



Flaircomm Microelectronics, Inc.

FLC-BTM702

Datasheet

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1.Introduction

FLC-BTM702 is a small form factor, low power and highly economic Bluetooth radio module that allows OEM to add wireless capability to their products. The module supports multiple interfaces that make it simple to design into fully certified embedded Bluetooth solutions.

With FLC's AT+™ programming interfaces, designers can easily customize their applications to support different Bluetooth profiles, such HS/HF, A2DP, AVRCP, SPP, and etc. The module supports Bluetooth® Enhanced Data Rate (EDR) ,BT5.0 and delivers up to 3 Mbps data rate for distances to 10M.

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

1.1 Naming Declaration

New Naming	Old Naming	Description
FLC-BTM702	-	Built-in QSPI flash memory.

1.2 Block Diagram

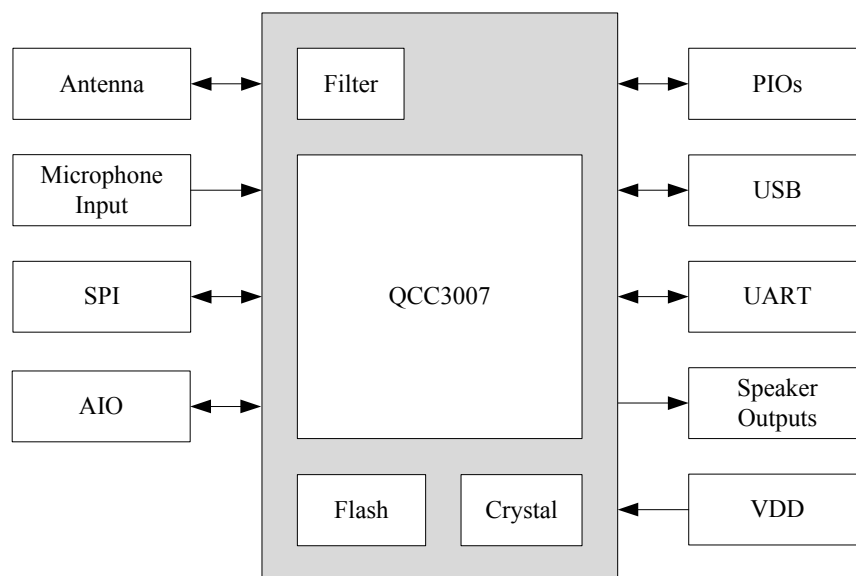


Figure 1: Block Diagram

1.3 Features

- Fully qualified single-chip dual mode Bluetooth v5.0
- Profiles including HS/HF, A2DP, AVRCP, SPP, and etc.
- UART and USB programming and data interfaces
- Small form factor
- SMT pads for easy and reliable PCB mounting

1.4 Applications

- Automobile hands-free applications
- Stereo headset applications
- Cable replacements
- Measurement and monitoring systems
- Industrial sensors and controls
- Medical devices
- Industrial PCs and laptops

2. General Specification

Bluetooth Specification	
Standard	Fully qualified single-chip dual mode Bluetooth v5.0 , Class 1.5 ^a
Profiles	HS/HF, A2DP, AVRCP, SPP, etc. detailed profiles depends on the firmware
Frequency Band	2.402GHz ~ 2.480GHz
Maximum Data Rate	3Mbps
RF Input Impedance	50 ohms
Baseband Crystal OSC	26MHz
Interface	UART, PIO, AIO, USB, SPI, Speaker, Microphone, etc.
Sensitivity	-85dBm@0.1%BER
RF TX Power	7dBm
Power	
Supply Voltage	2.7V ~ 3.6V DC
Working Current	Depends on profiles
Standby Current	TBD
Operating Environment	
Temperature	-40°C to +85°C
Humidity	10%~90% Non-Condensing
Certifications	TBD
Environmental	TBD
Dimension and Weight	
Dimension	23.24mm x 11.94mm x 2.00mm
Weight	TBD

Table 2: General Specification

a) The maximum RF TX Power is 9dBm.

3.Pin Definition

3.1 Pin Configuration

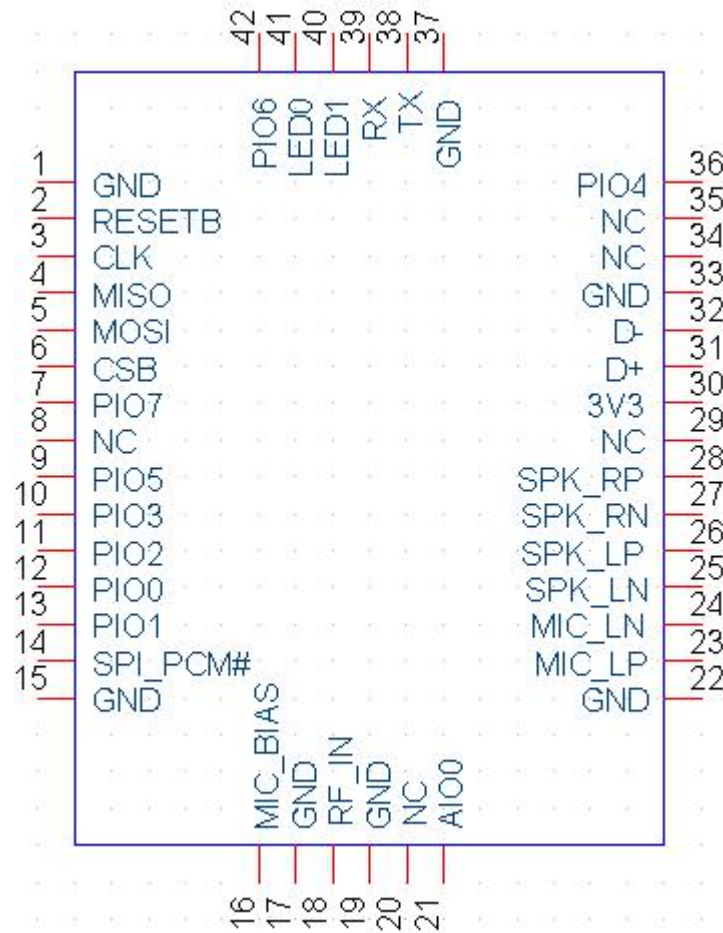


Figure 2: Pin Configuration

3.2 Pin Definition

Pin	Symbol	I/O Type	Description
1	GND	Ground	Ground
2	RESETB	Input with strong pull- up	Reset if low. Pull low for minimum 5 ms to cause a reset.
3	SPI_CLK	Bidirectional with weak pull-down	SPI_CLK: Debug SPI clock Alternative function: • I2S_SCK: I ² S synchronous data clock
4	SPI_MISO	Bidirectional with weak	SPI_MISO: Debug SPI data output Alternative function:

		pull-down	• I2S_SD_OUT: I²S synchronous data output
5	SPI_MOSI	Bidirectional with weak pull-down	SPI_MISO: Debug SPI data input Alternative function: • I2S_SD_IN: I²S synchronous data input
6	SPI_CSB	Bidirectional with weak pull-down	SPI_CSB: chip select for Debug SPI, active low Alternative function: • I2S_WS: I²S word select
7	PIO7	Bidirectional with weak pull-down	Programmable input/output line. Alternative function with SPI_CSB
8	NC	NC	NC
9	PIO5	Bidirectional with strong pull-down	Programmable input/output line
10	PIO3	Bidirectional with weak pull-down	Programmable input/output line
11	PIO2	Bidirectional with weak pull-down	Programmable input/output line
12	PIO0	Bidirectional with strong pull-up	Programmable input/output line
13	PIO1	Bidirectional with strong pull-down	Programmable input/output line
14	SPI_PCM #	Input with weak pulldown	SPI/I ² S select input: • 0 = I²S/PIO interface • 1 = SPI
15	GND	Ground	Ground
16	MIC_BIAS	Analogue	Microphone Bias
17	GND	RF Ground	RF ground
18	RF_IN	Analogue	Transceiver input/output line
19	GND	RF Ground	RF ground
20	NC	NC	NC
21	AIO0	Bidirectional	Analogue Programmable input/output line
22	GND	Ground	Ground
23	MIC_LP	Analogue	Microphone input positive
24	MIC_LN	Analogue	Microphone input negative
25	SPK_LN	Analogue	Speaker output negative (left side)
26	SPK_LP	Analogue	Speaker output positive (left side)

27	SPK_RN	Analogue	Speaker output negative (right side)
28	SPK_RP	Analogue	Speaker output positive (right side)
29	NC	NC	NC
30	3V3	3.3v power input	3.3v power input
31	USB_DP	Bidirectional	USB data plus with selectable internal 1.5 k pull-up resistor
32	USB_DN	Bidirectional	USB data minus
33	GND	Ground	Ground
34	NC	NC	NC
35	NC	NC	NC
36	PIO4	Bidirectional with strong pull-up	Programmable input/output line
37	GND	Ground	Ground
38	UART_TX	Bidirectional with strong pull-up	UART data output
39	UART_RX	Bidirectional with strong pull-up	UART data input
40	LED1	Bidirectional	Open-drain output
41	LED0	Bidirectional	Open-drain output
42	PIO6	Bidirectional with strong pull-down	Programmable input/output line

Table 3: Pin Definition

4. Mechanical Characteristic

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