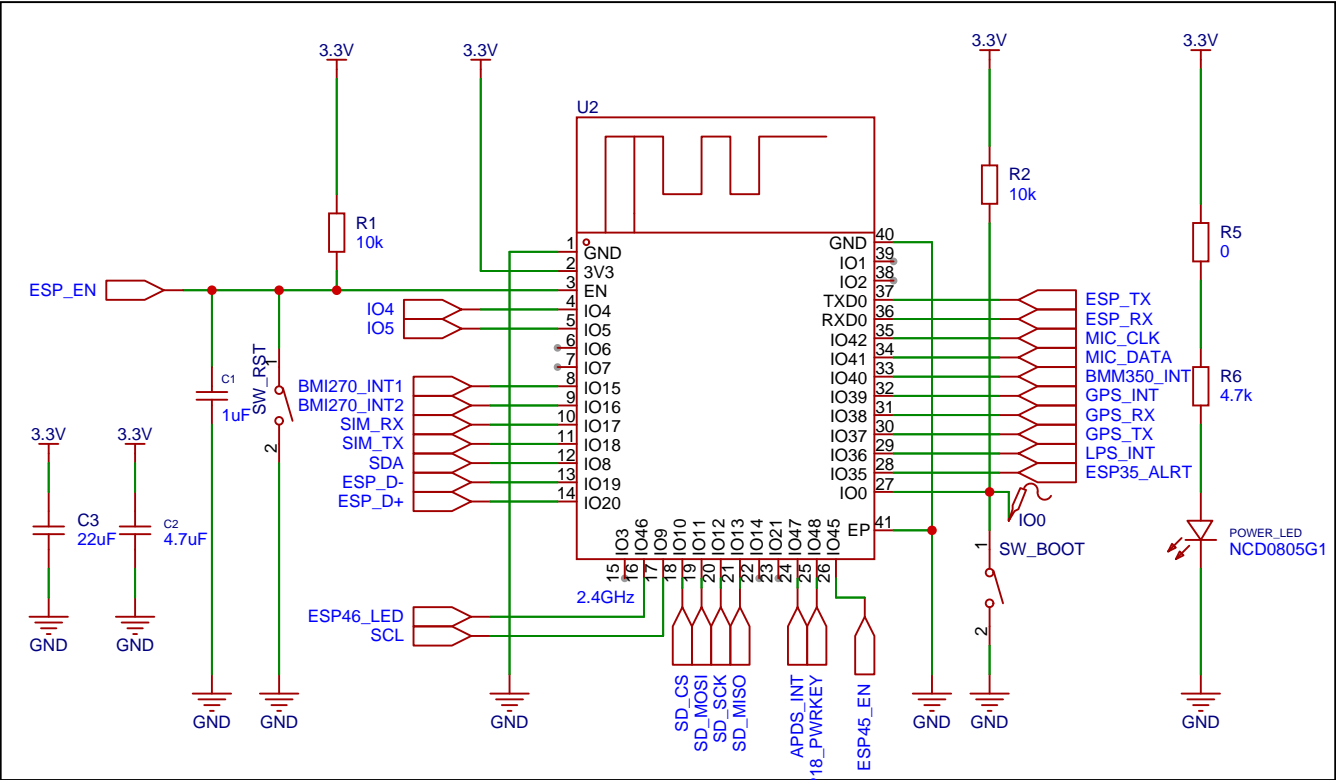
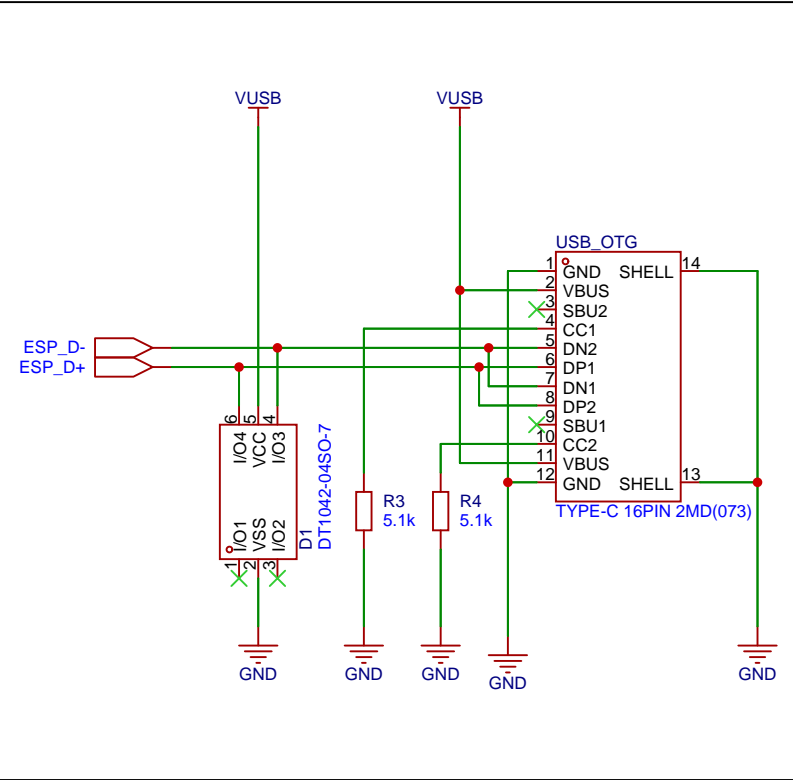


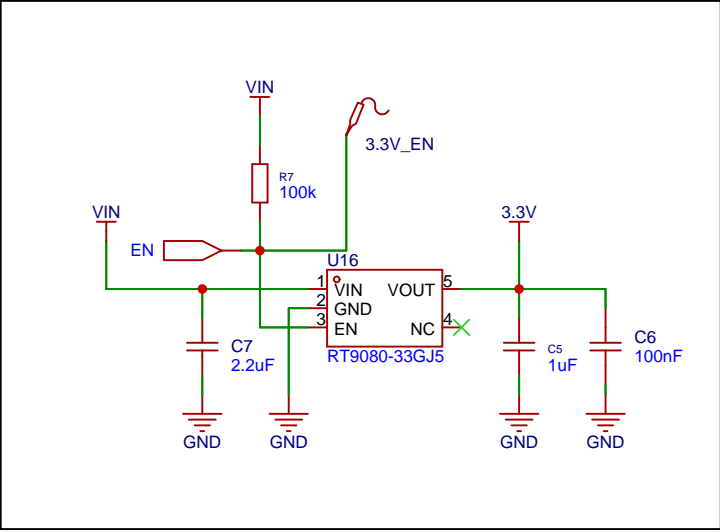
ESP32 S3 WROOM-1



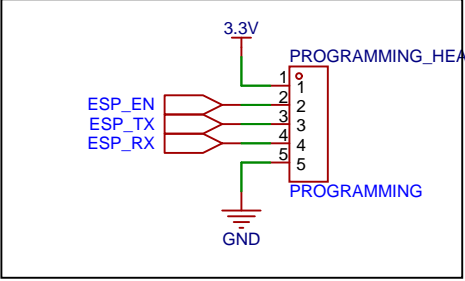
USB OTG/PROGRAMMING



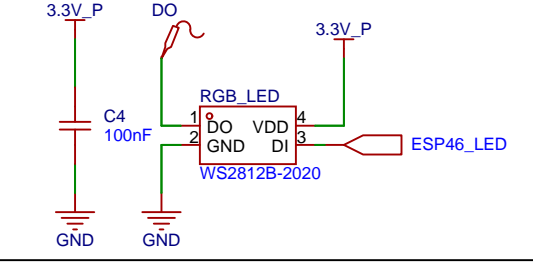
3.3V OUTPUT



UART HEADER

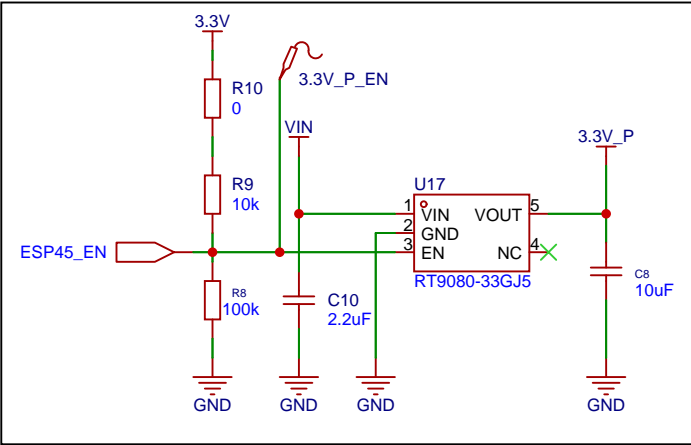


GPIO LED

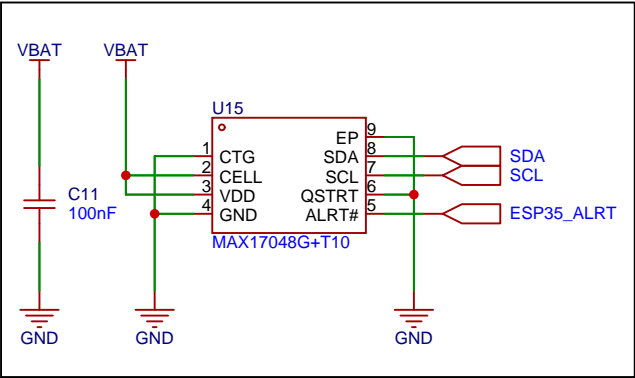


|           |                        |         |      |                |            |
|-----------|------------------------|---------|------|----------------|------------|
| Schematic | Schematic1             |         |      | Create at      | 2025-08-03 |
|           |                        |         |      | Update at      | 2025-08-13 |
| Board     | Board1                 |         |      | Page           | P1         |
| Drawn     | edge_ai_earth_guardian |         |      | Page 1 Total 5 |            |
| Reviewed  |                        |         |      |                |            |
|           |                        | Version | Size | Page 1 Total 5 |            |
|           |                        | V1.0    | A4   | EasyEDA.com    |            |

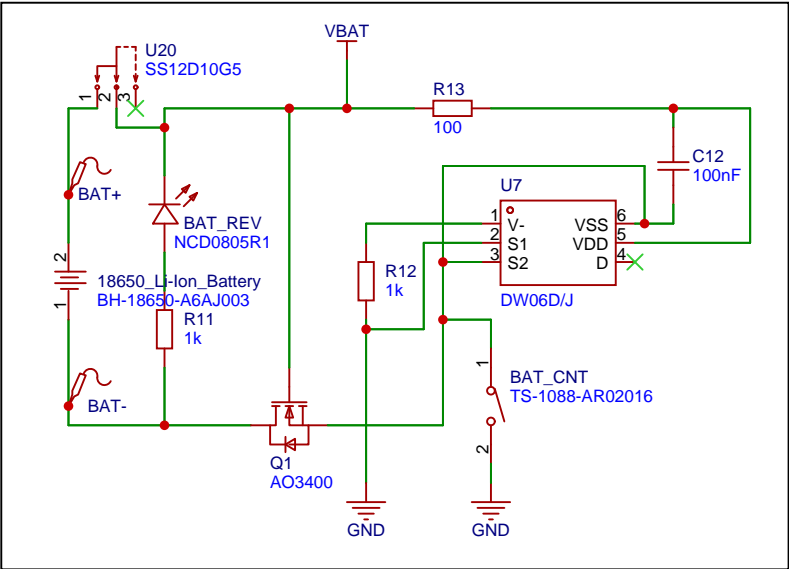
VOLTAGE SUPPLY FOR IO DEVICES



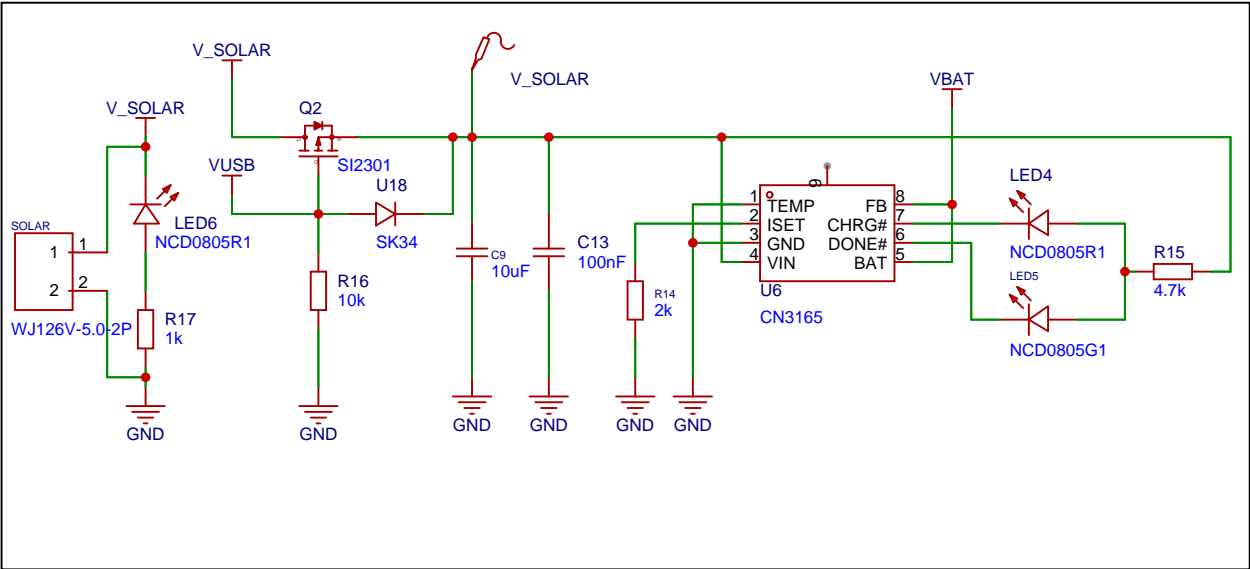
Fuel Gauge



LI\_ION PROTECTION

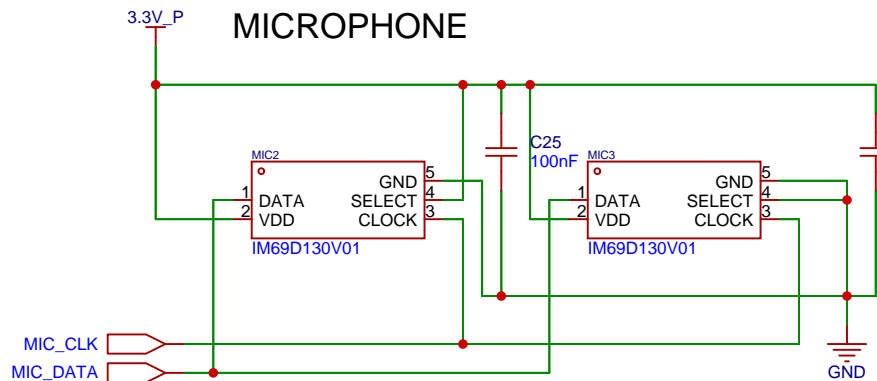


SOLAR CHARGER

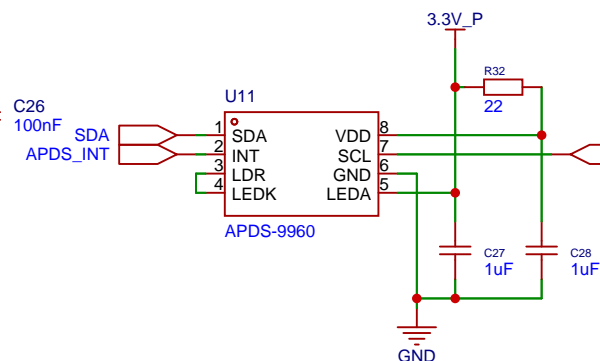


|           |                        |      |                |           |            |
|-----------|------------------------|------|----------------|-----------|------------|
| Schematic | Schematic1             |      |                | Create at | 2025-08-05 |
| Board     | Board1                 |      |                | Update at | 2025-08-11 |
| Drawn     | edge_ai_earth_guardian |      |                | Page      | P2         |
| Reviewed  |                        |      |                |           |            |
|           |                        |      |                |           |            |
| Version   |                        | Size | Page 2 Total 5 |           |            |
| V1.0      |                        | A4   | EasyEDA.com    |           |            |

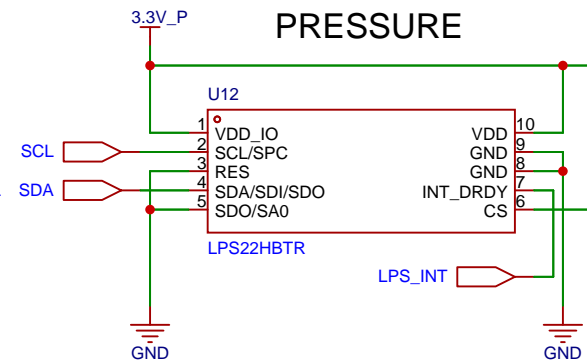
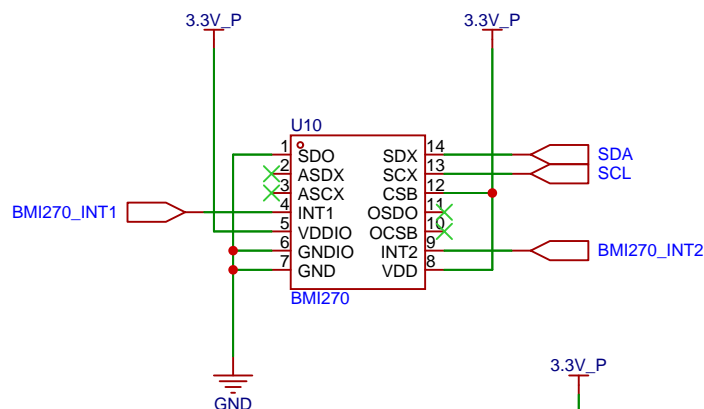
## MICROPHONE



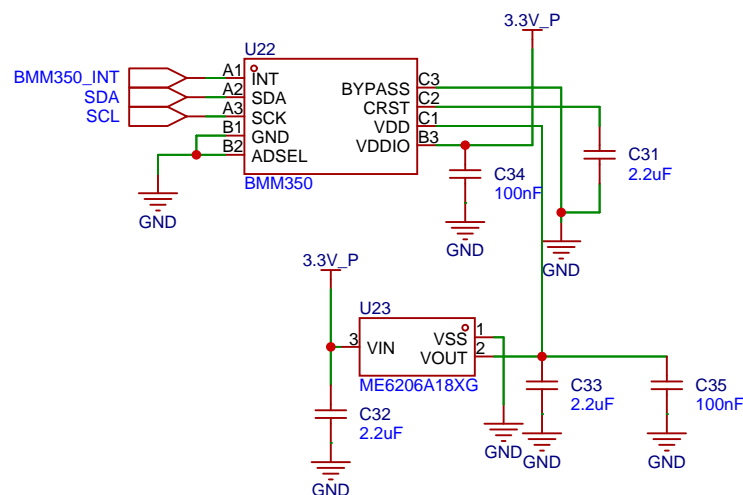
## AMBIENT LIGHT, PROXIMITY



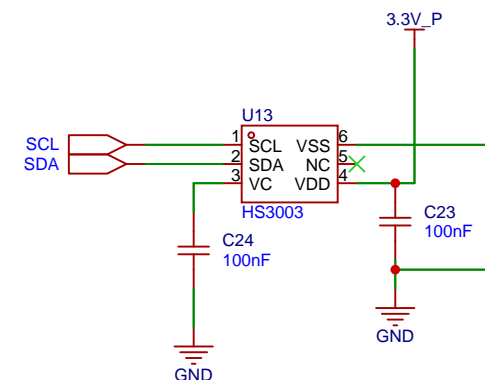
## PRESSURE

3D ACCELEROMETER  
3D GYROSCOPE

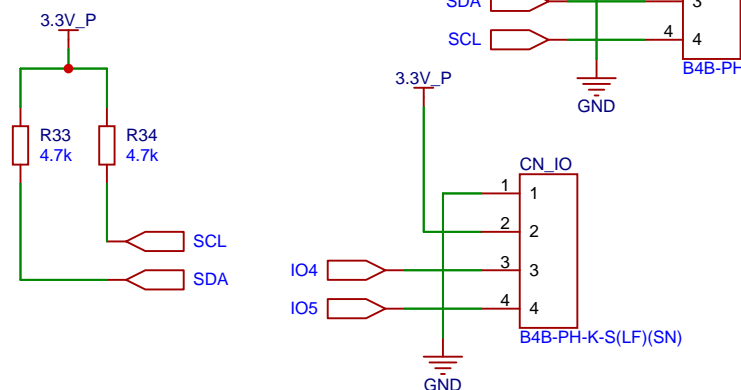
## 3D MAGNETOMETER



## HUMIDITY &amp; TEMPERATURE



## I2C PULL\_UP




|           |                        |      |                |             |            |
|-----------|------------------------|------|----------------|-------------|------------|
| Schematic | Schematic1             |      |                | Create at   | 2025-08-05 |
| Board     | Board1                 |      |                | Update at   | 2025-08-13 |
| Drawn     | edge_ai_earth_guardian |      |                | Page        | P3         |
| Reviewed  |                        |      |                |             |            |
|           | Version                | Size | Page 3 Total 5 |             |            |
| EasyEDA   |                        | V1.0 | A4             | EasyEDA.com |            |



The schematic diagram illustrates the electrical connection between a GPS module (U21, NEO-M8U-06B) and a host system. The GPS module is a rectangular component with 24 pins. The host system provides a 3.3V\_P power supply and a GND reference. The connections are as follows:

- Power and Ground:**
  - Pin 1 (SAFEBOOT\_N) is connected to GND.
  - Pin 2 (D\_SEL) is connected to GND.
  - Pin 3 (TIMEPULSE) is connected to GND.
  - Pin 4 (EXTINT) is connected to GND.
  - Pin 5 (USB\_DM) is connected to GND.
  - Pin 6 (USB\_DP) is connected to GND.
  - Pin 7 (VDD\_USB) is connected to GND.
  - Pin 8 (RESET\_N) is connected to GND.
  - Pin 9 (VCC\_RF) is connected to GND.
  - Pin 10 (GND) is connected to GND.
  - Pin 11 (RF\_IN) is connected to GND.
  - Pin 12 (GND) is connected to GND.
  - Pin 24 (GND) is connected to GND.
  - Pin 23 (VCC) is connected to 3.3V\_P.
  - Pin 22 (V\_BCKP) is connected to 3.3V\_P.
  - Pin 21 (RXD/SPI MOSI) is connected to 3.3V\_P.
  - Pin 20 (TXD/SPI MISO) is connected to 3.3V\_P.
  - Pin 19 (SCL/SPI CLK) is connected to 3.3V\_P.
  - Pin 18 (SDA/SPI CS\_N) is connected to 3.3V\_P.
  - Pin 17 (Reserved) is connected to GND.
  - Pin 16 (Reserved) is connected to GND.
  - Pin 15 (Reserved) is connected to GND.
  - Pin 14 (LNA\_EN) is connected to GND.
  - Pin 13 (GND) is connected to GND.
- Signal Connections:**
  - Pin 1 (SAFEBOOT\_N) is connected to the GPS\_INT signal.
  - Pin 8 (RESET\_N) is connected to the GPS\_VDD signal.
  - Pin 11 (RF\_IN) is connected to the RF2 (U.FL-R-SMT(01)) antenna connector.
  - Pin 12 (GND) is connected to the RF2 (U.FL-R-SMT(01)) antenna connector.
  - Pin 13 (GND) is connected to the RF2 (U.FL-R-SMT(01)) antenna connector.
  - Pin 14 (LNA\_EN) is connected to the RF2 (U.FL-R-SMT(01)) antenna connector.
  - Pin 15 (Reserved) is connected to the RF2 (U.FL-R-SMT(01)) antenna connector.
  - Pin 16 (Reserved) is connected to the RF2 (U.FL-R-SMT(01)) antenna connector.
  - Pin 17 (Reserved) is connected to the RF2 (U.FL-R-SMT(01)) antenna connector.
  - Pin 18 (SDA/SPI CS\_N) is connected to the SDA signal.
  - Pin 19 (SCL/SPI CLK) is connected to the SCL signal.
  - Pin 20 (TXD/SPI MISO) is connected to the GPS\_TX signal.
  - Pin 21 (RXD/SPI MOSI) is connected to the GPS\_RX signal.
- Other Components:**
  - R35 (100k) is a pull-up resistor connected between the RF\_IN pin (11) and GND.
  - R40 (10) is a resistor connected between the RF\_IN pin (11) and the RF2 (U.FL-R-SMT(01)) antenna connector.
  - C30 (47pF) is a capacitor connected between the RF\_IN pin (11) and GND.
  - L1 (BLM21PG300SN1D) is an inductor connected between the RF\_IN pin (11) and GND.
  - RF2 (U.FL-R-SMT(01)) is an antenna connector with three pins: 1 (GND), 2 (CONT), and 3 (GND).

|  |            |                        |      |                |            |
|--|------------|------------------------|------|----------------|------------|
| Schematic  | Schematic1 |                        |      | Create at      | 2025-08-11 |
|  |            |                        |      | Update at      | 2025-09-29 |
| Board  | Board1     |                        |      | Page           | P6         |
| Drawn  |            | edge_ai_earth_guardian |      |                |            |
| Reviewed   |            |                        |      |                |            |
|  |            |                        |      |                |            |
|  |            | Version                | Size | Page 5 Total 5 |            |
|  |            | V1.0                   | A4   | EasyEDA.com    |            |