HLK-B40
Master-slave integrated Bluetooth transparent transmission module
User Manual
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## Terminology & noun interpretation

<table>
<thead>
<tr>
<th>Name</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission</td>
<td>Transparent transmission is to forward data as is between Bluetooth and serial port</td>
</tr>
<tr>
<td>Bluetooth</td>
<td>A short-range wireless communication technology</td>
</tr>
<tr>
<td>BLE</td>
<td>Bluetooth Low Energy, a new Bluetooth technology specification that consumes less power and has a higher transmission and communication distance</td>
</tr>
<tr>
<td>GATT</td>
<td>Bluetooth Low Energy (BLE) connections are based on the GATT (Generic Attribute Profile) protocol and are a common specification for sending and receiving data over Bluetooth connections</td>
</tr>
<tr>
<td>Bluetooth host</td>
<td>The roles of the device in the Bluetooth connection, the host to scan the device slave and actively initiate the connection to the device, etc. in the Bluetooth connection its leading role</td>
</tr>
<tr>
<td>Bluetooth from the machine</td>
<td>One of the roles of the device in a Bluetooth connection, slave to broadcast its own information, passively waiting for the connection</td>
</tr>
<tr>
<td>Bluetooth broadcast</td>
<td>Bluetooth from the machine device through periodic broadcasting, so that the surrounding host equipment can scan and identify themselves, the host device according to the scanned slave information can initiate a connection to the computer</td>
</tr>
<tr>
<td>Broadcast interval</td>
<td>Bluetooth sends broadcasts slave at intervals that are smaller and faster to scan but the greater the power consumption, the smaller the power consumption</td>
</tr>
<tr>
<td>Connection interval</td>
<td>When two Bluetooth devices are connected, the smaller the beat of the data, the smaller the transmission speed, the smaller the delay but the greater the power consumption</td>
</tr>
<tr>
<td>Pair the binding</td>
<td>A mechanism of communication security in Bluetooth technology, which realizes the security of Bluetooth link layer</td>
</tr>
<tr>
<td>OTA</td>
<td>Air upgrade, i.e., the firmware of the module is wirelessly upgraded via Bluetooth</td>
</tr>
<tr>
<td>Re-connect Intervals</td>
<td>When the module is the host, when the Bluetooth connection is not connected or disconnected, the interval is automatically reconnected</td>
</tr>
</tbody>
</table>

Table 1 The term name interpretation table
1. Introduction

HLK-B40 is a kind of Master-Slave serial port transmission Bluetooth module based on BLE5.1. All kinds of devices with serial port can use Bluetooth wireless to send and receive data simply and quickly through this module.

The basic functions and features are as follows,

- Main frequency 48MHz, 32-bit ARM Cortex M3 core
- Fast and stable Bluetooth-serial port transmission, serial port rate up to 921600
- Master-to-one Bluetooth, which can be set to host or slave mode, supports binding encryption
- Bluetooth from the machine mode can be connected by up to 20 host devices at the same time, supporting custom broadcast data
- Based on BLE5.1, it is faster and has a longer transmission distance and can reach 40 to 100 m in an open environment
- Supports low-power modes, sleep currents of up to 6 μA and custom connection and broadcast intervals
- Bluetooth transmit power can be adjusted up to 10dBm and receives up to -95dBm
- Support for OTA Bluetooth wireless upgrade module firmware, wireless configuration module parameters
- The default on-board high-quality ceramic antenna increases the transmission distance and includes an external antenna
- Built-in Watchdog, Long and reliable operation time
- Ultrasmall size 14mm × 9.5mm × 2mm
- Wide operating voltage 1.8 to 4.2V, typical 3.3V
- Rich output pins (UART, I2C, SPI, up to 15 GPIOs, up to 4 ADCs, up to 6 PWMs) provide flexible and in-depth hardware and software custom development services

2. Pin definition

![Pin Position Diagram](image-url)

*Figure 1 Pin Position Diagram*
<table>
<thead>
<tr>
<th>Pins</th>
<th>Symbol</th>
<th>IO Type</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GND</td>
<td>GND</td>
<td>Power source</td>
</tr>
<tr>
<td>2</td>
<td>MIC_BIA</td>
<td></td>
<td>Keep the functionality</td>
</tr>
<tr>
<td>3</td>
<td>MIC_IN</td>
<td></td>
<td>Keep the functionality</td>
</tr>
<tr>
<td>4</td>
<td>VMID</td>
<td></td>
<td>Keep the functionality</td>
</tr>
<tr>
<td>5</td>
<td>AOUT_P</td>
<td></td>
<td>Keep the functionality</td>
</tr>
<tr>
<td>6</td>
<td>AOUT_N</td>
<td></td>
<td>Keep the functionality</td>
</tr>
<tr>
<td>7</td>
<td>RESET</td>
<td>I</td>
<td>Reset restart module, high level is effective,</td>
</tr>
<tr>
<td>8</td>
<td>VCHG</td>
<td>PWR</td>
<td>Charger input, prohibited without battery</td>
</tr>
<tr>
<td>9</td>
<td>VBAT</td>
<td>PWR</td>
<td>The power supply is input to DC3.3V and the</td>
</tr>
<tr>
<td>10</td>
<td>GND</td>
<td>GND</td>
<td>Power source</td>
</tr>
<tr>
<td>11</td>
<td>VDDIO</td>
<td></td>
<td>Keep the functionality</td>
</tr>
<tr>
<td>12</td>
<td>PD7</td>
<td></td>
<td>Keep the functionality</td>
</tr>
<tr>
<td>13</td>
<td>PD6</td>
<td></td>
<td>Keep the functionality</td>
</tr>
<tr>
<td>14</td>
<td>PD5</td>
<td></td>
<td>Keep the functionality</td>
</tr>
<tr>
<td>15</td>
<td>PD4</td>
<td></td>
<td>Keep the functionality</td>
</tr>
<tr>
<td>16</td>
<td>PC7</td>
<td>O</td>
<td>Module Sleep State Output, High: Full Speed,</td>
</tr>
<tr>
<td>17</td>
<td>PC6</td>
<td>I</td>
<td>Module Hibernation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Control Input High: Go into hibernation, Low:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Exit Hibernation, Suspend as High</td>
</tr>
<tr>
<td>18</td>
<td>PC5</td>
<td>I</td>
<td>Function key input, low level is valid, suspension is high</td>
</tr>
<tr>
<td>19</td>
<td>PA3</td>
<td></td>
<td>Keep the functionality</td>
</tr>
<tr>
<td>20</td>
<td>PA2</td>
<td></td>
<td>Keep the functionality</td>
</tr>
<tr>
<td>21</td>
<td>PA1</td>
<td></td>
<td>Keep the functionality</td>
</tr>
<tr>
<td>22</td>
<td>PA0</td>
<td></td>
<td>Keep the functionality</td>
</tr>
<tr>
<td>23</td>
<td>UART0_</td>
<td>O</td>
<td>The module serial output</td>
</tr>
<tr>
<td>24</td>
<td>UART0_</td>
<td>I</td>
<td>Module serial input</td>
</tr>
</tbody>
</table>
### Table 2 Pin definition Table

<table>
<thead>
<tr>
<th>Pins</th>
<th>Symbol</th>
<th>IO Type</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>PA4</td>
<td>O</td>
<td>Bluetooth connection status output, high: not connected, low: connected</td>
</tr>
<tr>
<td>26</td>
<td>PA5</td>
<td>O</td>
<td>Current operating mode output, high: master, low: slave</td>
</tr>
<tr>
<td>27</td>
<td>LED</td>
<td>-</td>
<td>Keep the functionality</td>
</tr>
<tr>
<td>28</td>
<td>GND</td>
<td>GND</td>
<td>Power source</td>
</tr>
<tr>
<td>29</td>
<td>ANT</td>
<td></td>
<td>External antenna output</td>
</tr>
</tbody>
</table>

### 3. Typical application circuits

Below is the basic application circuit reference of this module, if you need more functions, please refer to the module manual or contact our engineers to assist.

![Basic minimum circuit](image)

**Figure 2 Basic minimum circuit (disables low-power sleep function)**

The enable and disable of the module's low-power sleep function can be set by the AT command, which is disabled by default.

If the low-power sleep function is enabled, the module is controlled by the level of the sleep control input pin, which is used to enter or exit hibernation, and the module outputs the current sleep state by the sleep state output pin.
Figure 3 Basic minimum circuit (enables low-power sleep function)

Note:

1. RESET pin can not be suspended, it need to connect 10K drop-down resistance.
2. Metal object blocking will affect Bluetooth signal sending and receiving, use should make the module as far away from metal objects as possible, PCB design requires modules
   No copper can be laid under the antenna section.

4. Basic functional instructions

4.1 The principle of transmission

HLK-B40 is a cost-effective Master-slave integrated Bluetooth transparent transmission module introduced by Hi-Link, designed to enable only serial user devices to quickly and easily use Bluetooth for wireless transmission, with the help of serial transmission, users do not need to care about complex Bluetooth protocol stack and RF circuit, just a simple serial port transmission, data can be transmitted directly on the Bluetooth wireless connection. Transmission is short for transparent transmission, means the role of the module is equivalent to the serial port and Bluetooth connection between the establishment of a transparent transmission pipeline, the user in the serial port issued data will be forwarded to the device connected through Bluetooth, data sent through Bluetooth will also be forwarded to the serial port, the entire process users do not need to care about complex Bluetooth connection how to achieve, HLK-B40 module from beginning to end is only the original data transfer and transmission of data without the user's convenience and transmission.

The principle schematic of the Bluetooth-serial port transmission function is as follows, see the quick start guide for the specific test verification method.
This module can be connected by multiple Bluetooth host devices when acting as a Bluetooth accessor, including other B40 modules as hosts. Under a multi-to-one connection, the data received from the serial port of the machine module is forwarded via Bluetooth to each connected host device, each Data from connected host devices is also forwarded to the serial port from the machine module.

### 4.2 Module operating mode (transmission and AT command mode)

HLK-B40 module has both **transmission** mode and **AT** command mode.

In **AT** command mode, you can query and set the parameters of the module by sending the **AT** command to the module through a serial port.

In **transmission** mode, the module transfers serial data and Bluetooth-connected data in both directions.

When the module starts, the default is transmission mode. Exiting transmission mode into AT mode will not
affect the Bluetooth connection state, string Mouth-Bluetooth pivot is paused, the data received by the serial port is processed by the current AT instruction;

In transmission mode, the 18th pin PC5 is entered with a short low level (0.5 to 3s) and the module switches out of transmission to AT command mode.

In AT command mode, the AT-TS-1 command is sent to restore the exit AT command mode to transmission mode.

The conversion logic for transmission mode and AT command mode is as follows:

Figure 6 A diagram of the conversion logic of the transmission mode and the AT command mode

### 4.3 Description of the input and output pin functions

<table>
<thead>
<tr>
<th>Name</th>
<th>Chip pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reset key input</td>
<td>RESET</td>
<td>High level is effective and requires an external 10K drop-down resistor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enter the high-level module to restart the module</td>
</tr>
<tr>
<td>Function button input</td>
<td>PC5</td>
<td>The inside is pulled up and the action is pulled down</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pull down 0.5 to 3 seconds: exit transmission and switch to AT command mode;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pull down 8 to 20 seconds: restore the factory default settings</td>
</tr>
<tr>
<td>The module sleep control input</td>
<td>PC6</td>
<td>Internal pull-up, suspension or input high-level module automatically into hibernation, input low normal full-speed operation;</td>
</tr>
<tr>
<td><strong>The module hibernate state output</strong></td>
<td>PC7</td>
<td>High level - full speed work, low level - hibernation</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-----</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td><strong>Bluetooth connection status output</strong></td>
<td>PA4</td>
<td>High level - not connected, low level - connected, transmission channel has been established; When the pairing binding feature enables, the pairing encryption is successfully represented on the connection</td>
</tr>
<tr>
<td><strong>The operating mode output</strong></td>
<td>PA5</td>
<td>High level = master, low level = slave</td>
</tr>
</tbody>
</table>

| **Figure 3**  Description of the input and output pin functions |

### 4.4 Bluetooth device roles and connections

Devices at both ends of the Bluetooth connection have fixed roles, one is the host role, the other is the slave role. Different roles of equipment define the corresponding operations and responsibilities.

The host discovers the slave device by scanning the slave broadcast and actively initiates a connection to the selected slave device (identified by the MAC address) and Maintain the connection and play a leading role in a Bluetooth connection.

The slave broadcasts its own information, such as the device name, etc. The slave passively waits for the connection request initiated by the master and accepts the request to connect to Bluetooth Successfully established.

This module can be connected to multiple host devices at the same time as a slave.

The B40 module defaults to the slave mode and the settings can be switched through the AT+ROLE command. After the two devices establish a Bluetooth connection, they can send data to each other via Bluetooth (GATT).

The Bluetooth GATT service and feature UUID of this module can be modified by AT command, the default values are as follows:

- **Service UUID**: 0000fff0-0000-1000-8000-00805f9b34fb
- **Feature UUID**: 0000fff1-0000-1000-8000-00805f9b34fb
- **Feature UUID**: 0000fff2-0000-1000-8000-00805f9b34fb

<table>
<thead>
<tr>
<th><strong>Feature UUID</strong></th>
<th><strong>Action permissions</strong></th>
<th><strong>The function definition</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>0000fff1-0000-1000-8000-00805f9b34fb</td>
<td>Read/Notify</td>
<td>Module send, APP receive</td>
</tr>
<tr>
<td>0000fff2-0000-1000-8000-00805f9b34fb</td>
<td>Write Without Response</td>
<td>APP send, module receive</td>
</tr>
</tbody>
</table>

| **Figure 4 Bluetooth transmission service UUID default** |
You can choose to turn on the pairing and binding function of the Bluetooth connection. After it is turned on, the security can be increased, but the operation steps are increased accordingly. It is valid in slave or master mode. The pairing method is PASSKEY ENTRY, 6-digit PingCode. After the binding function is turned on, Bluetooth data can be sent and received only after pairing and binding. Unpaired devices cannot transparently transmit data through Bluetooth and the module.

In the master mode, you need to set the MAC address of the target slave to be connected. After the module starts, it will automatically scan and connect to the target slave device and will automatically reconnect and reconnect if the slave is not found or the connection is disconnected. The interval time can be set by the AT+RECONNI command, the default is 5s, that is, when it is not connected, it will try to reconnect every 5 seconds until it is connected.

5. A quick start guide

5.1. Test the debug base plate

In order to enable users to quickly verify and debug the module, our company has developed a dedicated B40 test board. It is recommended that you choose to use this test board when you use this module for the first time.

The test board is directly powered by USB and comes with a USB-to-serial function. After connecting to the computer through the USB cable, you can connect to the module's serial port through the USB-to-serial port. No additional serial cable is required, which is easy to use.

Figure 7 The module tests the appearance and functional schematic of the base plate
5.2. Quickly verify bluetooth serial transmission

Our company has developed a special mobile phone Bluetooth transparent transmission test APP for this module for users to use. For APP introduction and instructions, please refer to HLK-B40 Bluetooth Transparent Transmission Module Mobile APP Instructions.

Use the module test bottom board and the mobile phone Bluetooth transparent transmission test APP to immediately start to test and verify the module's serial port-Bluetooth transparent transmission function.

The specific test procedures are as follows:

Connect the module to the test board correctly and connect the test board to the computer through a USB cable.

Open the corresponding serial port on your computer with the serial debugging tool.

Open the transparent transmission test APP on the mobile phone, the APP will automatically search for surrounding Bluetooth devices and display them in a list.

Click the Bluetooth device name corresponding to the module in the device list to connect. The default name of the B40 module is HLK_B40_**** and the suffix is the last four digits of the MAC address.

After the app is successfully connected to the module, the connection status LED on the test board will turn on, means the connected state.

At this time, the data can be sent to the serial port of the module in the serial port debugging tool on the computer and the sent content will be received and displayed as it is by the mobile phone app;

Send data from the transparent transmission test app on the mobile phone to the module, the sent content will be received by the module as it is and output to the serial port of the module. The received data can be seen in the serial port debugging tool on the computer. The effect is as follows:
6. Low power sleep function

This module is developed based on BLE 5.1 supporting low power consumption and can be flexibly configured in many aspects to further reduce power consumption.

<table>
<thead>
<tr>
<th>Configurable items</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjust transmit power</td>
<td>The lower the transmission power, the lower the power consumption but the shorter the transmission distance</td>
</tr>
<tr>
<td>Adjust the broadcast interval and connection interval</td>
<td>The larger the interval, the lower the power consumption but the greater the delay</td>
</tr>
<tr>
<td>Turn on auto sleep</td>
<td>6μA After the automatic sleep function is turned on, the module can be controlled by the input level of the external sleep control input pin. High level: the main chip will sleep automatically. Low level: wake up to work at full speed. The minimum operating current can be as low as 6 μa during dormancy</td>
</tr>
</tbody>
</table>

All the above can be modified through the AT command, the user can be flexible according to the actual application scenario and requirements to achieve a balance between power consumption and performance.

When automatic sleep is turned on, the hibernate output outputs different levels to indicate whether the module is...
Currently dormant or wake-up:
   High: wake-up, full-speed operation.

![Control and state timing after low power function is turned on](image)

**Figure 10** Control and state timing after low power function is turned on

### 7. AT command

#### 7.1 AT instruction format description

All AT instructions are in ASCII string format and end with carriage return.

Power failure will not be lost after setting. All settings will take effect only after restart.

Query class instructions:

<table>
<thead>
<tr>
<th>Send</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT+&lt;CMD&gt;=?\r\n</td>
<td>Query success:</td>
</tr>
<tr>
<td></td>
<td>AT+&lt;CMD&gt;=&lt;val&gt;\r\n</td>
</tr>
<tr>
<td></td>
<td>OK\r\n</td>
</tr>
<tr>
<td></td>
<td>Or query failed:</td>
</tr>
<tr>
<td></td>
<td>AT+&lt;CMD&gt;=&lt;val&gt;\r\n</td>
</tr>
<tr>
<td></td>
<td>ERROR\r\n</td>
</tr>
</tbody>
</table>
Set class instructions:

<table>
<thead>
<tr>
<th>Send</th>
<th>Response</th>
</tr>
</thead>
</table>
| AT+<CMD>=<val>
            | Set successfly:
| AT+<CMD>=<val>
OK
            | Or set failure:
| AT+<CMD>=<val>
ERROR
            |

For ASCII code: 0x0D 0x0A

### 7.2 At instruction list and description

<table>
<thead>
<tr>
<th>Item</th>
<th>command name</th>
<th>Description</th>
<th>Range parameters</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VER</td>
<td>Software versions</td>
<td>Read only</td>
<td>AT+MAC=?  AT+VER=1.03(20092421) OK</td>
</tr>
<tr>
<td>2</td>
<td>MAC</td>
<td>MAC address</td>
<td>Read only</td>
<td>AT+MAC=?  AT+MAC=112334455601 OK</td>
</tr>
<tr>
<td>3</td>
<td>DEFAULT</td>
<td>Restore the default configuration</td>
<td>1</td>
<td>AT+DEFAULT=1 AT+DEFAULT=1 OK</td>
</tr>
<tr>
<td>4</td>
<td>REBOOT</td>
<td>Restart the module</td>
<td>1</td>
<td>AT+REBOOT=1 AT+REBOOT=1 OK</td>
</tr>
<tr>
<td>5</td>
<td>TS</td>
<td>Restore transmission mode</td>
<td>1</td>
<td>AT+TS=1 AT+TS=1 OK</td>
</tr>
<tr>
<td>6</td>
<td>NAME</td>
<td>Module, Bluetooth name</td>
<td>Up to 28 characters</td>
<td>AT+NAME=bl1234 AT+NAME=HLK_B40 OK</td>
</tr>
<tr>
<td>No.</td>
<td>Parameter</td>
<td>Description</td>
<td>Values/Default</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>------------</td>
<td>-------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>BAND</td>
<td>Serial Port rate</td>
<td>1200,2400,4800,9600,14400,19200,38400,57600,115200,230400,460800,921600 Default: 115200</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>RFPOWER</td>
<td>Bluetooth Transmit power</td>
<td>1-18, 18 grades Default: 8 The smaller the transmission distance, the lower the power consumption; the larger the transmission distance, the greater the power consumption</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>SLEEPEN</td>
<td>auto sleep Enable</td>
<td>0 disable sleep 1 enable sleep Default value: 0 After enabling, the module will automatically enter the sleep state according to the control of the level of the SLEEPEN input pin</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>CONNI</td>
<td>Bluetooth Connection interval</td>
<td>6 ~ 3200, The unit is 1.25ms, i.e. 7.5-4000ms. The default value is 24 The smaller the transceiver, the faster the power</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>ADVI</td>
<td>Bluetooth Broadcast interval</td>
<td>Unit: 625us Recommended value: 80,160,320,800,1600,3200 Default value: 800</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>ADVDATA</td>
<td>Self-define Broadcast data</td>
<td>Hexadecimal number, the number of characters is a multiple of 2, up to 40 hexadecimal numbers Default: none</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>ROLE</td>
<td>module BLE role</td>
<td>1 slave</td>
<td>send response</td>
</tr>
<tr>
<td>14</td>
<td>ENCRYPT</td>
<td>Pairing binding</td>
<td>0 does not require pairing binding</td>
<td>send response</td>
</tr>
<tr>
<td>15</td>
<td>PINCODE</td>
<td>Pairing code</td>
<td>6-bit integer</td>
<td>send response</td>
</tr>
<tr>
<td>16</td>
<td>PEERMAC</td>
<td>When the module is the master, it automatically goes to the MAC address of the slave</td>
<td>MAC address, 12 hexadecimal numbers</td>
<td>send response</td>
</tr>
<tr>
<td>17</td>
<td>AUTHPWG</td>
<td>OTA and air-configured access passwords</td>
<td>Up to 8 characters</td>
<td>send response</td>
</tr>
<tr>
<td>18</td>
<td>CONNSTATE</td>
<td>Query the device information for the current Bluetooth connection</td>
<td>Read-only Responses includes: Number of devices currently connected Each device's Role, MAC</td>
<td>send response</td>
</tr>
</tbody>
</table>
|   | RECONNI | Bluetooth automatically re-connects when the module is the host | Integer, unit s  
0: Represents only one attempt to connect at startup, not a reconnect  
1 to 60: The connection is automatically reconnected after a specified number of  
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>19</td>
<td>RECONN1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>send</td>
<td>response</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AT+RECONN=7</td>
<td>AT+RECONN=0</td>
<td>OK</td>
</tr>
<tr>
<td></td>
<td>AT+RECONN=10</td>
<td>AT+RECONN=10</td>
<td>OK</td>
</tr>
</tbody>
</table>

|   | UUIDS | Bluetooth transmission service UUID | 32 hexadecimals  
Default:  
0000001000100000000000000008000000080  
59b34f6 |
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>send</td>
<td>response</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AT+RECONN=7</td>
<td>AT+RECONN=0</td>
<td>OK</td>
</tr>
<tr>
<td></td>
<td>AT+RECONN=10</td>
<td>AT+RECONN=10</td>
<td>OK</td>
</tr>
</tbody>
</table>

|   | UUIDR | Read feature UUID in transmission service (module transmit, APP receive) | 32 hexadecimals  
Default:  
0000001000100000000000000008000000080  
59b34f6 |
<table>
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<tr>
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<tbody>
<tr>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

|   | UUIDW | White feature UUID in APP transmission (APP receive module transmit) | 32 hexadecimals  
Default:  
0000001000100000000000000008000000080  
59b34f6 |
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6  AT command list and description
8. Wireless settings and queries via Bluetooth

In the mobile phone APP, the module can be queried and set up by Bluetooth wireless, please refer to the HLK-B40 Bluetooth transmission mode phone APP usage instructions.

9. OTA functionality

In the mobile phone APP, through Bluetooth wireless upgrade module firmware, the specific operation please refer to the HLK-B40 Bluetooth transmission module mobile phone APP Instructions for use.

10. Contact info

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