

Wi-Sense

Dual-band 802.11a/b/g Wi-Fi Active RFID Tag

Overview

Arada Systems' Wi-Sense RFID tag is the only dual-band, low-power Wi-Fi based active RFID tag on the market. The tag is designed as a small form factor, long battery life active RFID tag that operates in the 802.11b/g band at 2.4GHz as well as the 802.11a band at 5-5.8GHz.

The device can be used to track assets, patient monitoring, electronic toll collection for automotive industry and serve as a smart sensor to any Wi-Fi based sensor application.

Wi-Sense tag sends out messages that can be received by any Wi-Fi AP (Access Points) and be processed by the backend server for location tracking.

Long Battery Life

Wi-Sense has been designed to operate with three off-the-shelf AAA alkaline batteries. The software architecture along with the hardware design allows power saving in every operational state of the Tag.

Three replaceable AAA batteries provide up to 3 years of battery life.

With the use of motion sensor, it is possible to increase the battery life based on its movement.

Motion Sensor

Motion sensor on the board allows the customer to optimize power consumption based on whether the tag moves. Instead of sending messages constantly, it is



Wi-Sense RFID Tag

Push Button Configuration

The initial configuration can be downloaded to the tag from a laptop by pressing a push button twice.

Later the tag can be configured using over the air protocol.



Runs on 3 standard AAA batteries

possible to only send a message when the tag moves.

This special feature allows the customer to build products for asset security or home security. The motion sensor is extremely sensitive (for RFID purposes, the sensitivity has been reduced).

Push Button Messaging

Push button allows capturing various asynchronous events and transmits the events to the backend server. The amount of time the push button is pressed can differentiate different events.

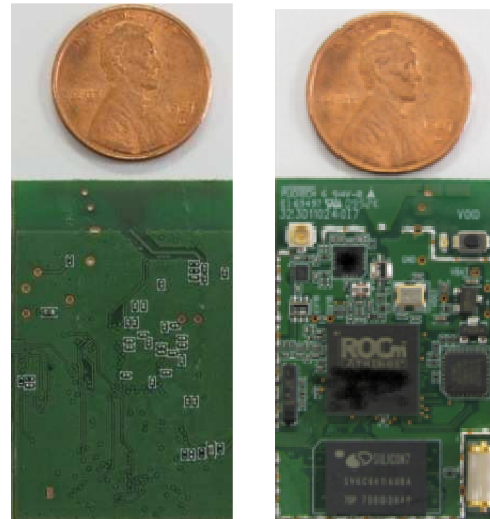
Following are the list of possible uses for the push button:

- Used to configure the tag the first time by our OEM partners.
- Used to capture external events.

Tag Mounting Using Wristband / Sticker

The flexible wrist band provided with the tag makes it easy to attach the tag to asset and tie to objects and people.

OEM partners can also replace the wrist band option with a sticker option.



Compact Design

Over-the-air firmware upgrade

Wi-Sense is preloaded with the initial firmware on the flash.

Future upgrades can be done using a wireless interface.



Wi-Sense RFID Box Wristband

Wi-Sense Tag Specifications

WLAN Radio Characteristics	<ul style="list-style-type: none"> • Dual band band (2.4-2.483GHz and 5.15-5.85GHz) • 802.11a/b/g, 802.11p WAVE and 1609.3/4 compliant • 2.4GHz support (can also support proprietary bands of 2.3 and 2.7GHz) • 5.15-5.85GHz support (can also support 4.8-4.9GHz and 5.9GHz_) • Tx power up to +15dBm
Physical and Mechanical	<ul style="list-style-type: none"> • Dimension: 64.5mm x 42mm x 24.3mm • Weight: 40g
Range	<ul style="list-style-type: none"> • Outdoor range: Up to 1000 feet • Indoor range: Up to 200 feet
Configurability	<ul style="list-style-type: none"> • Over the air configuration • Over the air firmware upgrade
Battery	<ul style="list-style-type: none"> • 3 x 1.5V AAA battery (replaceable) • 3 years (beacon every 15 minutes)