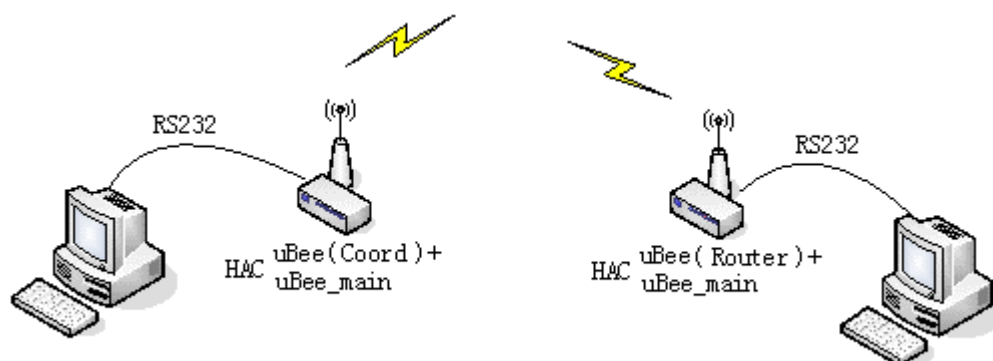


## Operation Description

### 1. The communication testing of HAC-UBee/s/s

Using testing development kit HAC-UBee/s and HAC-UBee/s TEST BOARD which cooperate with computer, you can test, experience and evaluate the ZigBee network. The method is shown as Picture 7.



Picture 7

### 2. Choose module and kit for networking demo or testing

Choose one Coordinator and one or two Router, and plug them into HAC-UBee/s TEST BOARD according to Picture 8.

Let all of 7th pin and 8th pin of HAC-UBee/s TEST BOARD's J5 be shorted by short circuits, let it work in transparent protocol mode.

**Note: All of the modules must work in the same mode.**



Picture 8

### 3. Get ready for communication

Let J2 of HAC-UBee/s TEST BOARD connect with serial port of computer by RS232

serial wire, and use software that can communicate with serial port to check module's input and output in the serial port. When you connect module with TEST BOARD, please pay attention to the pin's definition of HAC-UBee/s TEST BOARD's J2.

Serial port parameters of software are setting as follow:

Baud rate: 38400bps

No parity

Eight data bits

One stop bit

**Note: Serial port setting of software must be the same as RS232 serial wire.**

#### 4. Electrify the modules

According to the pin definition of HAC-UBee/s TEST BOARD's J1 or J6, you should offer appropriate power supply for each networking module.

When the network is made, the order of electrifying each module is not important, but based on the relevant protocol of ZigBee, the networking must be started up by a coordinator. So, even the router has electrified, the network wouldn't start except that coordinator has electrified for a few seconds. Coordinator is the first node of the network.

Now, electrify the modules.

#### 5. Networking

When the distance between router and its nearest coordinator or router in the network is less than or equal to the maximum distance between modules' networking, the router will join into the network automatically to make a small network (ZigBee) after electrifying the Coordinator.

When Coordinator has electrified for a few seconds, you can see seven characters "Coord !" from screen of computer through serial port software. It indicates that Coordinator has finished establishment of network.

Then you can seen seven characters "Net OK !" from screen of computer through serial port software. It indicates Router has entered into the network.

#### 6. Simulate and Test

When you transmit data to the serial port of any module in the network through software, you can get the same data from the serial port of the other module in the

network. It indicates that ZigBee network works normally.

## **7. Notice**

Based on the reason of ZigBee , the data length which transmit to the serial port is less than or equal to 70 bytes.

Transmit data too quickly to module through serial port may lose some data.

If you need to use formatted protocol, you need to remove all of short circuits in HAC-UBee/s TEST BOARD's J5. The demonstration software for serial port communication can be downloaded on our website. The name of software is ZigBee\_Demo.exe.