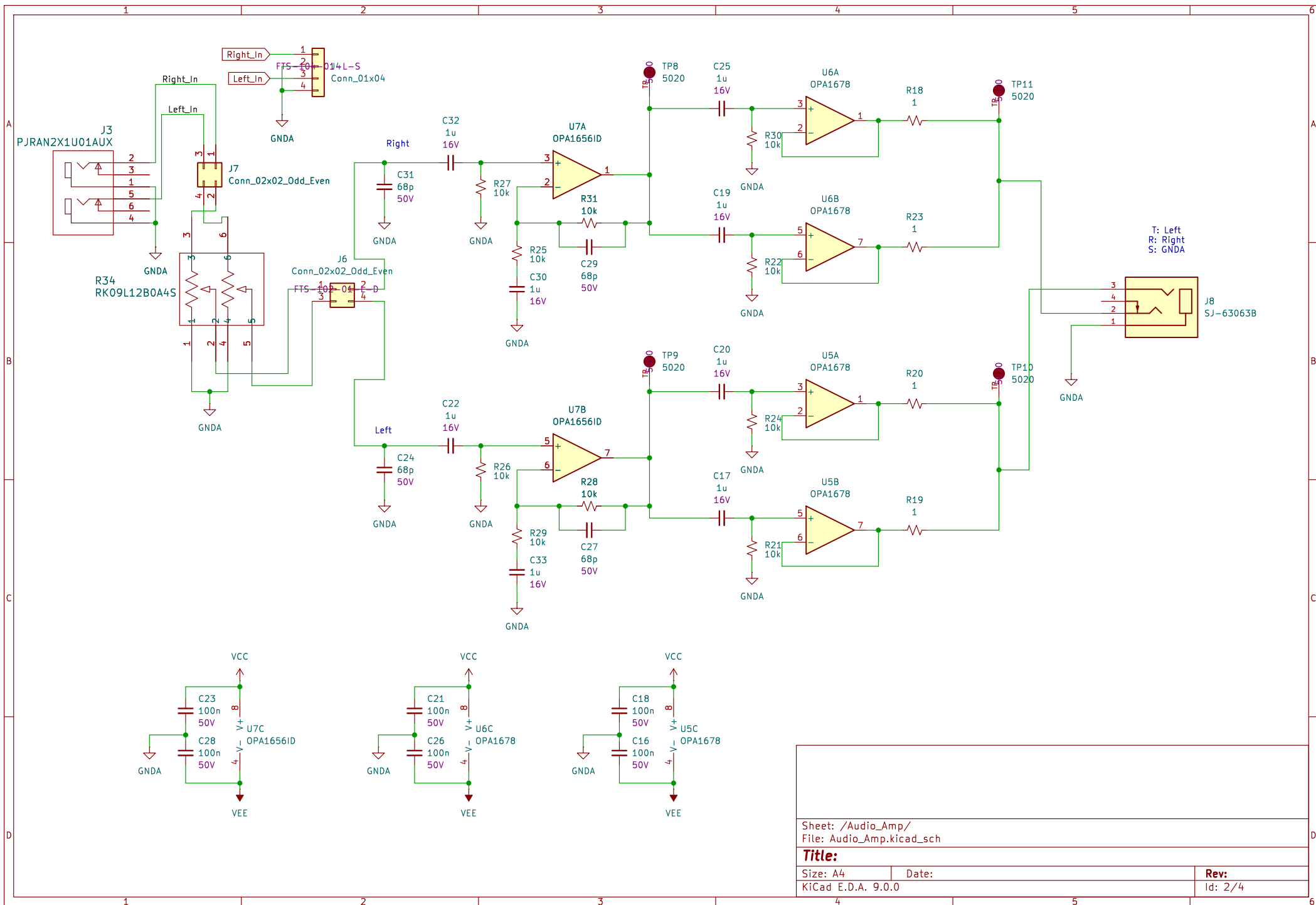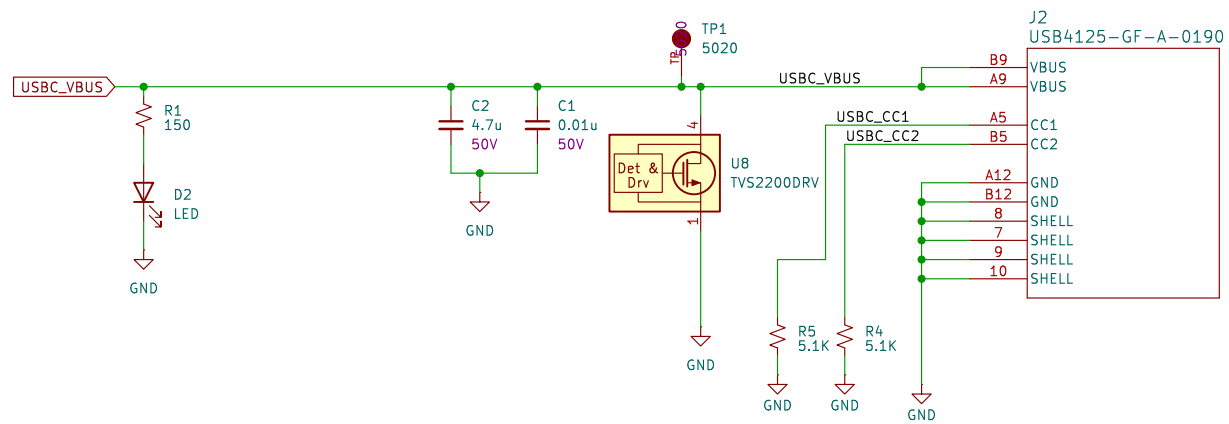Audio_Amp

File: Audio_Amp.kicad_sch

USBC Input

File: USBC_Input.kicad_sch

Power Conversion

File: Power_Conv.kicad_sch

USBC_VBUS

R1
150

D2
LED

GND

GND

C2
4.7u
50V

C1
0.01u
50V

GND

TP1
5020

USBC_VBUS

U8
TVS2200DRV
Det &
Drv

GND

R5
5.1K

R4
5.1K

GND

GND

GND

USBC_CC1
USBC_CC2

J2
USB4125-GF-A-0190

B9   VBUS
A9   VBUS

A5   CC1
B5   CC2

A12   GND
B12   GND
8   SHELL
7   SHELL
9   SHELL
10   SHELL

Power Conversion Schematic

USBC_VBUS Input / Power Path

USBC_VBUS

J1
Conn_02x01
1 2

Q1A
IRF7324
7 1

Q1B
IRF7324
3 5

TP3
5020

USBC_ON/OFF

R2
10K

D1
MMSZ5238BT1G
MMSZ5238BT1G

R3
47

C4
1000p
Vol

L1
6.8u

C9
4.7u
10V

C7
4.7u
10V

GND GND GND

U2 Isolated DC-DC

U2
PCN2-S5-D12-S

1 +VIN   +VOUT 6
2 -VIN   COMMON 5
        -VOUT 4

C10
1n
1kV

TP5
5020

TP4
5020

TP2
5020

C5
10u
25V

C6
10u
25V

GNDA

U3 Regulator

C8
0.01u
50V

GNDA

U3
TPS7A39

1 INP   OUTP 10
2 EN   FBP 9
3 NR/SS BUF 8
5 INN   FBN 7
  GND   OUTN 6
4

VCC = 10.115V
VEE = -10.055V

VCC
TP7
5020

R16
75k

C11
10n
50V

C13
10u
25V

R15
10k

GNDA

GNDA

R14
10k

R13
84.5k

C12
10n
50V

C14
10u
25V

TP6
5020

VEE

U1 / U4 Flip-Flop Circuit

USBC_VBUS

U1
SN74LVC1G74DCTR

8 VCC
2 D   Q 5
1 CLK   Q_N 3
6 CLR_N   GND 4
7 PRE_N

SW1
BB15AH-FA

BB15AH-FA

GND

R17
10K

U4
74LVC1G17

5
GND VCC
3
4

C34
1000p
Vol

GND GND

R7
47

C35
22p
100V

R12
330

R9
0

R8
0

GND

GND

Mounting Holes

R11
0

GND

H1
MountingHole

H2
MountingHole
24883

R6
0

H3
MountingHole
24883

H4
MountingHole
24883

GNDA

R10
0

GNDA GND

Decoupling for U1, U4

USBC_VBUS

C15
0.1u
35V

C3
0.1u
35V

GND

J5 / LED Indicators

USBC_ON/OFF

J5
Conn_02x01

R35
150

R36
150

R32
150

R33
150

D5
LED

D6
LED

D3
LED

D4
LED

GND GND GND GND