

## DATA SHEET

# ARUBA BEACONS

## BLE-powered Location and Proximity Services

A flagship product of the Aruba Location Services product line are Aruba Beacons. When used in conjunction with the Meridian mobile app platform, they enable public-facing enterprises to infuse their mobile apps with innovative, location-based services.

Aruba Beacons leverage Bluetooth Low-Energy (BLE) technology, the current version is Bluetooth 5.0, to provide indoor location data for mobile devices. This data is critical for indoor wayfinding, proximity-aware push notifications, and other types of location services in mobile apps.

### ARUBA BEACONS

Small, low-power wireless transmitters, Aruba Beacons broadcast 2.4-GHz radio signals at regular intervals. Beacons can be heard and interpreted by iOS and Android devices that are also equipped with Meridian-powered mobile apps. Aruba Beacons come in two physical formats. All newer Aruba Access Points (AP) have beacons built in. Standalone battery powered Aruba Beacons can be placed anywhere within a venue.

When a mobile device with a Meridian-powered app is within range of Aruba Beacons, guests can receive personalized, Aruba USB Beacon proximity-aware push notifications based on their opt-in preferences and see a glowing blue dot that shows their real-time location on a venue's map.

### ARUBA BEACONS CONFIGURABILITY

All Aruba Beacons can be configured for either location-based wayfinding or for proximity-aware notifications so that corresponding actions are triggered on a venue's Meridian-powered mobile app.

### KEY FEATURES

- Software configurable for location or proximity mode
- SDK support for iOS and Android mobile devices
- Remote beacon management support
- Easy to deploy – no infrastructure wiring required!
- Install in any size/shaped room
- Work both indoors and outdoors



Figure 1. Aruba Battery-powered Beacon



## SPECIFICATIONS

### Aruba Beacons

#### BLE data packets

- Every Aruba Beacon ID is 20 bytes long and contains three values:
  - ProximityUUID: Universally Unique Identifier shared among related beacons
  - Major number: 16-bit integer value
  - Minor number: 16-bit integer value

#### Range

- Maximum signal range depends on the physical environment.
- Aruba Beacons operate on the same type of radio waves as 2.4-GHz Wi-Fi routers. As a result, the signal can be diffracted, interfered or absorbed by materials in the space such as metal, wood or water.

### Aruba Beacons app for management

#### Supported OS

- iOS 7 or newer

#### Supported devices

- iPhone 4S or newer
- iPod touch, fifth generation or newer
- iPad, third generation or newer
- iPad mini and iPad mini with retina display or newer

## DELIVERY OPTIONS

### Battery-Powered Beacons

- Power
  - Two coin-cell batteries
  - Average power consumption: 0.22 mW (estimated)
  - Battery capacity 1,000 mAh/each: Total capacity of 2,000 mAh
  - Battery voltage: 3 volts
- Mounting
  - Included with Aruba Beacons
    - > High-strength indoor/outdoor 3M adhesive for direct mounting to wall
  - Optional
    - > IP67 rated outdoor case
    - > Bracket for mounting on non-metal wall via two-screw holds

## SUPPORTED MOBILE DEVICES AND OPERATING SYSTEMS

### Android

- New smartphones and tablets with a dual-mode Bluetooth 4.0 chip running the latest version of the Android OS are Bluetooth Smart Ready.
- Android-powered Bluetooth Smart Ready devices running the latest OS will be compatible with virtually any Bluetooth enabled product, including Aruba Beacons.

### iOS

- iOS 7 or later on the following compatible devices:
  - iPhone (fourth generation or later)
  - iPad (third generation or later)
  - iPad mini
  - iPod touch (fifth generation or later)

BLE must be turned on to work on any BLE-enabled device.

## WIRELESS RADIO SPECIFICATIONS

- Compliant with BLE standard based on BT version 4.0
- GFSK modulation @ 2.4-GHz ISM band
- Support adaptive frequency hopping (FH)
  - 3 2-MHz advertisement channels (channels 37, 38, 39) 2,402 MHz, 2,426 MHz, 2,480 MHz
  - x37 2-MHz data channels (channels 0 to 36, from 2,404 MHz to 2,478 MHz)
- TX power: 0 dBm max
- RX sensitivity: -94 dBm

## MECHANICAL

- Dimension for 4-year beacon
  - 47 mm (W) x 47 mm (L) x 16 mm (H), 1.8" (W) x 1.8" (L) x .63" (H)
  - 37.5 g/1.3 oz

## ENVIRONMENTAL

- Operating
  - Temperature: 0° C to +50° C (+32° F to +122° F)
  - Humidity: 5% to 95% non-condensing
- 4-year battery storage and transportation
  - Temperature: -40° C to +70° C (-40° F to +158° F)



## REGULATORY

- FCC/Industry of Canada
- CE Marked
- R&TTE Directive 1995/5/EC
- Low Voltage Directive 72/23/EEC

For country-specific regulatory information and approvals, please see your Aruba representative.

## REGULATORY MODEL NUMBER

- 4-year battery: ARBT0200

ANTENNAS	
Electrical Characteristics	
Working frequency range	2,450 +/- 50Mhz
Gain (dBi)	2 (typical)
VSWR	2 max

ORDERING INFORMATION	
Part Number	Description
<b>Beacons</b>	
JW144A	Aruba LS-BT1-NEMA Outdoor Mounting Bracket for Battery Powered Beacon
JW145A	Aruba LS-BT1-MNT-50 50-pack of Indoor Mounting Brackets for Battery Powered Beacon
JX984A	Aruba LS-BT20-5 BLE 5-pack of Battery Powered Aruba Beacons
JX985A	Aruba LS-BT20-50 BLE 50-pack of Battery Powered Aruba Beacons