



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

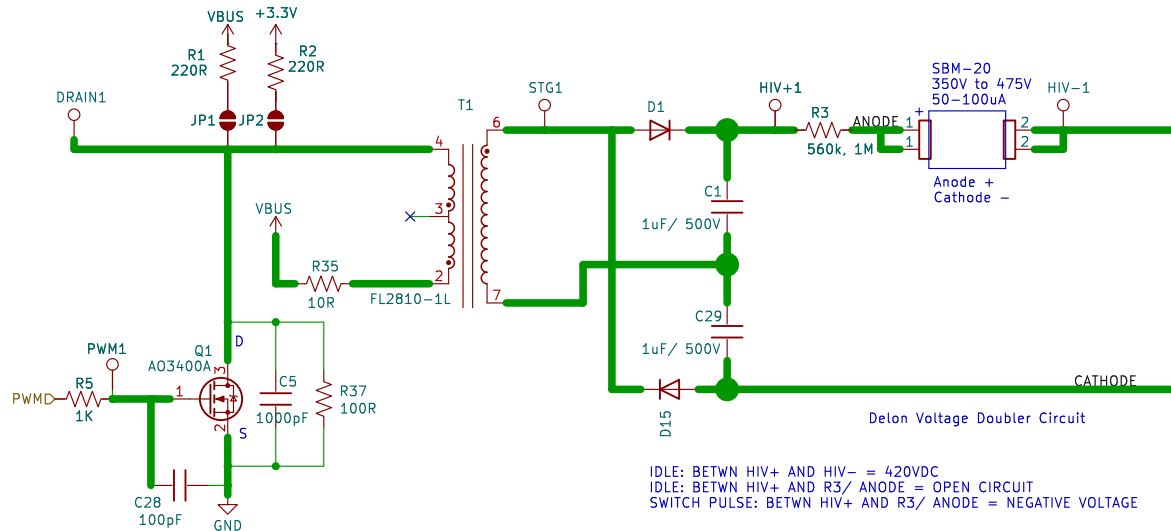
NOTES FROM PCB V1:
3.3V REGULATOR FAILED SHORT BETWEEN VIN AND VOUT

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

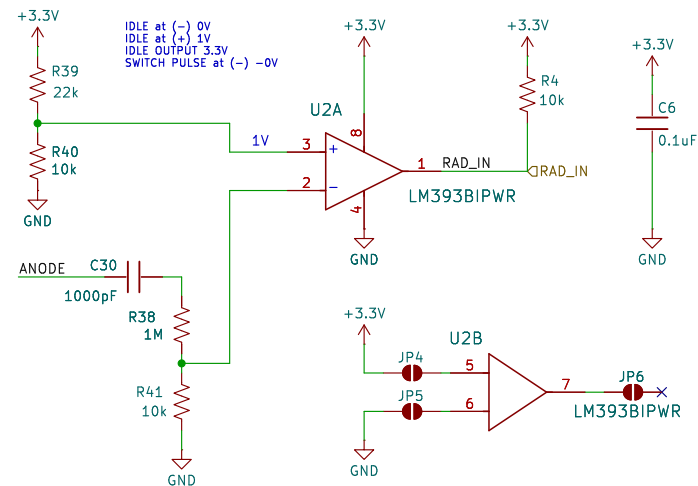


Sheet: /	
File: Radiation2.kicad_sch	
Title: POWER	
Size: A4	Date:
KiCad E.D.A. 9.0.0	Rev:
	Id: 1/4

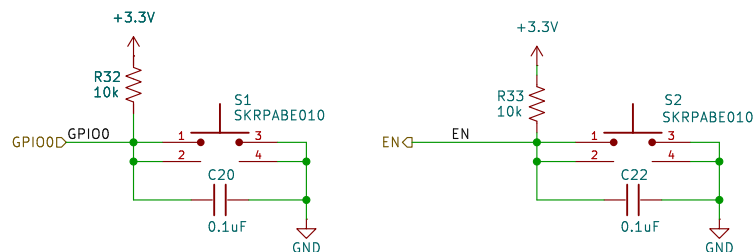
HI VOLTAGE POWER SUPPLY



GM TUBE INPUT TO ESP32

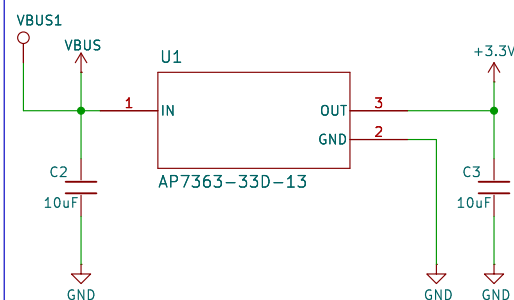


SWITCHES - TEMPORARY

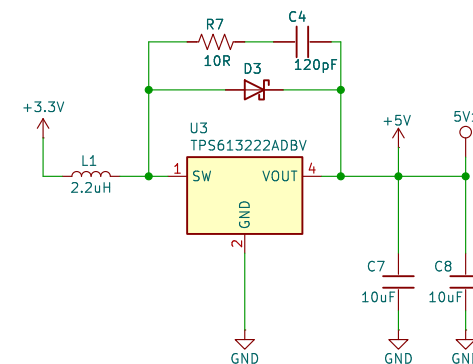


3.3V REGULATOR

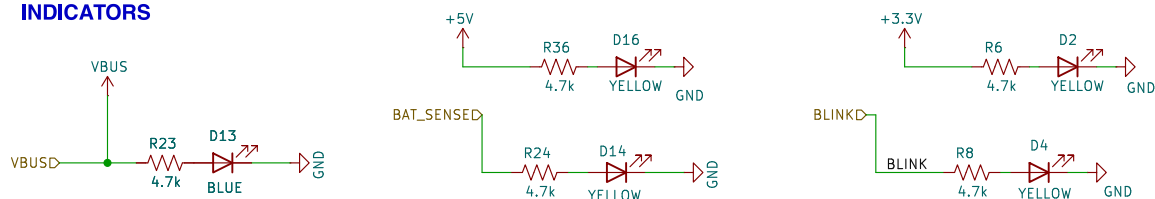
VIN (5.25V USB
TO 3.7 - 4.2V BATT)



5V REGULATOR



INDICATORS



Sheet: /Power2/
File: Power2.kicad_sch

Title:

Size: A4

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Rev:

Id: 2/4

The diagram illustrates the internal wiring of a USB-C connector. A central component, labeled J1 USB4105-GF-A, represents the connector's internal structure. It has several pins and internal connections:

- Pin A5:** Connected to a 5.1k resistor (R12) and the CC1 pin.
- Pin A8:** Marked with a red 'X', connected to the SBU1 pin.
- Pin B7:** Connected to the DN2- pin.
- Pin B6:** Connected to the DP2+ pin.
- Internal Connections:**
 - CC1 to CC2
 - SBU1 to SBU2
 - DN2- to DP2+
 - SH1 to SH4 (connected to a 1M resistor R15 and a 0.01uF capacitor C11 to ground)

External connections and components include:

- VBUS:** A common power line connected to pins A4_B9, B4_A9, and B5.
- USB_D- and USB_D+:** Data lines connected to pins A7, A6, B8, and B5.
- Grounding:** Multiple ground connections (GND) are shown, including SHELL_GND and a common ground for the filter components.
- Diodes:** Three diodes (D5, D6, D7) are connected to the VBUS line, likely for protection or signal conditioning.
- Resistors:** A 5.1k resistor (R14) is connected to the VBUS line, and a 1M resistor (R15) is connected to the SH pins.
- Capacitor:** A 0.01uF capacitor (C11) is connected to the SH pins and ground.

USB-C Connector

0.01uF cap + 1M is to filter out high-frequency noise picked up by the shield, and dissipate static charges.

STRAPPING PINS:
 GPIO3: JTAG
 GPIO0: BOOT0
 GPIO46: VBUS?

Power Supply:
 +3.3V
 GND1
 GND2

Resistors:
 R9: 2.7k
 R13: 10k
 R25: 33R
 R26: 33R
 R27: 33R
 R10: 10k
 R11: 10k

Capacitors:
 C24: 0.1uF
 C9: 10uF
 C10: 1uF

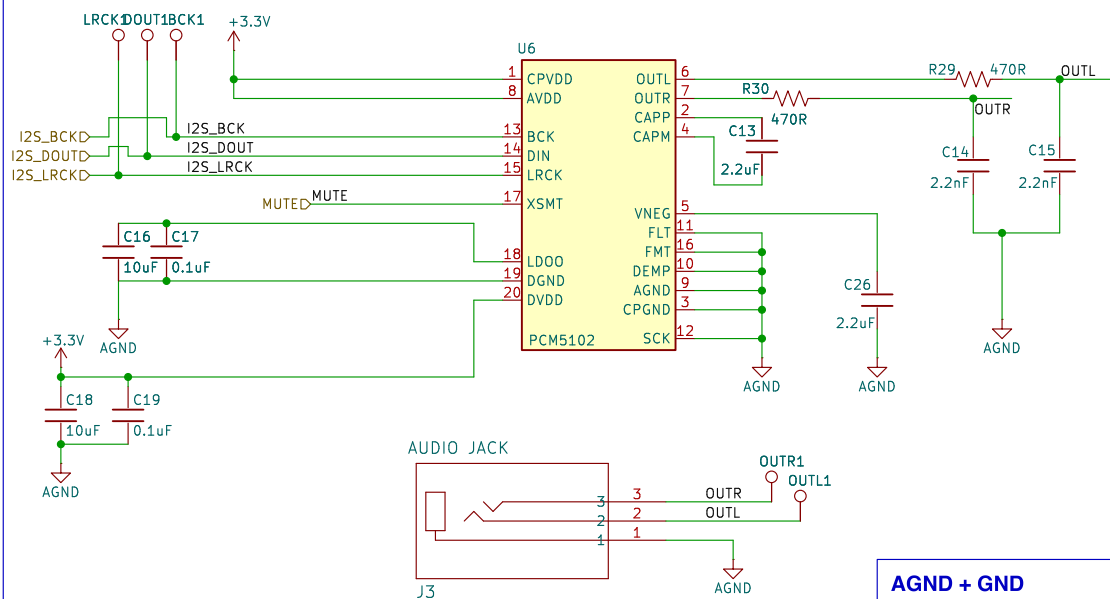
Module U4: ESP32-S3-WROOM-1-N8

Pin Connections:
 EN (3) to +3.3V
 GPIO46 (16) to VBUS
 BEEP (6) to BEEP
 RAD_IN2 (8) to RAD_IN2
 SCL (10) to SCL
 SDA (11) to SDA
 USB_D- (13) to USB_D-
 USB_D+ (14) to USB_D+
 BAT_SENSE (17) to BAT_SENSE
 CS (18) to CS
 MOSI (19) to MOSI
 SCK (20) to SCK
 MISO (21) to MISO
 MUTE (22) to MUTE
 GPIO38 (31) to GPIO38
 GPIO39 (32) to GPIO39
 GPIO40 (33) to GPIO40
 PWM (34) to PWM
 GPIO42 (35) to GPIO42
 RX (36) to RX
 TX (37) to TX
 BLINK (38) to BLINK
 GND_1 (1) to GND

[illegible]

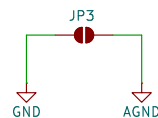
Rev:
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AUDIO DAC (WAV)

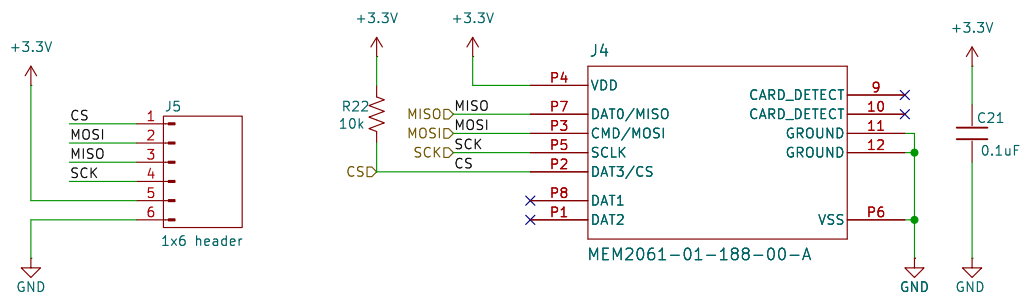


PCMS102 NOTES
I2S INTERFACE: BCK, DIN, LRCK
DEMP: De-emphasis control for 44.1-kHz sampling rate(1):
Off (Low) / On (High)
FLT: Filter selection: Normal latency (Low)/ Low latency (High)
FMT: Audio format selection : I2S (Low)/ Left-justified (High)
OUTL: Analog output from DAC left channel
OUTR: Analog output from DAC right channel
SCK: System clock input(1)

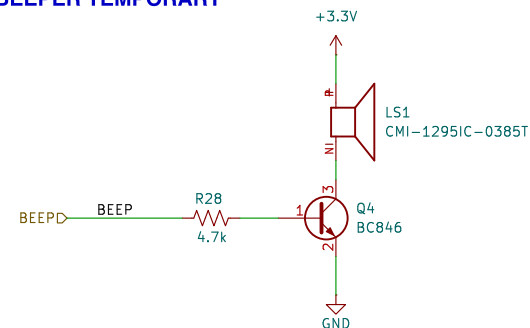
AGND + GND



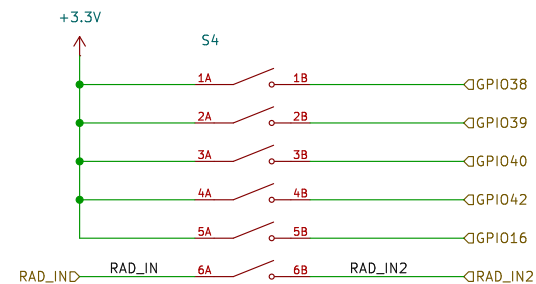
SD CARD



BEEPER TEMPORARY



DIP SWITCH



Sheet: /Audio2/
File: Audio2.kicad_sch

Title: AUDIO

Size: A4	Date:
KiCad E.D.A. 9.0.0	

Date:

Rev:
Id: 4/4