TagBeacon Datasheet

Model No.: JW1405BGV134

V1.0

Model	Description
JW1405BGV134	G-Sensor Beacon, tile shape, IPX4 waterproof, 1 month battery life when set advertise interval 1 second and G-Sensor sample rate 8 Hz, white/black shell, includes 1pc CR2032 coin battery, CE & RoHS & FCC-ID certification

The TagBeacon JW1405BGV134 is a low energy Bluetooth® 4.2 digital broadcasting device, it is designed for monitor target object action, including XYZ acceleration and lay angle.
The TagBeacon JW1405BGV134 broadcasts device name and sensor values, RSSI value at one meter, battery level. Any smart phone with ble app and bluetooth gateway can hear its advertisement.

FEATURES

- G-Sensor MMA7660
- 1 month 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 Regulations (Included EN300328/ 301489/ 60950/ 62479)
- FCC-ID

SPECIFICATION

Compatibility
(1) Supported iOS 7.0+ and Android 4.3+ system;

Power supply
(1) Replaceable coin battery;

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 blue led light;
(3) One vibrate motor (optional);

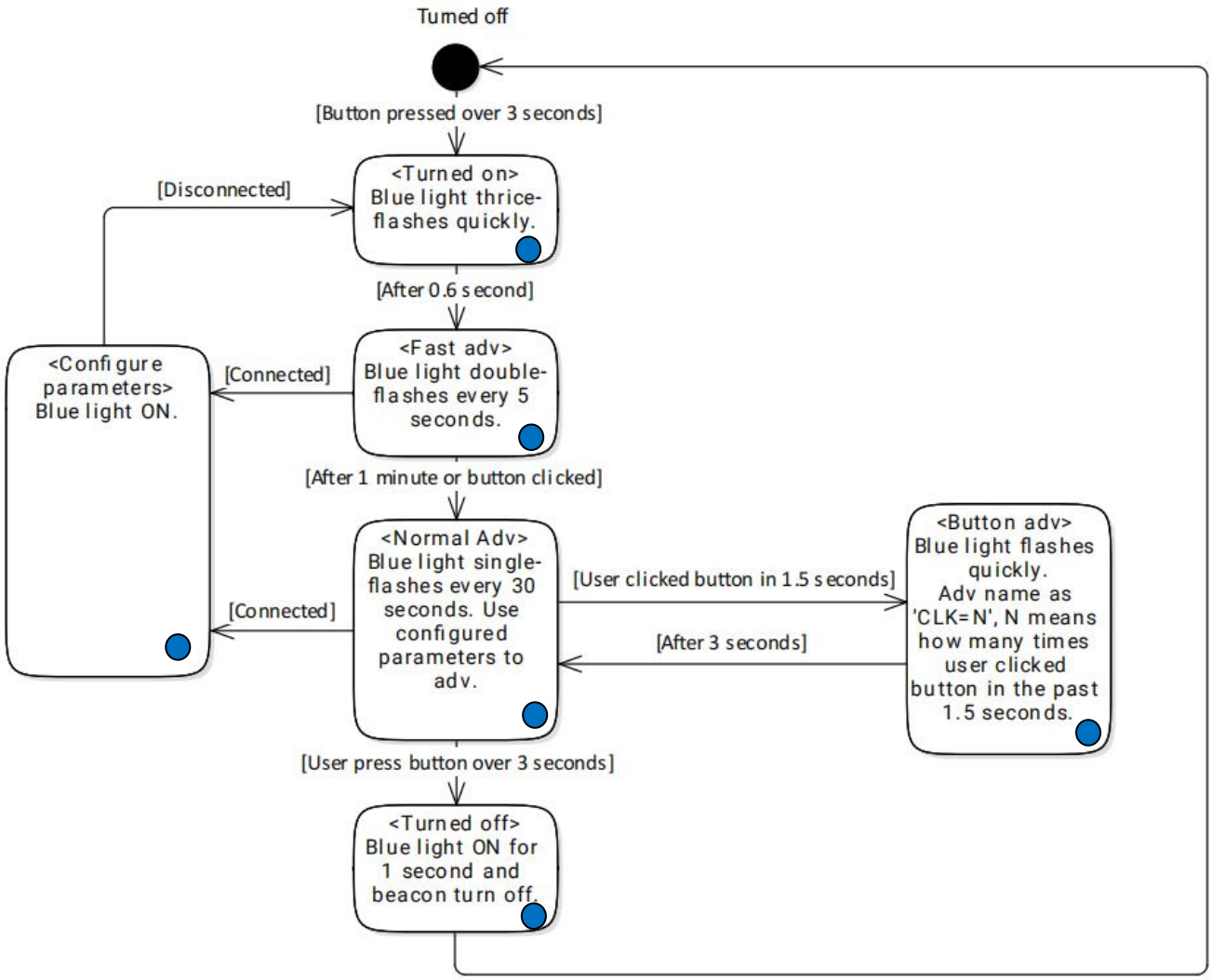
Configurable Parameters
Not supported now.

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

Security
(1) AES HW encryption

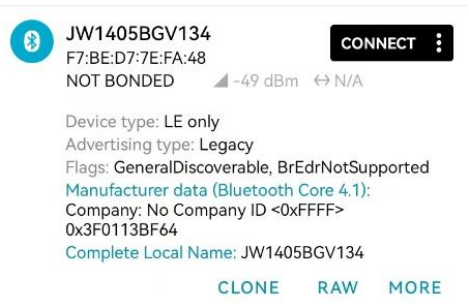
Installation
(1) Key chain;
(2) Neck-string;

State Machine



Advertise Package

Example:



Raw data:

0x02010608FFFFFF3F0113BF6415094A573
1343035424756313334000000000000000

Details:

LEN.	TYPE	VALUE
2	0x01	0x06
8	0xFF	0xFFFF3F0113BF64
21	0x09	0x4A5731343035424756313334000000000000000

Parse data 0x3F0113BF64：

Item	GX	GY	GZ	Rssi at one meter	Battery percent
Hex -> DEC	0x3F -> 63	0x01 -> 1	0x13 -> 19	0xBF -> -64	0x64 -> 100
After convert	-0.047g -2.69°	0.047g 2.69°	0.891g 62.95°	-64dBm	100%

To lookup acceleration and angle values, please see below table.

APPENDIX C - MMA7660FC ACQUISITION CODE TABLE

6-bit result	Binary	2's Comp	g value	Angle X or Y		Angle Z
0	0	0	0.000g	0.00°		90.00°
1	1	1	0.047g	2.69°		87.31°
2	10	2	0.094g	5.38°		84.62°
3	11	3	0.141g	8.08°		81.92°
4	100	4	0.188g	10.81°		79.19°
5	101	5	0.234g	13.55°	Z-axis must be in the range	76.45°
6	110	6	0.281g	16.33°		73.67°
7	111	7	0.328g	19.16°		70.84°
8	1000	8	0.375g	22.02°		67.98°
9	1001	9	0.422g	24.95°		65.05°
10	1010	10	0.469g	27.95°		62.05°
11	1011	11	0.516g	31.04°		58.96°
12	1100	12	0.563g	34.23°		55.77°
13	1101	13	0.609g	37.54°		52.46°
14	1110	14	0.656g	41.01°		48.99°
15	1111	15	0.703g	44.68°		45.32°
16	10000	16	0.750g	48.59°		41.41°
17	10001	17	0.797g	52.83°		37.17°
18	10010	18	0.844g	57.54°		32.46°
19	10011	19	0.891g	62.95°		27.05°
20	10100	20	0.938g	69.64°		20.36°
21	10101	21	0.984g	79.86°		10.14°
22	10110	22	1.031g			
23	10111	23	1.078g			
24	11000	24	1.125g			
25	11001	25	1.172g			
26	11010	26	1.219g			
27	11011	27	1.266g			
28	11100	28	1.313g	Shaken		
29	11101	29	1.359g	Shaken		
30	11110	30	1.406g	Shaken		
31	11111	31	1.453g	Shaken		
63	111111	-1	-0.047g	-2.69°		-87.31°
62	111110	-2	-0.094g	-5.38°		-84.62°
61	111101	-3	-0.141g	-8.08°		-81.92°
60	111100	-4	-0.188g	-10.81°		-79.19°
59	111011	-5	-0.234g	-13.55°		-76.45°
58	111010	-6	-0.281g	-16.33°		-73.67°
57	111001	-7	-0.328g	-19.16°		-70.84°
56	111000	-8	-0.375g	-22.02°		-67.98°
55	110111	-9	-0.422g	-24.95°		-65.05°
54	110110	-10	-0.469g	-27.95°		-62.05°
53	110101	-11	-0.516g	-31.04°		-58.96°
52	110100	-12	-0.563g	-34.23°		-55.77°
51	110011	-13	-0.609g	-37.54°		-52.46°
50	110010	-14	-0.656g	-41.01°		-48.99°

49	110001	-15	-0.703g	-44.68°		-45.32°
48	110000	-16	-0.750g	-48.59°		-41.41°
47	101111	-17	-0.797g	-52.83°		-37.17°
46	101110	-18	-0.844g	-57.54°		-32.46°
45	101101	-19	-0.891g	-62.95°		-27.05°
44	101100	-20	-0.938g	-69.64°		-20.36°
43	101011	-21	-0.984g	-79.86°		-10.14°
42	101010	-22	-1.031g			
41	101001	-23	-1.078g			
40	101000	-24	-1.125g			
39	100111	-25	-1.172g			
38	100110	-26	-1.219g			
37	100101	-27	-1.266g			
36	100100	-28	-1.313g	Shaken		
35	100011	-29	-1.359g	Shaken		
34	100010	-30	-1.406g	Shaken		
33	100001	-31	-1.453g	Shaken		
32	100000	-32	-1.500g	Shaken		

To convert RSSI value from hex, follow is C# code example, 0xBF is in rawData[3], Byte type.

```
int nRssi = rawData[3];
int rssiSignal = (nRssi & 0x80) == 0x80 ? (-1) : (1);
int rssiABS = (~nRssi) & 0x7F;
int rssiValue = rssiSignal * rssiABS;
```

Now, we get -64 dbm in rssiValue.

ELECTRONIC PARAMETERS

Item	Value	Remarks
Case Color	Black/White	Customize color if >= 3000pcs
Battery Model	1 x CR2032	1pc CR2032 coin battery, 3.0V
Operation Voltage	1.8~3.6V	DC
Transmission Current	9.5 mA(Max.)	Test at 0dBm transmission power
Transmission Range	50 meters	Maximum
Antenna	50 ohm	On board / PCB Antenna
Net Weight	10.4 g	With battery
Size	38x38x7 mm	Null

TECHNICAL SUPPORT

Item	File Name
Datasheet	JW1405BGV134_Datasheet.pdf
SDK	JoywayLib.Android.zip; JoywayLib.iOS.zip

* Files versions may be updated without notification.

PACKING INFORMATION

Details	PP Bag	Carton
Quantity(JW1405)	1 pc	200 pcs
Net Weight	10.4 g	2.08 kg
Gross Weight	10.8 g	2.42 kg
Size	60x90x7.2 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

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