# TRIWAVE SYSTEMS

## Akriveia Beacon

## User Manual Hardware

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# 1. Beacon Instructions

## 1.1 Beacon Safety Information

Read all safety information before using the product to ensure safe and proper use.

### ⚠️ Warning

- Do not expose the product to physical impact or damage.
- Do not handle or touch the beacon battery or internal components with wet hands.
- Avoid leaving the case open for long periods of time to limit dust and debris.
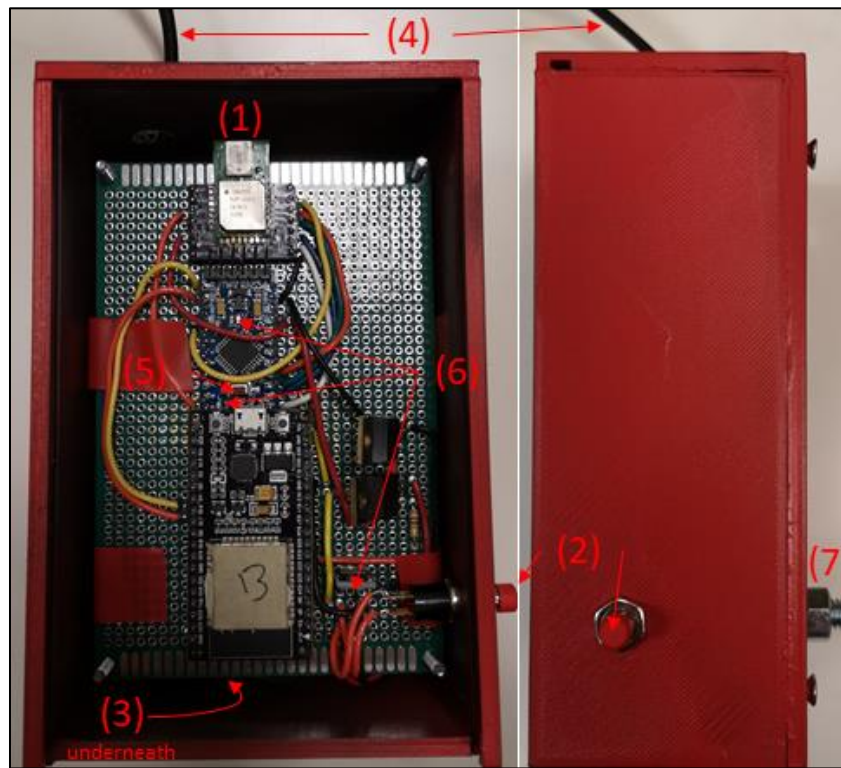- Ensure no foreign objects are left in case after maintenance.

## 1.2 Beacon Layout



*Figure 1: Beacon Components*

| 1 | Antenna | UWB module antenna |
|---|---|---|
| 2 | Power Switch | Toggle to turn on and toggle again to turn off. |
| 3 | Backup Battery | 5.0V 10000mAH rechargeable battery pack. |
| 4 | Power/Charging cable | Cable used to power the beacon or charge battery if needed. |
| 5 | Reset Button | Used to perform a hardware reset on MCU and Wi-Fi module. |
| 6 | Status LEDs | Used to observe power to electronic components |
| 7 | Mounting Bolt | Used to mount the beacon on a structurally sound location. |

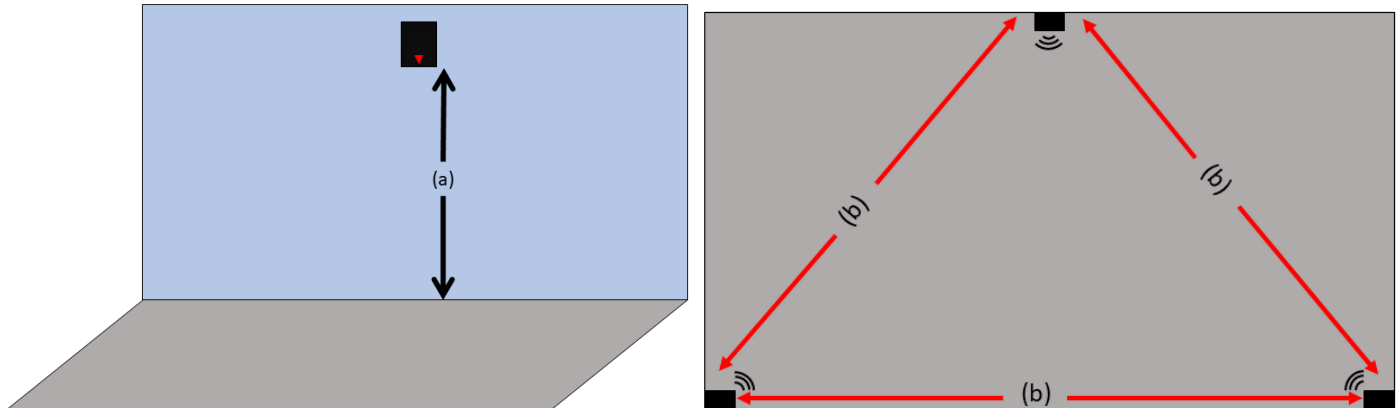*Table 1: Beacon Components*

## 1.3 Beacon Installation



*Figure 2: Beacon Mounting Recommendation*

(a)  Mounting height from floor: 2-4m

(b)  Distance between beacons: 8-12

**Ensure all beacons are installed at the same height, with few obstructions nearby.
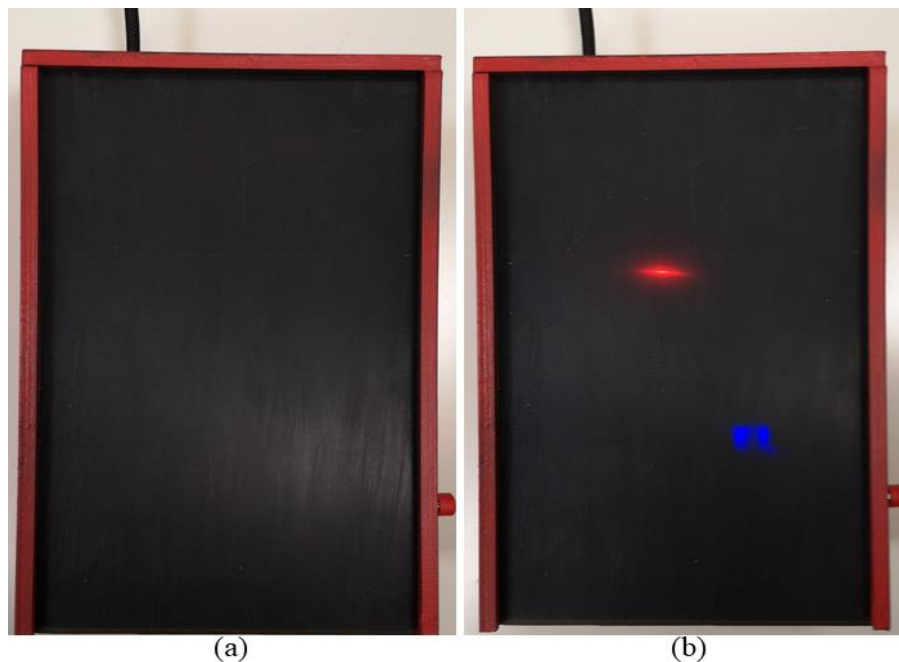
## 1.4 Beacon Basic Operations



*Figure 3: (a) Beacon off state (b) beacon on state*

1) Click red toggle button to turn on beacons.
2) Status LEDs should turn on to indicate beacon is on.
3) Click red toggle button again to turn off Beacons.

## 1.5 Beacon Maintenance & Repair

1) Click red toggle button to turn off beacon. Blue device LED should turn off.
2) Internal components accessible by unscrewing locking screw and removing lid from casing.
3) Ensure all components are powered off by observing status LEDs. All should be off.
4) Click red toggle button to turn on beacon.
5) Click red 'reset' button on MCU and black 'RST' button on the Wi-Fi module to reset device firmware.

## 2. ID Tag Instructions

### 2.1 Tag Safety Information

Read all safety information before using the product to ensure safe and proper use.

⚠️ **Warning**
- Do not expose the product to physical impact or damage.
- Do not carry the device in your back pockets.
- Do not turn on the device in the absence of Akriveia Beacons.
- Do not turn on the device in the absence of an emergency.
- Do not touch the charger or the device with wet hands while the device is charging
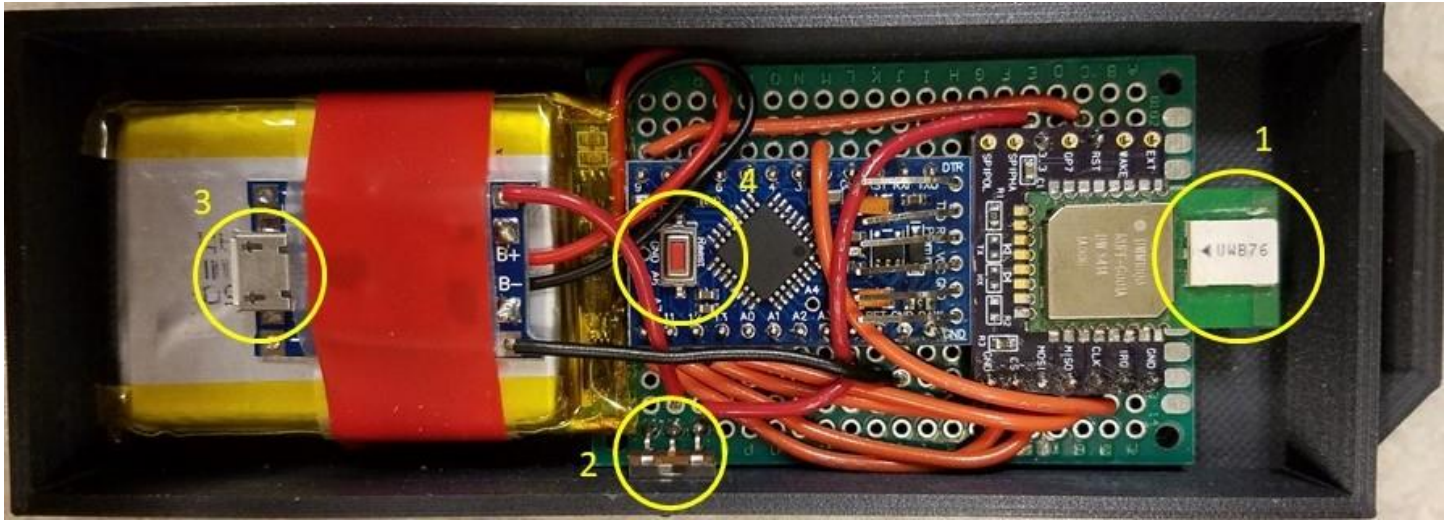
### 2.2 Tag Layout



*Figure 4: Tag Components*

| | | |
|---|---|---|
| **1** | Antenna | UWB module antenna |
| **2** | Power Switch | Slide right (towards battery) to turn on and left (away from battery) to turn off. |
| **3** | Charging Port | Micro-USB type charging port. |
| **4** | Reset Button | Used to perform a hardware reset on MCU. |

*Table 2: Tag Components*

## 2.3 Charging the Tag Battery



*Figure 5: Charging Tag*

1) Power off tag by switching the toggle switch to the **Off** position.
2) Unscrew the cover of the case to open the ID tag.
3) Connect the ID Tag to a power source through a charging cable (*Micro-USB* connectors).
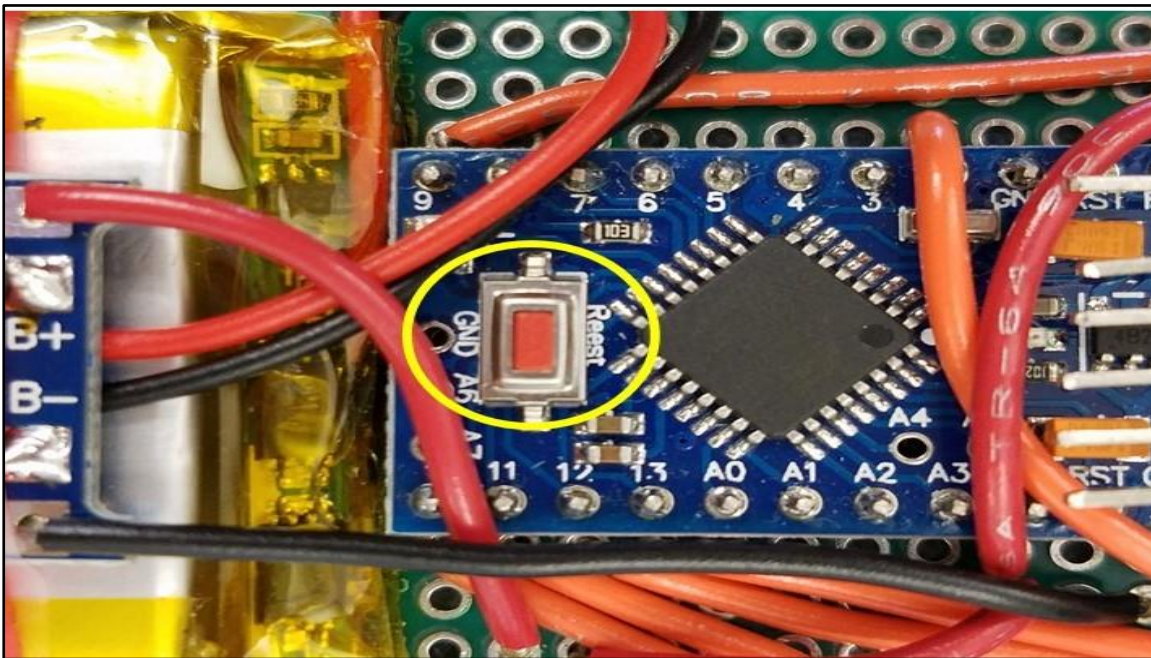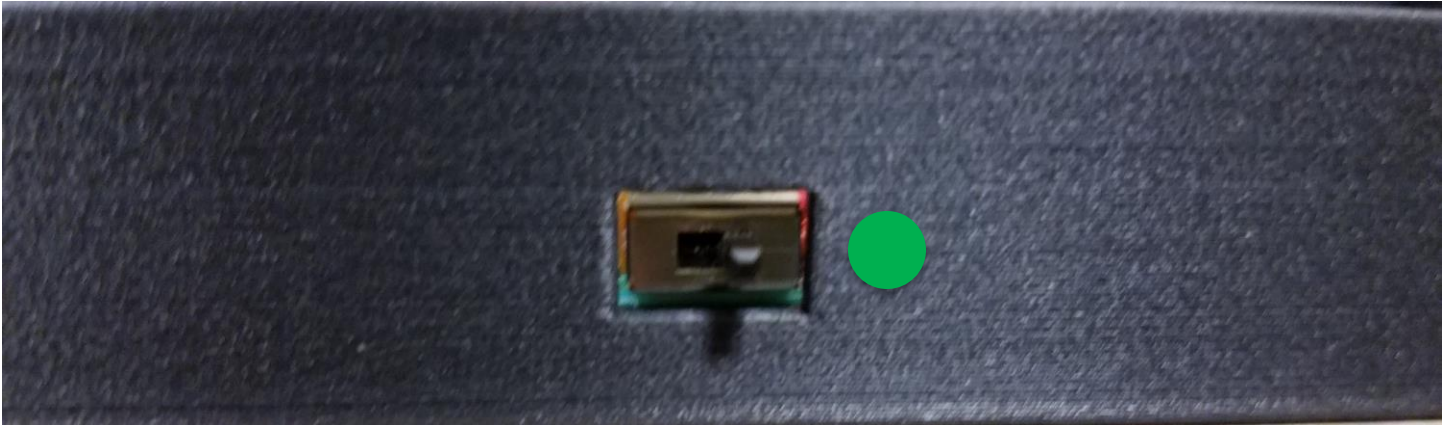
## 2.4 Resetting the Tag



*Figure 6: Tag Reset MCU*

1) Unscrew the secure screws on the four corners of the case to open the ID tag and power **on** tag.
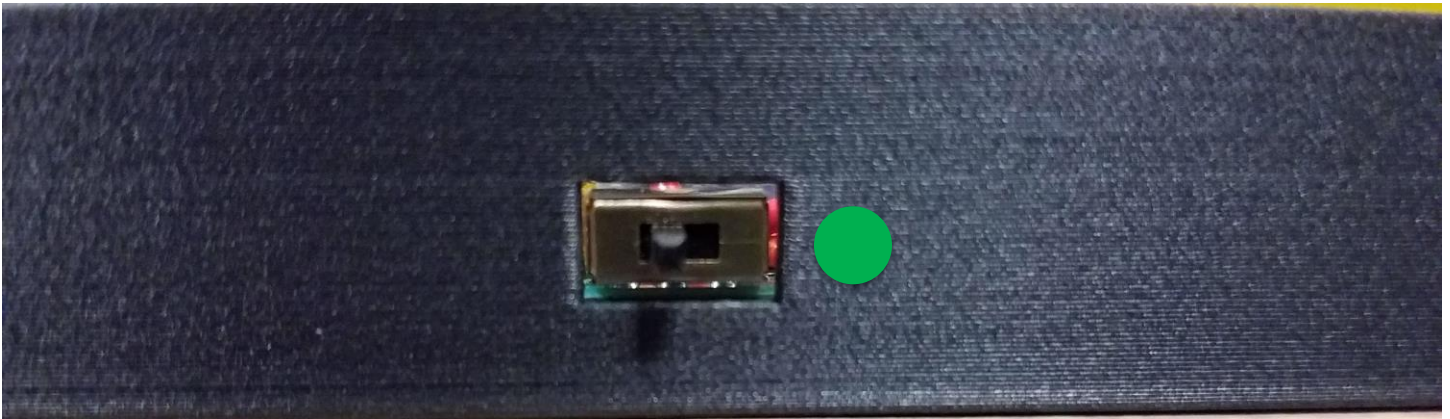2) Click the reset button on MCU to reset tag devices. LED should turn off then immediately on.

## 2.3 Activating the Tag



*Figure 7: Turn On Tag*

1) Power on the tag by switching the toggle switch to **On** position.
2) LED on Tag should turn on

## 2.4 Deactivating the Tag



*Figure 8: Turn Off Tag*

1) Power off tag by switching the toggle switch to the **Off** position.
2) LED on Tag should turn off