

Bluetooth Low energy Beacon Product Manual

I. Product Overview

This product is an ultra-low power, high-performance Bluetooth broadcast positioning device. It is designed to provide real-time and accurate location information, making it suitable for asset tracking and location beaconing applications. The product features a compact design, extremely low power consumption, and can operate stably for extended periods using its built-in battery.

II. Key Features

Dedicated Broadcast Mode: Transmits broadcast signals only; does not scan or accept connection requests, ensuring ultra-low power consumption.

Low-Power Design: Utilizes optimized hardware and firmware to maximize battery service life.

Stable Broadcasting: Continuously and stably transmits Bluetooth broadcast signals at a default interval of 3 seconds.

Compact Structure: High level of module integration, housed in a custom-molded enclosure with ultrasonic sealing, achieving IP67 waterproof rating, suitable for diverse environments.

III. Hardware Specifications

Core Chip: WCH CH592D Bluetooth IC

Operating Frequency: 2.4GHz ISM band

Broadcast Content: Customizable (pre-configured before shipment), typically includes unique device ID, signal strength (RSSI), etc.

Broadcast Interval: 3 seconds (typical, customizable upon request)

Antenna: Integrated PCB antenna

Power Supply:

Operating Voltage: 3.0V DC

Power Source: Built-in alkaline zinc-manganese batteries (two cells in parallel, 3V, total capacity 3200mAh)

Battery Life: Theoretically up to several years (typically >5 years under standard conditions, dependent on broadcast power and ambient temperature)

Operating Temperature: -20°C ~ +60°C

IV. Installation and Usage

Unboxing: Remove the product from its packaging.

Installation: Secure the device at the target location using self-tapping screws or other methods (e.g., adhesive backing, depending on the actual design).

Indicator Light: Designed for extreme low power consumption, this product typically does not include an operating indicator light. The broadcast function is enabled by default.

Application: Use any terminal device that supports Bluetooth scanning to detect the broadcast signal from this device in the vicinity.

V. Precautions

Battery Safety:

Do not charge, heat, short-circuit, or disassemble the batteries.

Do not subject the product to excessive physical force or impact.

Operating Environment: Avoid prolonged use in environments with strong corrosive gases, liquids, or extreme high temperatures/humidity.

Compliance Statement: This product complies with relevant regulations for radio transmission equipment. Ensure you understand and adhere to the radio management regulations of the country or region where you are using the device.

VI. Product Identification

The product casing features the company logo and an SN label. This number is the product's unique identifier. Please retain it for future reference and inquiries.

FCC Warning

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.

NOTE 1: 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.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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