

**BlueX Microelectronics Co., Ltd.**

**Bluetooth 5.0 LE | MESH SoC**  
**Smart Tracker Solution**  
**of RF03 and BX2417**

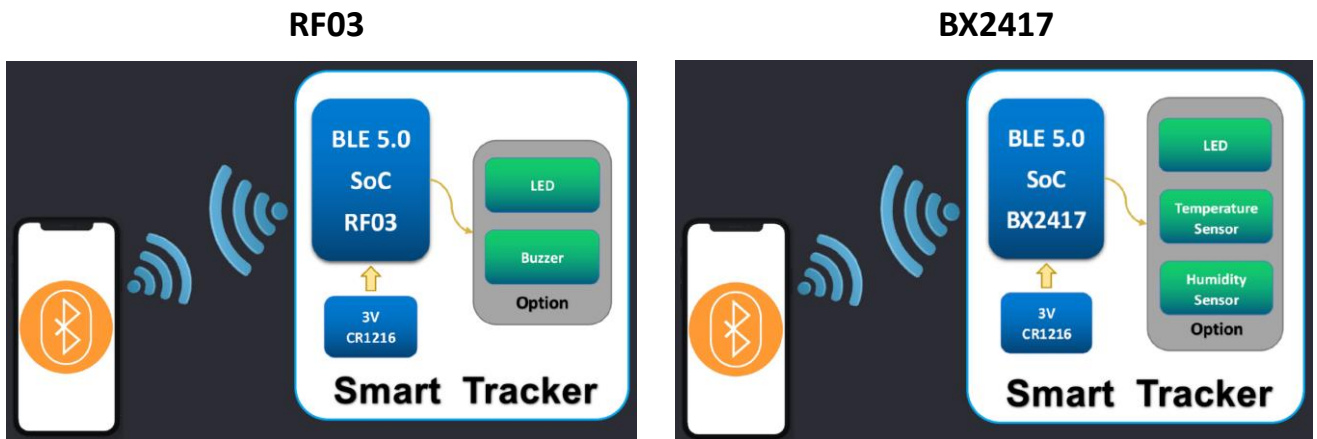
Version 1.3

Jul. 12<sup>th</sup>, 2021 released



<http://www.bluemicro.com>

## 1. Features



### (1) Overall

- A. Wide supply voltage ranges from 2.3V to 5.0V
- B. Compatible with Bluetooth LE 4.2/ 5.0
- C. Available for secondary development
- D. Supports Bluetooth SIG Mesh networking
- E. Supports Over-The-Air (OTA) technology
- F. Operating temperature: -25°C to 85°C, can be customized to -40°C the lowest.
- G. Package type QFN32, package size 4mm\*4mm

### (2) MCU

- A. Integrated 32-bit MCU
- B. Memory: 208kB SRAM, 128kB ROM
  - (A) RF03: 512kB(4Mb) Flash
  - (B) BX2417: 256kB(2Mb) Flash
- C. Clock frequency: 32MHz, up to 96MHz
- D. Flexible and configurable GPIO
  - (A) RF03: 10 pins
  - (B) BX2417: 11 pins
- E. Cryptographic engine: AES128, ECC
- F. ADC:
  - (A) Both RF03 and BX2417 are integrated internal 1 channel for ADC.
  - (B) BX2417 is integrated external 1 channel for ADC.

### (3) RF

- A. Programmable output power -2dBm to +8dBm
- B. Sensitivity of -93dbm

## 2. General Description

Bluetooth is a short-range wireless technology standard used for exchanging data between fixed and mobile devices over short distances. As a standard of Bluetooth, Bluetooth Low Energy (BLE) is for those who expect wireless communication solution with higher performance in competitive cost and power consumption. Trackers aren't new. However, with the advance of network, these small and lightweight tracking devices have become more and more popular in our life. We can attach them to bags, keys or other items we want to track, and then see where they are on systems or APPs. It helps providing not only the location but also attribute information.

## 3. Application

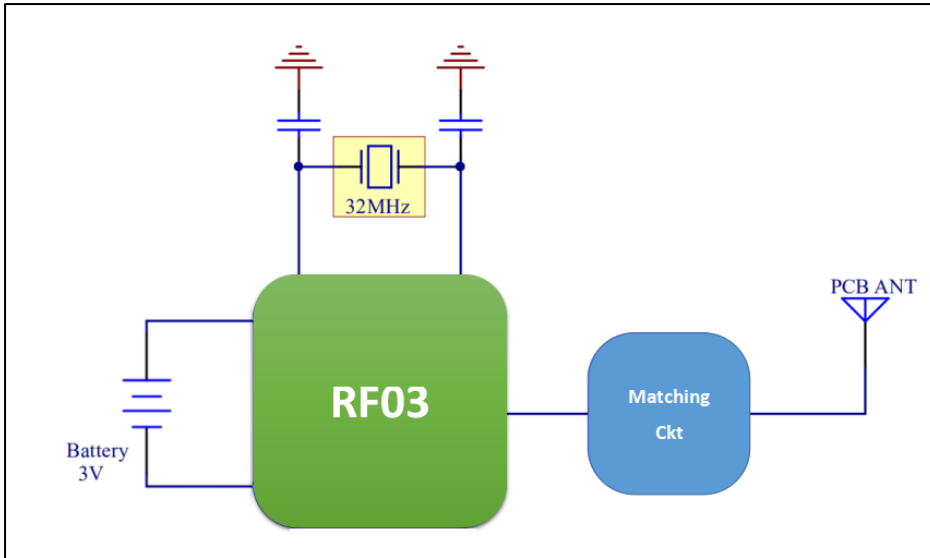
- (1) Real time location information of personnel and goods
- (2) Logistics tracking of medical supplies and vaccine

## 4. Function Introduction

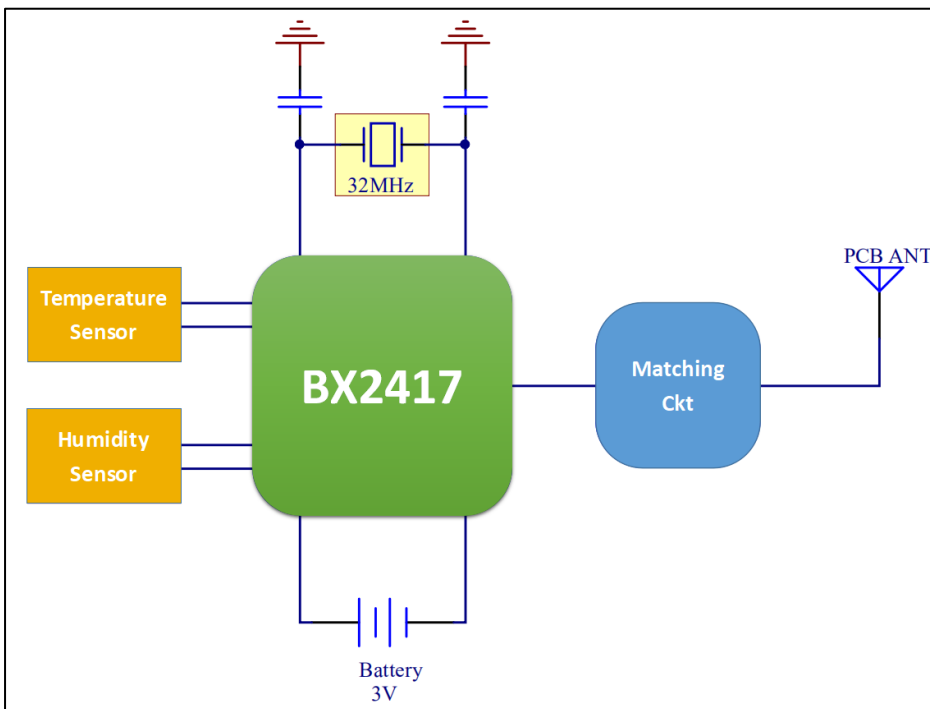
- (1) BLE sensors do real-time data collection and advertising, including devices attribute, temperature, and humidity
- (2) By using APPs, checking location and situation of devices on phones instantly
- (3) Supports OTA for easily and quickly devices upgrade
- (4) Low power consumption, around 4.32 mAh per month of power -2dBm and 1hr advertising period

### 5. Circuit Block Diagram

(1) RF03



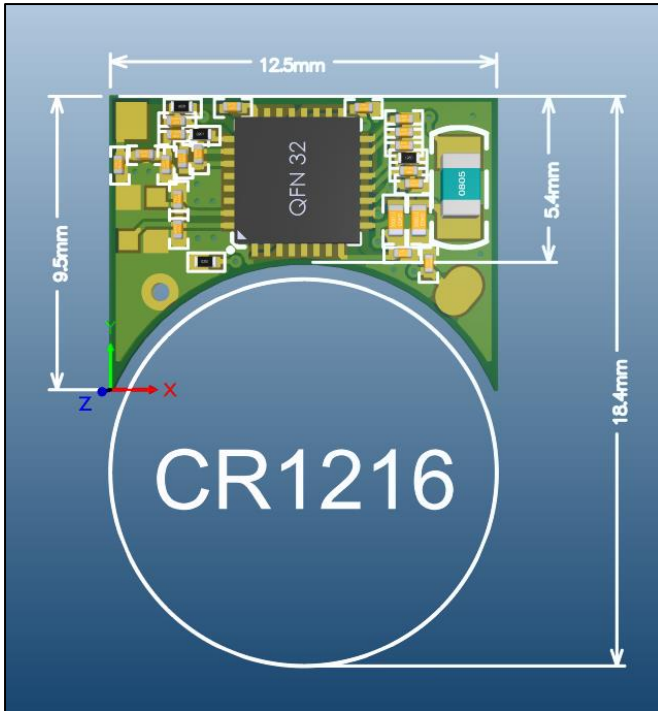
(2) BX2417



## 6. Product Reference

### (1) PCB

A. RF03 (18.4mm\* 12.5mm)



### (2) Products

