

## FSC-BT826E

### 4.2 Dual Mode Bluetooth Module Data Sheet

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## Release Record

| Version Number | Release Date | Comments                             |
|----------------|--------------|--------------------------------------|
| Revision 1.0   | 2019-05-11   | First Release                        |
| Revision 1.1   | 2019-06-12   | Corrected some erroneous description |
|                |              |                                      |
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**FEASYCOM**  
Shenzhen Feasycom Technology Co., Ltd.

## 1. INTRODUCTION

FSC-BT826E is Feasycom's dual-mode (BR/EDR and LE) Bluetooth 4.2 compliant module. It supports SPP, HID, GATT, ATT, and other profiles. It provides several customizable hardware interfaces such as UART, PCM, I2C, AIO, PIO, etc.

FSC-BT826E incorporates high-performance MCU, Bluetooth controller and chip antenna in a small package so that customers can integrate FSC-BT826E in small products.

FSC-BT826E uses UART as the programming interface, customers can use AT commands to read or write the configuration of the module through UART. FSC-BT826E is powered by Feasycom's Bluetooth stack which could provide more possibilities to the applications of customers. For programming with FSC-BT826E, please refer to the relevant programming user guide.

### 1.1 Block Diagram

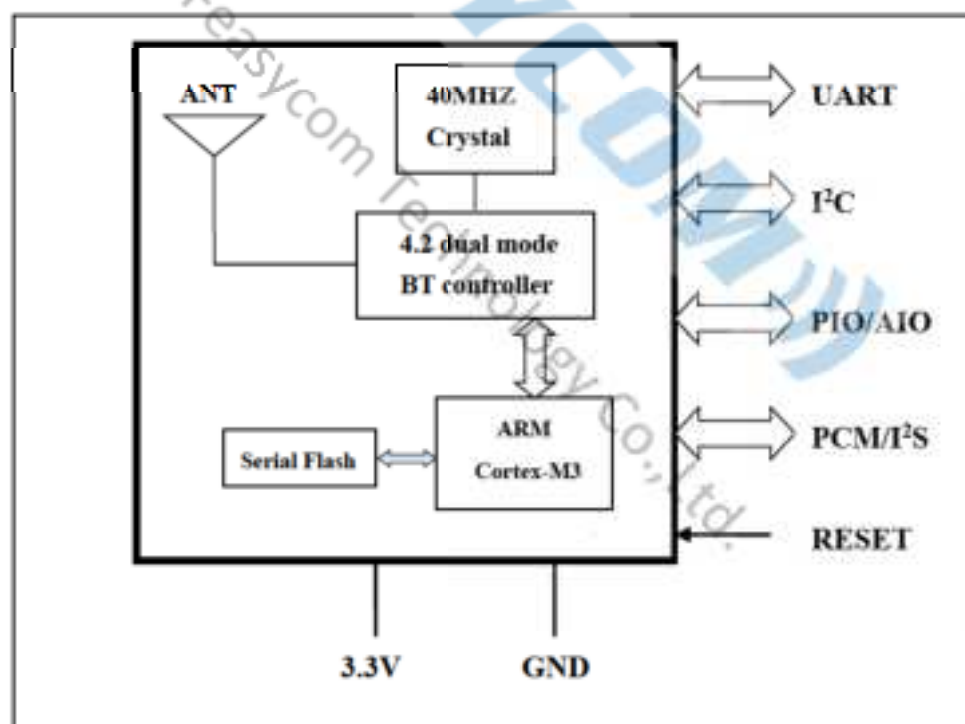


Figure 1

## 1.2 Feature

- ◆ Fully qualified Bluetooth 4.2/4.0/3.0/2.1/2.0/1.2/1.1
- ◆ Postage stamp sized form factor
- ◆ Low power
- ◆ Class 1.5 support(high output power)
- ◆ The default UART Baud rate is 115.2Kbps and can support from 1200bps up to 921.6Kbps
- ◆ UART, I<sup>2</sup>C hardware interfaces
- ◆ Support the OTA upgrade(optional)
- ◆ Bluetooth stack profiles support: SPP, HID, GATT, ATT, GAP
- ◆ Support Apple MFi(iAP2), iBeacon

## 1.3 Application

- ◆ Smart Watch and Bluetooth Bracelet
- ◆ Health & Medical devices
- ◆ Wireless POS
- ◆ Measurement and monitoring systems
- ◆ Industrial sensors and controls
- ◆ Asset Tracking

## 2. GENERAL SPECIFICATION

| General Specification   |   |
|-------------------------|---|
| Chipset                 | Realtek RTL8761   |
| Product                 | FSC-BT826E  |
| Dimension               | 13mm x 26.9mm x 2mm   |
| Bluetooth Specification | Bluetooth V4.2 (Dual Mode)  |
| Power Supply            | 3.3 Volt DC   |
| Output Power            | ≤7.5 dBm  |
| Sensitivity             | -82dBm@0.1%BER  |
| Frequency Band          | 2.402GHz -2.480GHz ISM band   |
| Modulation              | GFSK, $\pi/4$ -DQPSK, 8-DPSK  |
| Baseband Crystal OSC    | 40MHz   |
| Hopping & channels      | 1600hops/sec, 1MHz channel space, 79 Channels(BT 4.2 to 2MHz channel space) |
| RF Input Impedance      | 50 ohms   |
| Antenna                 | Integrated chip antenna   |
| Interface               | Data: UART, I <sup>2</sup> C, PCM / I <sup>2</sup> S                        |
| Profile                 | SPP, HID, GATT, ATT, GAP  |
| Advanced Feature        | MFI, Airsync, iBeacon, OTA(optional)  |
| Temperature             | -20°C to +70 °C   |
| Humidity                | 10%~95% Non-Condensing  |
| Environmental           | RoHS Compliant  |

Table 1

**Integration instructions for host product manufacturers according to KDB 996369 D03  
OEM Manual v01**

2.2 List of applicable FCC rules

CFR 47 FCC PART 15 SUBPART C has been investigated. It is applicable to the modular.

2.3 Specific operational use conditions

This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system.

2.4 Limited module procedures

Not Applicable

2.5 Trace antenna designs

Not applicable

2.6 RF exposure considerations

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

2.7 Antennas

This radio transmitter FCC ID: **2AMWOFSC-BT826E** has been approved by Federal Communications Commission to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

| Internal Identification | Antenna Description | Antenna type and antenna number | Operate frequency band | Maximum antenna gain |
|-------------------------|---------------------|---------------------------------|------------------------|----------------------|
| Antenna 1               | Bluetooth Antenna   | PCB Antenna                     | 2400 MHz – 2500 MHz    | 2.00 dBi             |

2.8 Label and compliance information

The final end product must be labeled in a visible area with the following" Contains FCC ID: **2AMWOFSC-BT826E**"

## 2.9 Information on test modes and additional testing requirements

Host manufacturer is strongly recommended to confirm compliance with FCC requirements for the transmitter when the module is installed in the host..

## 2.10 Additional testing, Part 15 Subpart B disclaimer

Host manufacturer is responsible for compliance of the host system with module installed with all other applicable requirements for the system such as Part 15 B