

## 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, also known as Bluetooth 4.0, 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 four physical formats. All newer Aruba Access Points (AP) have beacons built in. Aruba USB Beacons can plug into an older Wi-Fi AP or other USB enabled device. Two formats of standalone battery powered Aruba Beacons can be placed anywhere within a venue. The Aruba Event Beacon is designed for short duration installations. With a smaller form factor, lower cost, and 4-month battery life, it is perfect for trade shows and events. The standard Aruba Beacon is great for permanent installations and is maintenance free for 4 years.

When a mobile device with a Meridian-powered app is within range of Aruba Beacons, guests can receive personalized, 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
- Battery and USB powered options

Aruba Battery-Powered Beacon



Aruba USB Beacon



Aruba Event 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
- iPad, third generation or newer
- iPad mini and iPad mini with retina display

## 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

### Aruba USB Beacons

- Power
  - Charges from an Aruba access point USB port or any powered USB slot on TVs, computers, wall plugs and other devices.
- Deployment/hardware options
  - These beacons install into existing Aruba access points via USB ports for data connectivity.

### Aruba Event Beacons

- Power
  - One coin cell battery
  - Estimated yearly power consumption (mA-h): 524.99
  - Estimated battery life (in months): 4

## 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
- Dimensions for 4-month battery
  - 34mm x 11mm
  - Weight 10g (0.35oz)

## 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)
- 4-month battery storage and transportation
  - Temperature: -10° C to 60° C

## 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
- 4-month battery: ARBT0201

## 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                      |
| JW315A         | Aruba LS-BT1USB-5 5-pack of USB Powered Aruba Beacons                              |
| JW316A         | Aruba LS-BT1USB-50 50-pack of USB Powered Aruba Beacons                            |
| JX986A         | Aruba LS-BT10-50 50-pack of Battery Powered Aruba Event Beacons                    |