

iBS06 Specification

BLE Card Beacon with MIFARE

iBS06 is a card beacon/tag used for tracking and identification. It supports **Bluetooth® Low Energy (BLE) 5** for tracking and MIFARE for identification. For tracking, it works with the INGICS beacon gateway to locate the beacon position. For identification, it works like a RFID card for access control. The typical battery usage time is 1.7 years in default settings(5 sec).



Features

General

- ARM Cortex™-M4 32-bit processor
- Powered by 2 x CR2012 battery
- Battery life: 1.7 years in typical beacon setting
- Android APP for configuration
- Battery is changeable
- Size: 85.6mmX54mmX2.4mm

Environment

- IPX4
- Operating temperature: -5°C to 45°C

Certification

- Bluetooth
- CE/FCC/TELEC/NCC

MIFARE

- NXP MIFARE S50 EV1
- Memory: EEPROM 1k Bytes
7-byte UID

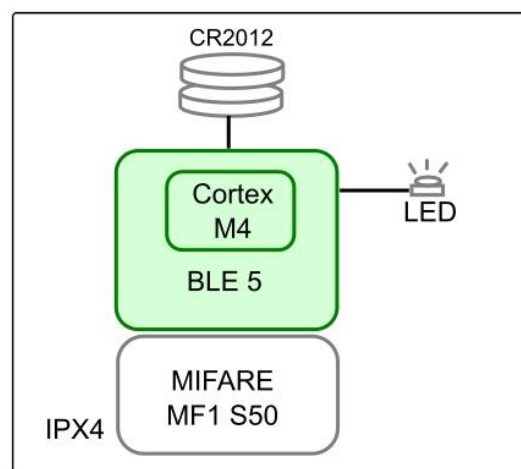
BLE

- 2.4GHz frequency band
- Support Bluetooth Low Energy in **Bluetooth 5** standard
- Maximum transmit power: +4dBm
- Receiver sensitivity: -97 dBm @1Mbps, 0.1% BER
- On board PCB antenna
- ~100M range in open space

Applications

- Location tracking
- Security
- Access control
- Employee card
- Hotel card
- Security card

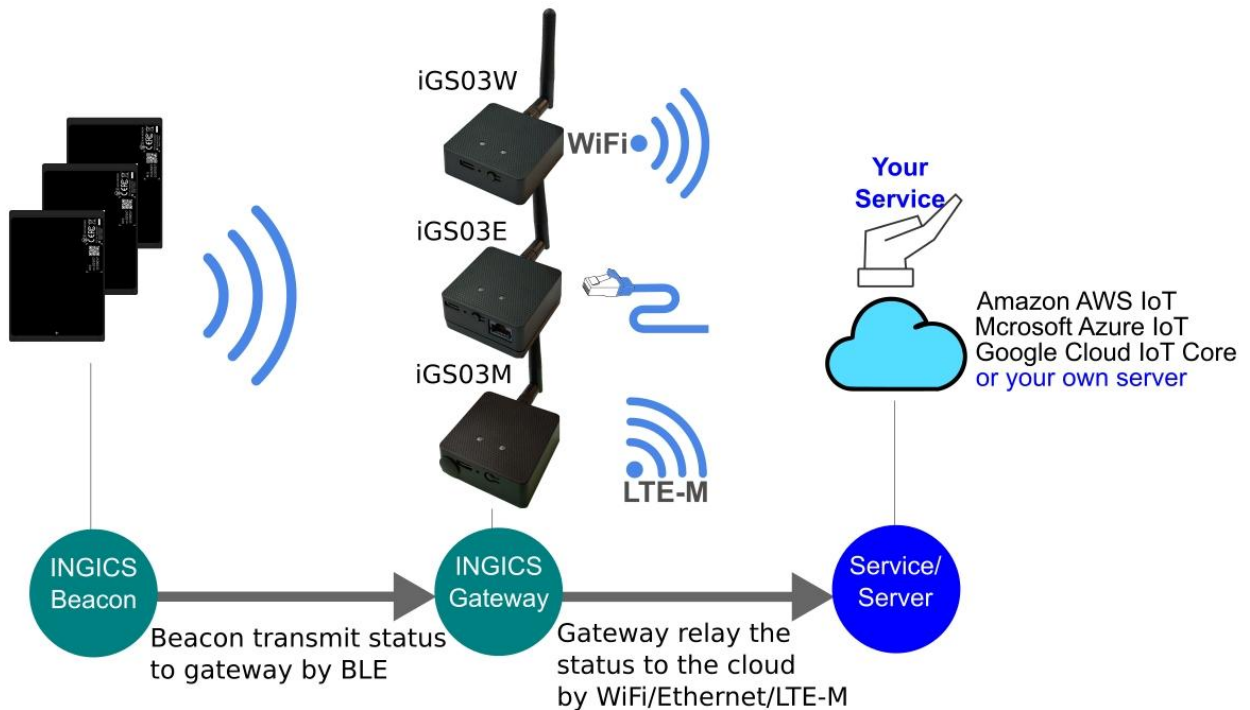
Block Diagram



INGICS TECHNOLOGY

Typical Usage

Works with the latest iGS03W, iGS03E or iGS03M beacon gateway to receive beacon messages and upload to a cloud server. Users can access and manage the data anytime, anywhere.



BLE Antenna

Antenna Position	Radiation Direction	Radiation Pattern
Antenna	Antenna	

Specification

Absolute Maximum Rating

Supply Power	CR2012 battery X2
Storage Temperature	-20° to 60° Celsius

Recommendable Operation Condition

Operating Temperature	-5° to 45° Celsius
Humidity	Max 95%, Non condensing, relative humidity
VDD	+3V by CR2012 battery
IPX4	Protected against water splashing from any angle

Average Current Consumption

iBS06-5 sec(default)	Average: 5.93uA*, in the 5s transmit period (default).
iBS06-10 sec	Average: 4.47uA*, in the 10s transmit period.

* Measured with Panasonic CR2012 battery.

Battery Life Simulation

iBS06-5 sec(default)	1.7 yr*, in the 5s transmit period (default).
iBS06-10 sec	2.2 yr*, in the 10s transmit period.

* Calculated with two pieces of CR2012 battery with 110mAh capacity. Considering the battery discharge characteristic, only 80% of capacity is used for calculation. This value is just for reference and may be varied with component tolerance and different environments.

BLE RF Specification

Transmit Power	Default: 0 dBm; Max.: +4 dBm.
Frequency band	2.400 – 2.483 GHz
Antenna	on board PCB antenna
Range	100M in open space

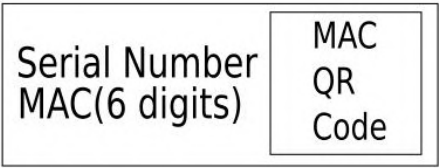
NFC Specification

IC Type	NXP MIFARE S50 EV1
Memory	EEPROM 1k Bytes 7-Byte UID
Operating Frequency	13.56MHz

Marking

iBS06

iBS06i



Serial Number: <Y><M><SN>
 <Y> Year code :1:2021,2:2022,...
 <M> Month code:1:Jan,2:Feb,...A:Oct,B:Nov,C:Dec
 <SN> Sequential Number
MAC(6 digit): The last 6 digits of MAC address
MAC QR code: Full MAC address(12 digits) in QR code
Major:iBeacon Major
Minor:iBeacon Minor

Dimension

Dimensions L x W x H (mm)	85.6 x 54 x 2.4
Weight(g)	18 (w/ 2xCR2012 battery)

Packaging

One package box(size: 11cmX5.5cmx6.5cm) contains 20 units of iBS06.



Waste Electrical and Electronic Equipment Recycling

Our product is compliant with the WEEE directive for re-use/recovery/recycling. This cross-out wheeled-bin symbol is a reminder that this product should not be treated as household waste. Instead, hand it over to the appropriate collection point for the recycling of electrical and electronic equipment in accordance with local environmental regulations for waste disposal.

Since our product is not sold directly to the end user and generally it is a part of our customer's solution, our customer is recognized as a professional seller. Our customer has the responsibility to comply with the requirement of the directive too. To help our customers, when necessary, we will provide a WEEE compliant assessment report for registering and communicating with the local authorities and recycling agency.



Certification

Bluetooth SIG Qualification

Model number: iBS06

Declaration ID: D048813

Description: Beacon

Japan MIC Regulatory

201-220456

FCC Regulatory

2AH2IIBS06

NCC Regulatory

CCAH22LP5450T1

CE Regulatory

iBS06 has been tested and complies with the essential requirements of the DIRECTIVE 2014/53/EU, DIRECTIVE 2014/35/EU and DIRECTIVE 2014/30/EU. Below is the copy of the CE Conformity of Declaration.

Statement

Federal Communication Commission Interference Statement

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 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.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

FCC Radiation Exposure Statement This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 0.5 centimeters between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. The antennas used for this transmitter must be installed to provide a separation distance of at least 0.5 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

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.

NCC 警語

「取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前述合法通信，指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。」

DECLARATION OF CONFORMITY

**EU RED - DIRECTIVE 2014/53/EU -
EU-LOW VOLTAGE DIRECTIVE 2014/35/EU -**

This declare that the following designated product

Card Beacon
Model No.: iBS06
Brand Name: INGICS

.....
(Product identification)

complies with the essential requirements of the **EU RED - DIRECTIVE 2014/53/EU, EU-LOW VOLTAGE DIRECTIVE 2014/35/EU** and meet the limitation of the relevant test standard(s) listed below:

EMC	Radio Spectrum	Safety
EN 301 489-1: V 2.2.3 (2019-11)	EN 300 328 (V 2.2.2, 2019-07)	IEC 62368-1:2014/COR1:2015
EN 301 489-3: V 2.1.1 (2019-03)	EN 300 330 (V 2.1.1, 2017-02)	and EN 62368-1:2014/A11:2017
EN 301 489-17: V 3.2.4 (2020-09)		Health EN 62479(2010)

.....
(Identification of regulations / standards)

This declaration is issued for
INGICS TECHNOLOGY CO., LTD.
2F., No.15-2, Changshou St.,
Shulin Dist., New Taipei City 238, Taiwan, R.O.C.

.....
(Name / Address)

Furthermore we declare that our product will be produced in correspondence with all requirements according to the Directive 2014/53/EU and LOW VOLTAGE DIRECTIVE 2014/35/EU

Name: J.K.Fan

Title: President

Signature 

Date: 2022. 07. 14

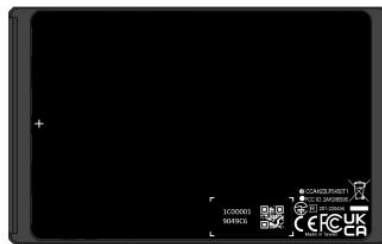
UK DECLARATION OF CONFORMITY (DoC)

Hereby we,

Name of Manufacturer: INGICS TECHNOLOGY CO.,LTD.
Address: 2F.,No.15-2, Changshou St., Shulin Dist.
Post Code & City: New Taipei City 238
Country: Taiwan(R.O.C)
Telephone Number: +886-2-26868632

Declare that this DoC is issued under our sole responsibility and that this product:

Product Description: Card Beacon
Type Designation(s): iBS06
Trademark: INGICS
Batch / Serial Number: After 1C00001



Is in conformity with the Radio Equipment Regulation 2017 with reference to the following Standards applied:

Radio Equipment Regulations 2017

EN 301 489-1:V 2.2.3(2019-11)

EN 301 489-3:V 2.1.1(2019-03)

EN 301 489-17:V 3.2.4(2020-09)

EN 300 328(V 2.2.2, 2019-07)

EN 300 330(V 2.1.1, 2017-02)

IEC 62368-1:2014/COR1:2015 and EN 62368-1:2014/A11:2017

EN 62479(2010)

Signed for and on behalf of:

2022. 07.14
Date of issue

J.K.Fan, President
Name, Function, Signature

A handwritten signature in black ink, appearing to read 'J.K. Fan', written over a horizontal line.

F058 v.2

Revision History

DATE	REVISION	CHANGES
Oct 25, 2021	0a	Initial release
Mar 18, 2022	0b	Add 1. Antenna section 2. Marking section
Aug 3, 2022	0c	1. Operation temperature is changed to -5°C to 45°C 2. Storage temperature is changed to -20°C to 60°C 3. Update certification section
Feb 2, 2023	0d	1. Update Marking section
Feb 7, 2023	01	1. Adjust BLE Antenna picture