

BT-M5256

BLUETOOTH MODULE

SPEC V1.0



1 Module Overview

1.1 Features

- Bluetooth LE: Bluetooth 5
- 32-bit ARM®Cortex-M0+ core, up to 24 MHz
- 64 KB Flash
- 4 KB SRAM
- GFSK encoded
- Adjustable Tx power -15 dBm ~ +3 dBm
- Rx sensitivity down to -85 dBm
- Wide operating voltage 2.5 ~ 3.6 V, 3.0 V typical
- Small size 15.10 x 11.20 mm
- Operating temperature -40 ~ +85 °C

1.2 Application

- Home appliances
- IOT
- Instruments
- Industry and Agriculture
- Medical and Health
- Automotive Electronics
- Toy entertainment

2 Performance and Electrical Parameters

Operating Conditions Summary

Recommended Operating Conditions	Min	TYP	Max	Unit
Power supply Voltage (VDD)	2.5	3.0	3.6	V
Voltage of I/O pins	0	3.0	3.6	V
T _{R_VDD} (Supply rise time 0V to 1.7V)			60	ms
Operating Temperature	-40	25	85	°C

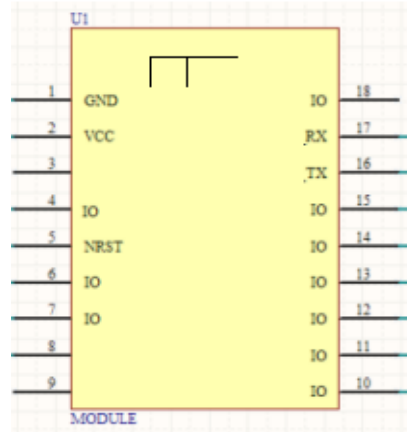
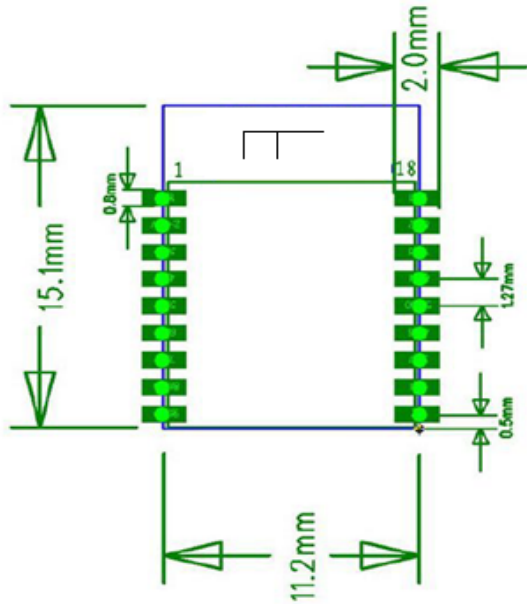
RF General Characteristics

	Description	Condition	Min.	Typ	Max.	Unit
FREQ	Frequency Range	VDD=3.0V,TA=25°C	2400		2480	MHz
FC	Frequency gap	VDD=3.0V,TA=25°C		2		MHz
RFch	RF channel freq	VDD=3.0V,TA=25°C	2400		2480	MHz

Current Consumption Summary Measurements, TA = 25°C

Symbol	Parameter	Test condition	Min.	Typ.	Max.	unit
I _{ISTDBY}	STANDBY	VDD=3.3V	-	2	-	uA
I _{RX}	RX	VDD=3.3V	-	-	22	mA
I _{TX3}	TX	+3 dBm VDD=3.3V	-	30	-	mA
I _{TX0}		0 dBm VDD=3.3V	-	24	-	mA
I _{TX-3}		-3 dBm VDD=3.3V	-	22	-	mA

3 Size and Package



4 PIN Function

Pin	Sign	I/O Type	Function
1	GND	Power	Ground
2	VCC	Power	+3.0V
3	NC		
4	PA3	GPIO	
5	NRST	Reset	Reset
6	PB5	GPIO	
7	PC3	GPIO	
8	NC		
9	NC		
10	PC3	GPIO	
11	PC7_SWDIO	GPIO	SWDIO
12	PD1_SWDCLK	GPIO	SWDCLK
13	PD5	GPIO	
14	PD6	GPIO	
15	PA1	GPIO	
16	PD4_TX	GPIO	UART_TX
17	PD3_RX	GPIO	UART_RX
18	PA2	GPIO	

UART AT Command List

Strings starting with "AT" will be regarded as AT commands to be parsed and executed, and will return exactly the same from the serial port. Afterwards the execution result will be output. Serial data packets which do not start with "AT" will be regarded as transparent transmission data.

Function	AT Command Format	Example	Remarks
Rename BLE module	AT+Name	eg, "AT+Name123456789", Set the BLE names as 123456789	New module name, with length not exceeding 12 bytes
Set up the BLE broadcast cycle (100ms)	AT+IntvX	eg, AT+Intv3 Set t the BLE broadcast cycle as 300ms; eg, AT+Intv9 Set t the BLE broadcast cycle as 900ms;	X="1","2","3","4","5","6","7","8","9"
Set the baud rate	AT+BaudX	eg, AT+Baud3 set the baud rate as 4800;	The default baud rate is 115200. X="1","2","3","4","5","6","7","8","9"; Baud1--1200 Baud2--2400 Baud3--4800 Baud4--9600 Baud5--19200 Baud6--38400 Baud7--57600 Baud8--115200 Baud9--194000
Set sleep mode	AT+Sleep	AT+Sleep	The power consumption in sleep mode is below 3uA. CPU stops running, and peripheral function modules run.
Set BLE disconnect	AT+DISC	AT+DISC	Return with "OK"
Acquire MAC address	AT+MAC	AT+MAC	Return with MAC address