

**Bluetooth 5.2 BLE module**

# **BMC77M001 User Guide**

Revision: V1.00 Date: June 12, 2023

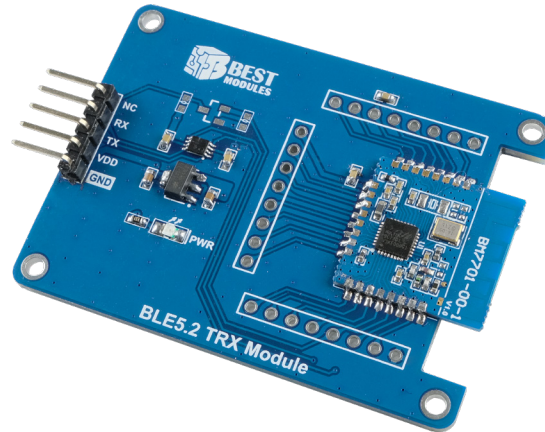
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## Introduction

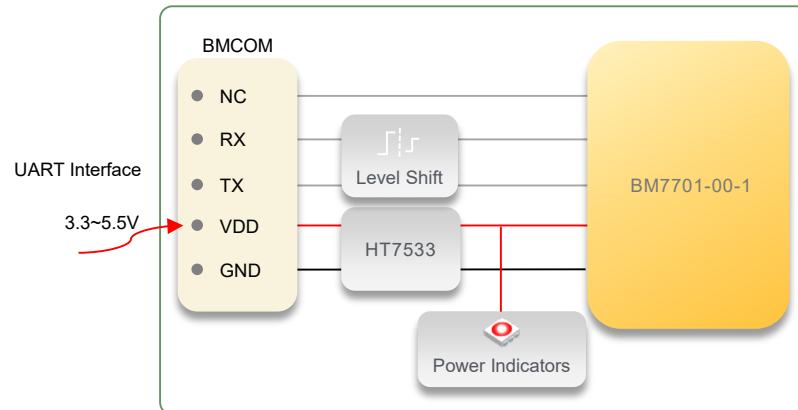
The Best Modules BMC77M001 is a Bluetooth 5.2 BLE module. It includes a Bluetooth Module, the BM7701-00-1, which is from Best Modules. It is developed with level shift and PWR LED. The module obtains data through Bluetooth transmission protocol to implement the functions of sending and receiving instructions. It is a Bluetooth Low Energy transparent transmission transceiver module. The module can use the UART communication method through the BCOM interface to implement Bluetooth device bidirectional data transmission function. The module is suitable for use in smart wearable devices, smart medical and other fields.



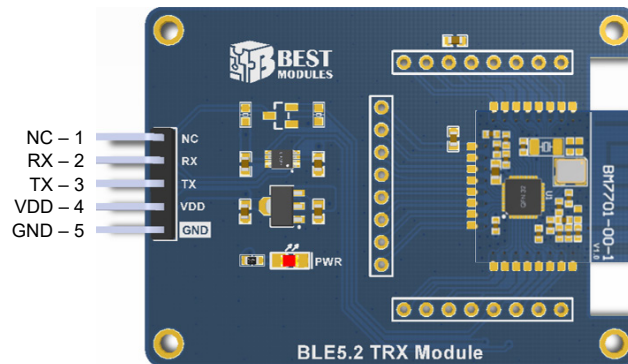
## Features

- Operating voltage: 3.3V~5.5V
- Operating current: 4.9mA @ 3.3V
- Integrated Bluetooth module: BM7701-00-1
- Frequency range: 2402MHz~2480MHz
- Transmitting power: -32.5dBm~+3.5dBm @ 1Mbps
- Receiving sensitivity: -94dBm @ 1Mbps
- Modulation method: GFSK
- Communication interface:
  - ◆ BCOM×1 (NC, RX, TX, VDD, GND)
  - ◆ Communication method: UART (Baud rate: default 115200bps)
- Provides Arduino Library support
- Module size: 55.7mm×40.7mm×7.5mm

## Block Diagram



## Pin Description



BMCOM Pins:

Pin	Function	Description
1	NC	—
2	RX	UART RX data line
3	TX	UART TX data line
4	VDD	Positive power supply
5	GND	Negative power supply, ground

## Technical Specifications

### Recommended Operating Conditions

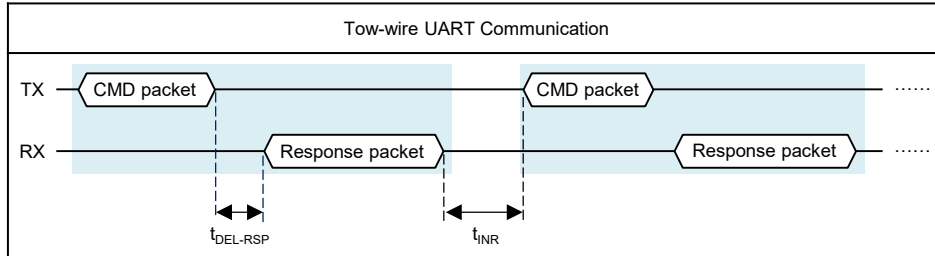
Ta=25°C

Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V <sub>DD</sub>	Operating Voltage	—	3.3	—	5.5	V
I <sub>DD</sub>	Operating Current	@ 3.3V/Connection interval 100ms	—	4.9	—	mA

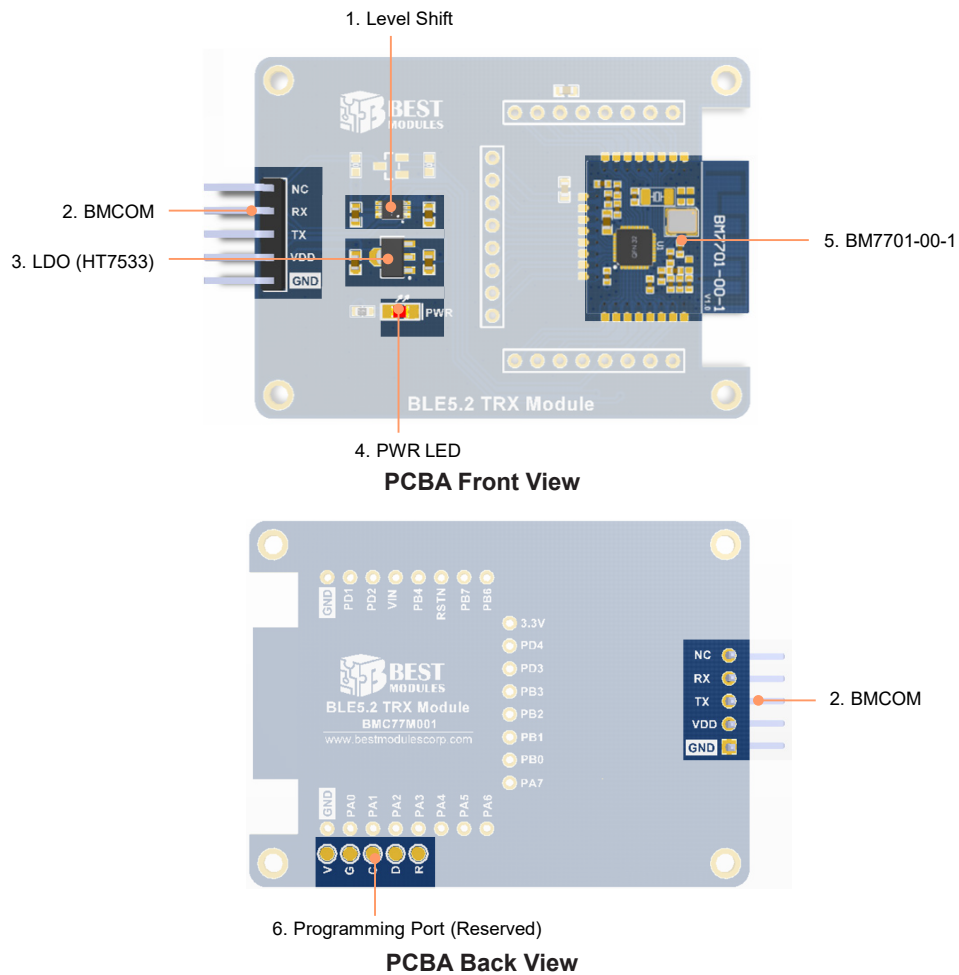
## Timing Specification

Ta=25°C

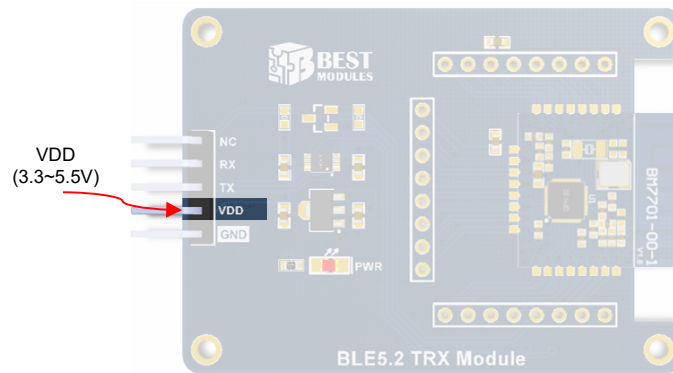
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
$t_{\text{DEL-RSP}}$	Response Delay Time	$V_{\text{DD}}=3.3\text{V}$	—	1	—	ms
$t_{\text{INR}}$	Interval Time	$V_{\text{DD}}=3.3\text{V}$	—	5	—	ms



## Hardware Overview



## Power Supply



- BCOM Pins: provided by the VDD input, 3.3V~5.5V.

## LED Indicator

- PWR: Power indicator

## Bluetooth Module: BM7701-00-1

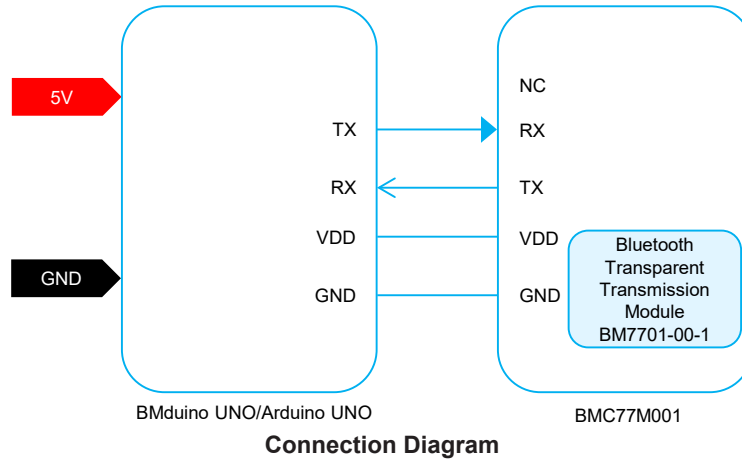
The Best Modules BM7701-00-1 is a Bluetooth module based on Holtek's BC7701 device.

- Bluetooth version: Bluetooth 5.2 BLE
- Modulation method: GFSK
- Frequency band: 2402MHz~2480MHz
- Maximum transmitting power: +3.5dBm @ Maximum power setting
- Maximum transmitting distance: >100m @ +3.5dBm(open space)
- Receiving sensitivity: -94dbm(1Mbps)/-91dbm(2Mbps)
- Communication method: UART
- Have passed the FCC & CE pretest

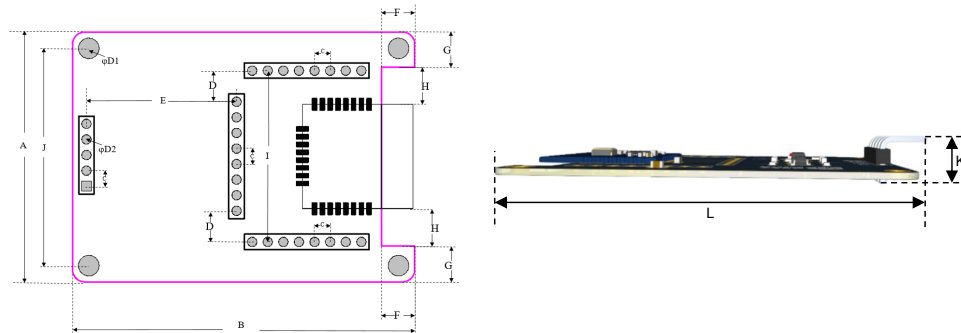
## Communication Interface

- Communication method: UART
- Baud rate: default 115200bps
- Communication logic reference voltage: 3.3V~5.5V
- Communication protocol:
  - ◆ Refer to the BLE API User's Guide
  - ◆ Refer to the BM7701-00-1 datasheet

## Application Circuits



## Dimensions



**Dimension Information**

No.	Unit	mm (Typ.)	inch
A		40.7	1.6
B		55.7	2.19
C		2.54	0.1
D		5.08	0.2
E		24.43	0.96
F		5.44	0.21
G		5.7	0.22
H		6.1	0.24
I		27.94	1.1
J		35.4	1.4
K		7.5	0.295
L		60.7	2.386
D1		3.3	0.13
D2		1.5	0.06

**Dimension List**

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