

Bluetooth BLE Active RFID (Sensor) Tag or iBeacon (APPLE Trademark)

Battery	iBeacon	w G-Sensor/ w/o G-sensor	Temperature/Humidity NTC
CR-2032 x 1	BLE-T1-i	BLE-T1-G BLE-T1	BLE-T1-TH BLE-T1-NTC
CR-2032 x 2	BLE-T2-i	BLE-T2-G/ BLE-T2	N/A



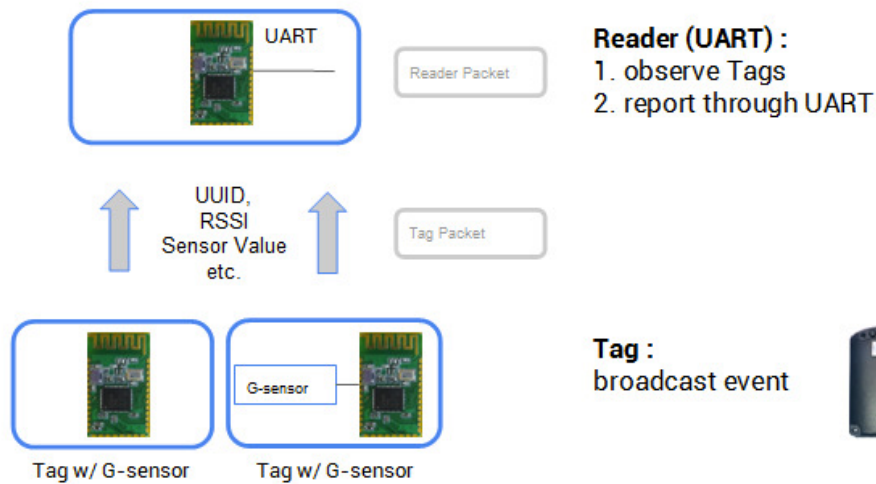
1. Application:

- * Location system: Asset, Passenger, Patient, Trailer
- * Access control: Garage, Enterprises, Bank, Vehicle, Factory, Hospital, Superstore,
- * School, Warehouse
- * Logistic management, Cargo tracking, Airport baggage management
- * Local Area Real Time Location Systems (RTLS)
- * Asset Management, Internet of Things (IOT) application
- * Customized packet format: iBeacon (Trademark of APPLE) or proprietary

2. Specifications:

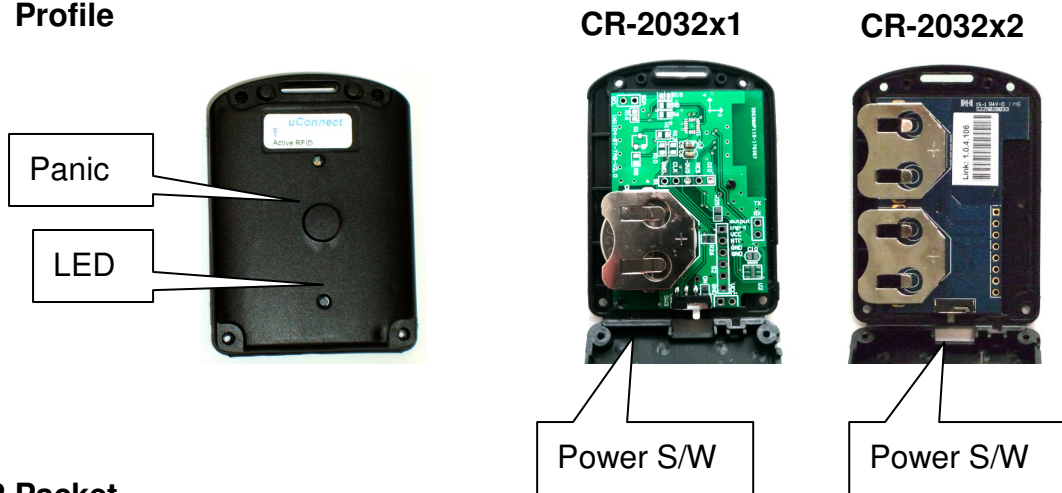
- * Frequency band: 2.4GHz ISM (2.40000 – 2.4835GHz)
- * Microcontroller: 32-bit ARM Cortex M0
- * Range: max. 50 m in open space
- * TX Power: Max. 3 dBm
- * TX current consumption of 15.6 mA (radio only, 0 dbm)
- * Operation Temperature: –40 °C to +70 °C
- * Dimensions: 5.5 × 4 × 0.8 cm
- * Antenna Gain: max. 2 dB

3. System Architecture:

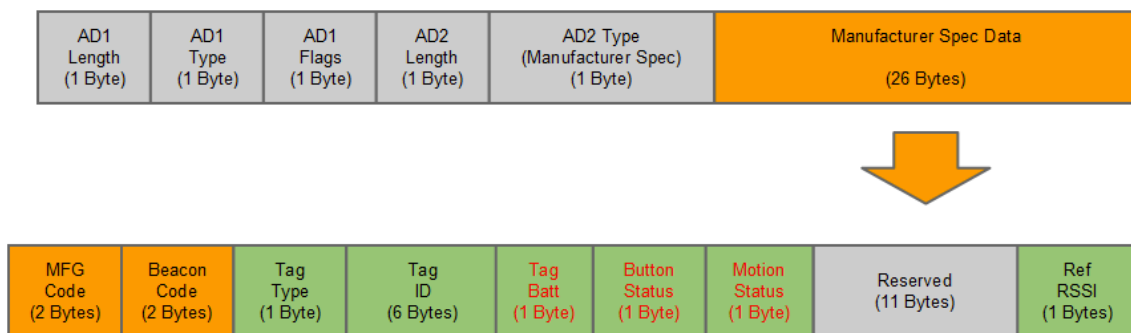


4. Tag

4.1 Profile



4.2 Packet



BLE ADV:

AD1 (Length, Type, Flags)	BLE Advertising Flags
AD2 Length	fixed to 27 (type + manufacturer spec data)
AD2 Type	fixed to 0xFF (for manufacturer)
Manufacturer Spec Data	manufacturer defined payload

Manufacturer Spec Data:

Field	Description	Field Offset
MFG Code	Manufacturer vendor code, fixed	0
Beacon Code	Magic Code to identify packet format, fixed to 0xBCAA	2
Tag Type	type of tag ex. 1: tag w/o g-sensor, 2: tag w/ g-sensor ..	4
Tag ID	6 bytes ID of tag	5
Tag Batt	batt voltage of tag in 1/10 volt unit	11
Tag Button Status	button status ex. 0: released, 1: pushed	12
Tag Motion Status	motion status ex. 0: non-moving, 1: moving	13
Reserved	reserved for sensor data (11 bytes)	14
Ref RSSI	calibrated rssi at 1 M for approaching usage	25

5. Sensors: (Option)

5.1 Temperature/Humidity:

5.2 NTC

5.3 G-sensor

5.4 DIO

5. Reader:

5.1 Output Format:

```
$<msg type>,<reader id>,<tag type>,<tag id>,<tag batt>,<button status>,<motion status>,<reserved>,<tag rssi>#
```

Field	Description
\$	start of report
msg type	Type of message ex. 0: general scanner, 1: tag scanner
reader id	6 bytes ID of reader in hex => 12 chars
tag type	type of tag ex. 1: tag w/o g-sensor, 2: tag w/ g-sensor ..
tag id	6 bytes ID of tag in hex => 12 chars
tag batt	batt voltage of tag in 1/10 volt unit
tag button status	button status ex. 0: released, 1: pushed
tag motion status	motion status ex. 0: non-moving, 1: moving
reserved	Reserved for external sensor data (11 bytes)
tag rssi	tag read rssi
#	end of report

example:

\$1,E2C69918FD94,1,FFC98B7FC1A9,32,0,0,,-55#

\$1,E2C69918FD94,1,FFC98B7FC1A9,32,1,1,, -55#
 \$1,E2C69918FD94,1,FFC98B7FC1A9,32,1,1,, -54#
 \$1,E2C69918FD94,1,FFC98B7FC1A9,32,1,1,, -63#
 \$1,E2C69918FD94,1,FFC98B7FC1A9,32,0,0,, -56#

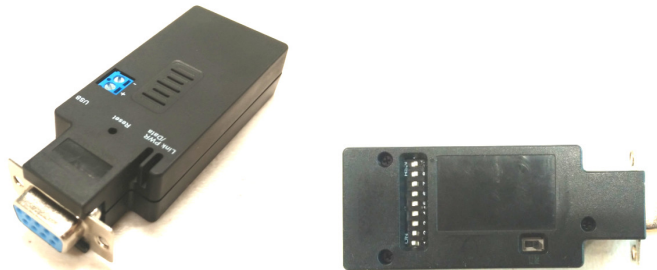
Default Tag Adv Period: 1000 ms

Panic Mode Tag Adv Period: 300 ms

Sensor Value:

ASCII Value	Byte 19	Byte 20	Byte 21	Byte 22	Byte 23	Byte 24	Byte 25	Byte 26	
Sensor Name	D0	D1	D2(+/-)	D3	D4	D5	D6	D7	D8~D10
Temperature(NTC)	0x30	0x42(B)	+ :0x2b,-0x2d	0~F	0~F	.0x2e	0~F	0~F	
Temperature(SHT-20)	0x30	0x31	+ :0x2b,-0x2d	0~F	0~F	.0x2e	0~F	0~F	
Humidity(SHT-20)	0x30	0x32	+	0~F	0~F				

5.2 RS-232 Reader



- * DB9 Male
- * Power input: 5~27VDC, Mini USB, Pin9 of DB9 or Terminal block
- * Slide switch (Rear side): DCE/DTE
- * DIP switch: RSSI filtering setting

5.3 Reader Gateway:



- * Support Wifi, Ethernet or RS-585
- * Power input: 5~27VDC
- * Support sensor: Temperature, Humidity, PM2.5, CO, CO2, CH2O, VOC, PIR, DIO,...

Remark: All contents are subject to change without notice.

We welcome OEM inquiries

- ◆ Custom design manufacturing is available
- ◆ Custom device programming is available
- ◆ Call factory for other configuration

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