Mega65Modular Audio Codec v0.1
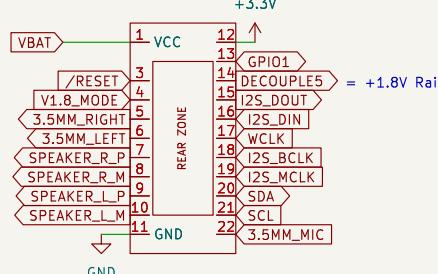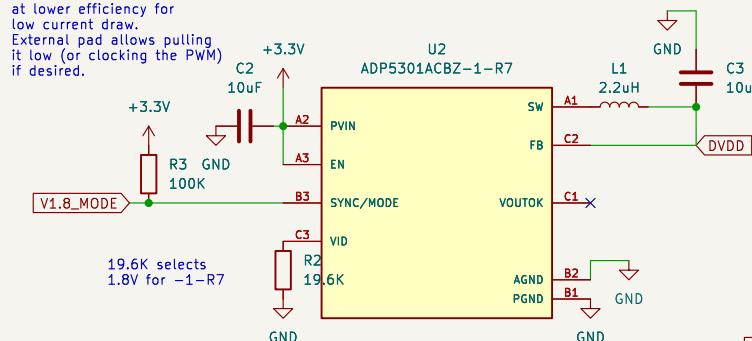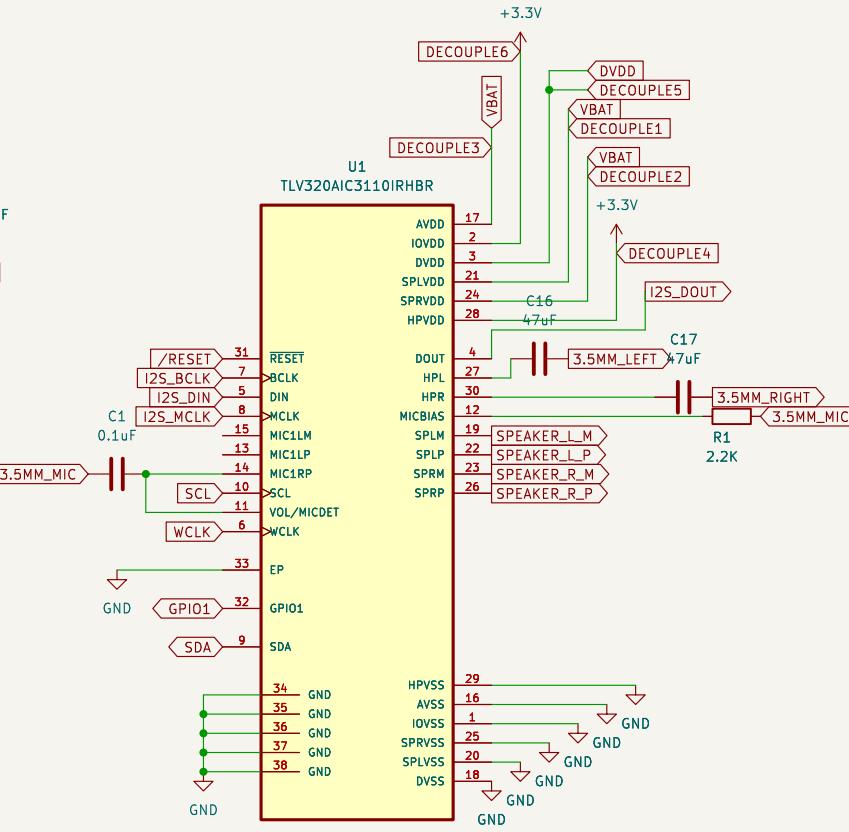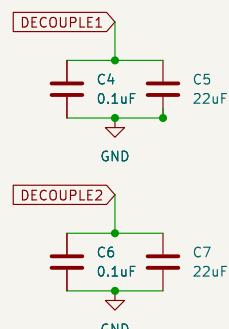gardners
License: CERN-OHL-S v2
Year: 2025

Pull SYNC/MODE high for
default 500mA max, but
at lower efficiency for
low current draw.
External pad allows pulling
it low (or clocking the PWM)
if desired.

+3.3V

+3.3V

C2
10uF

R3    GND
100K

V1.8_MODE

U2
ADP5301ACBZ-1-R7

A2  PVIN
A3  EN
B3  SYNC/MODE
C3  VID
     AGND
     PGND

SW   A1
FB   C2
VOUTOK  C1

B2
B1
GND

L1
2.2uH

GND

C3
10uF

DVDD

19.6K selects
1.8V for -1-R7

R2
19.6K

GND

GND

M1

+3.3V

VBAT      1  VCC
          12
/RESET    3     GPIO1
V1.8_MODE 4  14 DECOUPLE5  = +1.8V Rail
3.5MM_RIGHT 5 15 I2S_DOUT
3.5MM_LEFT  6 16 I2S_DIN
SPEAKER_R_P 7 17 WCLK
SPEAKER_R_M 8 18 I2S_BCLK
SPEAKER_L_P 9 19 I2S_MCLK
SPEAKER_L_M 10 20 SDA
          11 21 SCL
          GND 22 3.5MM_MIC

REAR ZONE

GND

3D top side

+3.3V

DECOUPLE6
VBAT

DECOUPLE3

DECOUPLE5
DVDD
VBAT
DECOUPLE1

VBAT
DECOUPLE2

+3.3V

DECOUPLE4

I2S_DOUT

U1
TLV320AIC3110IRHBR

17 AVDD
2  IOVDD
3  DVDD
21 SPLVDD
24 SPRVDD
28 HPVDD

C16
47uF

/RESET  31 RESET
I2S_BCLK 7 BCLK
I2S_DIN  5 DIN
I2S_MCLK 8 MCLK

C1
0.1uF

15 MIC1LM
13 MIC1LP
14 MIC1RP

3.5MM_MIC

SCL     10 SCL
        11 VOL/MICDET

WCLK    6 WCLK

33 EP

GND

GPIO1   32 GPIO1

SDA     9 SDA

34 GND
35 GND
36 GND
37 GND
38 GND

GND

DOUT  4
HPL   27
HPR   30
MICBIAS 12

SPLM  19
SPLP  22
SPRM  23
SPRP  26

HPVSS 29
AVSS  16
IOVSS 1
SPRVSS 25
SPLVSS 20
DVSS  18

C17
47uF

3.5MM_LEFT

3.5MM_RIGHT
3.5MM_MIC

R1
2.2K

SPEAKER_L_M
SPEAKER_L_P
SPEAKER_R_M
SPEAKER_R_P

GND

GND

GND

GND

DVSS & IOVSS tied to
digital side of GND
plane.

All others to analog
(VBAT) side.

DECOUPLE1

C4
0.1uF

C5
22uF

GND

DECOUPLE2

C6
0.1uF

C7
22uF

GND

DECOUPLE3

C8
0.1uF

C9
10uF

GND

DECOUPLE4

C10
0.1uF

C11
10uF

GND

DECOUPLE5

C12
0.1uF

C14
10uF

GND

DECOUPLE6

C13
0.1uF

C15
10uF

GND

CERN-OHL-S v2
gardners
Sheet: /
File: audio-codec.kicad_sch
Title: Mega65Modular Audio Codec
Size: A4      Date: 2025-11-10      Rev: v0.1
KiCad E.D.A. 9.0.1      Id: 1/1