Pulseras de distanciamiento social y detección de temperatura

Version：V1.0.0

DESCRIPTION

Bracelets, Indoor positioning technology based on beacon,Blue tooth beacon base station low power consumption, low cost, easy to deploy, small size, long shelf time and high accuracy are widely used in the field of indoor positioning. The module integrates the KX022 triaxial acceleration sensor and the body temperature sensor, a built-in touch key, vibration motor and the buzzer alarm, with the lithium battery charging circuit which provides guarantee for the Beacon's long endurance. The RGB led prompts the electric quantity and charging condition.

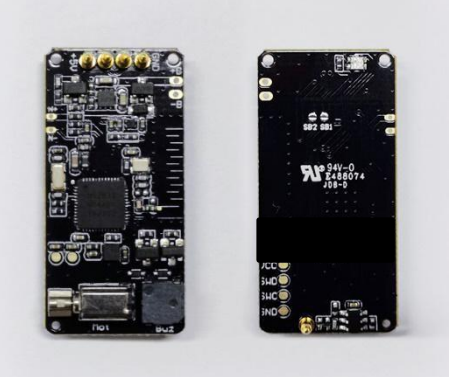
MOLD	NRF52832 BEACON
CHIPEST	Nordic 52832
BLE	5.0
POWER SUPPLY	2.0-3.3V
OUTPUT POWER	4dBm
BROADCAST INTERVAL	1S (adjustable)
TX CURRENT	13mA
AVERAGE CURRENT	50uA
STANDBY CURRENT	3.1uA
DISTANCE	**>50m**
DIAMETER THICKNESS	2.4cm*4.5mm
BATTERY	Charge Battery
WATERPOOF	**IPX67**

MODULE INTRO

- nRF52810-cortex-M4, flash:192kb, ram:24kb
- nRF52832-cortex-M4, flash:512kb, ram:64kb
- GFSK (2402-2480Mhz),40 Channels
- BLE4.2Protocol, support 5.0
- RF Performance
  RF Performance: +4dBm (-40 dBm to +4 dBm)
  Receiver sensitivity: -96 dBm
- Transmission distance 100M
- PCB Antenna
- Low Power Consumption
  @0dbm TX Current：5.3ma
  @0dbm Receive Current：5.4ma
- Programmable ADC（8/10/12/14 bit）
- Interface: SPI IIC UART
- Independent application development and protocol stack
- Built-in lithium battery and charging circuit
  Recyclability
  Battery power detection
  RGB Display low battery and Bluetooth broadcast
- Sensor
  Body Temperature Sensor
  Triaxial Accelerometer
- Size:17.9x36.7x2.0 mm(W x L x H)
- Working temperature: -40℃-+85℃
- Storage temperature: -40℃-+125℃
- IPX67 Waterproof and Dustproof

APPLICATION

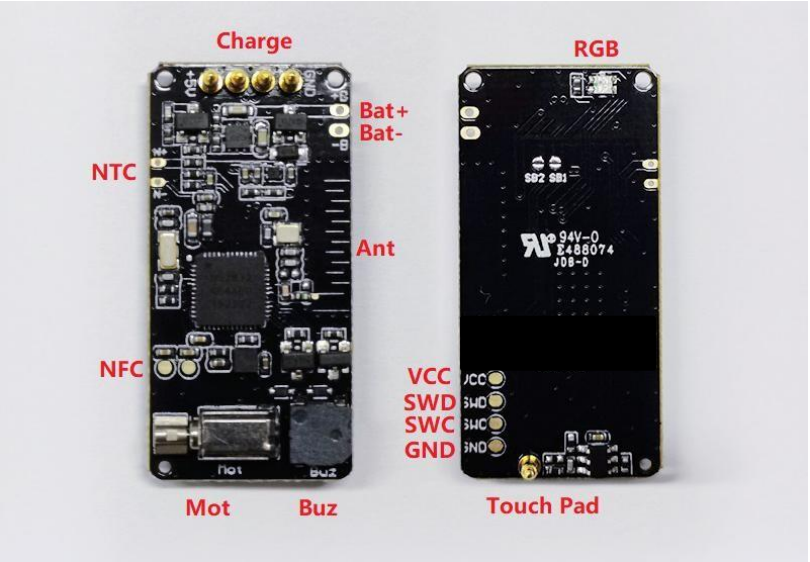
- WeChat “shake” - Around
- Push based on indoor positioning information
  Museum, Exhibition
  Scenic spot, Marketing, etc.
- Indoor navigation and positioning, asset positioning tracking and management
  Hospital, seniors’ home
  Prison, Security, etc.
- Parking lot reverse search
- Identification, Access, Checking-in, sign-in,etc.
-Real-time monitoring of body temp



<Picture 1

1. Module Introduction

1.1 Module Pin



1.2 Dimension Figure

Length:36.8mm; Width: 18mm; Height (lithium battery+board):9mm

2. Module User Manual

2.1 Operating

It can be used as long as there is electricity. If there is any parameter modification, please download the NRF connect to the APP Store and use it. After connecting the Beacon board, the interface is shown in the following figure

2.2 **Beacon Interface**

Service UUID：A5C32000-A29F-48E8-9DEB-654E240A599A

Description	UUID	Attribute	Length
mobile to beacon	A5C32001-A29F-48E8-9DEB-654E240A599A	write	20（MAX）
beacon to mobile	A5C32002-A29F-48E8-9DEB-654E240A599A	notify	20（MAX）

Beacon Service UUID 184F2020-4980-44C3-87A5-F6D0BD9C5D79
HEALTH_THERMOMETER UUID：0x0918
BATTERY_UUID :0x0F18

Num	APP Command	Return	Description
1	Modify Beacon UUID： 0xF2+UUID（16byte）	0xF2+UUID（16byte）	
2	Read Beacon UUID： 0xF3	0xF3+UUID	
3	Modify Major, Minor: 0xF4+ Major(2byte)+Minor(2byte)	0xF4+ Major(2byte)+Minor(2byte)	
4	Read Major，Minor： 0xF5	0xF5+ Major(2byte)+Minor(2byte)	
5	Modify Alarm Temperature： 0xF8+AHV(2byte)	0xF8 + Temperature Integer (1byte)+Temperature Decimal Place (1byte)	The alarm temperature is in ℃, and the default alarm temperature is 37.5℃
6	Modify Alarm Distance： 0xF9+AD(1byte)	0xF9+Alarm Distance (1byte) (Modifications range from 1 to 15 meters)	The alarm distance is in M, and the default alarm distance is 1M
7	Modify Alarm Sequence： 0xFA+AS(4byte)	0xFA+Vibration Time(1byte)+Vibration Interval (1byte) + Buzz Time (1byte) + Buzz Interval (1byte)	Alarm sequence is measured in seconds

2.3 Light Lamp Display Instructions

（1）Power on initialization: The blue indicated lamp flashes three times in a row
（2）Low battery: The Red indicated lamp flashes every ten seconds
（3）Charging Process: Red indicated lamp is always on
（4）Full charge state: Green indicated lamp is always on

2.4 Function description of temperature measurement

（1）To conduct heat through the metal contact surface on the back of the wristband, it is necessary to have a certain contact area between the metal surface and the skin.

（2）The measured temperature displayed in broadcast mode.

Note：The temp measurement range is 34℃-42.5℃； The temp measurement results are for reference only, and cannot be used to determine the real temp of the human body. They cannot be used for medical testing, and can not be used as a judgment basis for the health of the body. The temp can be compensated through big data to achieve the most ideal temp measurement effect.

2.5 Alarm function description

（1）Current temperature detected≥ Set alarm temperature， Constantly Red, The buzzer and vibrating motor to remind.

Instruction	description	App Send Commands
0xF8	0xF8+Temperature Integer(1byte) +Temperature Decimal Place (1byte)	F8 00 00

（2）Current distance detected ≤Set alarm distance，Constantly Red,

Instruction	description	App Send Commands
0xF9	0xF9+Alarm Distance (1byte)	F9 00

（3）Alarm Sequence：

Instruction	description	App Send Commands
0xFA	0xFA+Vibration Time/s(0x00)+Vibration Interval/s(0x00)+Buzz Time/s(0x00)+ Buzz Interval /s(0x00)	FA 00 00 00 00

3 .DATA FORMAT

3.1 Broadcast Data Format

（1）Broadcast Data1：

Address	0	1	2	3	4	5-6	7-8	9-10
Data	02	01	06	05	16	Temp UUID: 0918	2byte: Temp Data	0D16
Address	11-12	13	14-19	20	21-22	23	24-	25-30
Data	UUID: 0210	Battery power	Mac Address	TX Power	Broadcast Interval	Name Length	09	Name
Address	31-32	33-34	35	36	37-52	53-54	55-56	57
Data	1AFF	Compa ny ID	Beacon Device	Beacon Data Length	Beacon UUID	Major	Minor	RSSI At 1M

（2）Broadcast Data 2：

Address	0	1	2	3	4	5-6	7-10	11-14	15-17	18	19
Data	02	01	06	0F	16	Sensor UUID：0110	4byte:X Shaft Data	4byte:Y Shaft Data	4byte:Z Shaft Data	Name Length	09
Address	20-25	26-27	28-29	30	31	32-47	48-49	50-51	52		
Data	Name	1AFF	Compa ny ID	Beacon Device	Beacon Data Length	Beacon UUID	Major	Minor	RSSI At 1m		

Note：

The scan response is split into two broadcasts, switched once per second

If no sensor, there is no data

Temperature data： temperature Integers（1byte）+ temperature decimals（1byte）

Accelerate data：

Three axis（x/y/z）	Sign bit (1 is negative)
Three axis（x/y/z）	Integer bit (1byte)
Three axis（x/y/z）	First place after decimal point (1byte)
Three axis（x/y/z）	Second place after decimal point (1byte)

4.Cooperation

- Developing SDK platform and Bluetooth PCBA module
- Providing a professional solutions to me