

## SenseGuardian Equipment List

| MODEL   | DESCRIPTION  | COST |
|---|--|------|
| 6DF Accelerometer Gyroscope GY-521 MPU-6050                             | A motion-tracking sensor that measures acceleration (movement) useful for detecting motion, falls, and orientation.            | 250  |
| ESP32 Dev Board CH340 USB-C   | Microcontroller with built-in WiFi and Bluetooth, used as the main processor to collect, process, and transmit sensor data.    | 675  |
| Female to Female Jumper Wires 40 Pin 30cm                               | Used for connections.  | 140  |
| JST XH 2.54 2pin Female Connector 30cm                                  | Connector cable commonly used to safely connect lithium batteries to the ESP32 and charging module.                            | 20   |
| Lithium Ion Battery - 1000mAh 3.7V                                      | A rechargeable power source that supplies energy to the ESP32 and all connected sensors.                                       | 510  |
| Male Pin Header 2.54mm Pitch-Red  | Standard pin connectors used for soldering modules and wiring connections.   | 15   |
| MAX30102 Heart Rate and Pulse Oximeter Sensor Module                    | A bio-sensor that measures heart rate using infrared and red light.  | 378  |
| Sound Sensor Module for Arduino   | A microphone-based module that detects noise levels in the surrounding environment.  | 73   |
| TP4056 1A Li-ion battery charging Module with Current Protection-type c | A charging circuit for safely recharging the lithium-ion battery via USB-C, with built-in overcharge and discharge protection. | 40   |
| U-Blox NEO-6M GPS Module  | A GPS receiver module that provides real-time latitude, longitude, and satellite data for location tracking.                   | 440  |
| Total   |  | 2541 |

# **Schematic Diagram and Equipment Description**

CSE - 306

Group - 13

Project - SenseGuardian

A Wearable Stress, Sound, and Safety  
Monitor for Children with Autism

Members:

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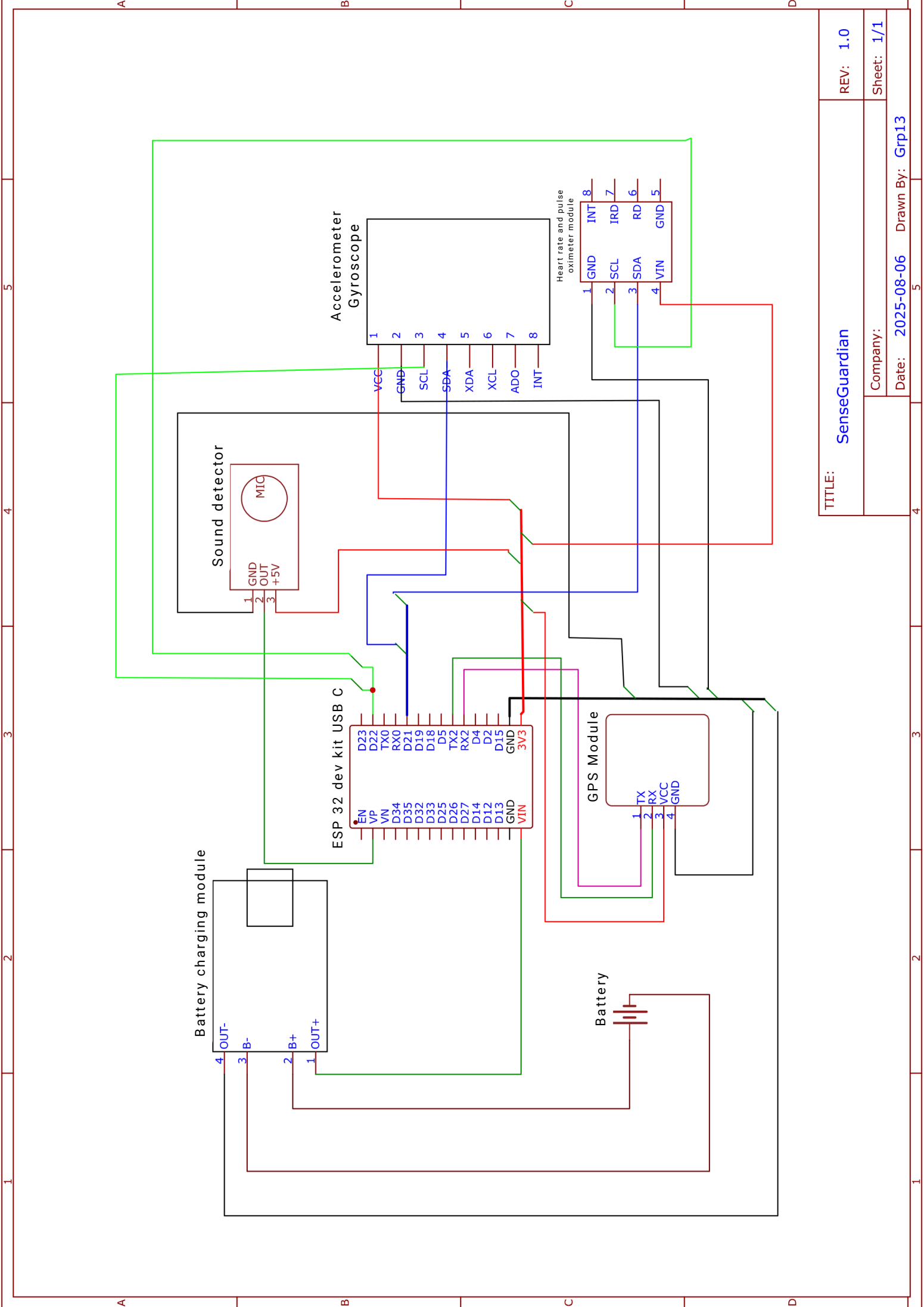
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## SenseGuardian Equipment List

| MODEL   | QUANTITY | COST |
|---|----------|------|
| 6DF Accelerometer<br>Gyroscope GY-521<br>MPU-6050                             | 1        | 250  |
| ESP32 Dev Board CH340<br>USB-C  | 1        | 675  |
| Female to Female Jumper<br>Wires 40 Pin 30cm                                  | 1        | 140  |
| JST XH 2.54 2pin Female<br>Connector 30cm                                     | 1        | 20   |
| Lithium Ion Battery -<br>1000mAh 3.7V   | 1        | 510  |
| Male Pin Header 2.54mm<br>Pitch-Red   | 1        | 15   |
| MAX30102 Heart Rate and<br>Pulse Oximeter Sensor<br>Module                    | 1        | 378  |
| Sound Sensor Module for<br>Arduino  | 1        | 73   |
| TP4056 1A Li-ion battery<br>charging Module with<br>Current Protection-type c | 1        | 40   |
| U-Blox NEO-6M GPS<br>Module   | 1        | 440  |





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|----------------------|-----------------|------------|
| TITLE: SenseGuardian |                 | REV: 1.0   |
| Company:             |                 | Sheet: 1/1 |
| Date: 2025-08-06     | Drawn By: Grp13 |            |