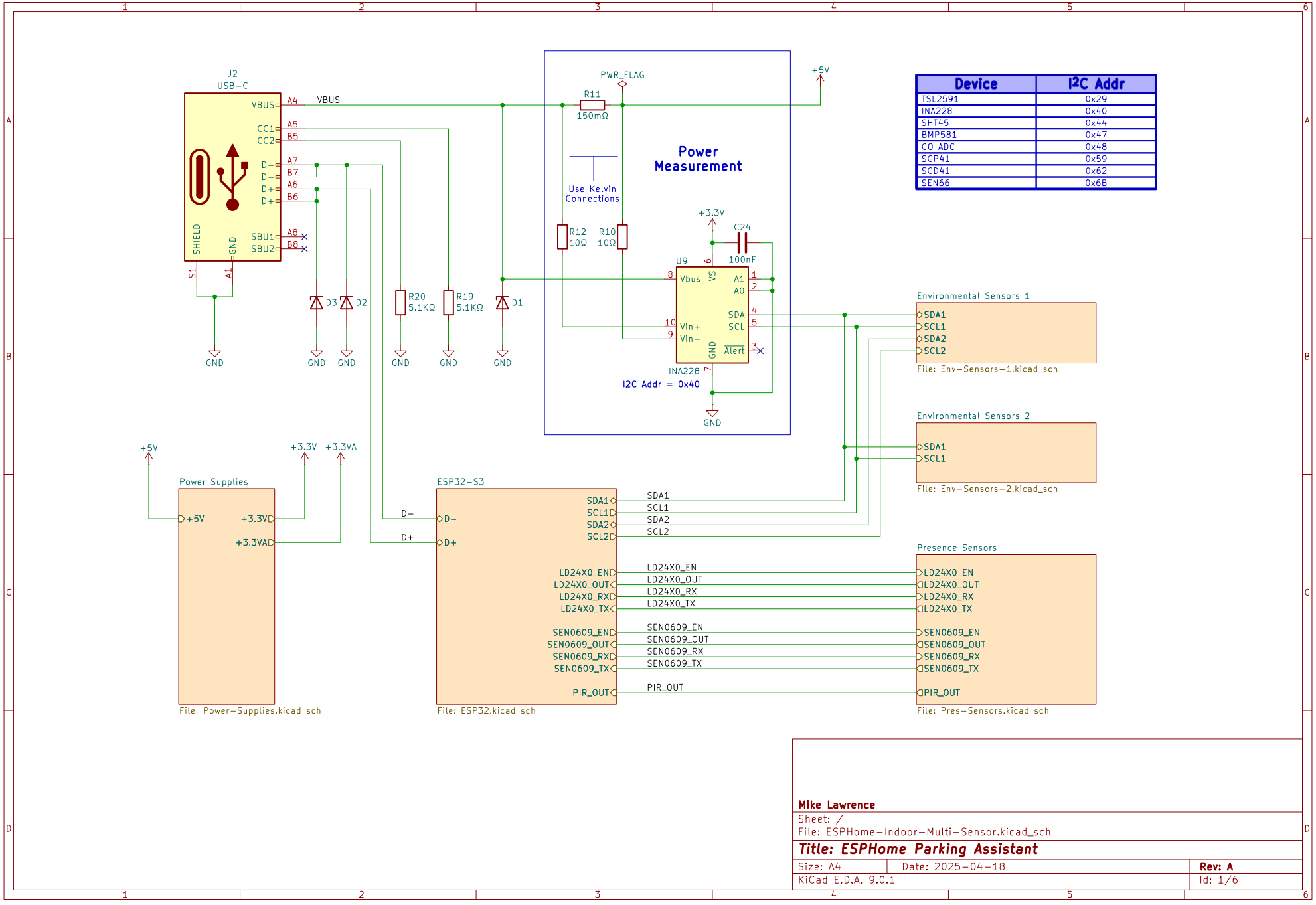


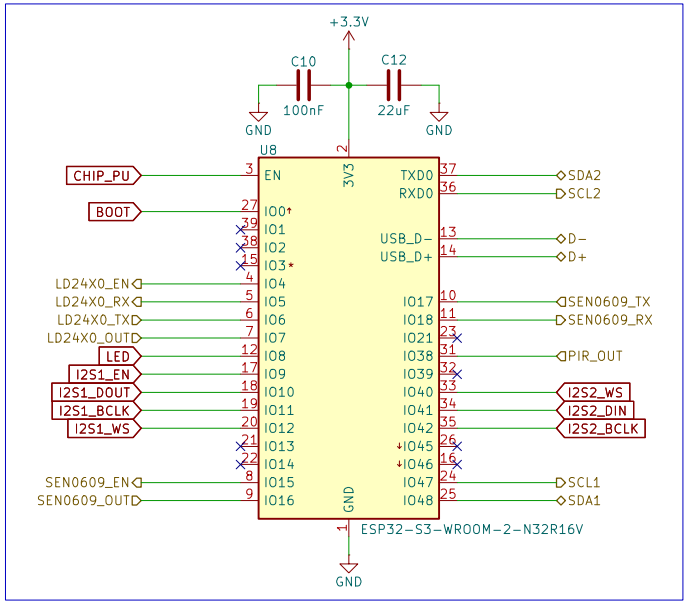
Device	I2C Addr
TSL2591	0x29
INA228	0x40
SHT45	0x44
BMP581	0x47
CO ADC	0x48
SGP41	0x59
SCD41	0x62
SEN66	0x6B

Mike Lawrence
Sheet: /
File: ESPHome-Indoor-Multi-Sensor.kicad_sch

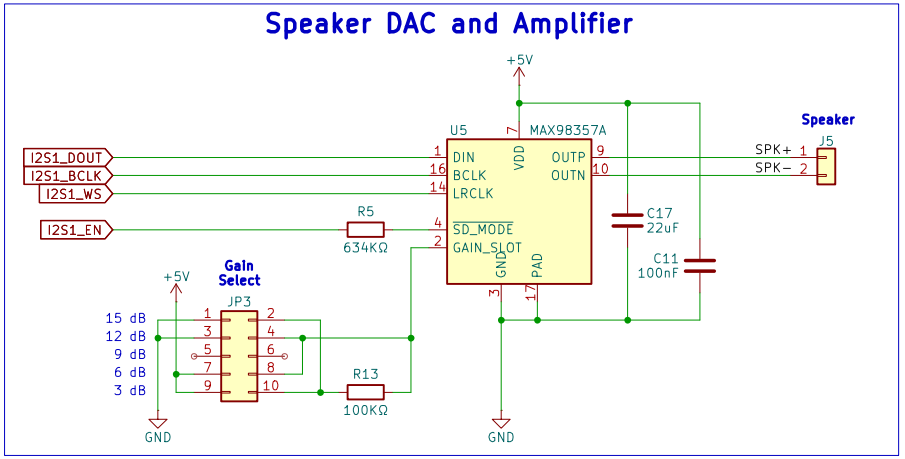
Title: ESPHome Parking Assistant

Size: A4	Date: 2025-04-18	Rev: A
KiCad E.D.A. 9.0.1		Id: 1/6

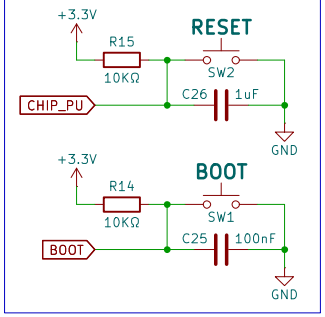
ESP32-S3



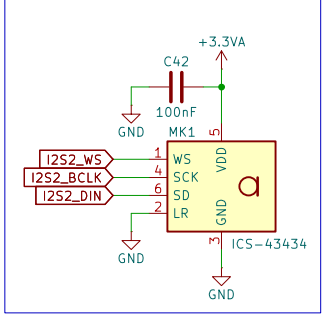
Speaker DAC and Amplifier



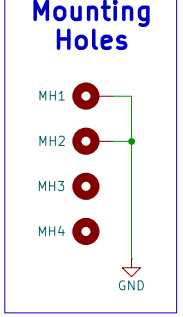
ESP Control



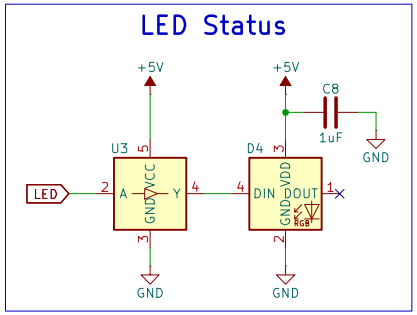
Microphone



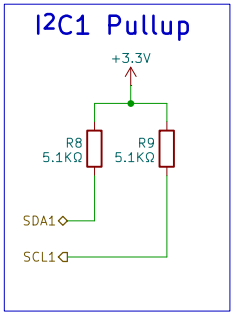
Speaker Mounting Holes



LED Status



I2C1 Pullup

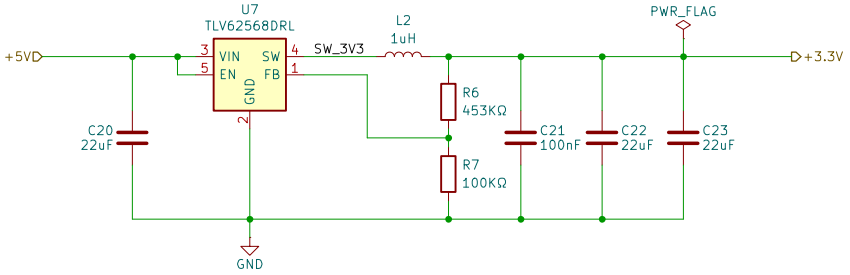


Notes

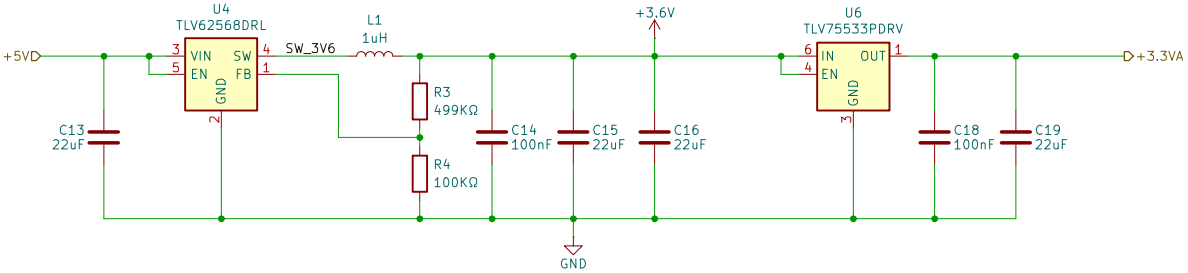
1. ESP32-S3 Strapping Pins: GPIO0, GPIO3, GPIO45, GPIO46.
1. MAX98357A DAC when enabled is configured for stereo data mode.

Mike Lawrence		
Sheet: /ESP32-S3/		
File: ESP32.kicad_sch		
Title: ESPHome Parking Assistant		
Size: A4	Date: 2025-04-18	**Rev: A**
KiCad E.D.A. 9.0.1		Id: 2/6

+3.3V 600mA Power Supply



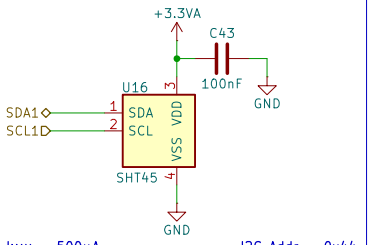
+3.3V 500mA Analog Power Supply



Mike Lawrence		
Sheet: /Power Supplies/		
File: Power-Supplies.kicad_sch		
Title: ESPHome Parking Assistant		
Size: A4	Date: 2025-04-18	**Rev: A**
KiCad E.D.A. 9.0.1		Id: 3/6

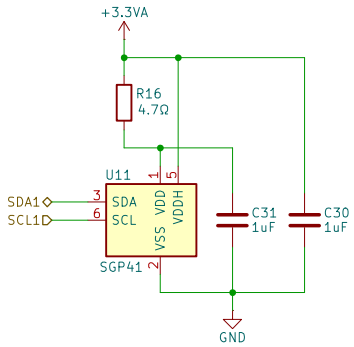
Bath or Kitchen Set

Temperature Humidity Sensor



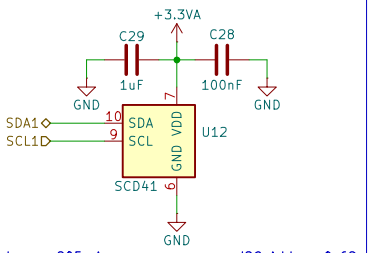
IMAX = 500µA I2C Addr = 0x44

Air Quality Sensor



IMAX = 7.2mA I2C Addr = 0x59

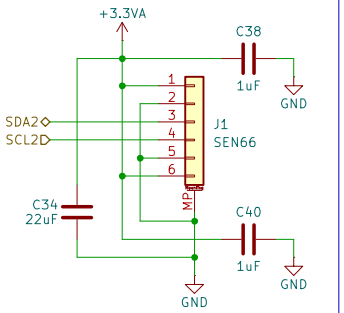
CO² Sensor



IMAX = 205mA I2C Addr = 0x62

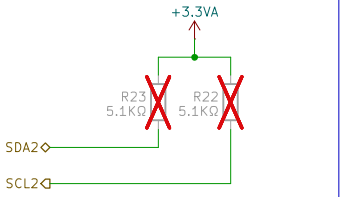
All-In-One Sensor

Environmental Sensor



IMAX = 350mA I2C Addr = 0x6B

I2C2 Pullup



Notes
1. Recommend one of two configurations.
   A. SEN66.
   B. SHT45, SCD41 and SGP41 for Bath or Kitchen.
2. Temperature & Humidity Sensor can be SHT40 , SHT41, or SHT45 for increasing accuracy.
3. CO² (SCD40 or SCD41) measures CO², Temperature and Humidity.
4. Air Quality Sensor (SGP40 or SGP41) measures VOC, NOx. These sensors are self heating and not recommended for measuring room temperature.
5. SEN66 measures Temperature, Humidity, CO², VOC, NOx and PM.

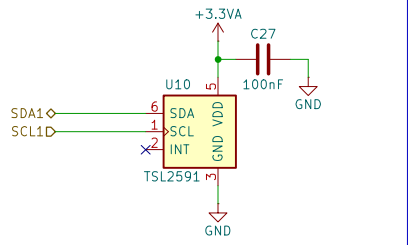
Mike Lawrence

Sheet: /Environmental Sensors 1/
File: Env-Sensors-1.kicad_sch

Title: ESPHome Parking Assistant

Size: A4	Date: 2025-04-18	Rev: A
KiCad E.D.A. 9.0.1		Id: 4/6

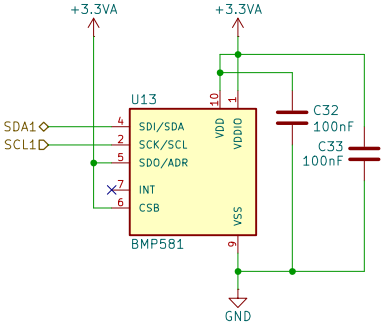
Ambient Light Sensor



IMAX = 325µA

I2C Addr = 0x29

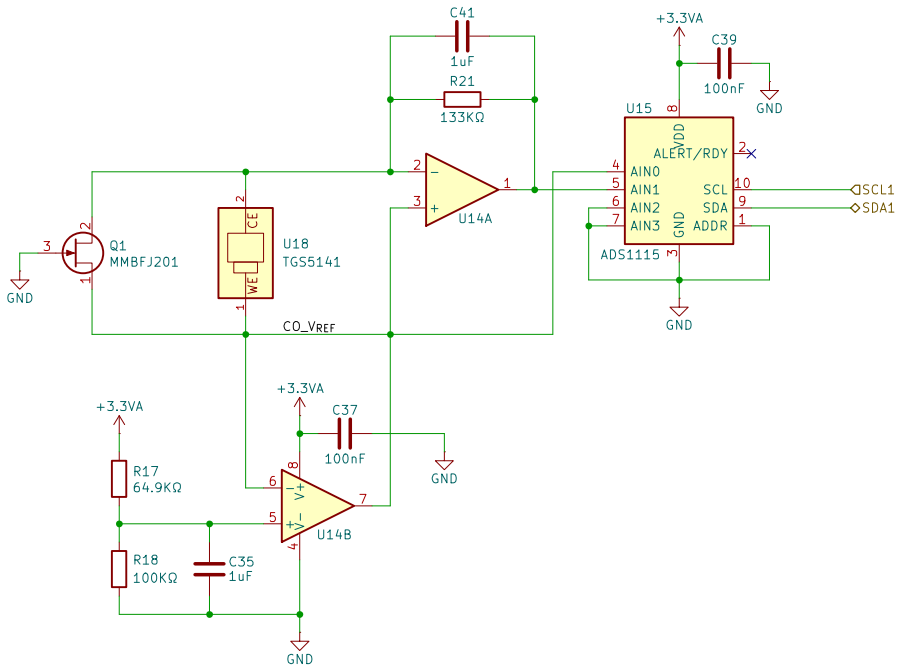
Pressure Sensor



IMAX = 260µA

I2C Addr = 0x47

CO Sensor

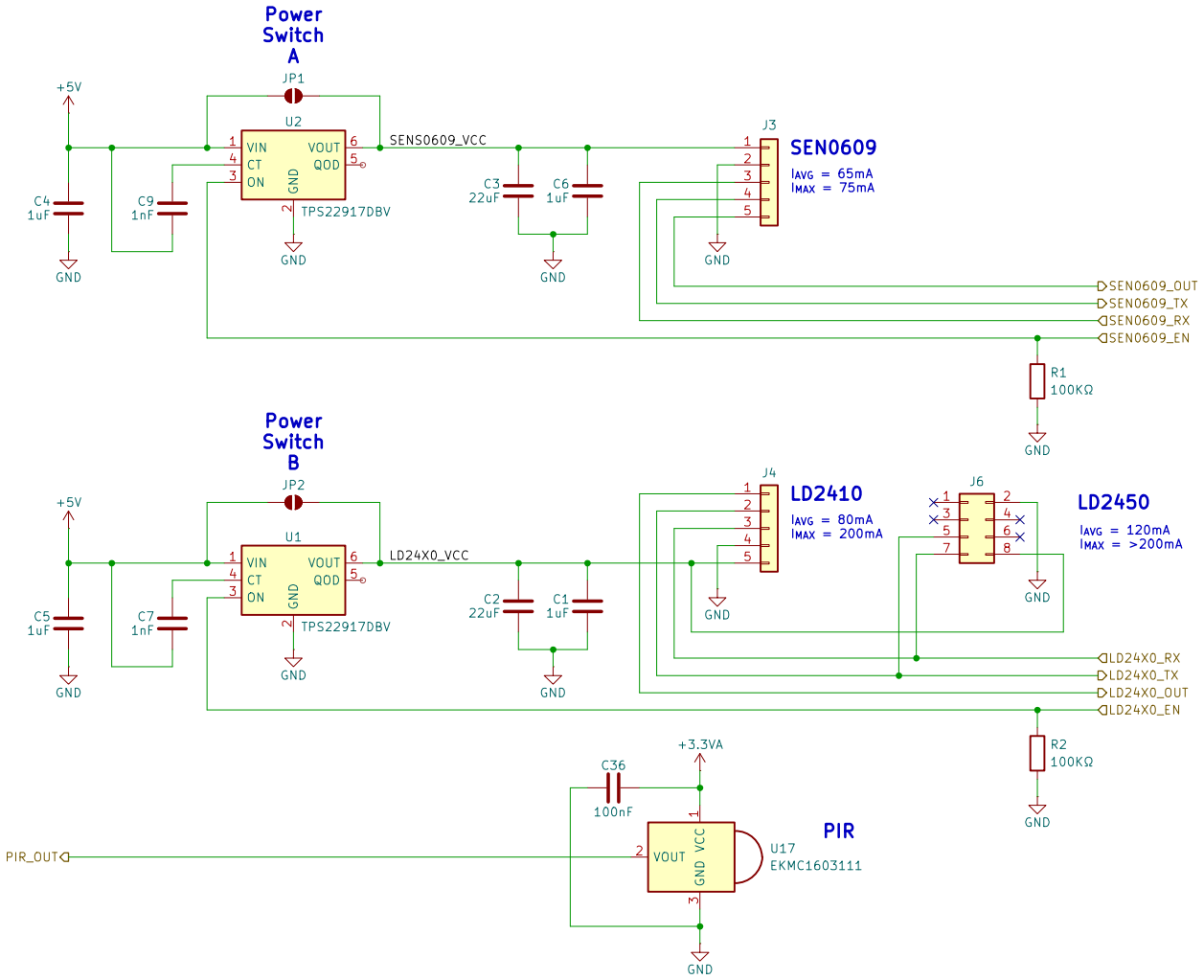


I2C Addr = 0x48

Notes

1. Accuracy of CO_VREF not critical.
   Needs to be around 2V to turn off Q1.
2. ADC range 0.512V.
3. Max 1000PPM.
4. Gain = 0.512V / (3.2nA x 1.225 x 1000PPM) = 133.333k

Mike Lawrence		
Sheet: /Environmental Sensors 2/		
File: Env-Sensors-2.kicad_sch		
Title: ESPHome Parking Assistant		
Size: A4	Date: 2025-04-18	**Rev: A**
KiCad E.D.A. 9.0.1		Id: 5/6



Notes
1. Choose either the Power Switch A or B circuits.
2. The Power switch will allow you to turn off the power hungry Radar, but it is not necessary. You can remove the power switch and short the jumper.
3. You can populate everything and chose which Radar to use with software.
4. The LD2410/LD2450 occupy the same physical space so you must choose one.

Mike Lawrence		
Sheet: /Presence Sensors/		
File: Pres-Sensors.kicad_sch		
Title: ESPHome Parking Assistant		
Size: A4	Date: 2025-04-18	**Rev: A**
KiCad E.D.A. 9.0.1		Id: 6/6