SmartTag
STG-866B User Manual

Contents

Regulatory Information

Product Name: SmartTag
Model: STG-866B
FCC ID: VPE-STG-866B

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
1) This device may not cause harmful interference, and
2) This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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PRECAUTIONS

- Keep batteries away from children.
- Do not swallow batteries.
- Do not throw batteries into water.
- Do not throw batteries into fire.
- Do not short-circuit batteries. Battery must be fit into tag in correct orientation.
- Do not replace battery with incorrect type. Incorrect type of battery replacement may cause risk of exposure.
- Battery should be dispose according to the instructions

Product Information

- Product model   : STG-866B
- Product name   : SmartTAG
- Manufacturing site   : 31 Ubi Road 1, #09-01 Annex Building, Singapore 408694

User Manual Version Information

- This version is subject to change or upgrade without notice
- Version   : 2
- Issue date   : 16 Jan 2023

Declaration

Cadi Scientific Pte Ltd reserves the right to change the product described in this User Manual. All information contained in this User Manual is subject to change without notice.

1   Introduction

The STG-866B is a battery powered location tracking tag.   Location tracking is achieved using a combination of technologies based on low frequency (LF), infrared (IR), and BLE signals that give robust performance even in challenging environments.

2   Location Reporting Method

When the STG-866B passes by a LF beacon or exciter (typically installed at key chokepoints or egress points) it will receive over its LF receiver a location ID transmitted by the LF beacon.   The tag will then advertise this location ID over its BLE transmitter.

Access points that are in range of STG-866B's advertisements will be able to receive STG-866B's location.

When the STG-866B enters a room that has a IR beacon installed, the tag will receive a location ID transmitted by the IR beacon.   The tag will then advertise this location ID over its BLE transmitter.

Access points that are in range of STG-866B's advertisements will be able to receive STG-866B's location.

3   Mounting Method

The tag can be mounted on assets or equipment using a mounting bracket accessory.

4   Specifications

S/N	Feature	Description
1	**Physical**	
	Dimension	42.5mm x 70mm x 23mm
	Weight	TBC
2	**Power**	
	Rechargeable	No
	User replaceable	Yes
	Battery type	3.6v (ER17335-2 3.6V LiSOCl$_2$ primary battery)
3	**Operating Environment**	
	Temperature	0°C to 55°C
	Humidity	0 – 95% RH non-condensing
4	**RF Specifications**	
	Frequency	2.4GHz (standard advertising channels)
5	**LF Receiver Specifications**	
	Frequency	125kHz (receive only)
6	**IR Receiver Specifications**	
	Frequency	38kHz (receive only)
7	**Location-Update/Beacon**	
	Update rate	Immediate upon detection of LF or IR location ID
8	**Interface**	
	Visual	1 x Red LED 1 x Green LED
	Audio	1 x Beeper
9	**Compliance**	**RF** To be confirmed **EMC** To be confirmed **Safety** To be confirmed

5 Battery Change Instructions

5.1 Remove rear battery cover

- **Pry at the rear cover at the 2 release points using a flat tip screw driver**

2 release points at the rear cover

5.2 Disconnect depleted battery

(1) Remove battery from tag to make room
(2) Apply straight pulling or tugging action to disconnect depleted battery

5.3   Connect fresh battery

5.4   Ensure correct wire placement to prevent obstruction to rear cover

CAUTION:
Ensure correct wire placement to
prevent obstruction to rear cover

5.5 Reset Tag

CAUTION:
Press button to reset tag to ensure proper power up.

5.6 Put back rear battery cover

6   Trouble-shooting Guide

6.1   There is no location update on the tracking system when the tag passes by an exciter

This could be due to several reasons.

a.   Battery may have depleted

If tag's LEDs are not blinking at all, then battery may have been depleted. Replace depleted battery with a fresh one.

b.   Battery strength may be too low

If tag's red LED is blinking, then battery strength may be too low. Replace weak battery with a fresh one.

c.   Access Point coverage may be insufficient

The tag may be out of range of the the Access Points. Adjust the location of the Access Points or place additional Access Points to ensure sufficient coverage.

d.   LF coverage may be insufficient

The tag may be out of range of the exciter. Adjust the location or the power of the exciter to ensure sufficient LF coverage.

e.   The tag may have malfunctioned

Replace malfunctioned tag.