CADI SmartSense
SmartTag

STG-873W User Manual

Contents

Regulatory Information

For customers in U.S.A and Canada

Federal Communications Commission (FCC) Statement 15.21
You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

15.105(b)
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.

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

FCC RF Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

For customers in Europe

This equipment has been tested and found to comply with the limits set out in the R&TTE Directive.

Where you see this symbol on any of our electrical products or packaging in Europe, it means that at end of life the product or battery must be disposed of in accordance with any applicable laws or requirements for the separate disposal of electrical equipment or batteries.

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-873W
- Product name   : SmartTAG
- Manufacturing site   : 31 Ubi Road 1, #07-01A Aztech Building, Singapore 408694

Version Information
- This version is subject to change or upgrade without notice
- Version   : A01
- Issue date   : 27 June 2017

Declaration

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

1   Introduction

The STG-873W is a battery powered location tracking tag. Location tracking is achieved using a combination of technologies based on low frequency (LF), infrared (IR), and WiFi signals that give robust performance even in challenging environments. The tag is designed to allow for use in hospital wide location tracking of assets, in-patients, and staff.

When the STG-873W passes by a LF exciter (typically installed at key chokepoints or egress points) it will receive a location ID transmitted by the exciter.   The tag will transmit a WiFi signal to update tag status and tag location to the location tracking system.

When the STG-873W enters a room that has a IR beacon installed, the tag will receive a location ID transmitted by the IR beacon. The tag will transmit a WiFi signal to update tag status and tag location to the location tracking system.

Last but not least, the STG-873W will periodically transmit a WiFi signal to update tag status to the location tracking system.

For all the above scenarios, the location tracking system will also perform triangulation or trilateralation of the WiFi signal to determine the location of the tag.

2   Application and Mounting Options

2.1   For patients

The tag can be comfortably worn by a patient using a hospital-grade wrist band.

2.2   For staff

The tag can be conveniently worn by a staff using a badge clip accessory.

2.3   For assets

The tag can be securely mounted to different asset types using a bracket accessory.
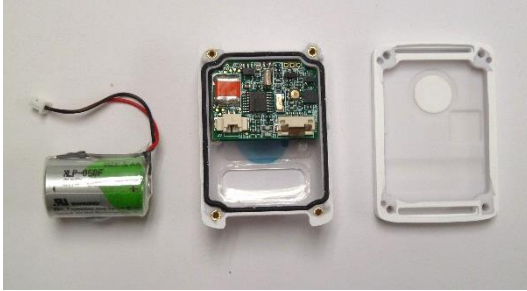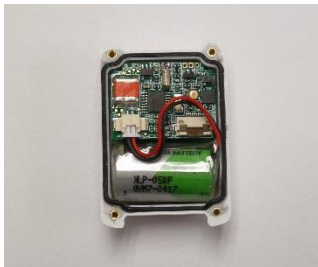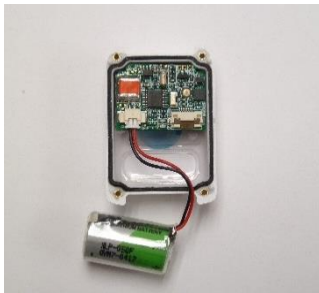
3   Specifications

S/N	Feature	Description
1	**Physical**	
	Dimension	31mm x 45.4mm x 18.6mm
	Weight	26g
2	**Power**	
	Rechargeable	No
	User replaceable	Yes
	Battery type	3.6V 1/2AA LiSOCl$_2$
3	**Operating Environment**	
	Temperature	0°C to 50°C
	Humidity	0 – 95% RH non-condensing
4	**RF Specifications**	
	Frequency	2.4GHz (receive and transmit)
5	**LF Receiver Specifications**	
	Frequency	125kHz (receive only)
6	**IR Receiver Specifications**	
	Frequency	38kHz (receive only)
7	**Location-Update/Beacon**	
	Update rate	Every 10 minute or Immediate upon detection of LF or IR location ID
8	**Interface**	
	Visual	1 x Red LED 1 x Green LED
	Audio	1 x Beeper
	Buttons	1 x Push-button
9	**Compliance**	
		TBD

4   Battery change instruction

-    Un-screw the 4 cross-head screws located at the rear of the tag.

-    Remove the rear cover

-    Unplug the 1/2AA LiSOCl2 battery

-    Replace with fresh 1/2AA LiSOCl2 battery

5   Tag Cleaning Instructions

-    Disinfect the tags by wiping with an alcohol sanitizer.
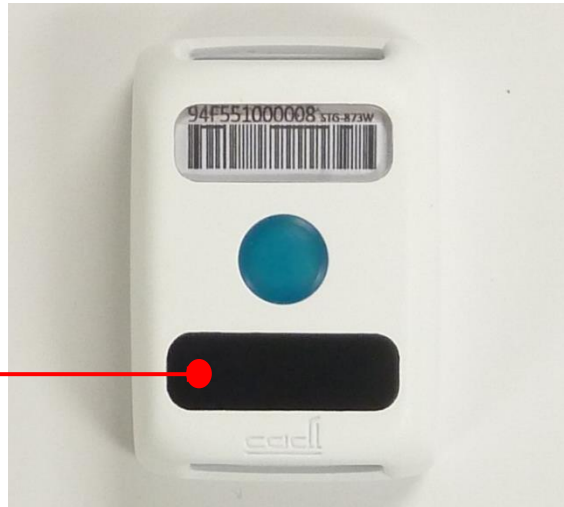
-    Dry the tag with a clean cloth.

Caution: The tag cannot withstand autoclave sterilization. It may cause tag damage.

Caution: The tag has ingress protection rating of 65 (IP65). Do not immerse the tag into water

6   Battery Status Indicator

Red LED will blink
every 10 seconds
when battery level
is low

The tag will blink its red LED every 10 seconds when its battery level is low. Further, if the battery level is too low, the tag might restart and output a beeping sound.

7   Buttons

When button is pressed the STG-873W tag will transmit a WiFi signal to indicate button pressed event. Two different button-press events are supported by STG-873W, namely:

Short (momentary) Button Press

When button is pressed and released immediately, the STG-873W will transmit a WiFi signal indicating a 'short button press' event.

Long Button Press

When button is pressed and held down until a beep sound is heard, the STG-873W will transmit a WiFi signal indicating a 'long button press' event.

Push button