FSC-DB105 User Guide

Release 2.0.5

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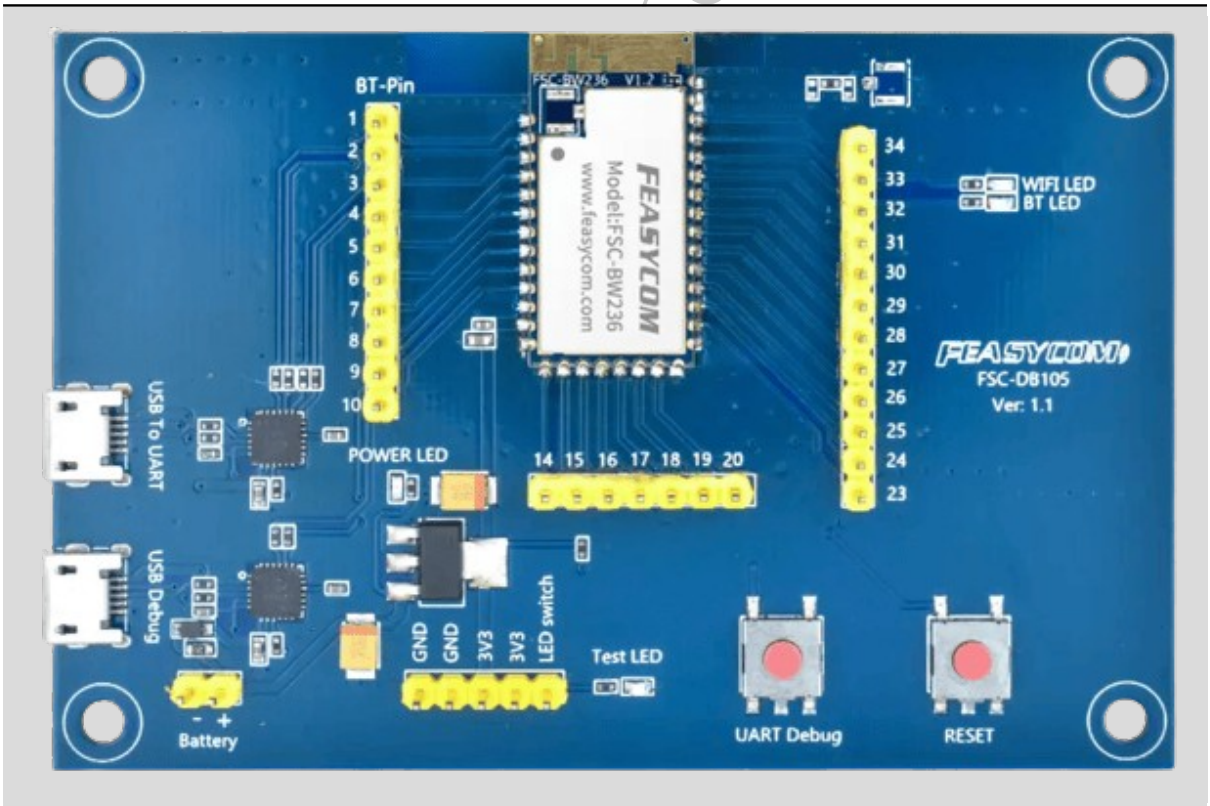
[中文版]

This guide introduces how to use the FSC-DB105 and provides further information about this development board.

Chapter 1

Overview

FSC-DB105 is a rapid evaluation board specifically designed for Feasycom's Bluetooth Dual-Mode (BLE & SPP) + Wi-Fi SOC module data transmission applications. With this evaluation board, customers can easily and efficiently run tests for their projects. Coupled with the user guide, customers can test all functionalities built into the default firmware using AT commands.



FSC-DB105 with FSC-BW236 module

Chapter 2

Scope of Application

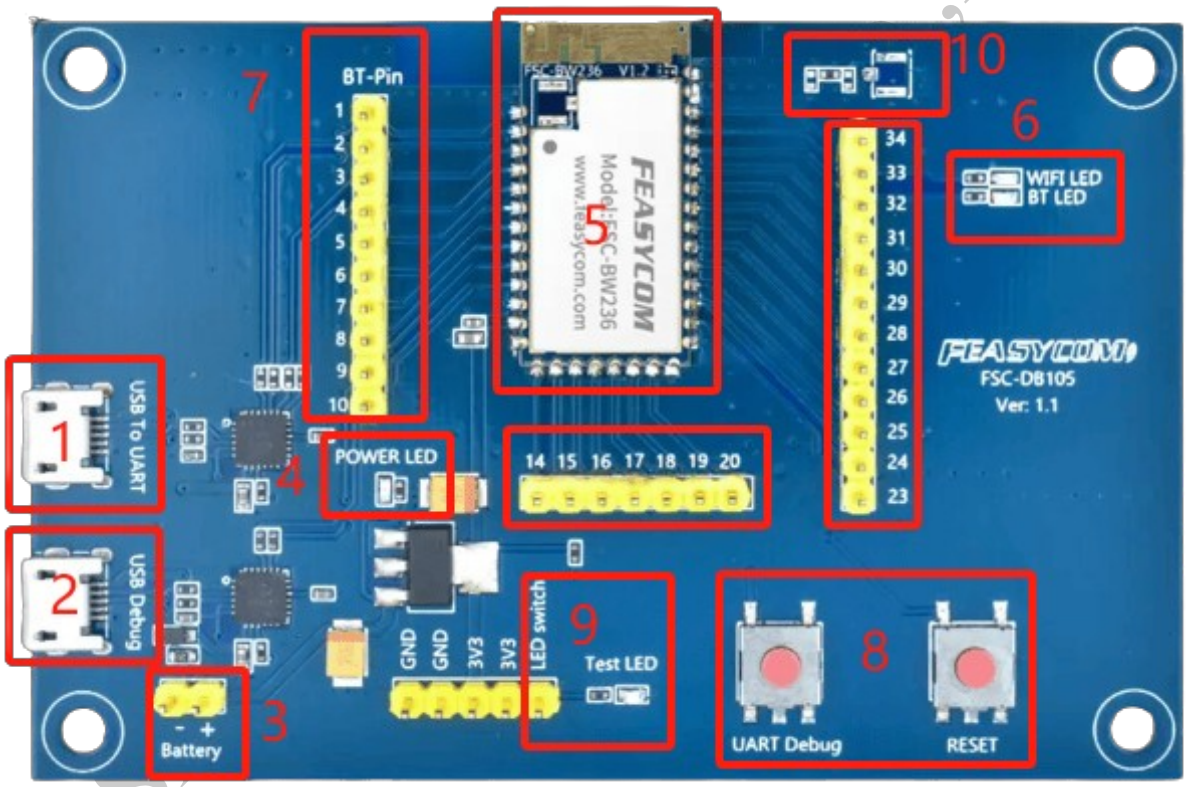
Applies to:

- FSC-BW236
- FSC-BW246
- FSC-BW256B

and other Feasycom Bluetooth + Wi-Fi SOC Modules for application development.

Chapter 3

Functional Components



Description by labeled number

No.	Component	Description
1	USB To UART	USB to UART (Micro-B USB): USB power supply interface, data communication interface. Used to send AT commands and exchange data with the module.
2	USB Debug	USB to UART (Micro-B USB): Debug log data output interface.
3	Battery	Battery power interface (optional, disconnected by default).
4	POWER LED	Steadily on (red) after power-up, indicates normal power supply.
5	Module SMD Area	Sample image shows a soldered Feasycom FSC-BW236 module.
6	WiFi LEDBT LED	WiFi LED: Wi-Fi status indicator, steadily on when connected to router, off when disconnected.BT LED: Bluetooth status indicator, steadily on when connected, off when disconnected.
7	BT-Pin	Module pin extension header interface, numbers correspond to module pin numbers.
8	RESET Control ButtonUART Debug Control Button	1. Firmware Download Mode Control: Press and hold the UART Debug button, then press and release the RESET button once, finally release the UART Debug button to enter firmware download mode.2. Module Reset Control (RESET): Press RESET alone to reset the module.
9	Test LED	Test LED light, lights up when LED switch receives a high level.
10	External Antenna IPEX	(Reserved) π-shaped circuit and IPEX area for external antenna.

Chapter 4

What You Need

4.1 Required Hardware

- 1 x FSC-DB105-BW236 Development KIT: FSC-DB105 board pre-integrated with a Feasycom FSC-BW236 (optional)
- 1 x USB to Micro-B Cable
- 1 x PC (Windows / Mac)
- 1 x Mobile Phone (Android / iOS)

4.2 Software and Setup

- **Serial Driver**: CP210x_Universal_Driver.zip for Windows PC, generally plug-and-play, install this driver if the PC fails to recognize the device in specific environments.
- Feasycom Serial Port Tool：A serial communication analysis tool based on Windows PC.
- FeasyBlue：Feasycom APP & SDK resource supporting Android and iOS platforms, which enables functions such as Bluetooth BLE & SPP data communication debugging, Feasycom module firmware version reading, firmware OTA upgrade，parameter configuration, etc.
- **Communication Interface**: UART
- **Serial Configuration**: 115200/8/N/1 (Feasycom general firmware default)

Chapter 5

Hardware Access

5.1 Power-on Options

The development board can be powered by any one of the following methods:

- Micro-B USB power supply (default)
- 3V3 / GND pin power supply

Note: The above power supply modes **must not** be connected simultaneously, as this may damage the development board and/or the power source.

5.2 Hardware Access Note

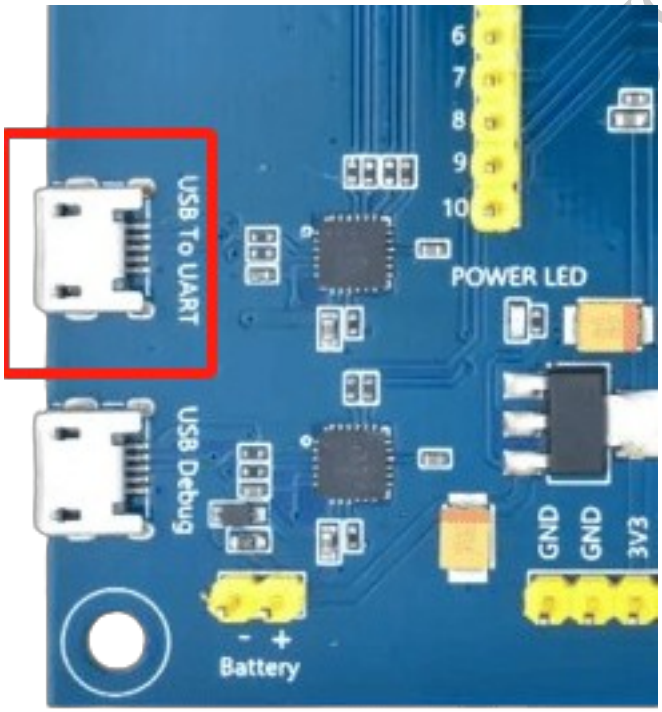
- Before powering on, ensure the development board is intact and all components are secure without looseness or shorts.
- Connect the development board to the PC using the USB to Micro-B cable.
- After powering on, the LED lights up steadily, indicating the board is powered normally and ready for debugging.

Chapter 6

Quick Start

6.1 Hardware Access and Start

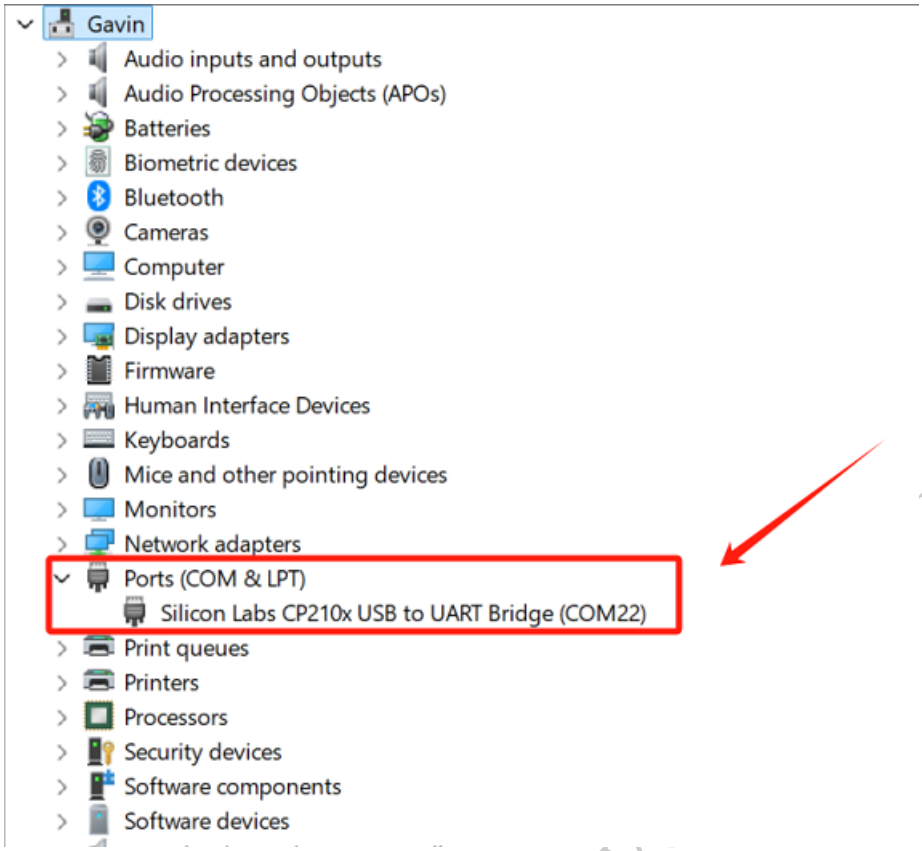
Connect the FSC-DB105-BW236 development board’s USB To UART port (Component 1) to the PC using the USB to Micro-B cable. The indicator LED lights up steadily, indicating the FSC-BW236 module has started successfully. See sample image below:



6.2 Serial Port Recognition

After successful hardware connection and startup of the FSC-DB105-BW236, it is plug-and-play. The PC will recognize the USB serial device and create a virtual COMx port. Example

below:



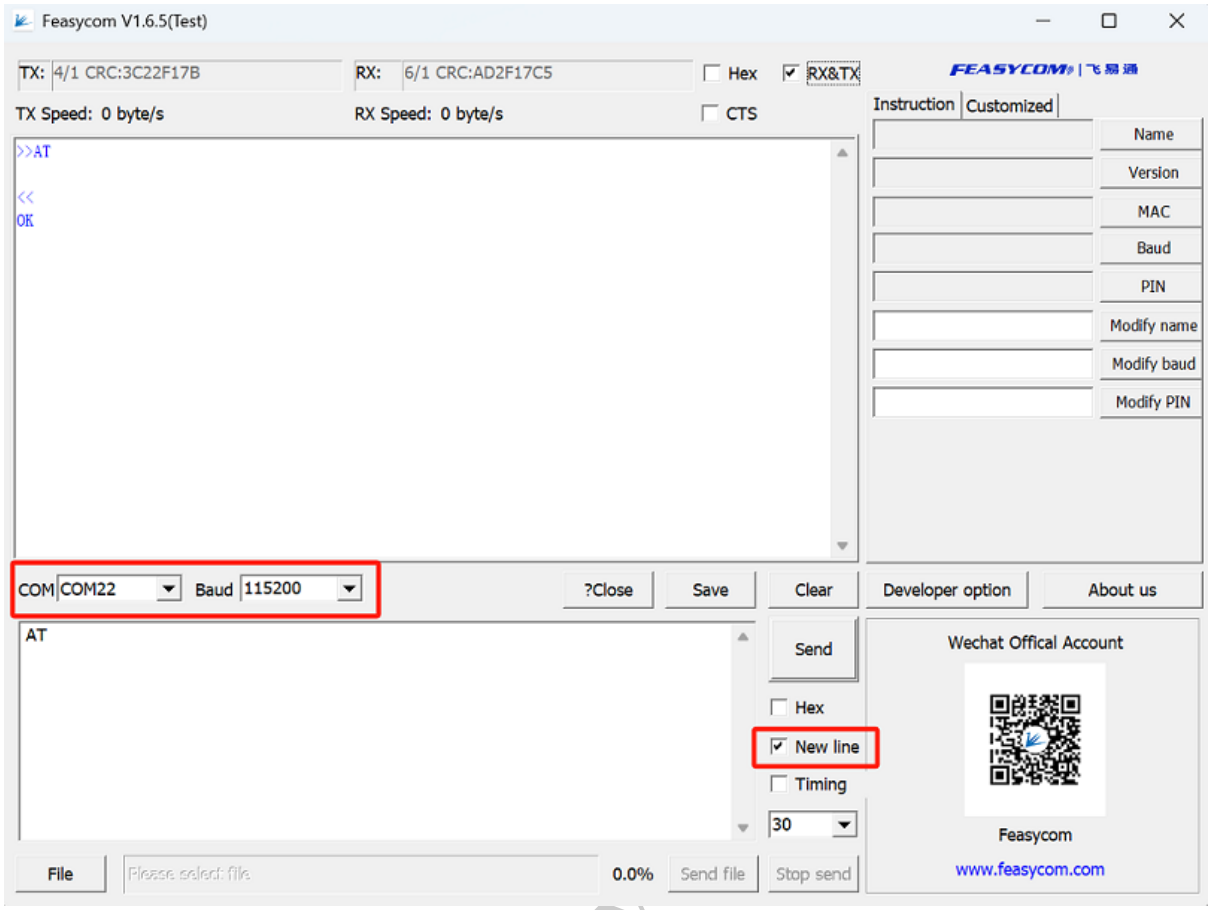
6.3 AT - Serial Communication Test

Open Feasycom Serial Port Tool on the PC. Automatically obtain or manually select the corresponding COMx port, set the matching baud rate (e.g., 115200), check the Send New Line option, and send the serial communication test command `AT`. If the response is `OK`, the serial communication test is successful. Command format and example are shown in the image below:

Command	**AT\r\n**
Response	**\r\nOK\r\n**
Description	Test the UART communication between HOST and Module after power on, baudrate changed, etc.

Example:

```
send:     >>AT\r\n
response: <<\r\nOK\r\n   //Successfully connected.
```



Chapter 7

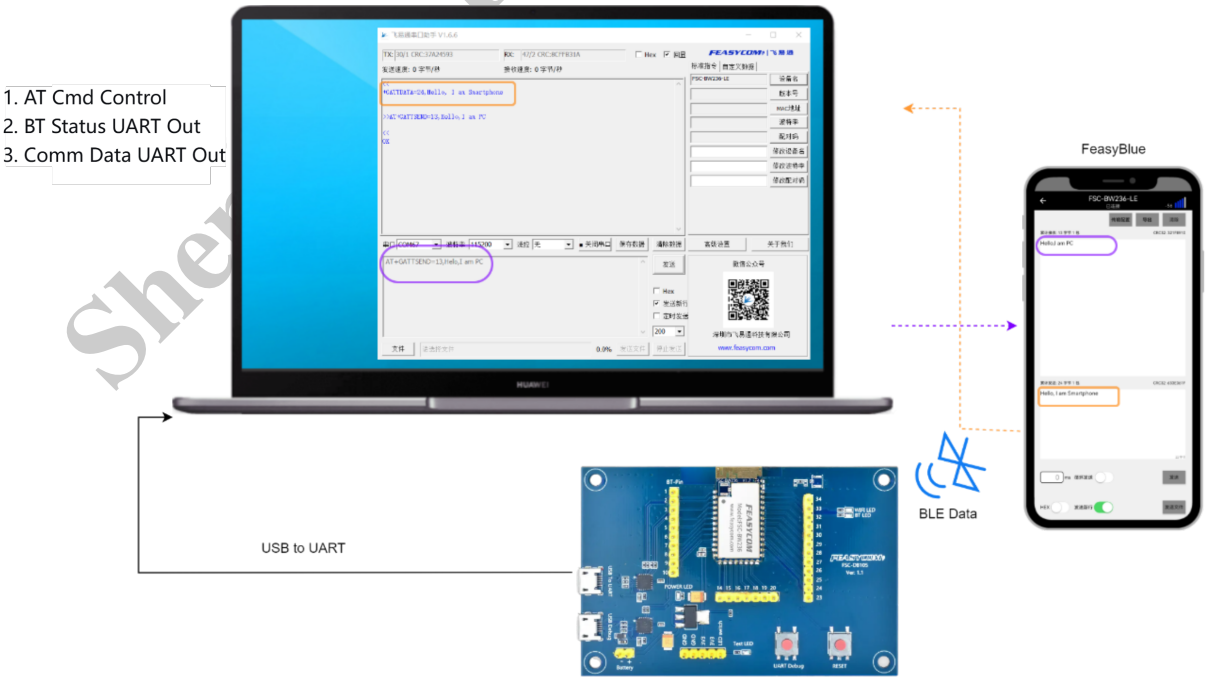
Application Examples

7.1 Bluetooth Application Example

- **FSC-BW236** only supports BLE and does not support SPP.
- **FSC-BW246 and FSC-BW256B** can support BLE and SPP.

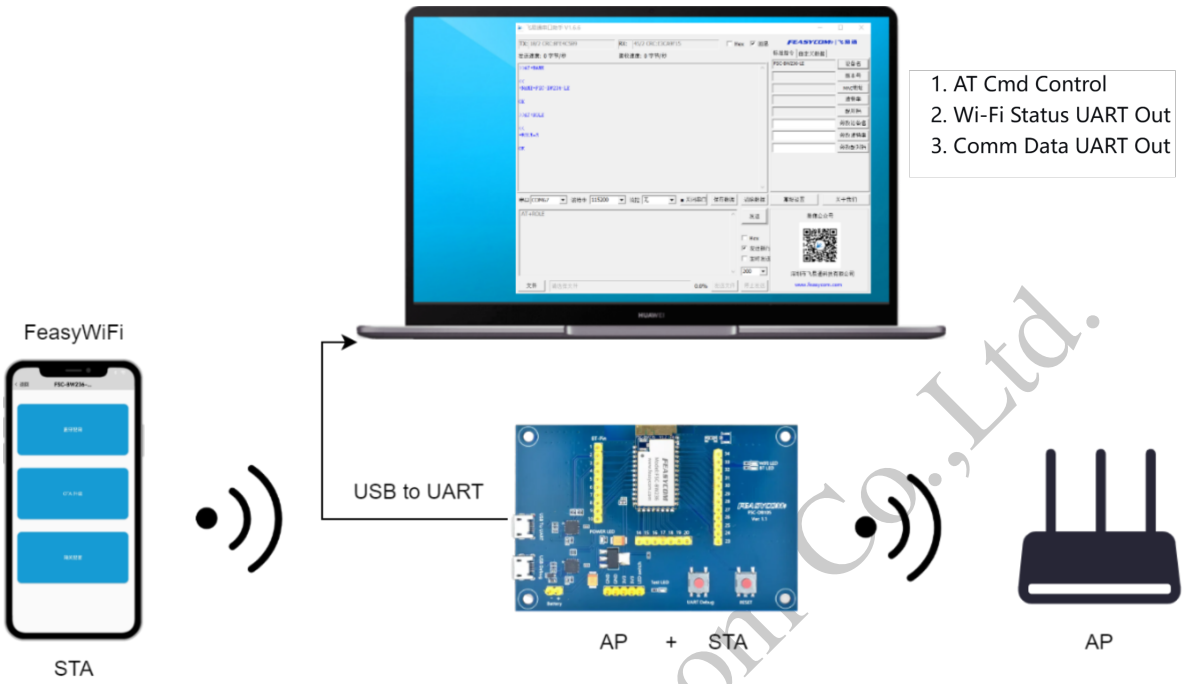
7.1.1 Application Diagram

The application block diagram below is also suitable for Bluetooth BLE and SPP data transmission debugging with FeasyBlue:



7.2 Wi-Fi Application Example

7.2.1 Application Diagram : STA+AP



Chapter 8

Related Documents

- FSC-DB105-BW236 DK Board Schematic (PDF)
- FSC-BW236 AT Command Manual (LINK)
- FSC-BW246 AT Command Manual (LINK)
- FSC-BW256B AT Command Manual (LINK)

Chapter 9

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