

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.
4. Master-slave integrated Bluetooth BLE 5.0 can be set as master or slave mode, support binding encryption.
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. In the transparent transmission mode, the 9th pin PC7 is input 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

HLK-B50 AT Commands:

SL No.	Command Name	Illustrate	Parameter Range	Example				
1	VER	software version number	read only	<table border="1"> <tr> <td>send</td> <td>answer</td> </tr> <tr> <td>AT+VER=?</td> <td>AT+VER=1.03(20092421) OK</td> </tr> </table>	send	answer	AT+VER=?	AT+VER=1.03(20092421) OK
send	answer							
AT+VER=?	AT+VER=1.03(20092421) OK							
2	MAC	MAC address	read only	<table border="1"> <tr> <td>send</td> <td>answer</td> </tr> <tr> <td>AT+MAC=?</td> <td>AT+MAC=112233445501 OK</td> </tr> </table>	send	answer	AT+MAC=?	AT+MAC=112233445501 OK
send	answer							
AT+MAC=?	AT+MAC=112233445501 OK							
3	DEFAULT	restore default configuration	1	<table border="1"> <tr> <td>send</td> <td>answer</td> </tr> <tr> <td>AT+DEFAULT=1</td> <td>AT+DEFAULT=1 OK</td> </tr> </table>	send	answer	AT+DEFAULT=1	AT+DEFAULT=1 OK
send	answer							
AT+DEFAULT=1	AT+DEFAULT=1 OK							
4	REBOOT	restart module	1	<table border="1"> <tr> <td>send</td> <td>answer</td> </tr> <tr> <td>AT+REBOOT=1</td> <td>AT+REBOOT=1 OK</td> </tr> </table>	send	answer	AT+REBOOT=1	AT+REBOOT=1 OK
send	answer							
AT+REBOOT=1	AT+REBOOT=1 OK							
5	TS	Restore transparent transmission mode	1	<table border="1"> <tr> <td>send</td> <td>answer</td> </tr> <tr> <td>AT+TS=1</td> <td>AT+TS=1 OK</td> </tr> </table>	send	answer	AT+TS=1	AT+TS=1 OK
send	answer							
AT+TS=1	AT+TS=1 OK							

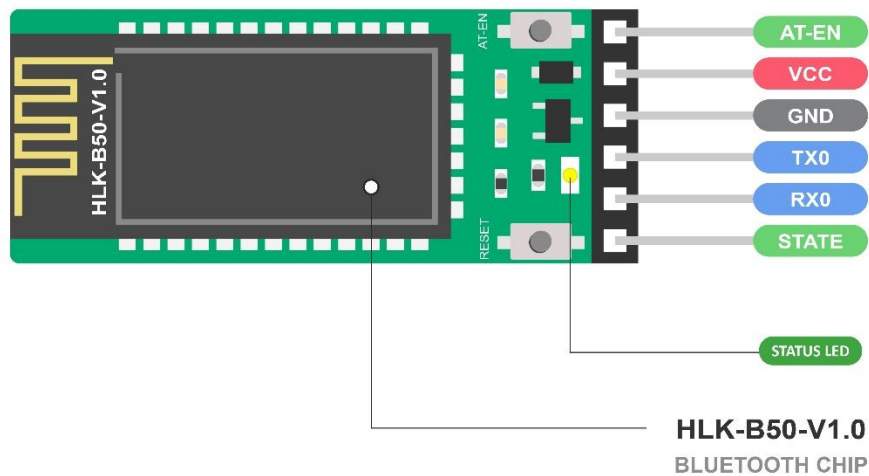
6	name	module bluetooth name	Up to 18 characters Defaults: HLK_B50_****_LE	<table border="1"> <tr> <th>send</th> <th>answer</th> </tr> <tr> <td>AT+NAME=?</td> <td>AT+NAME=HLK_B50 OK</td> </tr> <tr> <td>AT+NAME=ble_123</td> <td>AT+NAME=ble_1234 OK</td> </tr> </table>	send	answer	AT+NAME=?	AT+NAME=HLK_B50 OK	AT+NAME=ble_123	AT+NAME=ble_1234 OK
send	answer									
AT+NAME=?	AT+NAME=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	<table border="1"> <tr> <th>send</th> <th>answer</th> </tr> <tr> <td>AT+BAND=?</td> <td>AT+BAND=115200 OK</td> </tr> <tr> <td>AT+BAND=230400</td> <td>AT+BAND=230400 OK</td> </tr> </table>	send	answer	AT+BAND=?	AT+BAND=115200 OK	AT+BAND=230400	AT+BAND=230400 OK
send	answer									
AT+BAND=?	AT+BAND=115200 OK									
AT+BAND=230400	AT+BAND=230400 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.	<table border="1"> <tr> <th>send</th> <th>answer</th> </tr> <tr> <td>AT+CONNI=?</td> <td>AT+CONNI=24 OK</td> </tr> <tr> <td>AT+CONNI=8</td> <td>AT+CONNI=8 OK</td> </tr> </table>	send	answer	AT+CONNI=?	AT+CONNI=24 OK	AT+CONNI=8	AT+CONNI=8 OK
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	<table border="1"> <tr> <th>send</th> <th>answer</th> </tr> <tr> <td>AT+ADVI=?</td> <td>AT+ADVI=800 OK</td> </tr> <tr> <td>AT+ADVI=1600</td> <td>AT+ADVI=1600 OK</td> </tr> </table>	send	answer	AT+ADVI=?	AT+ADVI=800 OK	AT+ADVI=1600	AT+ADVI=1600 OK
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	<table border="1"> <tr> <th>send</th> <th>answer</th> </tr> <tr> <td>AT+ADVDATA=?</td> <td>AT+ADVDATA=03FF1A1B OK</td> </tr> <tr> <td>AT+ADVDATA=68696C696E6B</td> <td>AT+ADVDATA=68696C696E6B OK</td> </tr> </table>	send	answer	AT+ADVDATA=?	AT+ADVDATA=03FF1A1B OK	AT+ADVDATA=68696C696E6B	AT+ADVDATA=68696C696E6B OK
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	<table border="1"> <tr> <th>send</th> <th>answer</th> </tr> <tr> <td>AT+ROLE=?</td> <td>AT+ROLE=1 OK</td> </tr> <tr> <td>AT+ROLE=2</td> <td>AT+ROLE=2 OK</td> </tr> </table>	send	answer	AT+ROLE=?	AT+ROLE=1 OK	AT+ROLE=2	AT+ROLE=2 OK
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	<table border="1"> <tr> <th>send</th> <th>answer</th> </tr> <tr> <td>AT+ENCRYPT=?</td> <td>AT+ENCRYPT=0 OK</td> </tr> <tr> <td>AT+ENCRYPT=1</td> <td>AT+ENCRYPT=1 OK</td> </tr> </table>	send	answer	AT+ENCRYPT=?	AT+ENCRYPT=0 OK	AT+ENCRYPT=1	AT+ENCRYPT=1 OK
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	<table border="1"> <thead> <tr> <th>send</th> <th>answer</th> </tr> </thead> <tbody> <tr> <td>AT+PINCODE=?</td> <td>AT+PINCODE=000000 OK</td> </tr> <tr> <td>AT+PINCODE=123456</td> <td>AT+PINCODE=123456 OK</td> </tr> </tbody> </table>	send	answer	AT+PINCODE=?	AT+PINCODE=000000 OK	AT+PINCODE=123456	AT+PINCODE=123456 OK
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	<table border="1"> <thead> <tr> <th>send</th> <th>answer</th> </tr> </thead> <tbody> <tr> <td>AT+SCANMODE=?</td> <td>AT+SCANMODE=0 OK</td> </tr> <tr> <td>AT+SCANMODE=1</td> <td>AT+SCANMODE=1 OK</td> </tr> </tbody> </table>	send	answer	AT+SCANMODE=?	AT+SCANMODE=0 OK	AT+SCANMODE=1	AT+SCANMODE=1 OK
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	<table border="1"> <thead> <tr> <th>Send</th> <th>Answer</th> </tr> </thead> <tbody> <tr> <td>AT+PEERMAC=?</td> <td>AT+PEERMAC=AABBCC000001 OK</td> </tr> <tr> <td>AT+PEERMAC=AABBCC000001</td> <td>AT+PEERMAC=AABBCC000001 OK</td> </tr> </tbody> </table>	Send	Answer	AT+PEERMAC=?	AT+PEERMAC=AABBCC000001 OK	AT+PEERMAC=AABBCC000001	AT+PEERMAC=AABBCC000001 OK
Send	Answer									
AT+PEERMAC=?	AT+PEERMAC=AABBCC000001 OK									
AT+PEERMAC=AABBCC000001	AT+PEERMAC=AABBCC000001 OK									
16	PEERNAME	module as host, automatically disconnect bluetooth name	Up to 18 characters	<table border="1"> <thead> <tr> <th>Send</th> <th>Answer</th> </tr> </thead> <tbody> <tr> <td>AT+PEERNAME=?</td> <td>AT+PEERNAME=HLK_B50 OK</td> </tr> <tr> <td>AT+PEERNAME=ble_1234</td> <td>AT+PEERNAME=ble_1234 OK</td> </tr> </tbody> </table>	Send	Answer	AT+PEERNAME=?	AT+PEERNAME=HLK_B50 OK	AT+PEERNAME=ble_1234	AT+PEERNAME=ble_1234 OK
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	<table border="1"> <thead> <tr> <th>Send</th> <th>Answer</th> </tr> </thead> <tbody> <tr> <td>AT+AUTHPWG=?</td> <td>AT+AUTHPWG=HiLink OK</td> </tr> <tr> <td>AT+AUTHPWG=68686868</td> <td>AT+AUTHPWG=68686868 OK</td> </tr> </tbody> </table>	Send	Answer	AT+AUTHPWG=?	AT+AUTHPWG=HiLink OK	AT+AUTHPWG=68686868	AT+AUTHPWG=68686868 OK
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	<table border="1"> <thead> <tr> <th>Send</th> <th>Answer</th> </tr> </thead> <tbody> <tr> <td>AT+RECONNI=?</td> <td>AT+RECONNI=0 OK</td> </tr> <tr> <td>AT+RECONNI=10</td> <td>AT+RECONNI=10 OK</td> </tr> </tbody> </table>	Send	Answer	AT+RECONNI=?	AT+RECONNI=0 OK	AT+RECONNI=10	AT+RECONNI=10 OK
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: 0000fff00000100080 0000805f9b34fb	<table border="1"> <tr><td>Send</td></tr> <tr><td>AT+UUIDS=0000fff000001000800000805f9b34fb</td></tr> <tr><td>Answer</td></tr> <tr><td>AT+UUIDS=0000fff000001000800000805f9b34fb OK</td></tr> </table>	Send	AT+UUIDS=0000fff000001000800000805f9b34fb	Answer	AT+UUIDS=0000fff000001000800000805f9b34fb OK		
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: 0000fff10000100080 0000805f9b34fb							
21	UUIDW	in the transparent transmission service Write feature UUID (APP send, module receive)	32 hexadecimal numbers Defaults: 0000fff20000100080 0000805f9b34fb							
22	DISCONN	Actively disconnect the current and all of the modules bluetooth connection	1	<table border="1"> <tr><td>Send</td><td>Answer</td></tr> <tr><td>AT+DISCONN=1</td><td>AT+DISCONN=1 OK</td></tr> </table>	Send	Answer	AT+DISCONN=1	AT+DISCONN=1 OK		
Send	Answer									
AT+DISCONN=1	AT+DISCONN=1 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	<table border="1"> <tr><td>Send</td><td>Answer</td></tr> <tr><td>AT+ADVEN=?</td><td>AT+ADVEN=0 OK</td></tr> <tr><td>AT+ADVEN=1</td><td>AT+ADVEN=1 OK</td></tr> </table>	Send	Answer	AT+ADVEN=?	AT+ADVEN=0 OK	AT+ADVEN=1	AT+ADVEN=1 OK
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	<table border="1"> <tr> <th>Send</th> <th>Answer</th> </tr> <tr> <td>AT+BTNAME=?</td> <td>AT+BTNAME=HLK_B50 OK</td> </tr> <tr> <td>AT+BTNAME=ble_1234</td> <td>AT+BTNAME=ble_1234</td> </tr> </table>	Send	Answer	AT+BTNAME=?	AT+BTNAME=HLK_B50 OK	AT+BTNAME=ble_1234	AT+BTNAME=ble_1234
Send	Answer									
AT+BTNAME=?	AT+BTNAME=HLK_B50 OK									
AT+BTNAME=ble_1234	AT+BTNAME=ble_1234									
25	BT MODE	SPPandGATTmode mode setting, dual mode or single mode	0: SPP+GATT 1: SPP 2: BLE Default: 0	<table border="1"> <tr> <th>Send</th> <th>Answer</th> </tr> <tr> <td>AT+BTMODE=?</td> <td>AT+BTMODE=0 OK</td> </tr> <tr> <td>AT+BTMODE=1</td> <td>AT+BTMODE=1 OK</td> </tr> </table>	Send	Answer	AT+BTMODE=?	AT+BTMODE=0 OK	AT+BTMODE=1	AT+BTMODE=1 OK
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	<table border="1"> <tr> <th>Send</th> <th>Answer</th> </tr> <tr> <td>AT+BTMAC=?</td> <td>AT+BTMAC=112233445501 OK</td> </tr> </table>	Send	Answer	AT+BTMAC=?	AT+BTMAC=112233445501 OK		
Send	Answer									
AT+BTMAC=?	AT+BTMAC=112233445501 OK									

Pin Diagram:



AT-EN: AT Enable Pin
STATE: Status Indication

Application:

- Communication between mobile and system
- Control motor pump using mobile.

