# 1. Introduction

**Part Name**: IDG BT_CB

**Part Number**: IDG BT_CB V1.0

The ENDEX IDG BT_CB Bluetooth module is design for standard SPP (Serial Port Profile) electronic accessory via Bluetooth connectivity. It is available in the 2.4GHz ISM band Class 2 Radio, compatible with Bluetooth Core Specification Version 3.0 + EDR.

## 1.1. Major Components

- iSSC IS1657NM (48 pin QFN, single-chip Bluetooth transceiver and baseband processor)

- Serial EEPROM 8K (1024*8) TSSOP 8P

- iPod Authentication Coprocessor V2.0C; Compatible with the iPod, iPhone & iPad (MFI337S3959)

## 1.2. Features

- Bluetooth 3.0 EDR compliant

- Low power 1.8V RF operation

- RF transmitter output power Class 2

- RF receiver GFSK typical -90dBm, $\pi/4$ PSK typical -90dBm, 8DPSK typical -83dBm

- Internal ROM and 4Mibts of flash

- HCI over UART

- I2C for external EEPROM.

- 1 LED driver

## 1.3. Application

- Fitness System data transformer application.

# 2. Product Specification

## 2.1. Interfaces

- Serial port Rx, Tx TTL signal.

## 2.3. Hardware Design Considerations

**- Power**

The module requires either 5V supply voltage.

**- Serial Flash and Firmware Version**

Firmware code is stored on chip internal flash.
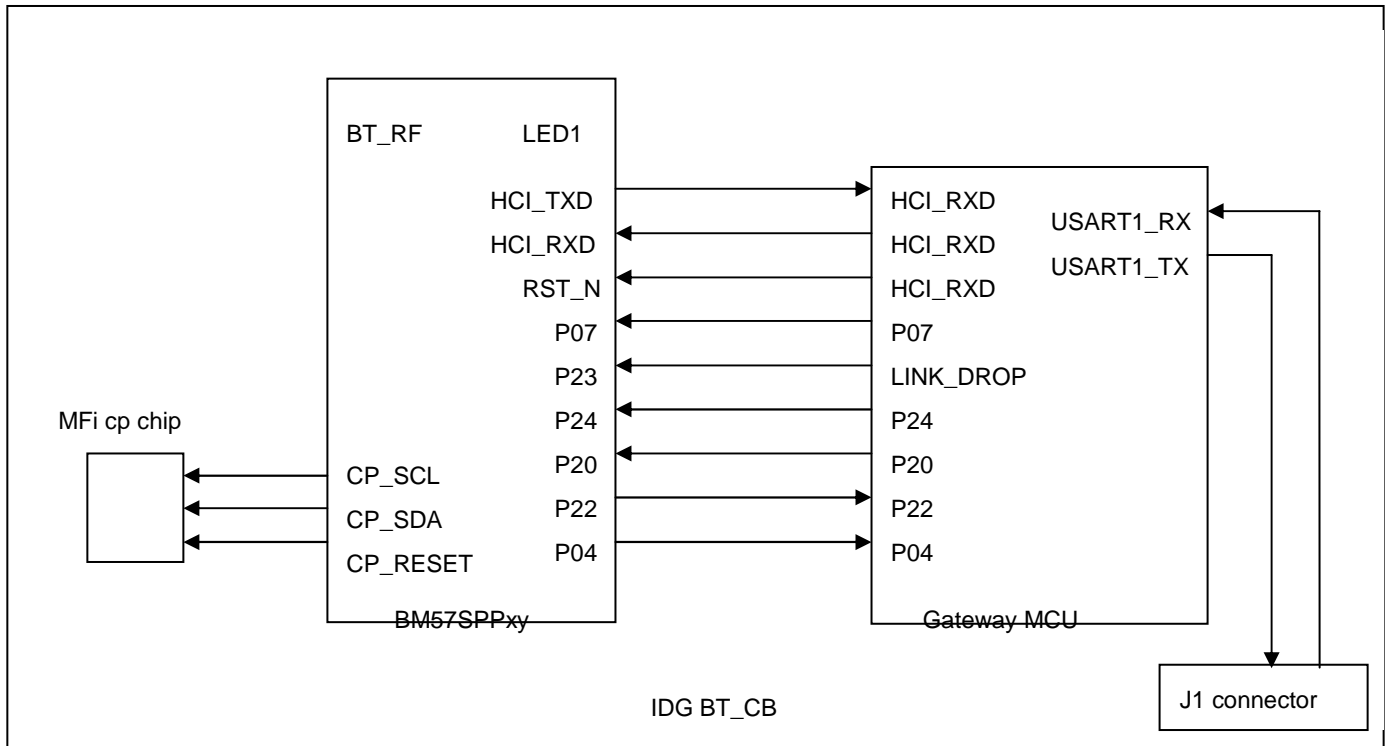
**- Radio Characteristics**

Bluetooth V3.0 + EDR

Frequency Band: 2402-2480 GHz

Number of Channels: 79 1MHz channels

**- Baud Rate**

| Desired baud rate | Clock | P | Div | Actual Baud rate | Error Rate % |
|---|---|---|---|---|---|
| 57600 | 16000000 | 13 | 20.8675214 | 58608 | 1.75 |

## 3. Hardware Architecture



## 4. Environmental Requirements
### 4.1. Temperature

| Conditions | Operating Temperature | Non-Operating Temperature |
|---|---|---|
| Minimum | -10 ℃ | -40℃ |
| Maximum | +70 ℃ | +80 ℃ |

### 4.2. Humidity

| Conditions | Operating Humidity | Non-Operating Humidity |
|---|---|---|
| Minimum | 10% | 5% |
| Maximum | 90% | 95% |

## 5. Dimension
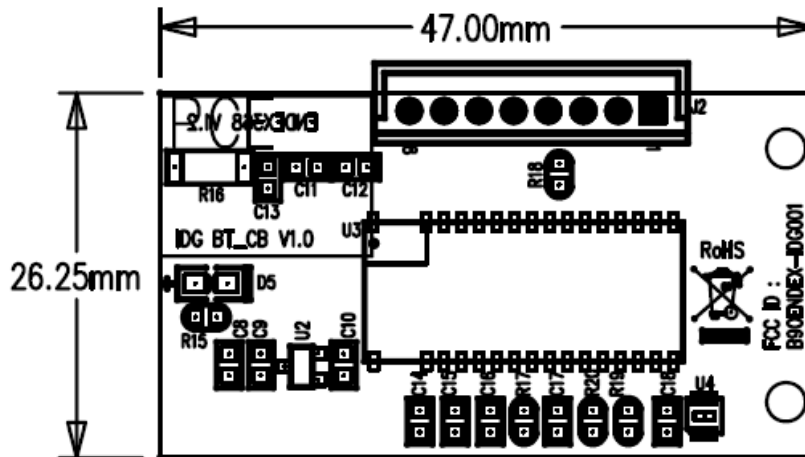


The PCB size is 47.00 mm * 26.25 mm, with two 2.8mm mounting holes can lock screw.

## 6. Connect interface
Connect pin define, use JST XH 6 pin housing.

| Pin No. | Pin function | Pin wire color | Note |
|---------|--------------|----------------|------|
| 1 | BT_Rx | Green | |
| 2 | BT_Tx | Yellow | |
| 3 | IAP | Orange | Reserve for FW update |
| 4 | - | - | |
| 5 | DC5V | Red | |
| 6 | GND | Black | |

## 7. IDG001 Regulation Statement

In accordance with FCC Part 15C:
**IDG001**, this module is listed as a Limited Modular Transmitter device.
Therefore, the final host product must be submitted to **Endex Automation Technology Co., Ltd.** for confirmation that the installation of the module into the host is in compliance with the regulations of FCC.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

FCC Label Instructions:
The outside of final products that contains this module device must display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains Transmitter Module FCC ID: **B9OENDEX-IDG001**" or "Contains FCC ID: **B9OENDEX-IDG001**." Any similar wording that expresses the same meaning may be used.