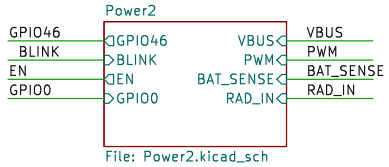
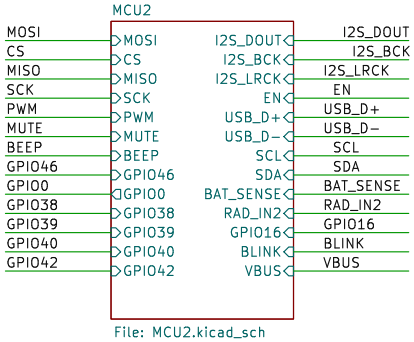
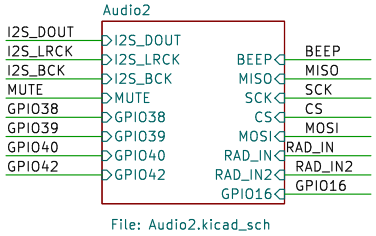






-add test point names TP5, 8 etc too confusing
-order 2.2nF and 1uF/ 500V capacitor

WHILE V2 IS BEING FABBED, TEST:
DAC
OTG
SD CARD

TODO:
LEAVE ROOM FOR DEV BOARD TO PLUG IN
BUILD IN DISPLAY FOR TESTING BATTERY LIFE
EYES EVERYWHERE ON THE EGGS
LED DRIVER
Check GPIO46 CIRCUITRY

NOTES FROM PCB V1:
3.3V REGULATOR FAILED SHORT BETWEEN VIN AND VOUT

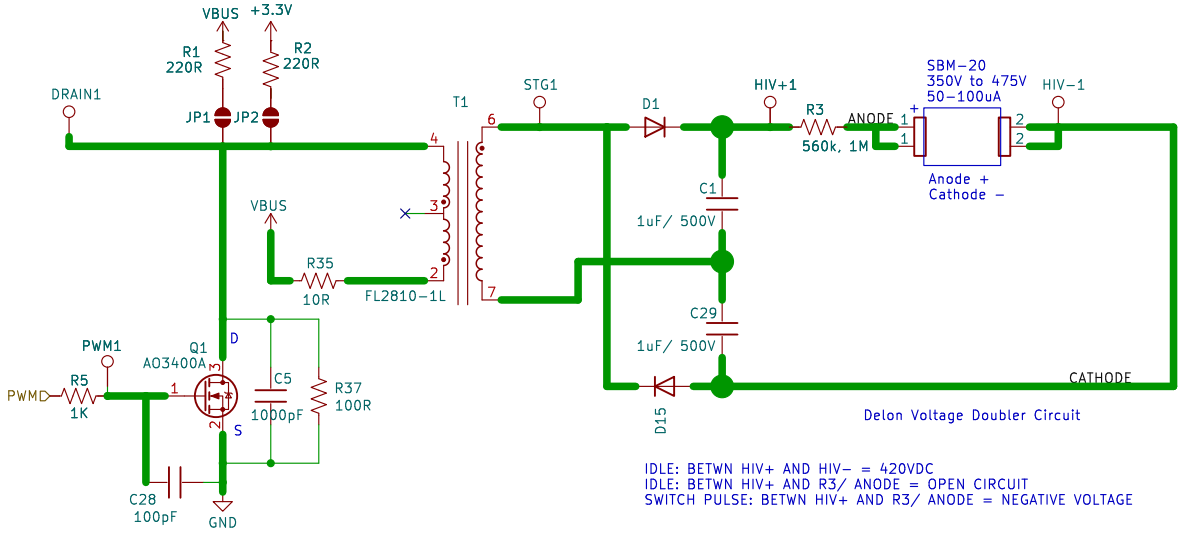
NOTES FOR PCB V2 BRINGUP:
USE DIP SWITCH FOR RADIATION PULSE

Sheet: /
File: Radiation2.kicad_sch

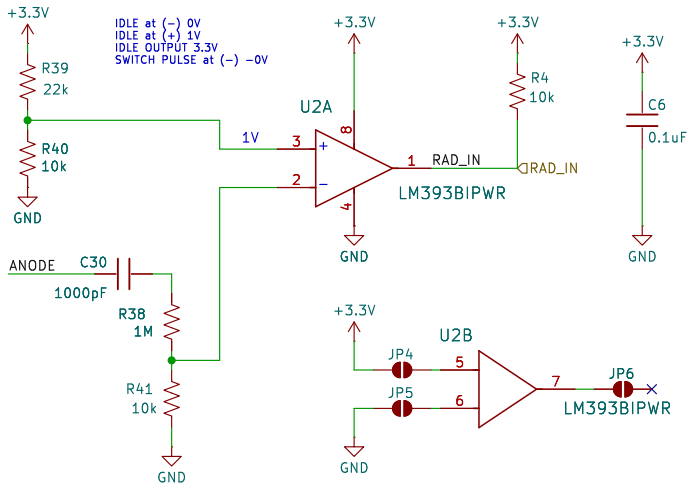
Title: POWER

Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.0		Id: 1/4

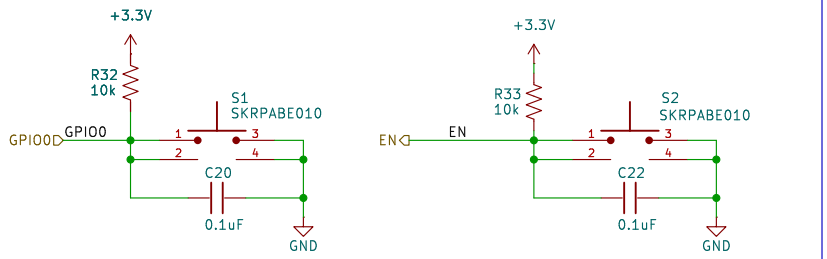
HI VOLTAGE POWER SUPPLY



GM TUBE INPUT TO ESP32

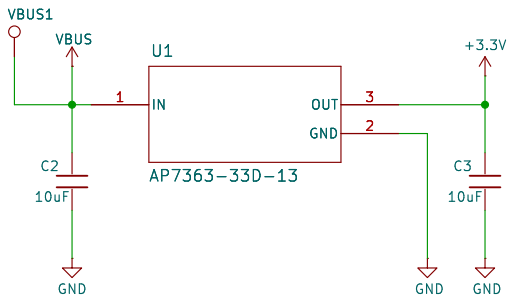


SWITCHES - TEMPORARY

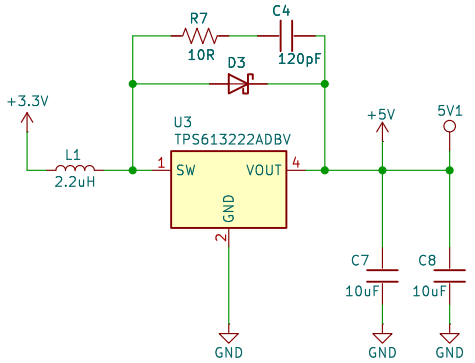


3.3V REGULATOR

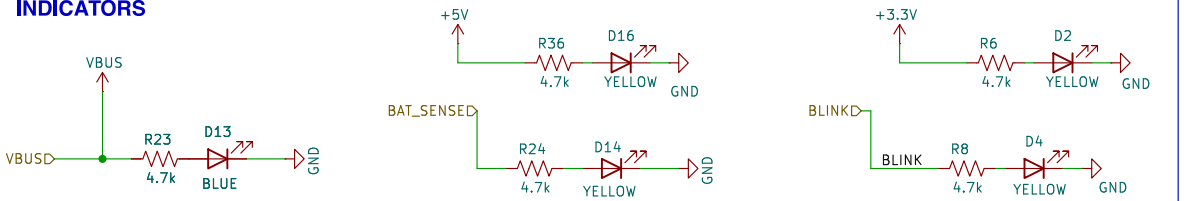
VIN (5.25V USB
TO 3.7 - 4.2V BATT)



5V REGULATOR



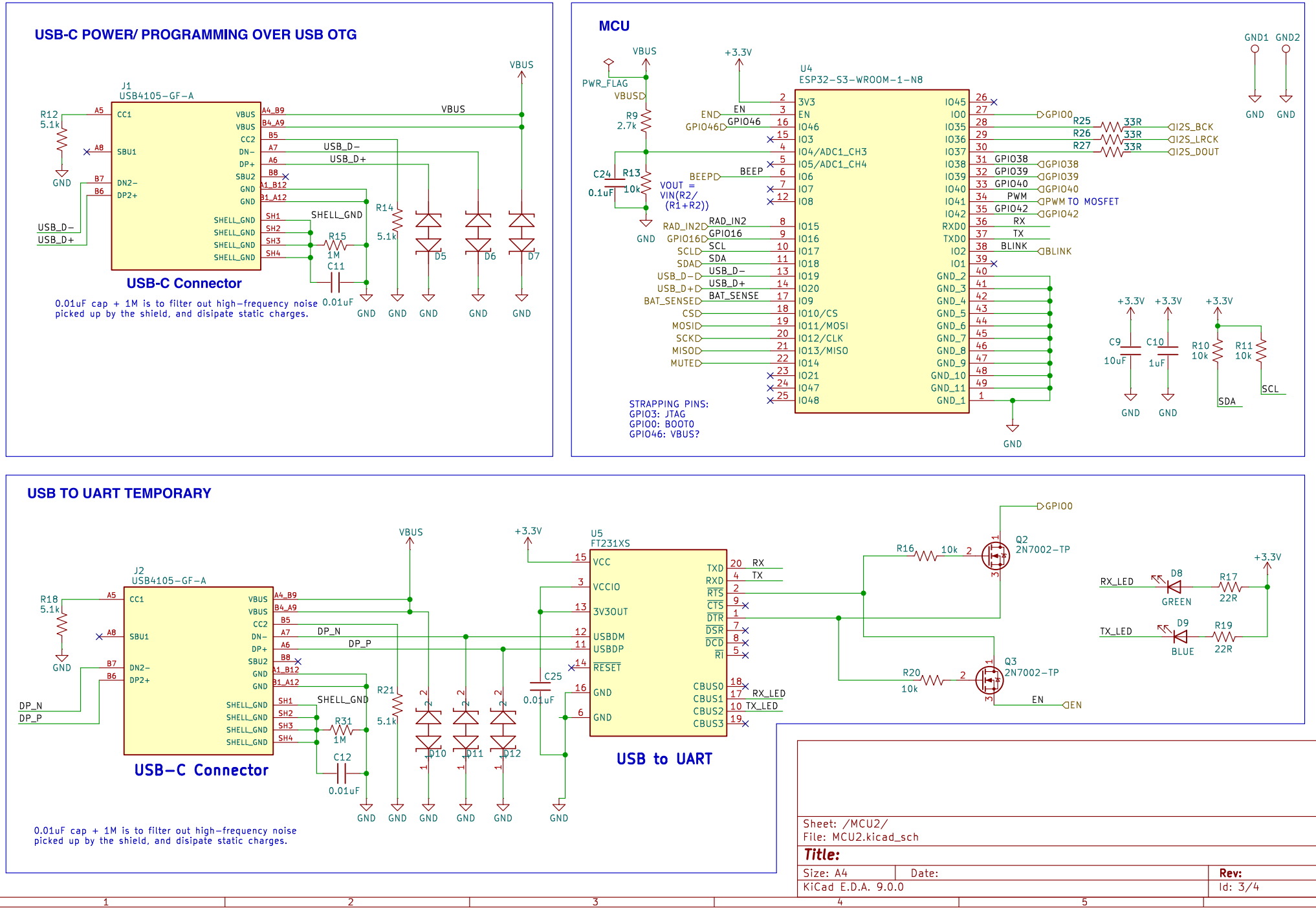
INDICATORS



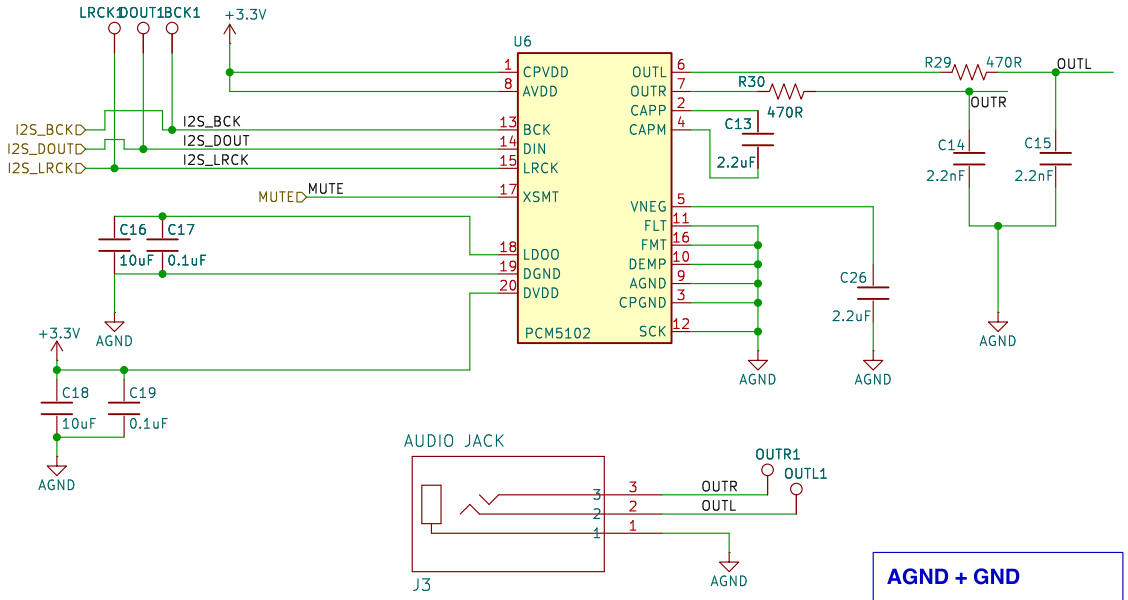
Sheet: /Power2/
File: Power2.kicad_sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.0		Id: 2/4

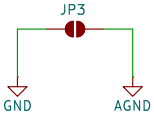

USB-C POWER/ PROGRAMMING OVER USB OTG
J1
USB4105-GF-A
R12
5.1k
USB_D-
USB_D+
VBUS
SHELL_GND
R14
5.1k
R15
1M
C11
0.01uF
D5
D6
D7
USB-C Connector
0.01uF cap + 1M is to filter out high-frequency noise
picked up by the shield, and disipate static charges.
MCU
U4
ESP32-S3-WROOM-1-N8
PWR_FLAG
R9
2.7k
C24
0.1uF
R13
10k
VOUT = VIN(R2/(R1+R2))
BEEP
EN
GPIO46
RAD_IN2
GPIO16
SCL
SDA
BAT_SENSE
CS
MOSI
SCK
MISO
MUTE
R25
R26
R27
33R
I2S_BCK
I2S_LRCK
I2S_DOUT
GPIO38
GPIO39
GPIO40
GPIO42
PWM TO MOSFET
RX
TX
BLINK
GND1
GND2
C9
10uF
C10
1uF
R10
10k
R11
10k
STRAPPING PINS:
GPIO3: JTAG
GPIO0: BOOT0
GPIO46: VBUS?
USB TO UART TEMPORARY
J2
USB4105-GF-A
R18
5.1k
DP_N
DP_P
R21
5.1k
R31
1M
C12
0.01uF
D10
D11
D12
U5
FT231XS
C25
0.01uF
USB to UART
CBUS0
CBUS1
CBUS2
CBUS3
RX_LED
TX_LED
R16
10k
R20
10k
Q2
2N7002-TP
Q3
2N7002-TP
D8
GREEN
D9
BLUE
R17
22R
R19
22R
0.01uF cap + 1M is to filter out high-frequency noise
picked up by the shield, and disipate static charges.
Sheet: /MCU2/
File: MCU2.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. 9.0.0
Id: 3/4

AUDIO DAC (WAV)

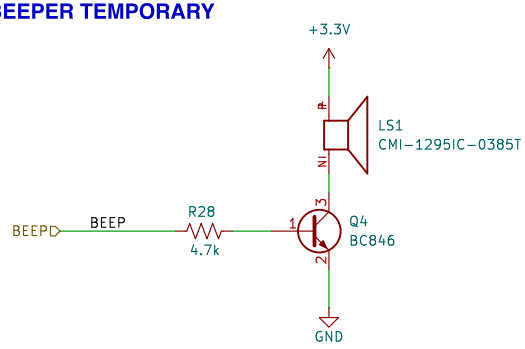


PCM5102 NOTES
I2S INTERFACE: BCK, DIN, LRCK
DEMP: De-emphasis control for 44.1-kHz sampling rate(1):
Off (Low) / On (High)
FLT: Filter select: Normal latency (Low)/ Low latency (High)
FMT: Audio format selection : I2S (Low)/ Left-justified (High)
OUTL: Analog output from DAC left channel
OUTR: Analog output from DAC right channel
SCK: System clock input(1)

AGND + GND

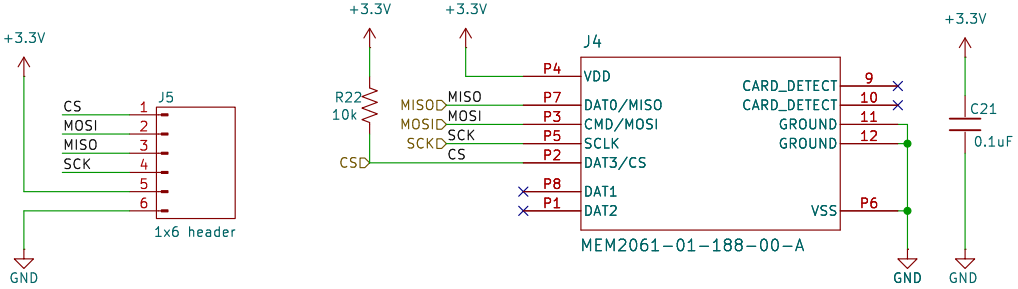


BEEPER TEMPORARY



DIP SWITCH

SD CARD



Sheet: /Audio2/		
File: Audio2.kicad_sch		
Title: AUDIO		
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.0		Id: 4/4