



FSC-BT901

4.2 Dual Mode Bluetooth Module Datasheet

Version 1.5

1. INTRODUCTION

Overview

The FSC-BT901 is a highly integrated Bluetooth module which BT4.2 Smart Ready device (with BR/EDR & LE support simultaneously), it features a 2.4GHz ISM RF transceiver, Bluetooth V4.2 baseband controller, flash memory, small form factor, and external antenna interface.

With Feasycom's Bluetooth stack running on a host, designers can easily customize their applications to support different Bluetooth profiles.

The FSC-BT901 is an appropriate product for designers who want to add wireless capability to their products.

Features

- Bluetooth v4.2, Class 1.5
- Low power
- UART programming and data interface (baudrate can up to 921600bps)
- I2S audio interface
- I2C/AIO/PIO/PWM control interfaces
- Postage stamp sized form factor
- Embedded Bluetooth stack profiles support: SPP/iAP, HID, GATT, ANCS etc
- USB 2.0 full-speed device/host/OTG controller
- OTA upgrade support
- MFI Support
- Support External Antenna
- RoHS compliant

Application

- Audio Speaker, with TWS(Audio True Wireless) support (plus the codec)
- Analogue and USB Multimedia Dongles
- Health & Medical devices
- Measurement and monitoring systems
- Industrial sensors and controls
- Asset tracking
- Barcode and RFID scanners

Module picture as below showing



Figure 1: FSC-BT901 Picture

2. General Specification

Table 1: General Specifications

Categories	Features	Implementation	
Wireless Specification	Bluetooth Version	V4.2 Dual Mode	
	Frequency	2.402 - 2.480 GHz	
	Transmit Power	+8.5 dBm (Maximum)	
	Receive Sensitivity	-86 dBm@0.1%BER (Typical)	
	Raw Data Rates (Air)	3 Mbps(Classic BT - BR/EDR)	
Host Interface and Peripherals		TX,RX,CTS,RTS	
		General Purpose I/O	
	UART Interface	Default 115200,N,8,1	
		Baudrate support from 1200 to 921600	
		5, 6, 7, 8 data bit character	
		15 (maximum – configurable) lines	
		O/P drive strength (4 mA)	
		Pull-up resistor (33 KΩ) control	
		Read pin-level	
		I2C Interface	1 (configurable from GPIO total). Up to 400 kbps
			Supports Master or Slave mode operation
		I2S Interface	Supports PCM mode A, PCM mode B,
			I2S and MSB justified data format
		ADC Interface	Analog input voltage range: 0~ AVDD (AVDD=3.3V)
			Supports single 12-bit ADC conversion
		1 channels (configured from GPIO total)	
		Up to 2.4 MSPS conversion	
		16-bit resolution	
	PWM	8-bit prescaler and clock divider	
		Supports PWM interrupts	
		supports input capture function	
Profiles	Classic Bluetooth	SPP (Serial Port Profile) - Up to 600 Kbps	
	Bluetooth Low Energy	GATT Client & Peripheral - Any Custom Services	
Maximum Connections	Classic Bluetooth	7 Clients	
	Bluetooth Low Energy	5 Clients	
FW upgrade		Over the Air	
		Via UART	
		J-link	
Supply Voltage	Supply	2.7-3.6V	
Power Consumption		Max Peak Current(TX Power @ +8.5dBm TX): 88mA	
		Standby Doze (Wait event) - 15mA (TBD)	
		Deep Sleep - <1mA (TBD)	
Physical	Dimensions	10mm X 11.9mm X 1.7mm; Pad Pitch 1.1mm	
Environmental	Operating	-40°C to +85°C	

	Storage	-40°C to +85°C
Miscellaneous	Lead Free	Lead-free and RoHS compliant
	Warranty	One Year
	Humidity	10% ~ 90% non-condensing
	MSL grade:	MSL 3
ESD grade:		Human Body Model: Class-2
		Machine Model: Class-B

3. HARDWARE SPECIFICATION

3.1 Block Diagram and PIN Diagram

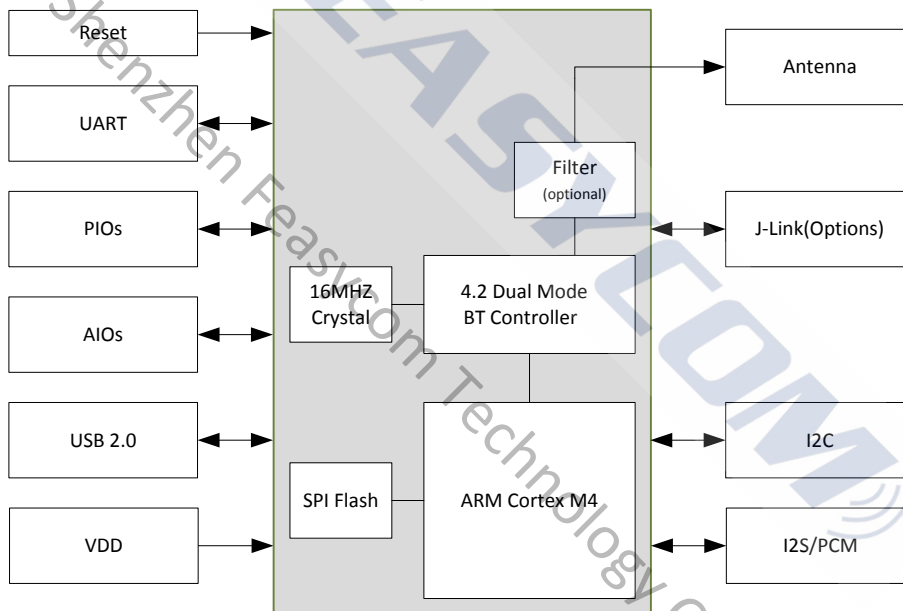


Figure 2: Block Diagram