MuYu

MY-BT303C

Bluetooth 5.1 Audio + Data Module

Version 1.0

Contact Us

Shenzhen Muyu Technology Co., Ltd
Email: info@muyusmart.com
Zipcode: 518100
Web: www.muyumodule.com

Release Recode

Version	Date	Comments
1.0	2023/06/01	Initial Version

Content

1 Introduction

1.1 Overview

MY-BT303C is a data + audio Bluetooth module. Uses Qualcomm QCC5125 chip solution, supports analog audio, built-in DSP, and supports multiple functions and protocols such as BLE, SPP, AVRCP, I²S, APTX, etc.

MY-BT303C uses UART as a programming interface, and customers can use AT commands to read or write the configuration of the module through UART. Can provide more possibilities for customers' applications.

1.2Features

- Bluetooth v5.0 specification support
- SBC, MP3, AAC, APTX, APTX-LL, APTX-HD…audio codecs
- Transfer port: PIO, UART, USB, I2C, SPI, AIO, LED.
- Audio output port: I2S, SPDIF, ANALOG
- Audio input port: I2S, SPDIF, USB, AUX, MIC
- dual mode, The traditional Bluetooth and BLE
- Integrated 16-64MB SPI Flash
- Class II type output power
- Low power consumption
- High SNR class AB or class D analog output is optional
- Small size: 20*13*2.0mm
- RoHS compliant

1.3 Applications

- High-End Stereo Wireless Headsets
- High-END Mono Headsets
- Hands-Free Car Kits
- Bluetooth-Enabled Automotive Dashboards
- Wireless Speakers
- VOIP handsets
- Analogue and USB Multimedia Dongles

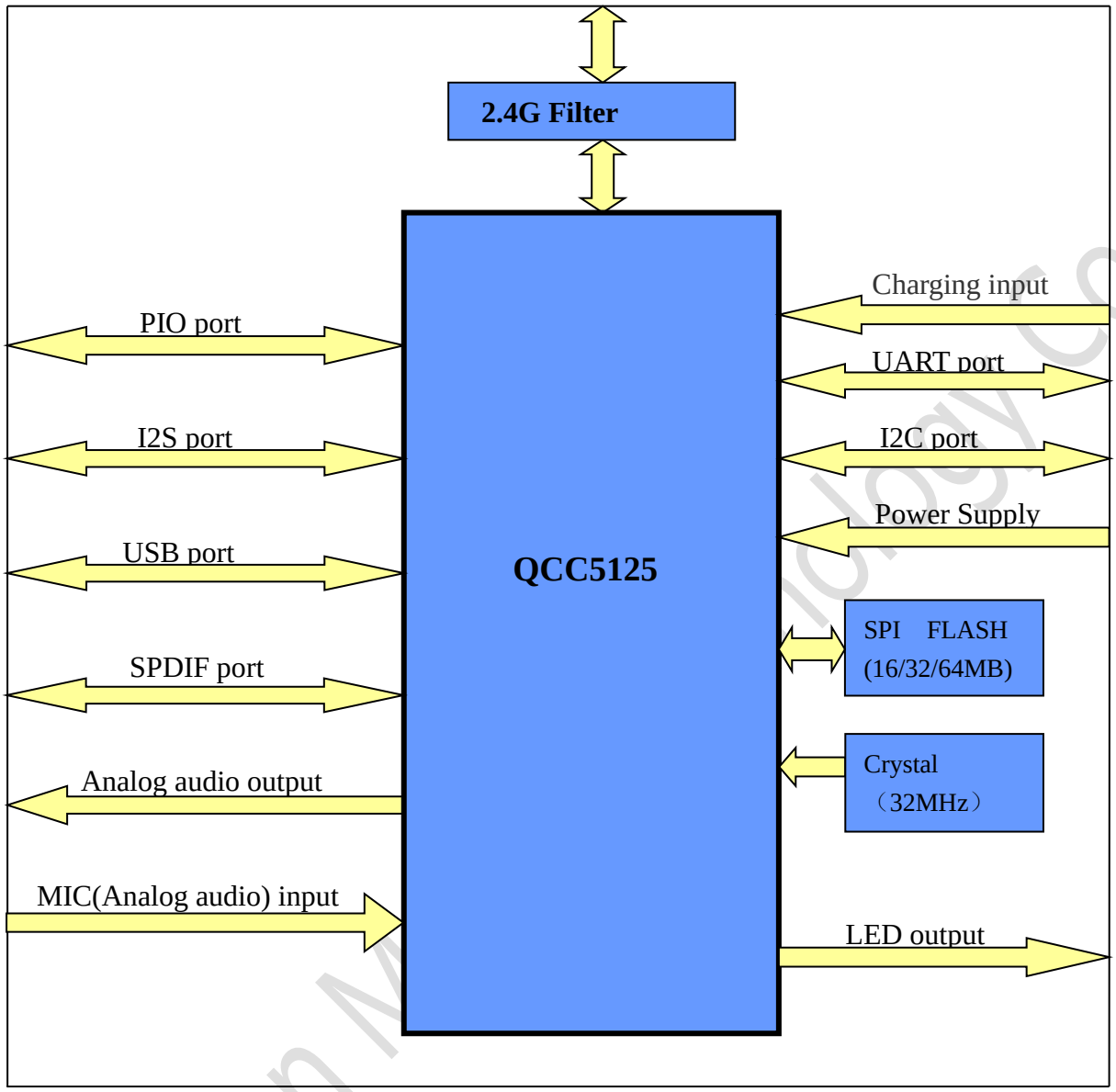
2 Key Features

Operating Frequency Band	2.402GHz -2.480GHz ISM band
Bluetooth Specification	V5.1
Theoretical range in open field	Bluetooth Class II
Main Chip	QCC5125
Transmitter Power	+9dBm (Max)
Receive Sensitivity	-91dB at 0.1% BER (Typical)
Antenna	External
Antenna Impedance	50Ω
Power Supply	3.0V-4.3V
Dimension	20mm(L) * 13mm(W) * 2.0mm(H)

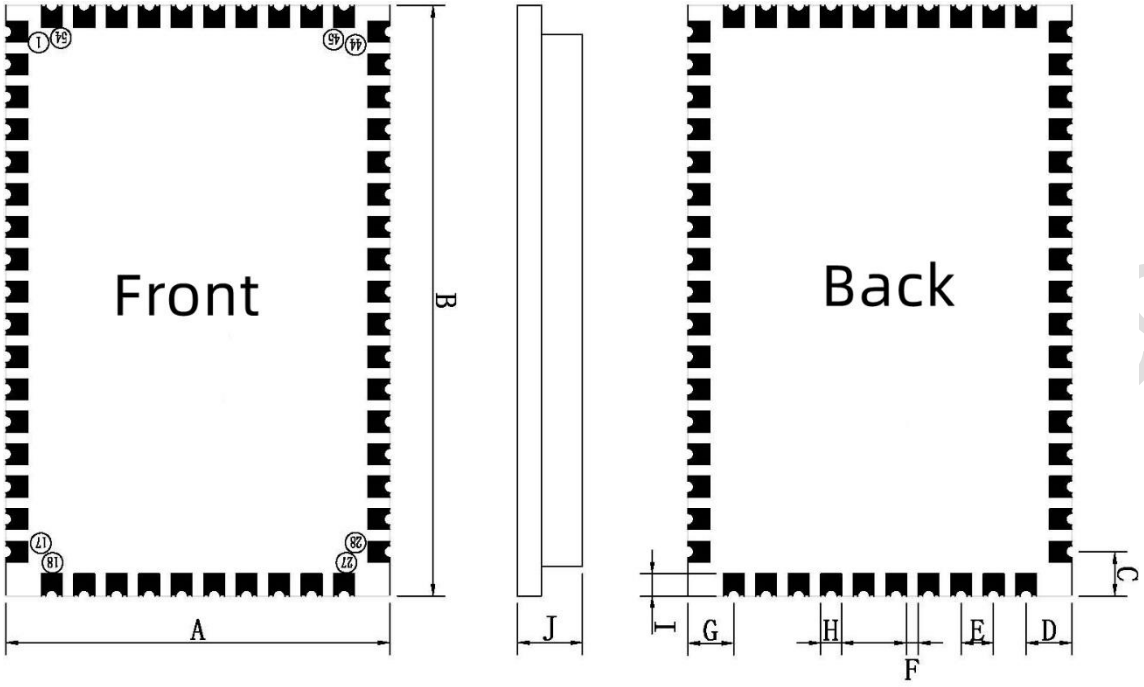
3 Electrical Characteristic

Rating	Min	Typ	Max	Unit
Store temperature	-40	+20	+85	℃
Operation temperature	-20	+20	+70	℃
Power supply (VBAT)	3.0	3.6	4.2	V
USB_5V,Charge input	4.5	5	5.5	V
PIO Power supply(VDD_PAD1/VDD_PAD3)	1.8	3.3	3.6	V

4 Schematic Block diagram

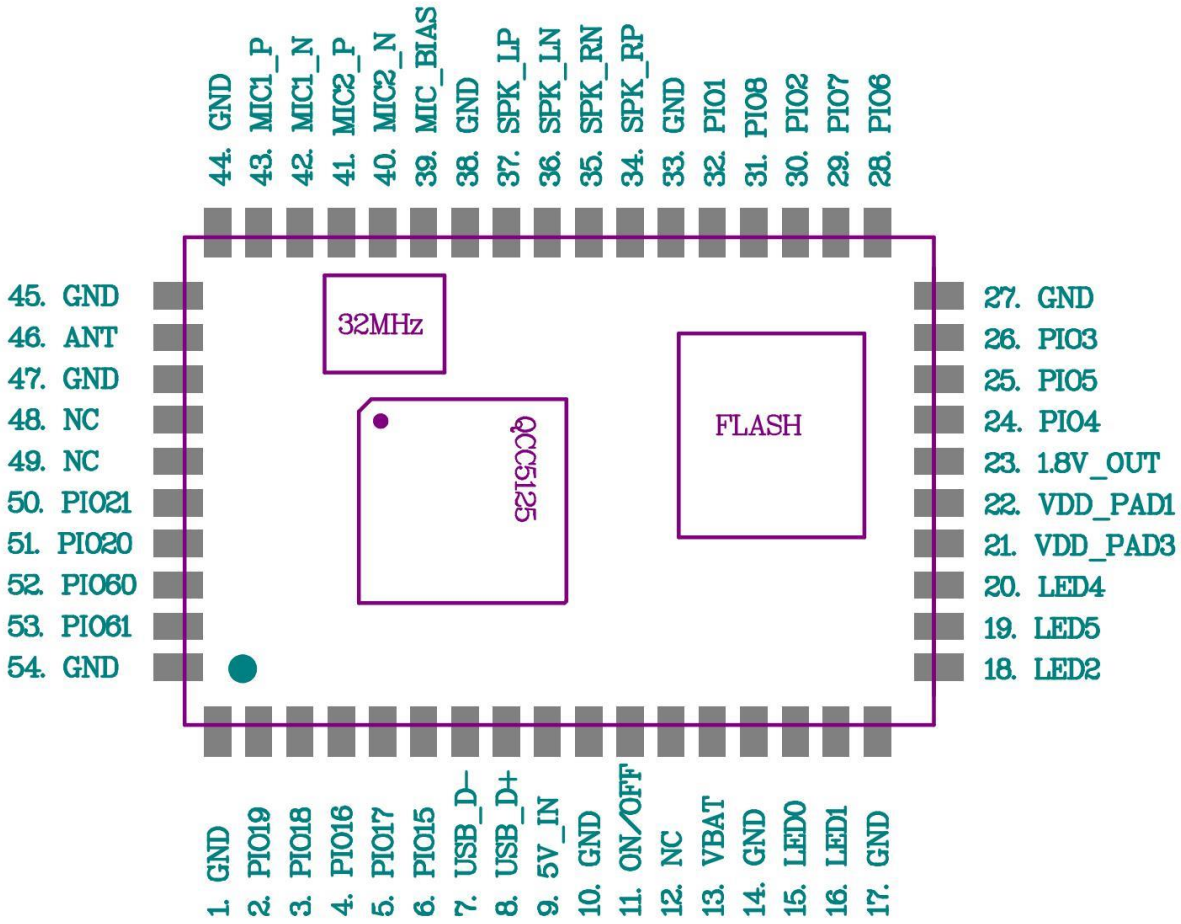


5 Mechanical Dimensions



Dimension Limits (Units:mm)		
Symbol	Value	Error
A	13.0	±0.2
B	20.0	±0.2
C	1.5	±0.1
D	1.55	±0.1
E	1.1	—
F	0.4	—
G	1.55	±0.1
H	0.7	—
I	0.75	±0.05
J	2.2	Max

6 Pin Definition Descriptions

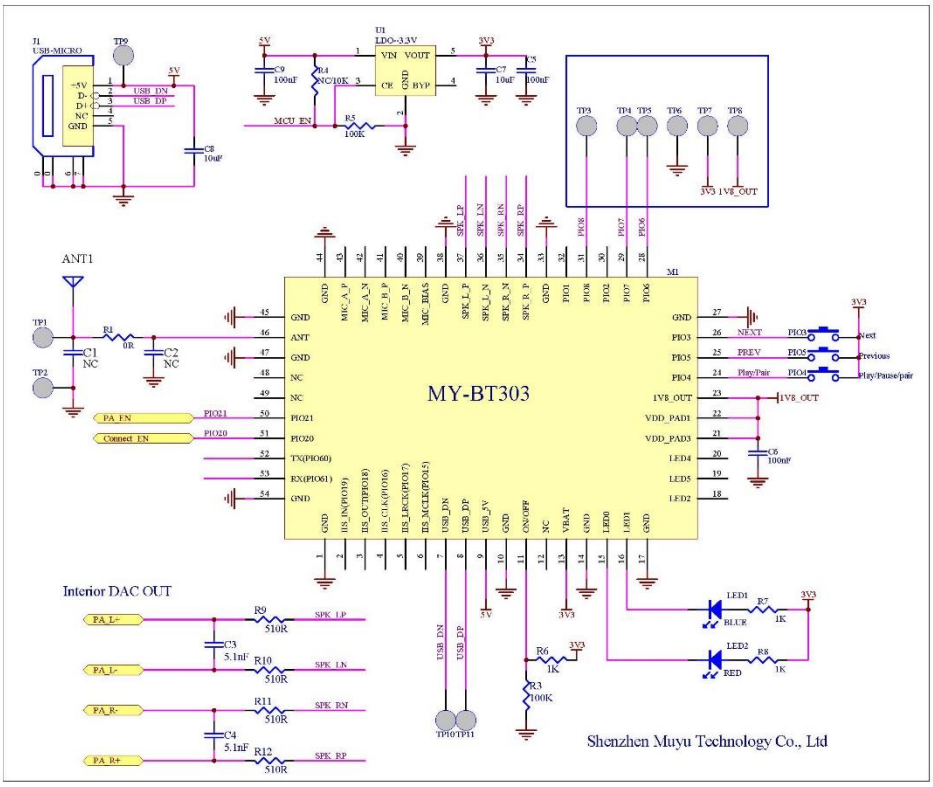


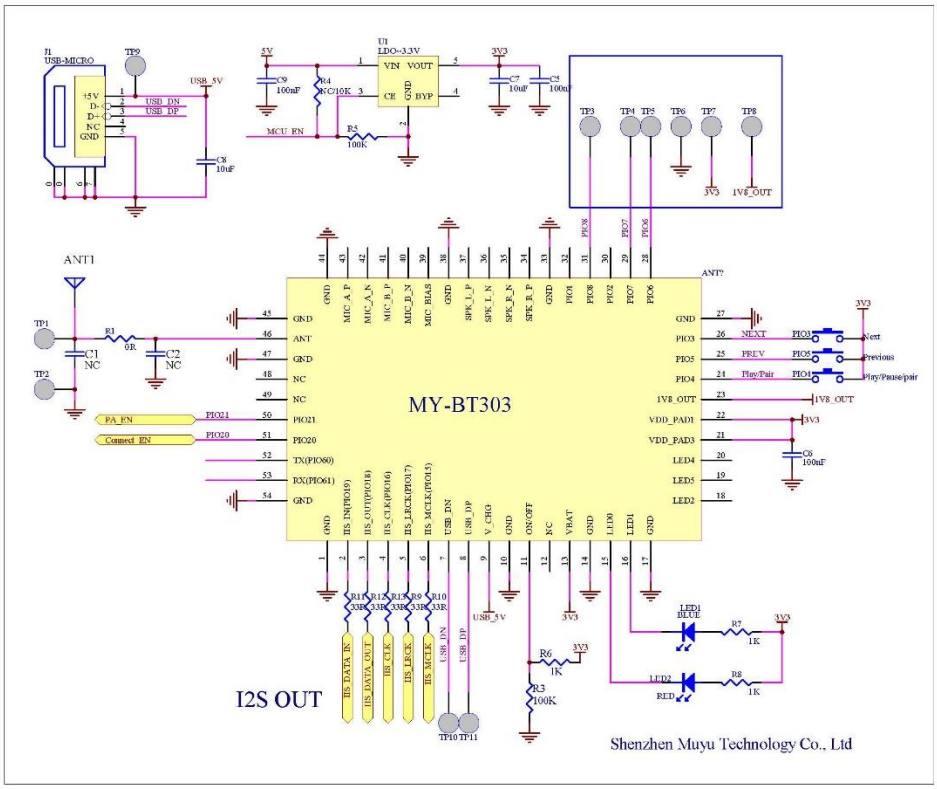
Pin NO.	Pin Name	Supply voltage	Pin Descriptions
1	GND	0	Ground
2	I2S_IN (PIO19)	VDD_PAD3	I2S_IN, SPDIF_IN, Programmable input/output line
3	I2S_DOUT (PIO18) SPDIF_OUT	VDD_PAD3	I2S_DOUT/SPDIF_OUT, Programmable input/output line
4	I2S_BCLK (PIO16)	VDD_PAD3	I2S_BCLK, Programmable input/output line
5	I2S_LRCK (PIO17)	VDD_PAD3	I2S_LRCK, Programmable input/output line
6	I2S_MCLK (PIO15)	VDD_PAD3	I2S_MCLK, Programmable input/output line
7	USB_DN		USB data minus

8	USB_DP		USB data plus
9	USB_5V		Charger input, 5V input
10	GND	0	Ground
11	ON/OFF(SYS_CTRL)		Regulator enable input, boot pin
12	NC		No connect
13	BAT	3.0-4.3V	Battery positive terminal, 3.3V input(typical)
14	GND	0	Ground
15	LED0		LED0
16	LED1		LED1
17	GND	0	Ground
18	LED2		LED2
19	LED5		LED5
20	LED4		LED4
21	VDD_PAD3		GPIO power supply (PIO15-21) (PIO5X/PIO6X)
22	VDD_PAD1		GPIO power supply (PIO1-8)
23	1.8V_OUT	1.8V	Internal 1.8V output
24	PIO4	VDD_PAD1	Programmable input/output line
25	PIO5	VDD_PAD1	Programmable input/output line
26	PIO3	VDD_PAD1	Programmable input/output line
27	GND	0	Ground
28	PIO6	VDD_PAD1	TRB SPI port
29	PIO7	VDD_PAD1	TRB SPI port
30	PIO2	VDD_PAD1	Programmable input/output line
31	PIO8	VDD_PAD1	TRB SPI port
32	PIO1	VDD_PAD1	Programmable input/output line
33	GND	0	Ground
34	SPK_RP		Speaker output right positive
35	SPK_RN		Speaker output right negative
36	SPK_LN		Speaker output left negative
37	SPK_LP		Speaker output left positive

38	GND	0	Ground
39	MIC_BIAS		Microphone bias
40	MIC2_N		Microphone negative pole input
41	MIC2_P		Microphone positive pole input
42	MIC1_N		Microphone negative pole input
43	MIC1_P		Microphone positive pole input
44	GND	0	Ground
45	GND	0	Ground
46	ANT(RF_PORT)		RF port, antenna
47	GND	0	Ground
48	NC		No connect
49	NC		No connect
50	PIO21	VDD_PAD3	Programmable input/output line
51	PIO20	VDD_PAD3	Programmable input/output line
52	PIO60	VDD_PAD3	Programmable input/output line
53	PIO61	VDD_PAD3	Programmable input/output line
54	GND	0	Ground

7 Peripheral Reference Schematic





8 SMT reference