

# Bluetooth low energy Beacon Datasheet

Model No.: JW1404BV118

V1.0.2

<b>Model</b>	<b>Description</b>
JW1404BV118	Tag Beacon, waterdrop shape, IPX4 waterproof, 1 years battery life, white/black/green/pink, includes 1pc CR2032 coin battery, CE & RoHS & FCC-ID certification

The Tag Beacon JW1404BV118 is a low energy Bluetooth® 5.0 digital broadcasting device, it is designed for the commercial advertising, indoor location-based service, event monitor, asset tracking etc.

It broadcasts standard iBeacon/Eddystone data with configurable parameters. Its data can be scanned and interpreted by iOS and Android devices. BLE gateway can scan and communicate with it too.

## FEATURES

- Programmed standard iBeacon/Eddystone firmware
- 1+ years battery lifetime at default settings
- The max. 50 meters advertising distance
- Small size, user-friendly and portable
- Easy to print the logo on the center of top case



## CERTIFICATIONS

- iBeacon MFi License
- RoHS
- CE
- FCC-ID

## SPECIFICATION

### Compatibility

- (1) Supported iOS 7.0+ and Android 4.3+ system;
- (2) Compatible with Apple iBeacon standard;
- (3) Compatible with other Bluetooth low energy devices;

### Power supply

- (1) Replaceable coin battery;
- (2) Advertise battery level in device name;

### Soft Reboot, OTA and J-Link

- (1) Support soft reboot;
- (2) Support DFU/OTA;
- (3) Reserved J-Link/SWD port on the board for programming;

### Interface

- (1) One Button.
- (2) One RGB led light.
- (3) One Buzzer (optional).
- (4) One Vibration motor (optional).

### Configurable Parameters

- (1) Password, Device name, UUID, Major id, Minor id, TX power, Rssi at one meter, Advertising interval.
- (2) Configuration APP '[Joyway Beacon](#)';  
[More downloads, click me.](#)

### Transmission Power Levels

- (1) available values: -20, -16, -12, -8, -4, 0, +4
- (2) unit: dBm

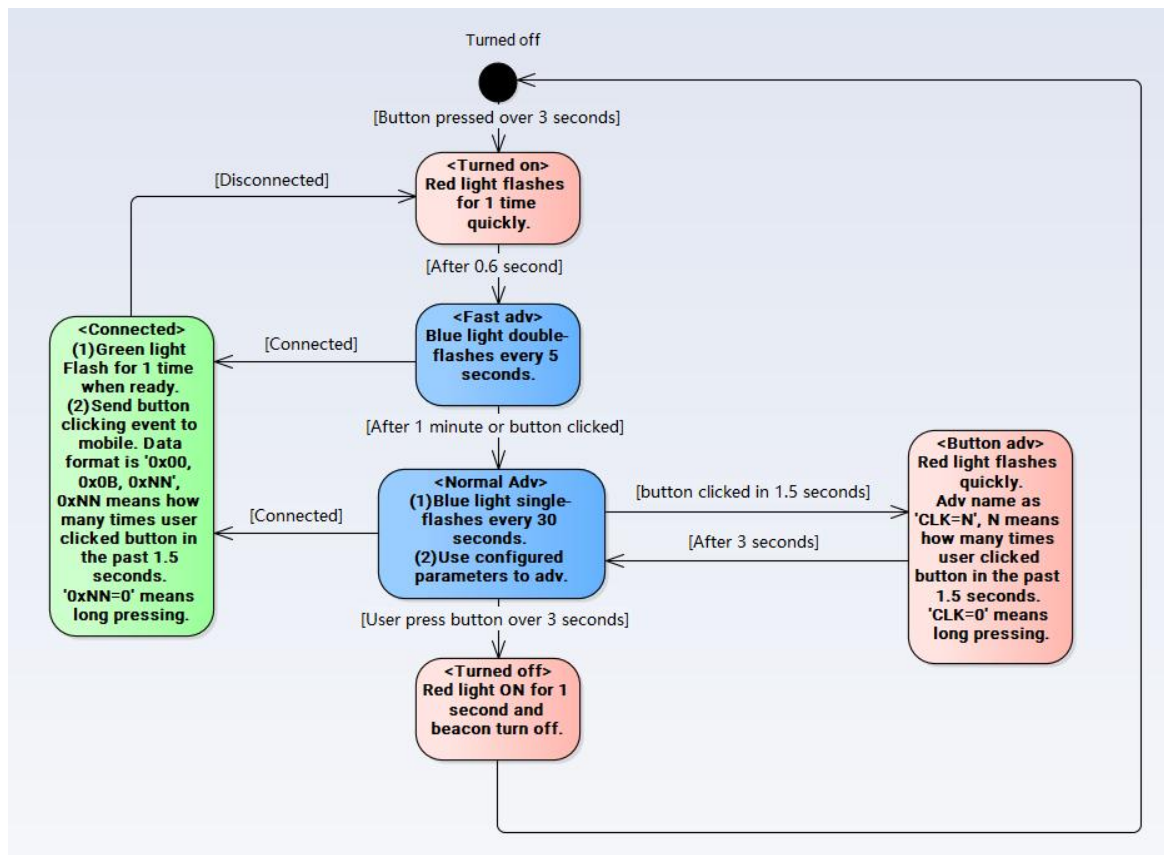
### Security

- (1) Need password while connecting;
- (2) AES HW encryption

### Installation

- (1) Key chain;
- (2) Neck-string;

## State Machine



## CONFIGURABLE PARAMETERS

Item	Default Settings
UUID	0x59,0x1f,0xcd,0x82, 0xfd,0x55,0x46,0x0b, 0x86,0xd5,0x29,0x6b, 0x1b,0x1e,0x54,0x96
Major	2020~2022
Minor	0~65532
TX Power	0dBm
Transmission Interval	1000ms
Device Name	'JW1404BV118' or 'JOYWAY'

## BUILD YOUR OWN APP TO COMMUNICATE WITH BEACON

### Summary steps:

- 1, Scan and connect beacon, discover services, enable notify feature so that app can receive data from beacon.
- 2, Login beacon with password, otherwise beacon will disconnect soon.
- 3, Receive beacon data such as button events.

## Detail steps:

### 1, Scan and connect beacon, discover services, enable notify feature so that app can receive data from beacon.

Scan for beacon name: JW1404BV118.

Once you connected beacon, you should discover service for UUID (6e400001-b5a3-f393-e0a9-e50e24dcca9e).

It has 2 Characteristics:

(1) TX, beacon send data to app by it.

UUID: 6e400003-b5a3-f393-e0a9-e50e24dcca9e.

**You should enable its NOTIFY feature.**

(2) RX, app write its value so that beacon can receive these data from app.

UUID: 6e400002-b5a3-f393-e0a9-e50e24dcca9e.

### 2, Login beacon with password, otherwise beacon will disconnect soon.

App write RX value with data, which contains password. Password max length is 12 chars.

Data format is:

*0x00, 0x01, //Communicate code, means 'login beacon'*

*12, //following byte count, password length is 12 bytes, so it is a const value.*

*0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00 //default password is empty but should be filled with 0x00.*

Here is demo code to build data content with password '12345':

```
byte[] data = { 0x00, 0x01,
               12,
               0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00};
String passwordStr = "12345";
ArrayList<Byte> passwordBytes = new ArrayList();
char[] chars = passwordStr.toCharArray();
int charCount = chars.length;
for (int i = 0; i < charCount; i++) {
    int n = chars[i];
    passwordBytes.Add(Byte.parseByte(n.toString()));
}
System.arraycopy(passwordBytes, 0, data, 3, passwordBytes.length);
```

If password is correct, beacon will reply result:

*0x00, 0x02, // Communicate code, means 'login beacon result'*

*0x01, // following byte count*

*0x00 // password correct, other values means password not accepted.*

### 3, Receive beacon data such as button events.

When beacon button event triggered, it will send data to app via TX characteristic. Data format is:

0x00, 0x0B, // Communicate code, means 'beacon button event'  
0x01, // following byte count  
0x01 // button event type. 0x00=long press; 0x01=single click; 0x02=double clicks, etc.

## ELECTRONIC PARAMETERS

Item	Value	Remarks
Case Color	Black/Blue/White/Pink	Customize color if $\geq 3000$ pcs
Battery Model	1 x CR2032	1pc CR2032 coin battery, 3.0V
Operation Voltage	1.8~3.6V	DC
Transmission Current	4.6 mA (peek current)	Test at 0dBm transmission power
Transmission Range	50 meters	Maximum
Antenna	50 ohm	On board / PCB Antenna
Net Weight	8.5 g	With battery
Size	52x31x11 mm	

## TECHNICAL SUPPORT

Item	Version	File Name	Update Date
Datasheet	V1.0.2	JW1404VB118_TagBeacon_Datasheet_V1.0.2.pdf	2025-1-15
SDK	V1.0	JoywayLib.Android.zip; JoywayLib.iOS.zip	2022-05-30
Configuration Tools	V1.4.2	<a href="#">JoywayBeacon.apk</a> click to download	2024-12-12

\* Files versions may be updated without notification

## PACKING INFORMATION

Details	PP Bag	Carton
Quantity(JW1404)	1 pc	200 pcs
Net Weight	8.5 g	1.7 kg
Gross Weight	8.9 g	2.04 kg
Size	60x90x13.8 mm	260x150x180 mm

## DECLARATION

The contents of this datasheet are subject to change without prior notice for further improvement. Joyway team reserves the right to explain all the terms of this datasheet.

## CONTACT

Shenzhen Joyway Technology Co., Ltd.

Email: [bob@joyway.cn](mailto:bob@joyway.cn)

<http://www.joyway.cn>