

22049-beacon-V1.0
Specifications



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1. Product overview

1.1. Scope of application

- ① Push messages
- ② Indoor positioning navigation
- ③ Reverse car search
- ④ Office attendance check in
- ⑤ Sensor application
- ⑥ Scenic guide

1.2. Product Overview

22049-beacon-V1.0 is a Bluetooth low power slave device that can be used in various living and learning scenarios. Its application areas are: push message; Indoor navigation and positioning, asset positioning tracking and management; Wechat shake; Identification, access control, attendance, clocking, etc.; Sensor application; Comprehensive application of beacon in large public places.

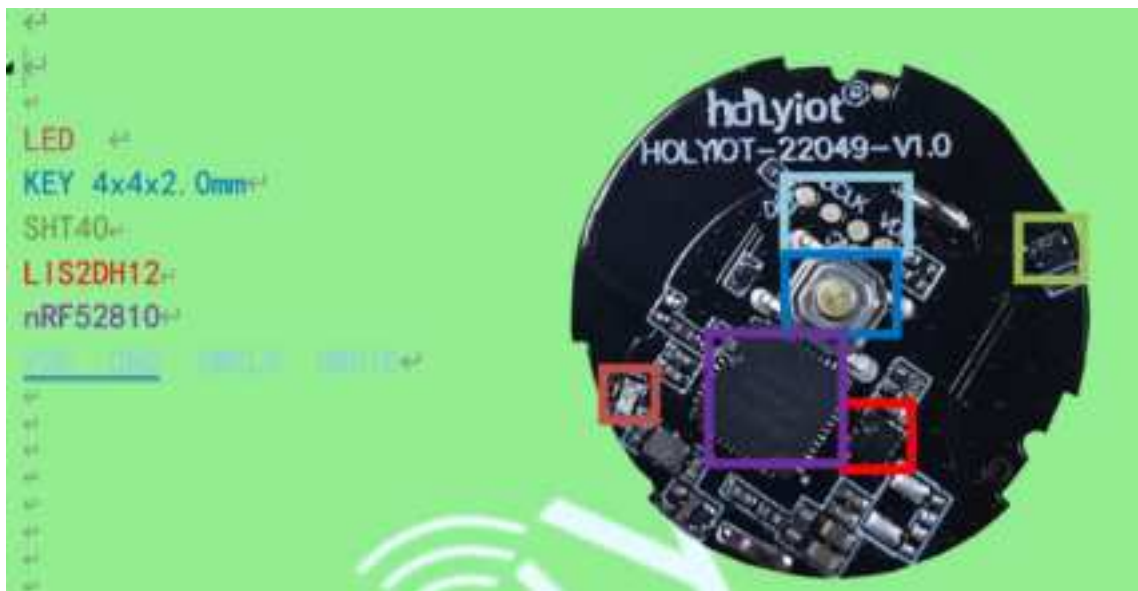
The internal core of 22049-beacon-V1.0 is Nordic's nRF52 series chip, which has a number of mature Bluetooth low power 5.0 devices.

1.3 Product Features

22049-beacon-V1.0 is based on the Nordic Bluetooth Low Energy Bluetooth 5.0 chip. It has a sensitivity of -96dBm in low power mode, a maximum transmit power of 4dBm, and on-chip battery. And it has flexible power management. There is a 3-axis acceleration sensor inside the product, which can be flexibly applied to other scenarios.

1.4 Appearance and dimension drawing

Physical drawing



TOP VIEW

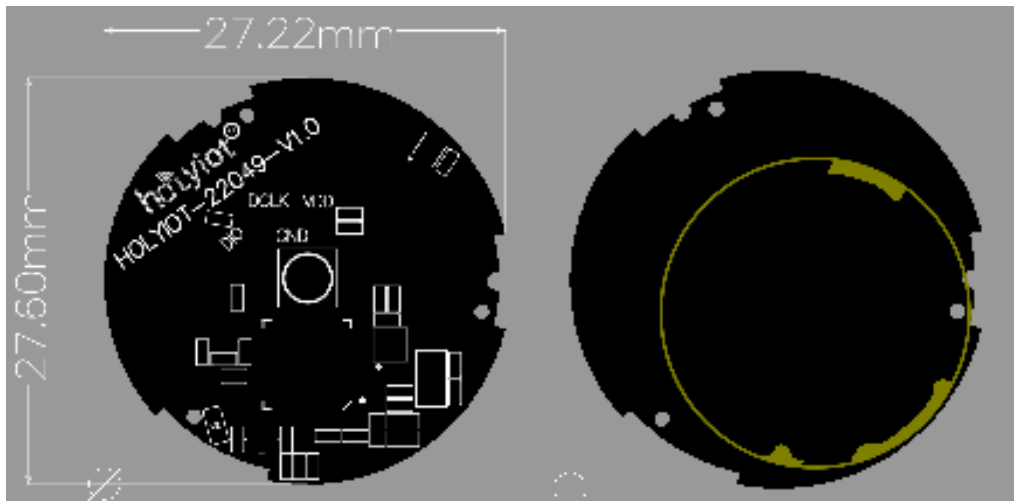
Dimensions: 2.76cm*2.72cm



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BOTTOM VIEW

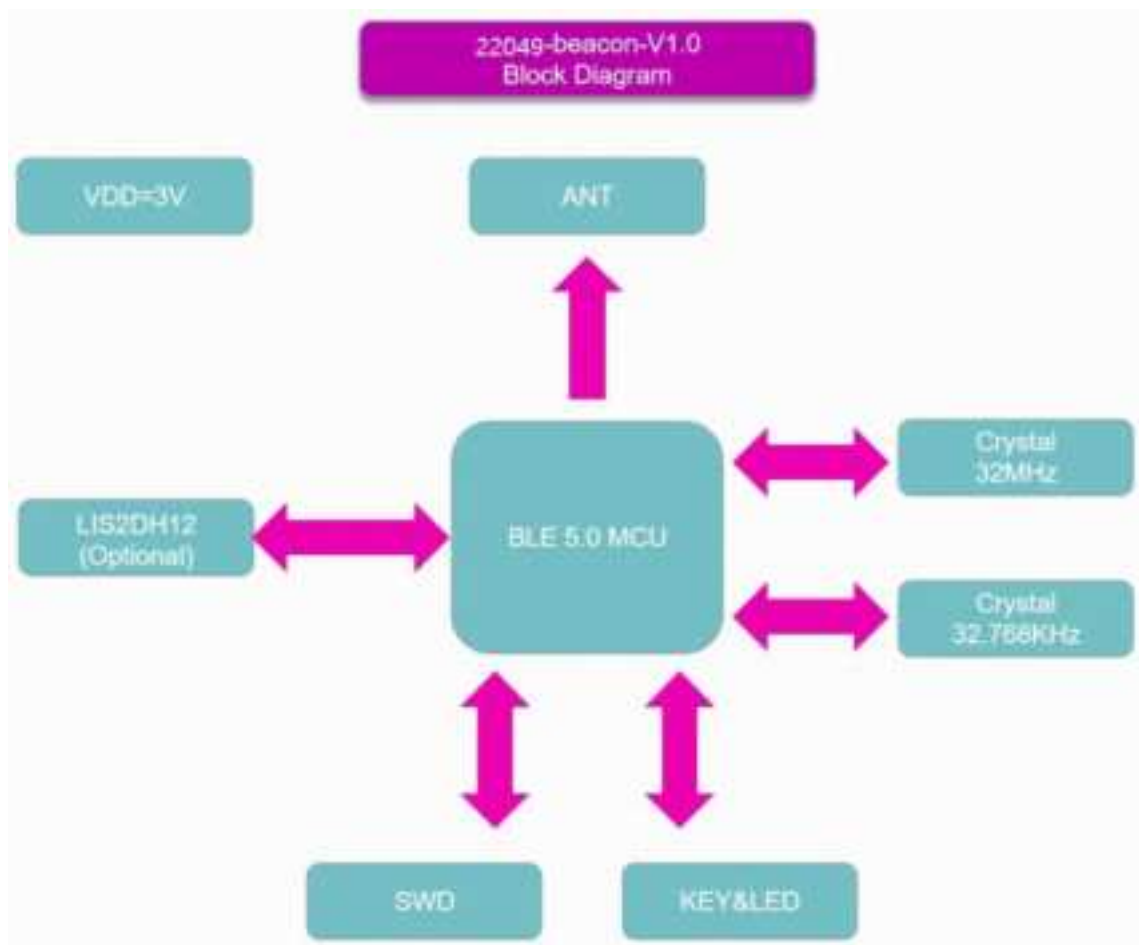
Dimensioning Diagram



TOP VIEW

BOTTOM VIEW

2. Product Block Diagram



3. Electrical characteristics and parameters

- Operating voltage: 2.0V to 3.6v, 3.0v is recommended
- Working band : 2402 MHz~2483 MHz
- Maximum transmit power:+4dBm
- Receive sensitivity: -96dBm
- Transmission distance:30-50 meters
- Frequency error: ± 50 kHz
- Shutdown power consumption: 2.2uA
- Operating temperature: $-20^{\circ}\text{C}\sim+60^{\circ}\text{C}$
- Storage temperature: $-40^{\circ}\text{C}\sim+85^{\circ}\text{C}$
- Power consumption at 2s 0dBm broadcast time: 9.9uA



- Power consumption at 3s 0dBm broadcast time:7.6uA



4. Recommended Working Conditions

Function operation can not guarantee its performance beyond the limit of the value of each condition parameter in the following table, and long-term operation beyond this limit will affect the long-term reliability of the module more or less.

Attention:

Operating temperature is limited by changes in crystal frequency;

To ensure radio frequency performance, the ripple on the power supply must be less than 30mV

		Minimum value	Typical value	Maximum value	Units
Power supply and IO	Battery mode	2.0	3.0	3.6	V
Operational problems	/	-20	25	60	℃

5. Contact us

Shenzhen Hongyi Yunjia technology Co., LTD

SHENZHEN HOLYIOT TECHNOLOGY CO.,LTD.

Tel: 0755-86165842 Web: <http://www.hyyunjia.com/>

Fax: 0755-86165842 E-mail: myb33695@126.com

Add: 309-310, Building 10, Guanlong Second Industrial Zone, Xili, Nanshan District, Shenzhen

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction