

# STELLA

## STELLA-Q2 Quickstart Guide v1.0

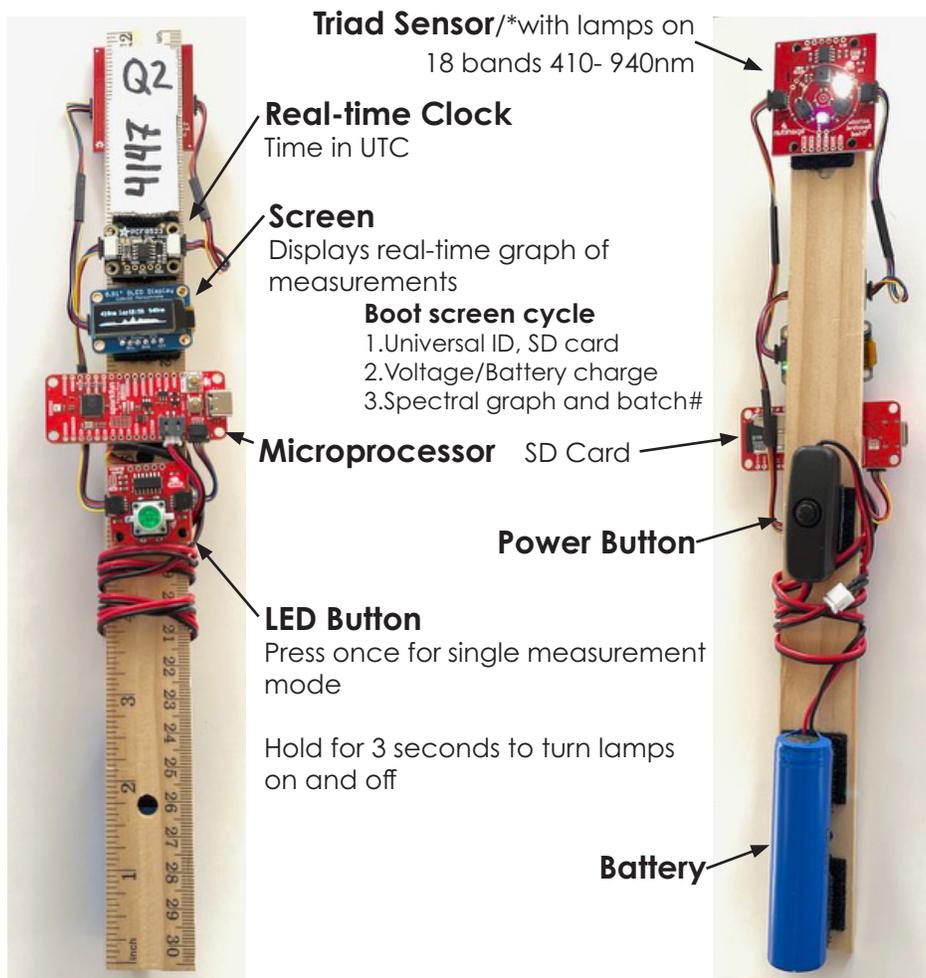
The STELLA-Q2 takes measurements in 18 bands across a wavelength range of 410 – 940 nm. It does not require 3D printing or soldering to build.

### Charging the Device

**Note: The battery will charge only when the device is turned on.**

Connect the device to a USB-C port with a USB-C cable. The amber light on the microprocessor will turn on when the battery is charging.

### STELLA-Q2 Chipset



**Tip:** To maximize the quality and consistency of data collected in the field, it is important to remember a few key points:

- **Keep the device steady** during data collection! If the STELLA moves while the device is collecting data, delete the bad data and re-take the measurement.
- STELLA data should be collected under **stable lighting conditions**, avoiding clouds and shadows which can cause changes in incoming solar radiation. Full sun conditions, typically between 10am and 2pm, are ideal.
- Be sure to **write down important observations** for each measurement such as: distance and angle between the sensor and the target, light conditions, location (latitude/longitude), and any additional useful information. Taking photos of the target and set-up is also good practice.
- When taking measurements, it is best practice to **“sandwich” each observation between a reference collection**. More information about this and other best practices can be found in the STELLA Technical Details.

# Collecting Data with STELLA

## 1. Prepare for data collection

Before getting started collecting STELLA data, ensure the device is charged and that the time is set correctly, and gather any other necessary materials, such as a notebook and a camera.

## 2. Insert the microSD card

Insert the microSD card into the back of the microprocessor and press down gently until you hear a click. The screen will let you know after boot sequence if SD card isn't inserted.

## 3. Power the STELLA on

Press and release the power button. The display will show a boot screen while the system is booting up. When the device is ready to use, the instrument graph will appear.

## 4. Position the STELLA above the target.

Continuous mode: Use power button to turn on or off. Note: Default mode.

Single Sample Mode: After power on click LED button. Click LED button each time to collect single measurement.

**Note: The far red LED light on microprocessor will flash for each measurement.**

## 5. Position the STELLA above the target.

Position the STELLA horizontally above the target so that the sensors are held a few inches away from the target.

**Note: STELLA's Field of View (FoV) is 40°, so the area of measurement can be almost as wide as the distance between the device sensors and the target. Try to keep any shadows cast by you or the instrument out of the on the area of measurement.**

## 6. Measurement records

Measurements will be saved in the data.csv file on the SD card.

## STELLA-Q2 in Drone Housing

