Bluetooth SPP Serial Port Transparent Transmission Module

JDY-31 Bluetooth Module Manual

Version

Version	Date	Instruction
V1.2	2018-09-21	Release version
V1.3	**2019-01-08**	**1、Solve the problem that V1.2 can't connect to computer** **2、Add the MAC function of the output host after the module connects to the host** **3、Added AT+ENLOG instruction, users can open or shield boot, connect, disconnect the output state of serial port through this instruction.**

I. Product Introduction and Application

JDY-31 Bluetooth is designed based on Bluetooth 3.0 SPP. It can support data transmission of Windows, Linux, and android, with 2.4 GHZ working band, GFSK modulation mode, maximum transmission power of 8 db, maximum transmission distance of 30 meters, and support users to modify device name, baud rate and other instructions through AT command, which is convenient, fast and flexible to use.

II. Product Application

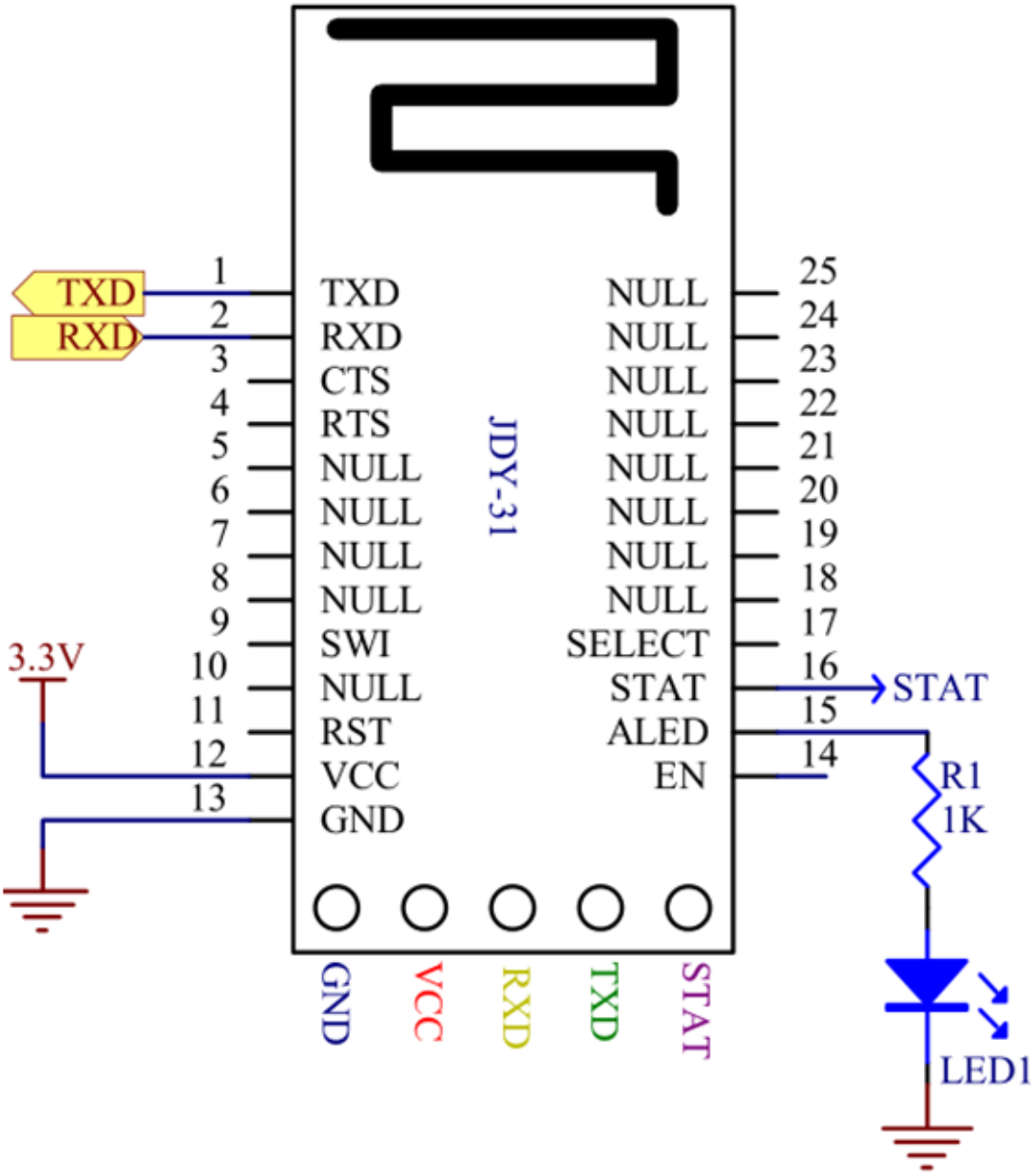
JDY-31 is a classic Bluetooth protocol. It can communicate with computers (desktop, laptop) and mobile phones (android) that support Bluetooth. It can be applied to the followings,

- ◆ Bluetooth Serial Port Transparent Transmission for Windows Computer
- ◆ Android Bluetooth Serial Port Transparent Transmission
- ◆ Smart Home Control
- ◆ Automotive ODB Detection Device
- ◆ Bluetooth toys
- ◆ Sharing mobile power supply and sharing weight scale
- ◆ Medical equipment

III. Detailed Module Parameters

Model	JDY-31
Working frequency band	2.4GHZ
Communication interface	UART
Working voltage	1.8-3.6V（3.3V Recommended）
Working temperature	-40℃ - 80℃
Antenna	Built-in PCB antenna
Transmission distance	30 meters
Master-slave support	Slave machine
Module size	19.6 * 14.94 *1.8 mm（Length, width and height）
Bluetooth version	Bluetooth 3.0 SPP
STM Welding Temperature	<260℃
Working current	7.5mA
Transmitting power	8db（max）
Receiving sensitivity	-97dbm
SPP Maximum Throughput	16K bytes/s(android、windows)

IV. Pin Function and Application



JDY-31 supports patch and welding pin header

1、Pin header application:

the specification of pin header is standard 2.54 spacing pin header, only need 5 pin holes on the welding module.

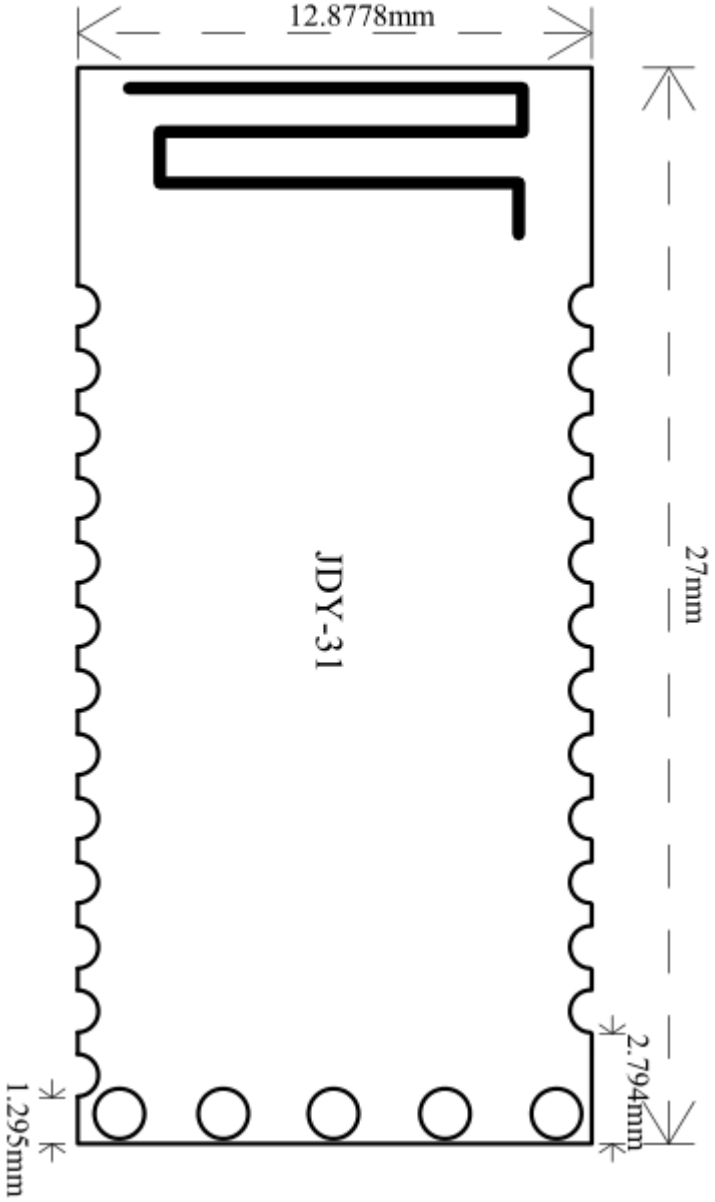
2、Patch applications:

General applications only need to connect four pins of VCC, GND, RXD, and TXD. If you need to actively disconnect at the connection state, send AT+DISC at the connection state.

V. Pin function description

Pin No.	Pin function	Pin function description
1	TXD	Serial Output Pin (TTL Level)
2	RXD	Serial Input Pin (TTL level)
3	CTS	
4	RTS	
5	NULL	
6	NULL	
7	NULL	
8	NULL	
9	SWI	
10	NULL	
11	RST	Reset (Low Level Effective)
12	VCC	Power(1.8-3.6V)
13	GND	Ground
14	EN	
15	ALED	Broadcast status pin (flash unconnected, output high level after connected)
16	STAT	Connection status pin (low level unconnected, output high level after connected)
17	SELECT	
18	NULL	
19	NULL	
20	NULL	
21	NULL	
22	NULL	
23	NULL	
24	NULL	
25	NULL	

VI. PCB Packaging Dimensions

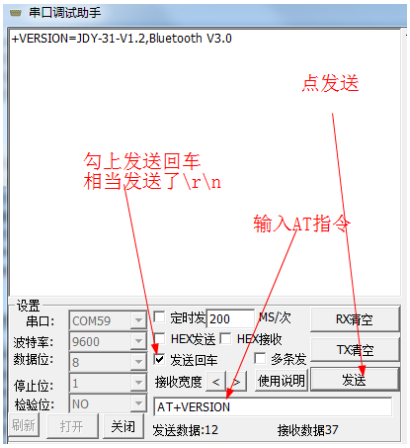


Ⅶ. Serial AT Instruction Set

JDY-31 module serial port send AT instruction must add \r\n

No.	Instruction	Function	Defaulted
1	AT+VERSION	Version No.	JDY-31-V1.2
2	AT+RESET	Soft reset	
3	AT+DISC	Disconnect (valid at connection state)	
4	AT+LADDR	Query the MAC address of module	
5	AT+PIN	Connect password settings and queries	1234
6	AT+BAUD	Baud rate setting and query	9600
7	AT+NAME	Broadcast name setting and query	JDY-31-SPP
8	AT+DEFAULT	Restore factory settings	
9	AT+ENLOG	Serial port state output enable	1

Application of AT Instruction Serial Port Tool



Method of sending disconnection instructions at connection state

1、Query version number

Instruction	Response	Parameter
AT+VERSION	+VERSION=JDY-31-V1.2,Bluetooth V3.0	None

2、Reset

Instruction	Response	Parameter
AT+RESET	+OK	None

3、Disconnect

Instruction	Response	Parameter
AT+DISC	+OK	None

Effective after connection

4、BLE Bluetooth MAC Address

Instruction	Response	Parameter
AT+LADDR	+LADDR=<Param>	None

5、Baud Rate Settings/Queries

Instruction	Response	Parameter
AT+BAUD<Param>	+OK	Param:(4 到 9) 4：9600 5：19200 6：38400 7：57600 8：115200 9：128000
AT+BAUD	+BAUD=<Param>	

JDY-31 supports 128000 baud rate continuous data transmission without losing packets, and the transmission speed can reach 16K bytes per second.

6、SPP Bluetooth Paired Password

Instruction	Response	Parameter
AT+PIN<Param>	+OK	Param：4 bit password Defaulted PIN：1234
AT+PIN	+PIN=<Param>	

7、Broadcast Name Settings/Queries

Instruction	Response	Parameter
AT+NAME<Param>	OK	Param：BLE Broadcast name Maximum: 18 bytes Default broadcast name：JDY-31-SPP
AT+NAME	+NAME=<Param>	

8、Restore factory configuration

Instruction	Response	Parameter
AT+DEFAULT	OK	None

9、Serial Port Status Output Enables Settings/Queries

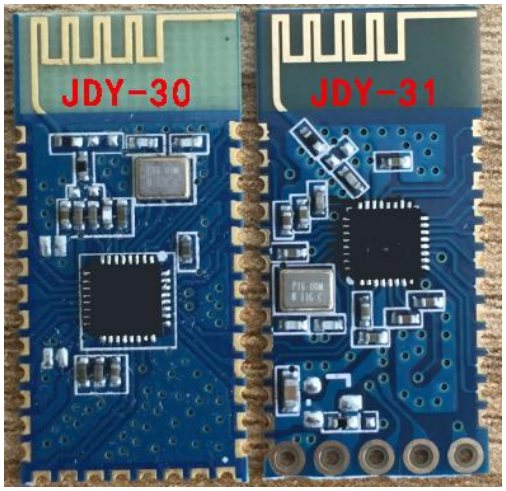
Instruction	Response	Parameter
AT+ENLOG<Param>	OK	Param：1or 0 1：Open Serial Port State Output 0：Close Serial Port Status Output Default value：1
AT+ENLOG	+ENLOG=<Param>	

Ⅷ. Compatibility and Performance Comparison

	JDY-30	JDY-31	
Working current	19mA	7.5mA	**JDY-31 has obvious advantages**
transmission speed	8KByte	16KByte	
Compatibility	Search slow	Search fast and connect fast	

JDY-31 is completely compatible with JDY-30 functions and pins

8.1、JDY-31 is completely compatible with JDY-30 pins and PCB package size pins.



8.2、JDY-31 pin pin has no pad at the bottom, so it is completely compatible with JDY-30.