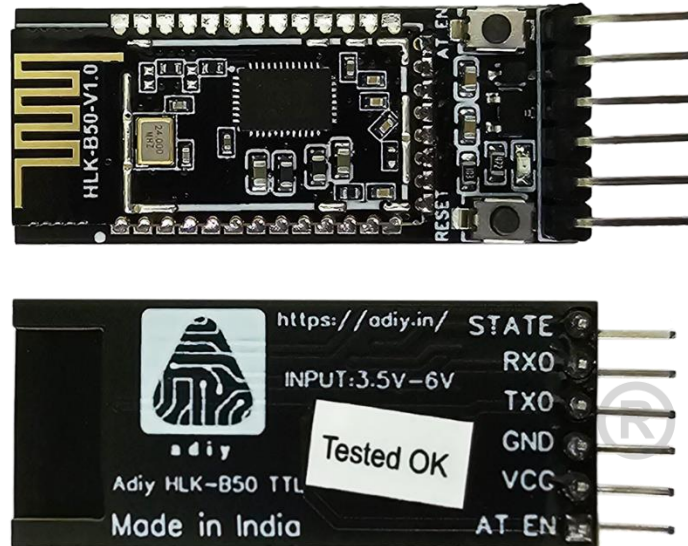## Description:

ADIY HLK-B50 TTL is a BLE5.0 dual-mode Bluetooth-serial port transparent transmission module, which can support Bluetooth SPP and GATT transparent transmission at the same time. Various devices with serial ports can be easily and quickly transmitted through this module. Send and receive data wirelessly using Bluetooth.

Features:

1. Wide operating voltage 3.5~6V.

2. Built-in 32-bit ARM Cortex M3 core, the main frequency can reach 48MHz.

3. Fast and stable Bluetooth-serial port transparent transmission, the serial port baud rate can reach 921600 by default 115200 baud rate.

4. Master-slave integrated Bluetooth BLE 5.0 can be set as master or slave mode.

5. Dual-mode Bluetooth, data can be transparently transmitted through GATT or SPP and can be connected at the same time.

6. Built-in Watchdog, reliable operation for a long time.

Working:

The working mode of the module (transparent transmission and AT command mode)

HLK-B50 module has Transparent mode and AT command mode Two working states. In the AT command mode, you can send AT commands to the module through the serial port to query and set the parameters of the module. In the transparent transmission mode, the module will perform two-way transparent transmission of serial port data and Bluetooth connection data. When the module starts, the default is transparent transmission mode. Exit the transparent transmission mode and enter the AT mode, which will not affect the Bluetooth connection status. The serial port-Bluetooth data transparent transmission is suspended, and the data received by the serial port is processed by the current AT command; after the transparent transmission is resumed, the data transparent transmission will continue. For the transparent transmission mode, press the AT_EN pin with a short low level (0.5~3s), and the module will exit the transparent transmission and switch to the AT command mode. In AT command mode, send AT+TS=1 command to exit AT command mode and return to transparent transmission mode. The conversion logic between transparent.

ADIY HLK-B50 AT Commands:

SL No.	Command Name	Illustrate	Parameter Range	Example	
1	**VER**	software version number	read only	send AT+VERSION=?	answer AT+VERSION=1.15(24042815) OK
2	**MAC**	MAC address	read only	send AT+ADDR?	answer AT+ADDR=D8081B122622 OK
3	**DEFAULT**	restore default configuration	1	send AT+ORGL	answer AT+ORGL=OK
4	**REBOOT**	restart module	1	send AT+RESET	answer AT+RESET=OK
5	**TS**	Restore transparent transmission mode	1	send AT+TS=1	answer AT+TS=1 OK

6	**name**	module bluetooth name	Up to 18 characters Defaults: HLK_B50_****_LE	send	answer
				AT+NAME=?	AT+NAME=ADIY_HLK_B50 OK
				AT+NAME=ble_123	AT+NAME=ble_1234 OK

7	**BAND**	serial port baud rate	1200, 2400, 4800, 9600, 14 400, 19200, 38400, 57600, 115200, 230400, 460800, 921600 Default: 115200	send	answer
				AT+UART=?	AT+UART=115200 OK
				AT+UART=115200	AT+UART=115200 OK

8	**CONNI**	Bluetooth connection interval	6~3200, The unit is 1.25ms, that is, 7.5～4000 ms, Default: 24 The smaller the sending and receiving, the faster the power consumption Large; the larger the sending and receiving, the slower the delay . The larger the value, the lower the power consumption.	send	answer
				AT+CONNI=?	AT+CONNI=24 OK
				AT+CONNI=8	AT+CONNI=8 OK

9	**ADVI**	Bluetooth broadcast interval	Unit 625us Suggested value: 80, 160, 320, 800, 1600, 3200 Default: 800	send	answer
				AT+ADVI=?	AT+ADVI=800 OK
				AT+ADVI=1600	AT+ADVI=1600 OK

10	**ADVDATA**	customize broadcast data	Hexadecimal number, the number of characters is 2 Multiples of up to 52 hexadecimal number Default: None	send	answer
				AT+ADVDATA=?	AT+ADVDATA=03FF1A1B OK
				AT+ADVDATA=68696C696E6B	AT+ADVDATA=68696C696E6B OK

11	**ROLE**	modular BLE role	1 slave 2 hosts Default: 1	send	answer
				AT+ROLE=?	AT+ROLE=1 OK
				AT+ROLE=2	AT+ROLE=2 OK

12	**ENCRYPT**	Pair binding Enable	0 No pairing required 1 requires pairing and bonding Default: 0	send	answer
				AT+ENCRYPT=?	AT+ENCRYPT=0 OK
				AT+ENCRYPT=1	AT+ENCRYPT=1 OK

13	**PINCODE**	pairing code	6-bit integer Default value: 000000	send	answer
				AT+PINCODE=?	AT+PINCODE=000000 OK
				AT+PINCODE=123456	AT+PINCODE=123456 OK

14	**SCANMODE**	Connect in host mode scan mode	0 Connect by MAC address 1 Connect by Bluetooth name Default: 0	send	answer
				AT+SCANMODE=?	AT+SCANMODE=0 OK
				AT+SCANMODE=1	AT+SCANMODE=1 OK

15	**PEERMAC**	module as host, automatically disconnect connected slave MAC address	MAC address, 12 hexadecimal numbers	Send	Answer
				AT+PEERMAC=?	AT+PEERMAC=AABBCC000001 OK
				AT+PEERMAC=AABBCC000001	AT+PEERMAC=AABBCC000001 OK

16	**PEERNAME**	module as host, automatically disconnect blue tooth name	Up to 18 characters	Send	Answer
				AT+PEERNAME=?	AT+PEERNAME=HLK_B50 OK
				AT+PEERNAME=ble_1234	AT+PEERNAME=ble_1234 OK

17	**AUTHPWG**	OTA and air distribution Set access code	up to 8 characters Default: HiLink	Send	Answer
				AT+AUTHPWG=?	AT+AUTHPWG=HiLink OK
				AT+AUTHPWG=68686868	AT+AUTHPWG=68686868 OK

18	**RECONNI**	module as host, Bluetooth automatically reconnection interval	integer, unit s 0: means to try to connect only at startup once, do not reconnect 1~60: Interval after disconnection Automatically reconnect after a specified number of seconds Default: 5	Send	Answer
				AT+RECONNI=?	AT+RECONNI=0 OK
				AT+RECONNI=10	AT+RECONNI=10 OK

19	**UUIDS**	Bluetooth transparent transmission service **UUID**	32 hexadecimal numbers Defaults: 0000fff00000010008000000805f9b34fb	Send AT+UUIDS=0000fff000001000800000805f9b34fb Answer AT+UUIDS=0000fff000001000800000805f9b34fb OK
20	**UUIDR**	in the transparent transmission service Read feature UUID (module send, APP receive)	32 hexadecimal numbers Defaults: 0000fff10000010008000000805f9b34fb	
21	**UUIDW**	in the transparent transmission service Write feature UUID (APP send, module receive)	32 hexadecimal numbers Defaults: 0000fff20000010008000000805f9b34fb	
22	**DISCONN**	Actively disconnect the current and all of the modules bluetooth connection	1	Send / Answer AT+DISC / AT+DISC=SUCCESS OK
23	**ADVEN**	Module bluetooth broadcast Enable	0 Disable the module's bluetooth broadcast 1 Enable the Bluetooth broadcast of the module Default: 1 After disabled, the module cannot be used by the phone or other bluetooth host scan to	Send / Answer AT+ADVEN=? / AT+ADVEN=0 OK AT+ADVEN=1 / AT+ADVEN=1 OK

24	BTNAME	module BT traditional bluetooth name say	up to 20 characters Defaults: HLK_B50_****_BT	Send	Answer
				AT+BTNAME=?	AT+BTNAME=HLK_B50 OK
				AT+BTNAME=ble_1234	AT+BTNAME=ble_1234
25	BT MODE	SPPandGATTmold mode setting, dual mode or single mode	0: SPP+GATT 1: SPP 2: BLE Default: 0	Send	Answer
				AT+BTMODE=?	AT+BTMODE=0 OK
				AT+BTMODE=1	AT+BTMODE=1 OK
26	BTMAC	BTtraditional blue MAC address (and BLE MAC is different)	read only	Send	Answer
				AT+BTMAC=?	AT+BTMAC=112233445501 OK

Pin Diagram:

HLK-B50-V1.0
BLUETOOTH CHIP
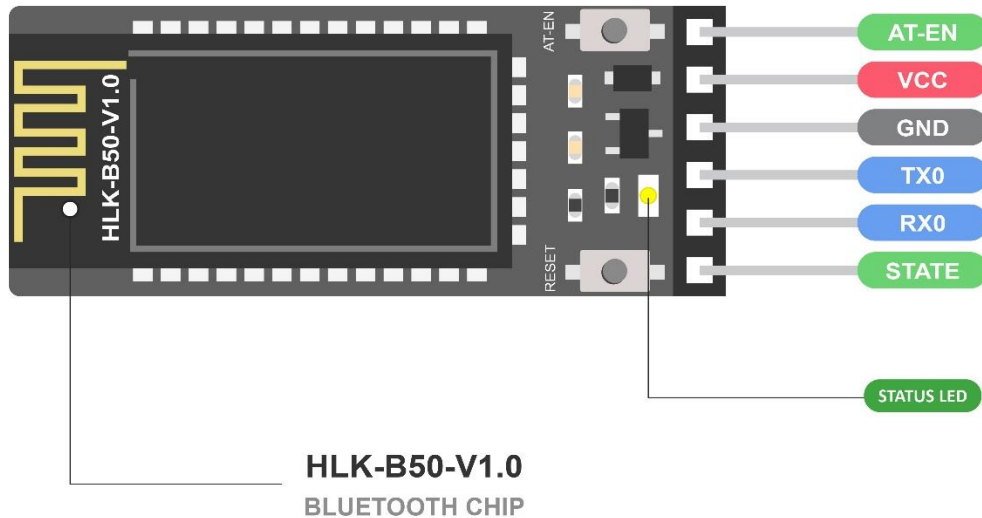
AT-EN: AT Enable Pin
STATE: Status Indication

Application:

- Communication between mobile and system

- Control motor pump using mobile.