24GMilimeterwave

Biosensing radar

R24BBD1-Respiratory sleepTuyaWiFiapplication manual

Please read the product instructions carefully before use and keep them properlyV1.0

MicRadar Technology (Shenzhen) Co. ,LTD

contents

1.Device distribution routine steps

1、Download through the app store: Tuya Smart APP

2、Press and hold the button on the product until the LED light is off and then release when it flashes. At this time, the radar resets and enters the network distribution mode. There are two ways to configure the network:

(Note: The phone needs to be connected to 2.4Gwifi, not 5Gwifi)

Method 1 (Bluetooth):

The App interface will pop up "Discover the device to be added: 1". After clicking to add, the app will automatically connect the device to the network.
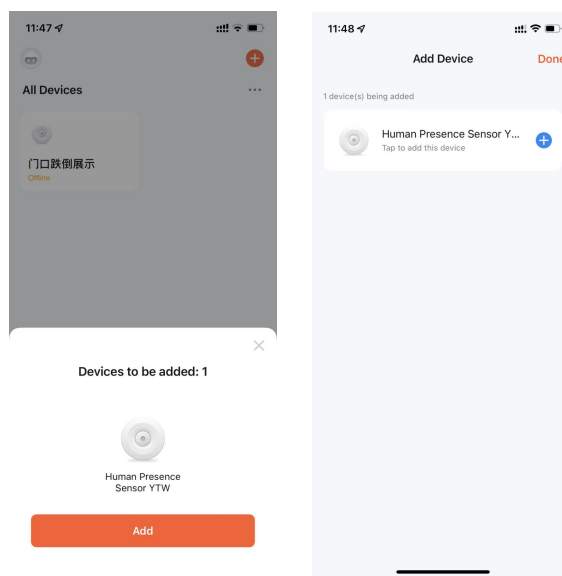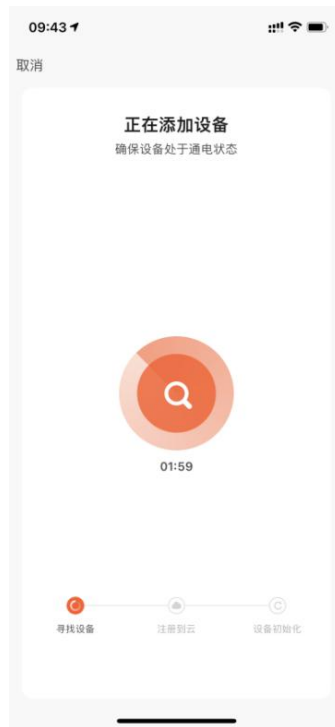

Method 2 (Wi-Fi):

Click the "red plus sign" in the upper right corner of the APP interface to enter the product category selection page, click "Auto Discovery" in the

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upper right corner to search for the device, and click "Next" after discovering the device.
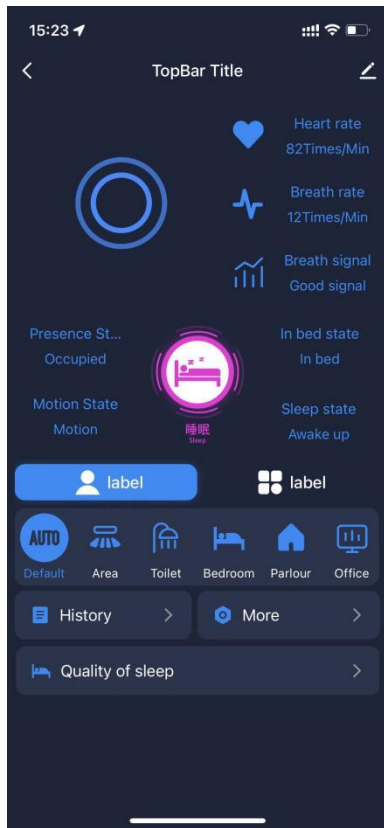
Fill in the relevant wifi information, and click "Next" to configure the device.
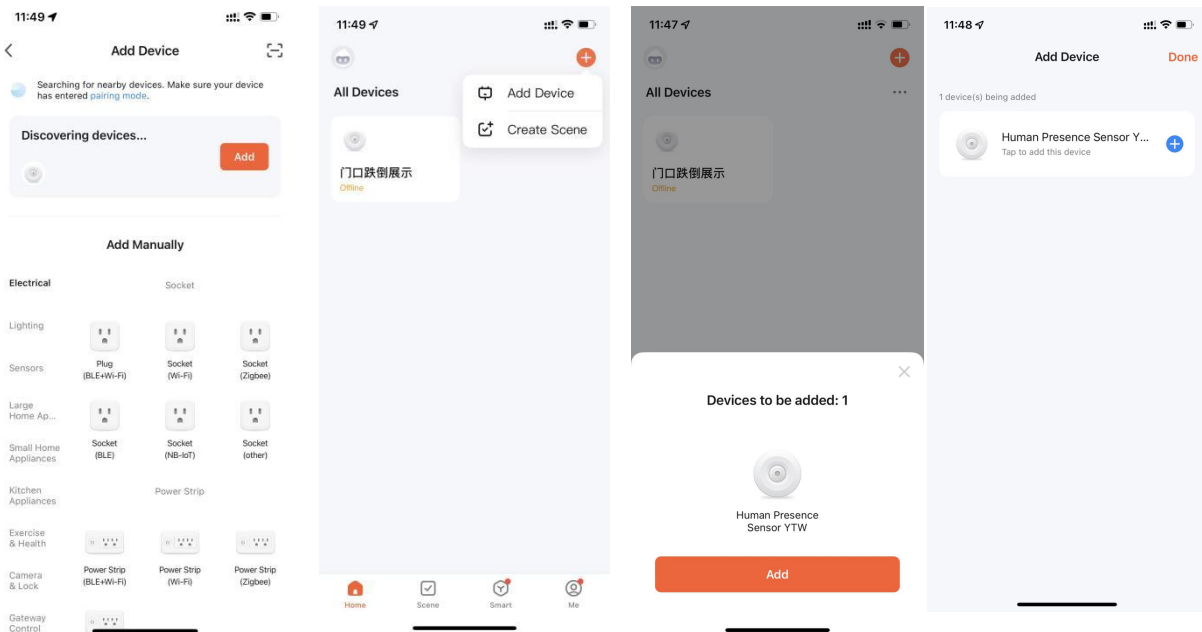
3、Wait for the APP to configure the wifi network until the network configuration is successful, then you can successfully match the Tuya wifi radar device.

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2. APP panel interface introduction

Panel main interface
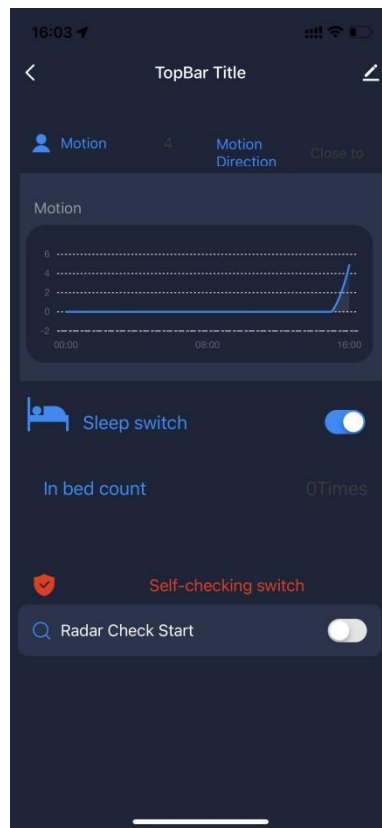
More function setting interface

History interface

Sleep-related data interface

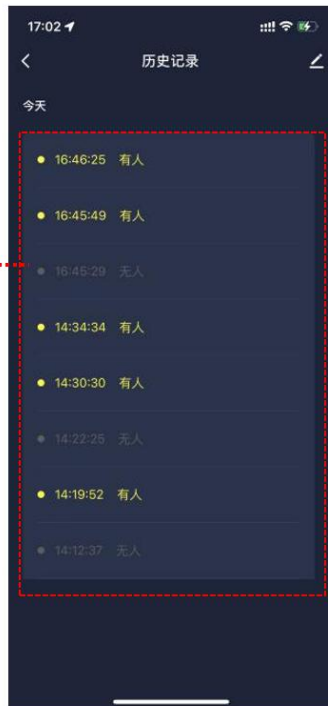## 3.Application scenarios and functions of sleep radar

1. Sleep Radar Installation Scenario Restrictions:

·It is necessary to avoid fans, etc., which will vibrate and rotate metals within the radar detection range.

·When the sleep radar detects sleep, the radar is required to be installed at a height of 1m above the head of the bed, tilted down 45° to the middle of the bed, and ensure that the distance between the radar and the chest is within 1.5m .

2. Main function points of sleep radar:

Active reporting of entry/exit/bed status

Active reporting of sleep status

Active reporting of respiratory rate

Active reporting of breathing signals

4.Detailed description of main functions of sleep radar

1. Sleep quality status judgment test :

● **Sleep quality status test:**

● When a sleep test is performed within the radar detection range, the radar will immediately report the relevant status in "awake/light/deep sleep" every 10 minutes

carry out testing Simulate sleep for 10 minutes with immobility within range	When 10 minutes later, the radar sleep state is successfully judged from awake -> light sleep record radar sleep state If the output can be judged normally, it means **"pass"**

Example test table format:

Testing frequency	test location	Whether to report normal sleep state	pass
the first time	front of the radar	Yes	pass

2. Judgment test of entering and leaving bed state:

- **Entry state judgment test:**

- when no one enters the radar detection range, it will immediately respond and report the entry state

Install the radar according to the installation requirements of the sleep scene, Keep approaching the sleeping area at a speed of at least 0.7m/s	When the radar state changes from getting out of bed - "into bed, it stops at the moment Whether the recording and radar can trigger the bed-in state normally If it can be triggered normally, it means **"pass"**

Example test table format:

Testing frequency	Whether entering the detection range normally triggers the bed entry state	pass
the first time	Yes	pass

- **Judgment test of leaving bed state:**

- When there is no one in the radar detection range, the radar will detect whether there is no human movement, breathing and other actions within the range for a period of time, and output the state of getting out of bed when it is confirmed that there is no one. (It is normal to enter the unmanned state within 5 minutes in a normal environment)

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Stay at least 3m away from the sleep detection area to avoid interference There are no people moving around in the environment and no interference from sources of interference start the timer	When the radar state changes from entering the bed/someone is still -> leaves the bed and stops for a moment Records radar entry and exit times When reporting "Get out of bed" within 5 minutes, it means **"Pass"**

Example test table format:

Testing frequency	Report the time to leave bed	pass
the first time	2min10s	pass

3. Breathing rate test:

● **Breathing rate test:**

● When the person sits still in front of the radar detection area and the distance is kept within 1.5m, perform a 3-minute static calm test and a 40s breath-holding test, the radar will output the value of breathing in real time. When the breathing movement exists, it will report the breath as 0, and report the abnormal breath hold alarm

Sit still in the specified test position, and breathe calmly for 1 minute, then hold your breath for 30s~40s after 1 minute Watch the radar status change	When the radar breathing rate normally outputs the value 1min before, and the breathing value can be reported as 0 times/min after holding the breath for about 30s~40s, and the abnormal breath holding alarm is reported, it means **"passed"**

Example test table format:

Testing frequency	Confirm that the breathing rate has the correct numerical change	pass
the first time	Yes	pass

5.Historical version update instructions

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Revision	Release Data	Summary
V1.0_0520	2022/05/20	first draft