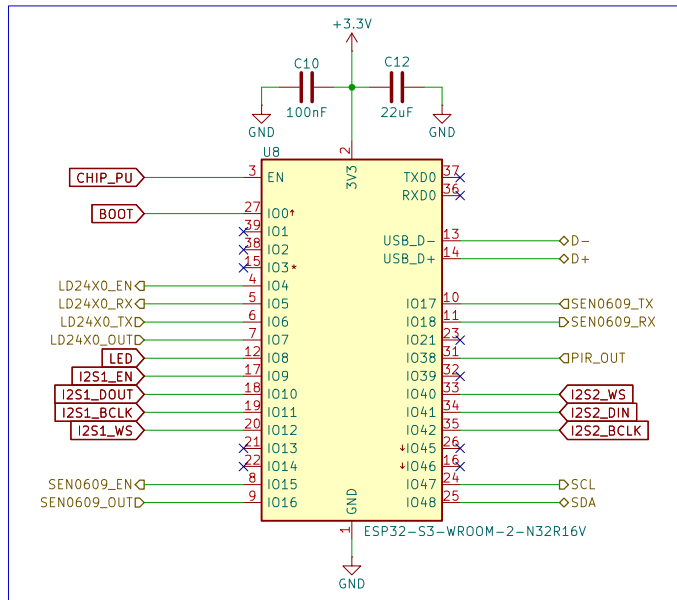
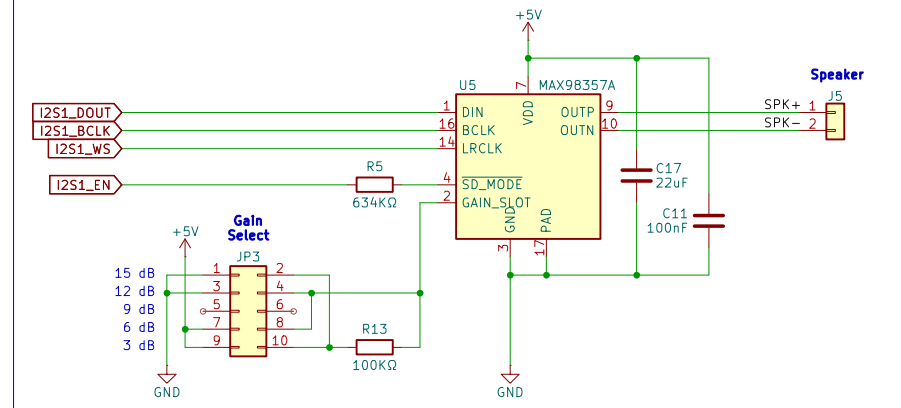


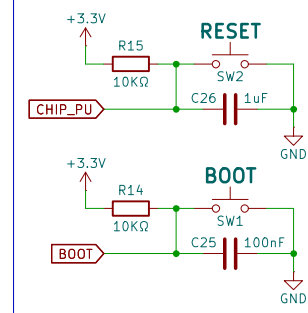
ESP32-S3



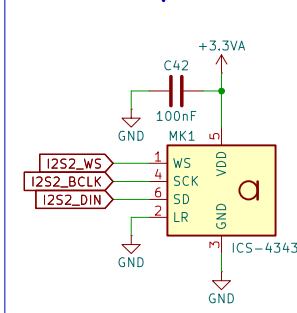
Speaker DAC and Amplifier



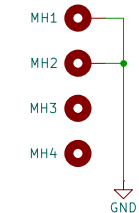
ESP Control



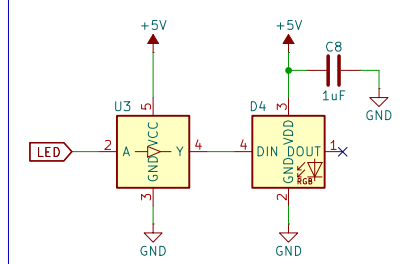
Microphone



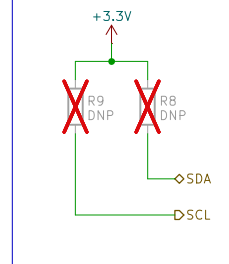
Speaker Mounting Holes



LED Status



I2C Pullup



Notes

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

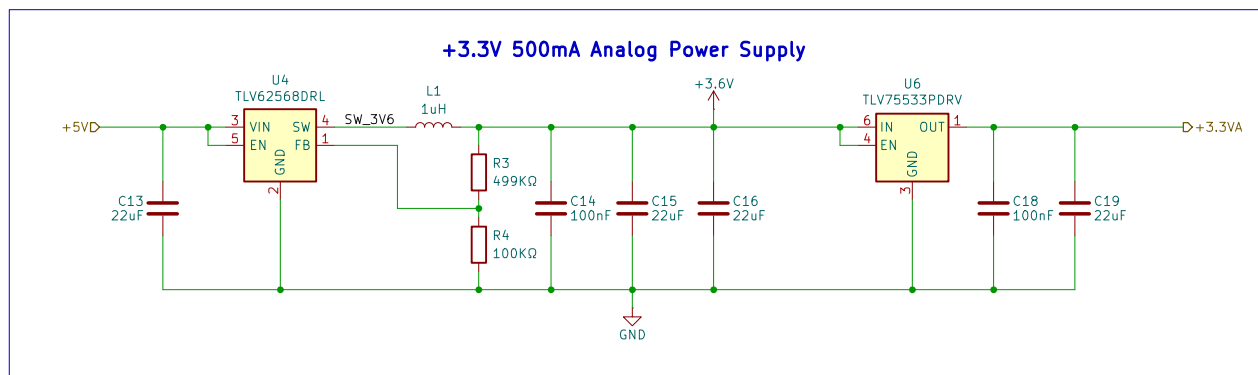
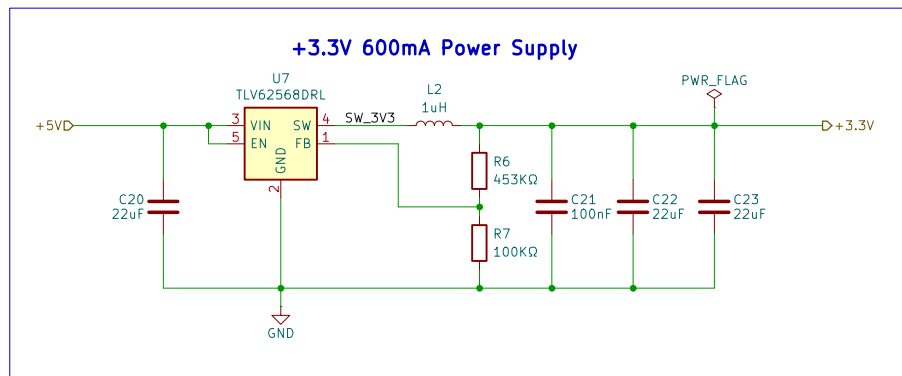
Mike Lawrence

Sheet: /ESP32-S3/
File: ESP32.kicad_sch

Title: ESPHome Parking Assistant

Size: A4 Date: 2025-04-10
KiCad E.D.A. 9.0.1

Rev: -
Id: 2/6



Mike Lawrence

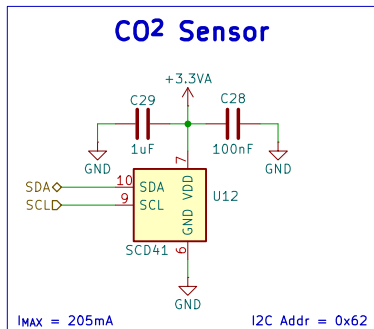
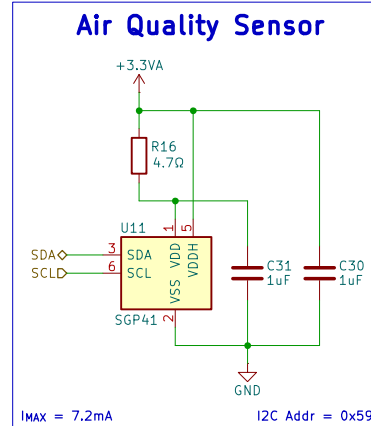
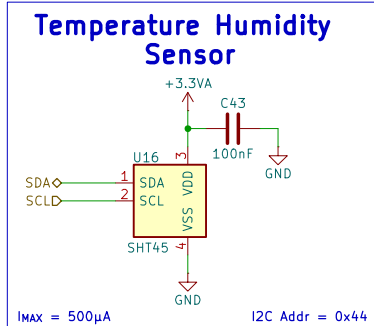
Sheet: /Power Supplies/
File: Power-Supplies.kicad_sch

Title: ESPHome Parking Assistant

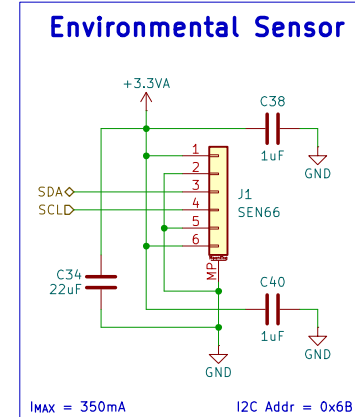
Size: A4 Date: 2025-04-10
KiCad E.D.A. 9.0.1

Rev: —
Id: 3/6

Discrete Sensor Set



All-In-One Sensor



Notes

1. Recommend one of two configurations.
 - A. SEN66.
 - B. SHT45, SCD41 and SGP41.
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, NO_x. These sensors are self heating and not recommended for measuring room temperature.
5. SEN66 measures Temperature, Humidity, CO₂, VOC, NO_x and PM.

Mike Lawrence

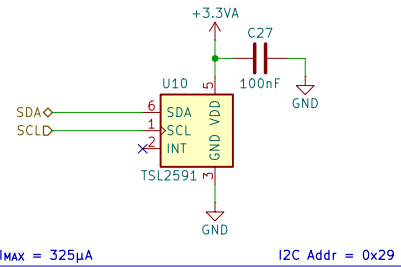
Sheet: /Environmental Sensors 1/
File: Env-Sensors-1.kicad_sch

Title: ESPHome Parking Assistant

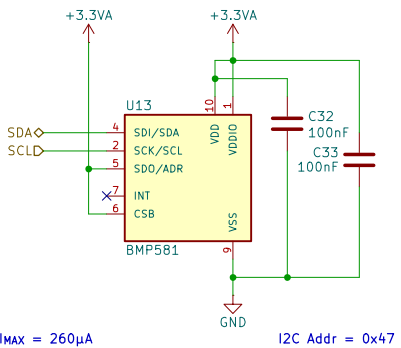
Size: A4 Date: 2025-04-10
KiCad E.D.A. 9.0.1

Rev: —
Id: 4/6

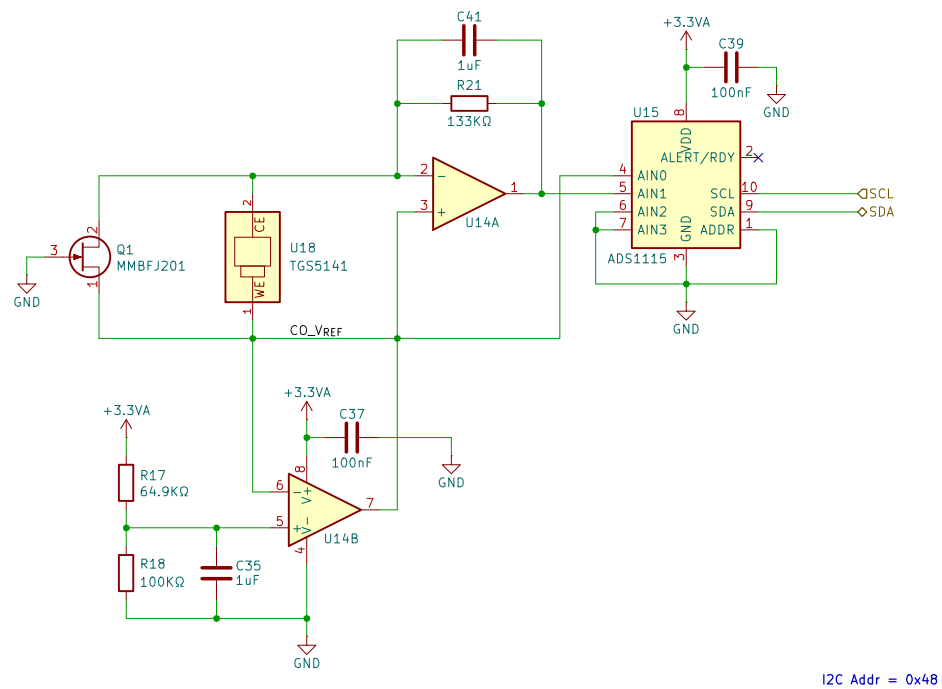
Ambient Light Sensor



Pressure Sensor



CO Sensor



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 = $0.512V / (3.2nA \times 1.225 \times 1000PPM) = 133.333k$

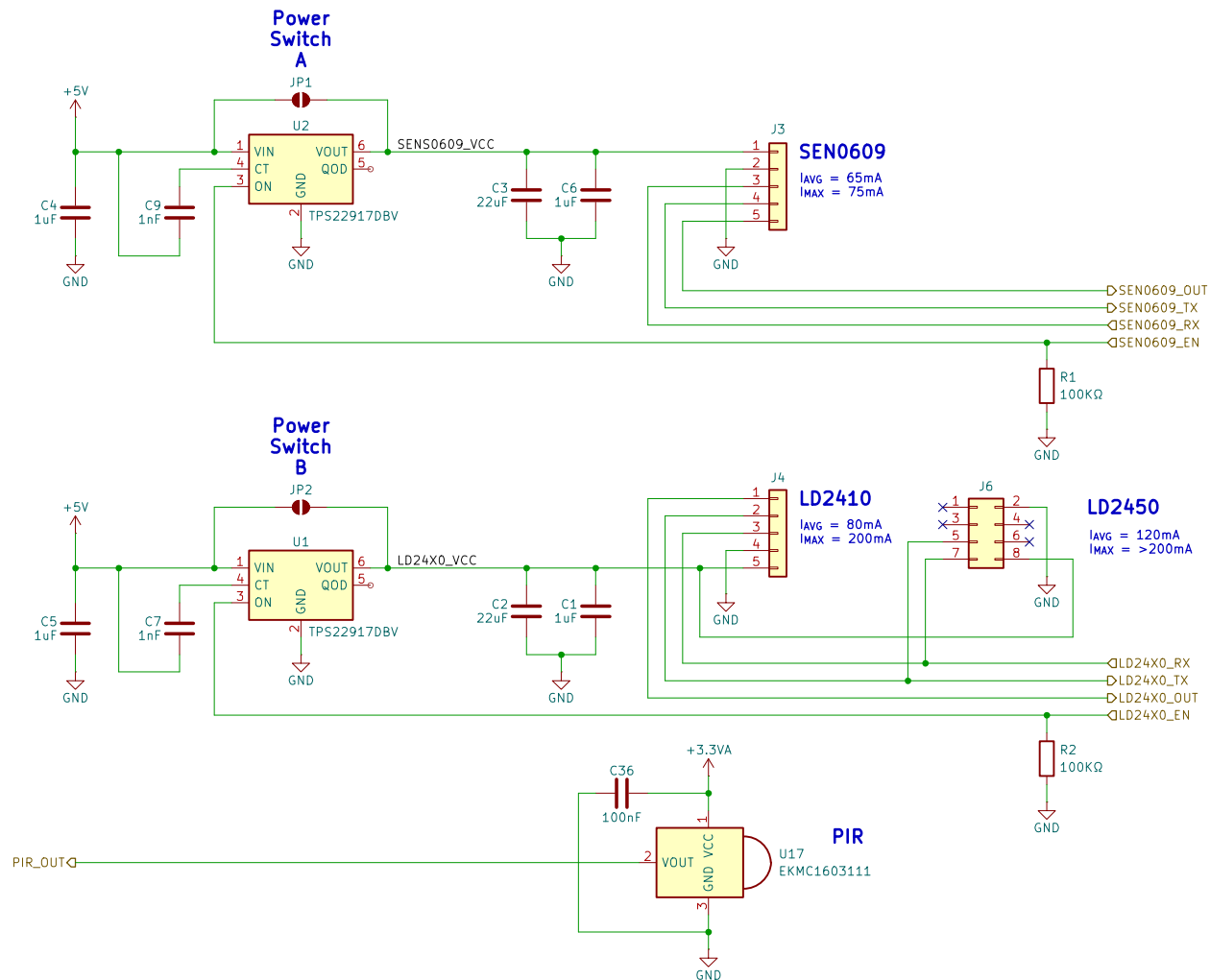
Mike Lawrence

Sheet: /Environmental Sensors 2/
File: Env-Sensors-2.kicad_sch

Title: ESPHome Parking Assistant

Size: A4 Date: 2025-04-10
KiCad E.D.A. 9.0.1

Rev: —
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: 2025-04-10
KiCad E.D.A. 9.0.1

Rev: —
Id: 6/6