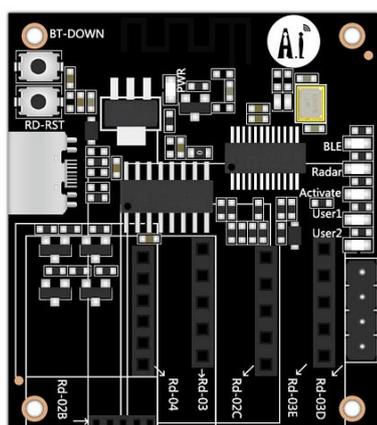


# About Ai-Thinker Rd-Kit can work with 6 radar modules, what's it exactly??

Rd-Kit is a radar Bluetooth baseboard developed by Ai-Thinker Co., Ltd. The Bluetooth backplane core processor chip PHY6252 (SSOP24) is a highly integrated low-power Bluetooth system-on-chip (SoC).

We developed it adapted the hardware to **Rd-02B and Rd-02C** , **Rd-03, Rd-03D, Rd-03E and Rd-04 module**, a total of 6 radar modules, specially designed for radar debugging scenarios.

The software is currently adapted to 4 radar modules: Rd-03, Rd-03D, Rd-03E and Rd-04. Among them, Rd-03 has 70cm resolution firmware and 24cm resolution firmware, and Rd-03E has precision ranging firmware and gesture recognition firmware.



Rd-Kit

## 1. Hardware prepare

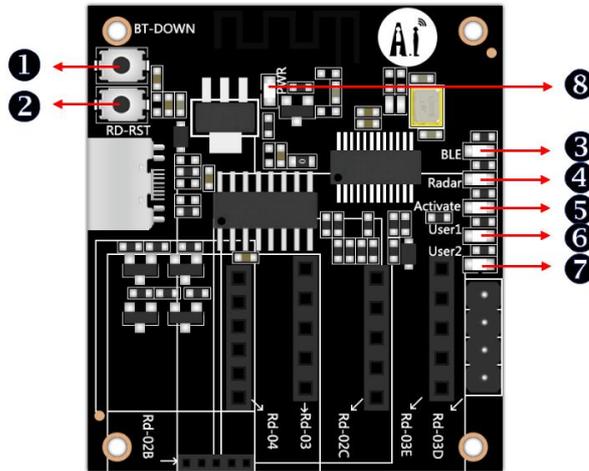
Hardware	Quantity
Rd-Kit	1
Rd-03	1
Rd-03D	1
Rd-03E	1
Rd-04	1

## 2. Software prepare

Ai Net assistant APP: [Android APP](#)

Ai Net assistant APP: IOS APP wait for update

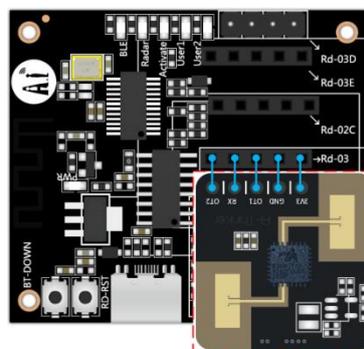
### 3. Rd-Kit status indicator lights and buttons



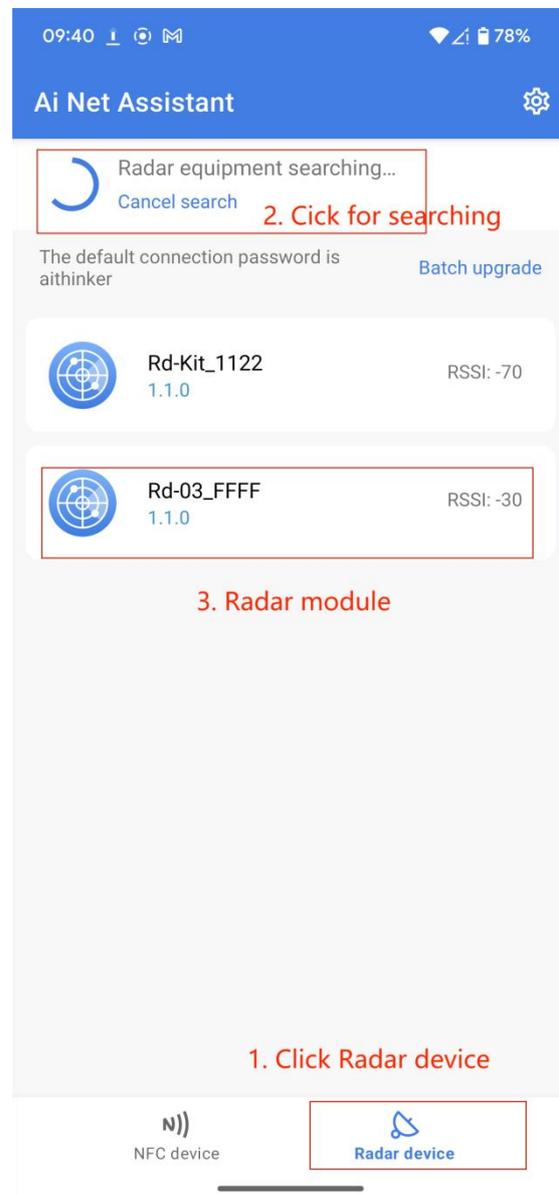
No.	Description
①	BT-DOWN button, Bluetooth chip download button
②	RD-RST button, Radar power-off reset button
③	BLE indicator blue light, indicating Bluetooth connection status (flashes slowly when not connected, turns off after connected)
④	Radar LED is a blue light that indicates the connection status between the radar module and the development board (it flashes slowly when not connected, and turns off when connected)
⑤	Activate LED indicator blue light (lights up when the radar triggers a human presence, and turns off when no one is around)
⑥	Reserved User1 blue light

### 4. Use Rd-Kit configuring with Rd-03

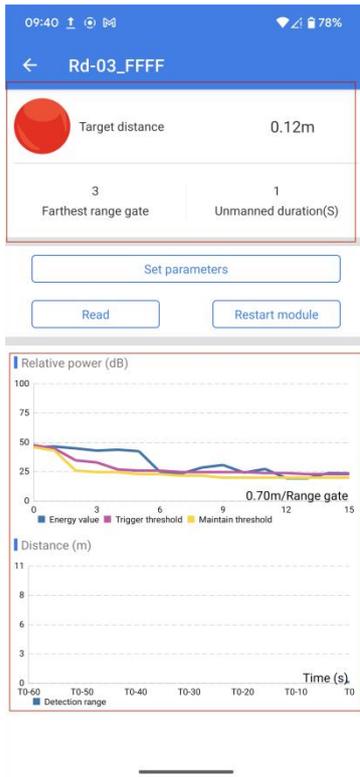
1. Connect Rd-03 to Rd-Kit. Before connecting to the radar, the Radar LED flashes slowly. After the connection is successful, the Radar LED turns off.



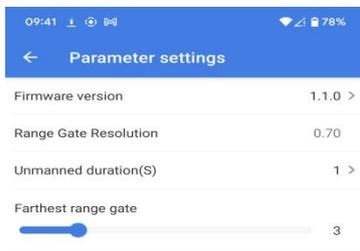
2. Open the Ai Net assistant APP, click on the radar device, and click refresh if the corresponding device does not pop up. After the device appear name as radar model + the last 4 digits of the MAC address, you can click to access the corresponding configuration page. The BLE LED turns off after the connection is successful.



3. After the connection is successful, you will enter the following interface. The upper half area displays the current radar data, such as trigger status, target distance, farthest distance gate and unmanned duration. In the middle is the setting button. Click to read to refresh the upper half area. Radar configuration parameters, click Restart Module to restart the radar module.



4. Click Parameters Settings to enter the radar configuration parameter interface. The settable data include unmanned duration, as well as the trigger threshold and holding threshold of each distance gate. Set the farthest distance gate by sliding the progress bar.

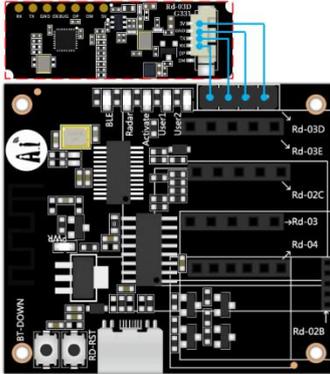


Range gate	Trigger threshold	Maintain threshold	Operation
Range gate 0	47.78	46.02	Set up
Range gate 1	44.77	43.01	Set up
Range gate 2	34.77	26.02	Set up
Range gate 3	33.01	24.77	Set up
Range gate 4	26.98	24.77	Set up
Range gate 5	26.02	23.01	Set up
Range gate 6	26.02	23.01	Set up
Range gate 7	24.77	21.76	Set up
Range gate 8	24.77	21.76	Set up
Range gate 9	24.77	20	Set up
Range gate 10	24.77	20	Set up
Range gate 11	23.97	20	Set up
Range gate 12	23.97	20	Set up
Range gate 13	23.01	20	Set up
Range gate 14	23.01	20	Set up

5. For specific setting parameters, please refer to the Rd-03 module manual: [Click to download](#)

## 5. Use Rd-Kit configuring with Rd-03D

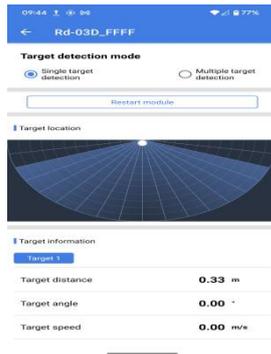
1. Connect Rd-03D to Rd-Kit. Before connecting to the radar, the Radar LED flashes slowly. After the connection is successful, the Radar LED turns off.



2. Open the Ai Net assistant APP, click on the radar device, and click refresh if the corresponding device does not pop up. After the device appear name as radar model + the last 4 digits of the MAC address, you can click to access the corresponding configuration page. The BLE LED turns off after the connection is successful.



3. After the connection is successful, enter the following interface. You can switch the target detection mode of the radar, which is divided into single target detection and multi-target detection. Click Restart Module to restart the radar module. The lower half is the target location and target information.

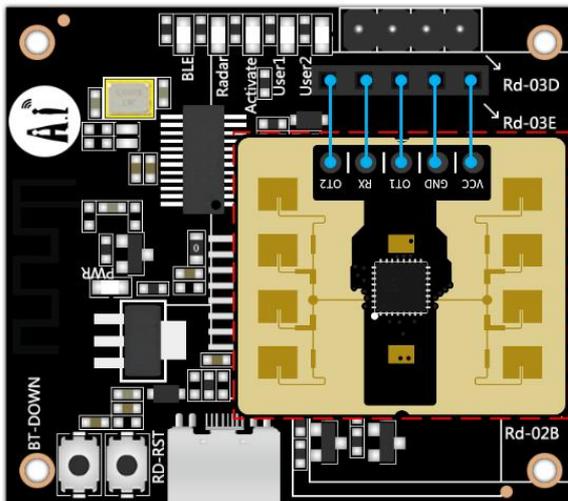


4. For specific setting parameters, please refer to the Rd-03D multi-target trajectory tracking user manual: [Rd-03D multi-target trajectory tracking user manual](#)

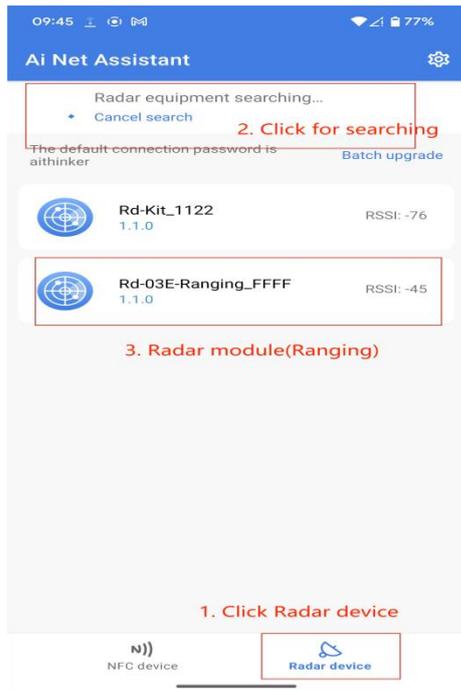
## 6. Use Rd-Kit configuring with Rd-03E

### Accurate ranging firmware

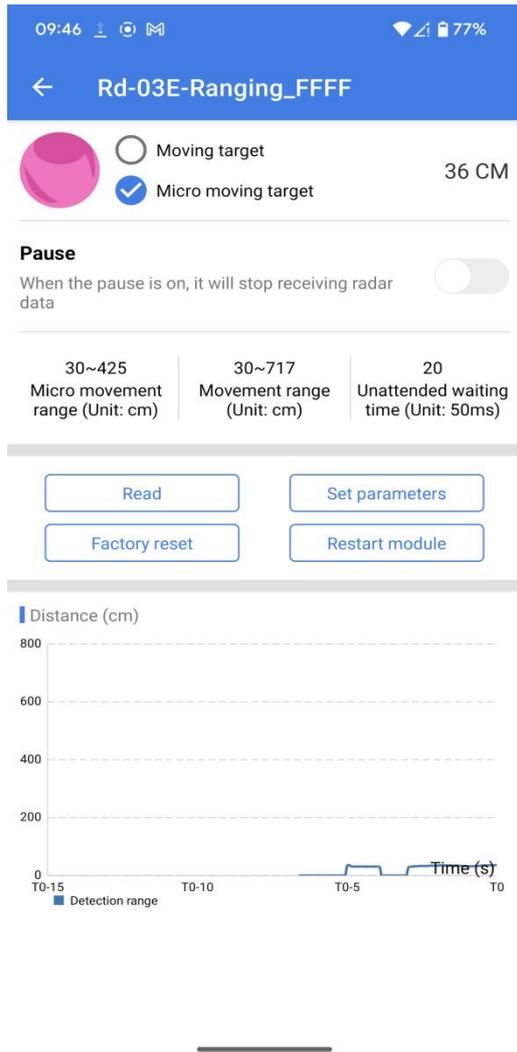
1. Connect Rd-03E to Rd-Kit. Before connecting to the radar, the Radar LED flashes slowly. After the connection is successful, the Radar LED turns off.



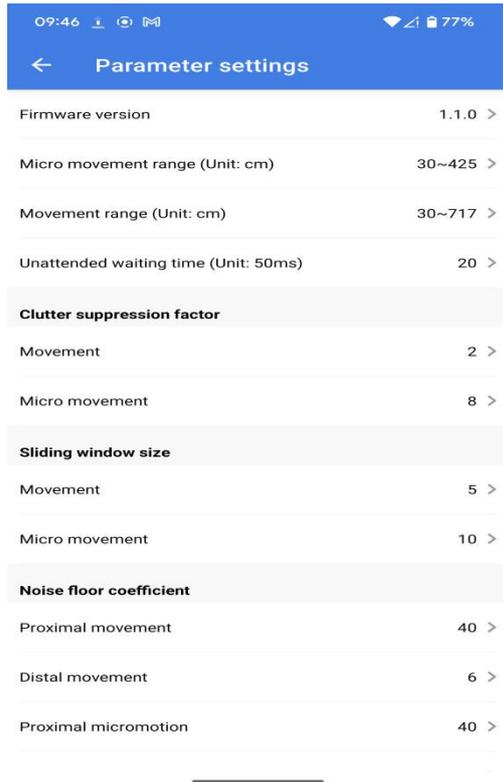
2. Open the Ai Net assistant APP, click on the radar device, and click refresh if the corresponding device does not pop up. After the device appear name as radar model + the last 4 digits of the MAC address, you can click to access the corresponding configuration page. The BLE LED turns off after the connection is successful.



3. After the connection is successful, the following interface will be entered. The upper half of the area displays the current radar data, such as target trigger status, target distance, micro-motion detection range, motion detection range and unmanned duration. When the pause button is turned on, it will stop receiving radar data. , in the middle is the setting button. Click to read to refresh the radar configuration parameters in the upper half of the area. Click to restart the module to restart the radar module.



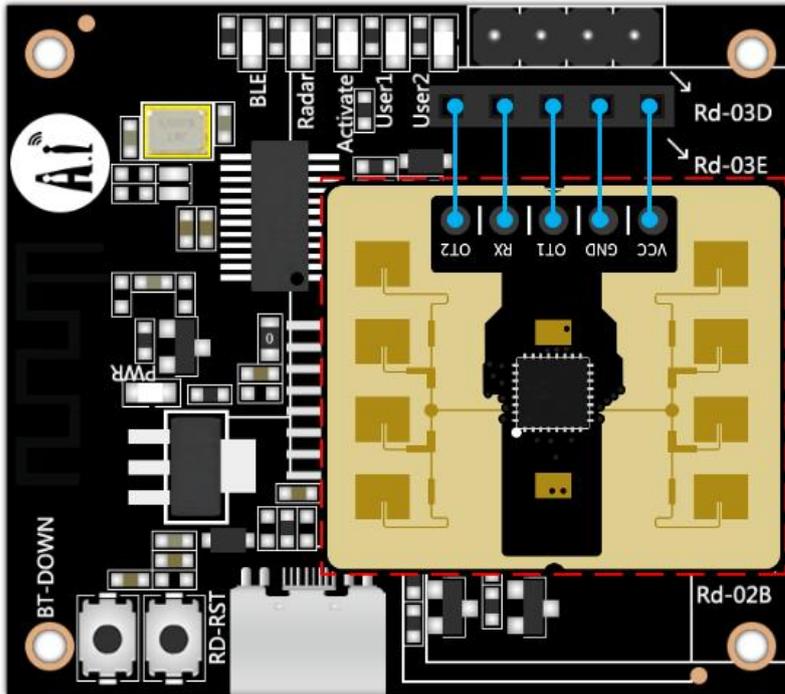
4. Click Parameters settings to enter the radar configuration parameter interface. It is recommended that the parameters that can be modified are the top micro-motion range, motion range and unattended waiting time.



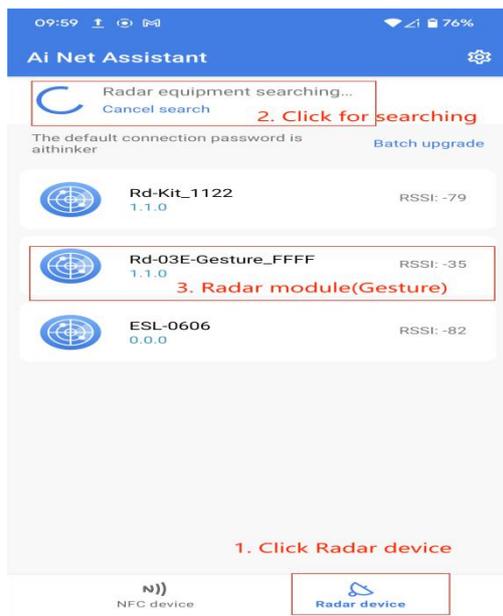
5. For specific setting parameters, please refer to the Rd-03E Precision Ranging User Manual: [Rd-03E Precision Ranging User Manual](#)

### Gesture recognition firmware

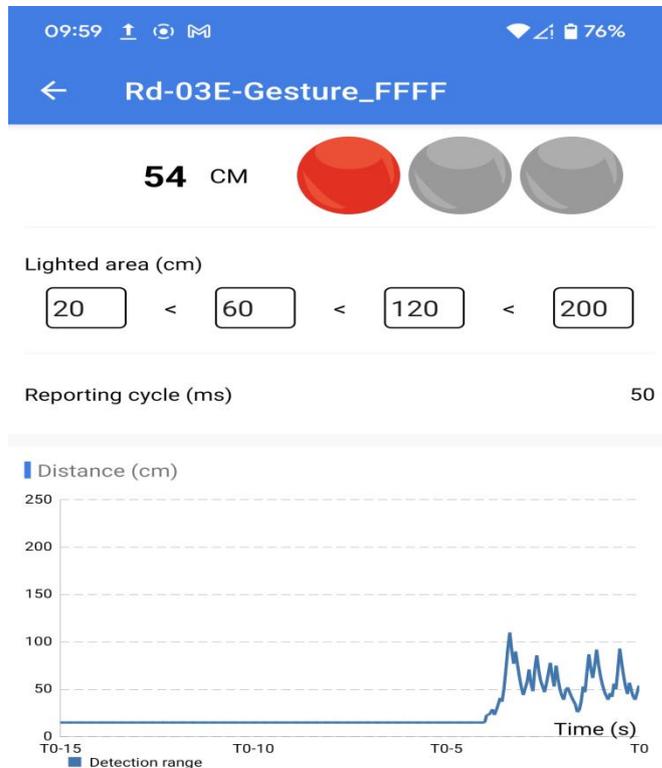
1. Connect Rd-03E to Rd-Kit. Before connecting to the radar, the Radar LED flashes slowly. After the connection is successful, the Radar LED turns off.



2. Open the Ai Net assistant APP, click on the radar device, and click refresh if the corresponding device does not pop up. After the device appear name as radar model + the last 4 digits of the MAC address, you can click to access the corresponding configuration page. The BLE LED turns off after the connection is successful.



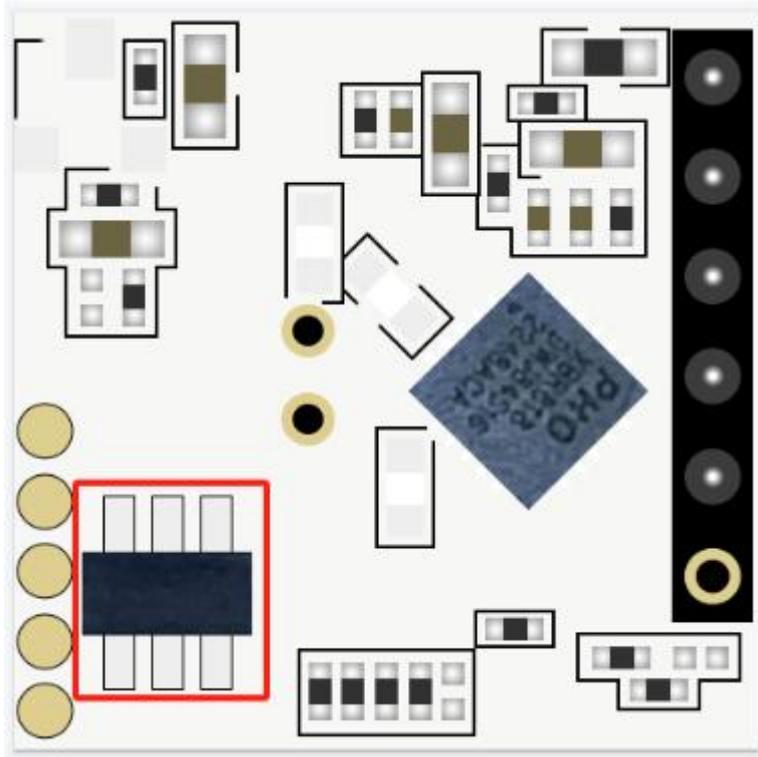
3. After the connection is successful, the following interface will be entered. The upper half of the area displays the lighting area of the radar. Different lights will light up in different ranges of target distances. The lighting area can be set.



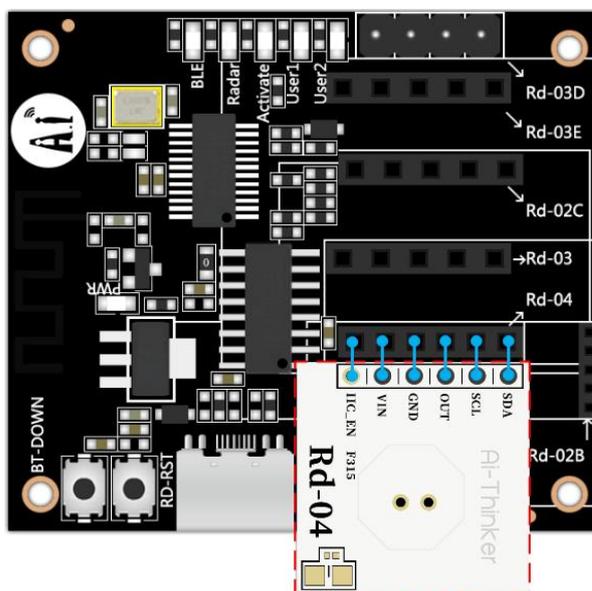
4. For specific setting parameters, please refer to Rd-03E Gesture Recognition User Manual: [Rd-03E Gesture Recognition User Manual](#)

## 7. Use Rd-Kit configuring with Rd-04

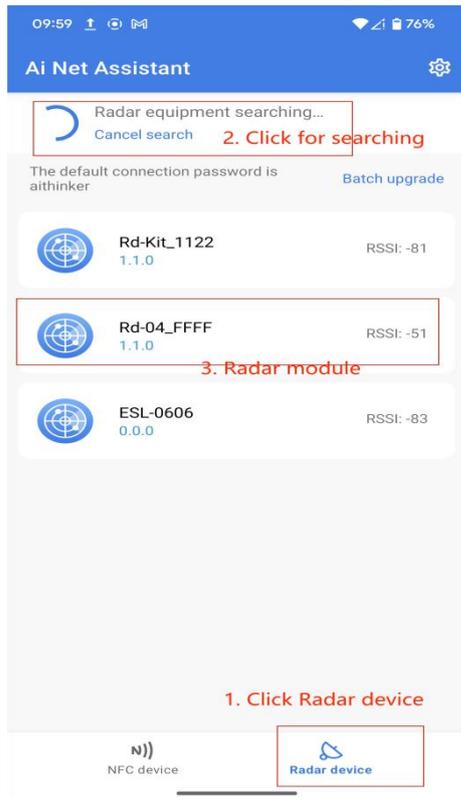
1. Before using Rd-Kit to configure Rd-04, you need to remove the onboard MCU of Rd-04, and then manually add the I2C\_EN pin header.



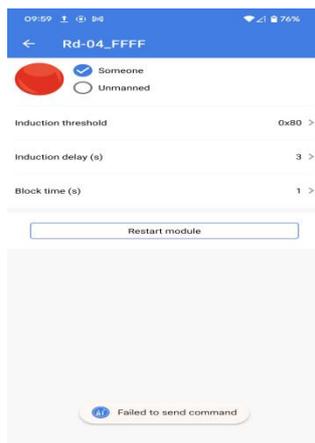
2. Connect Rd-04 to Rd-Kit. Before connecting to the radar, the Radar LED flashes slowly. After the connection is successful, the Radar LED turns off.



3. Open the Ai Net assistant APP, click on the radar device, and click refresh if the corresponding device does not pop up. After the device appear name as radar model + the last 4 digits of the MAC address, you can click to access the corresponding configuration page. The BLE LED turns off after the connection is successful.



4. After the connection is successful, the following interface will be entered. The upper area displays the status of the target. Modifiable configurations include induction threshold, induction delay, and block time.



5. For specific setting parameters, please refer to the Rd-04 module manual: [Rd-04 module manual](#)

## 8. Contact us

Website: <https://www.ai-thinker.com>

Development documents: <https://docs.ai-thinker.com/>

Forum: <http://bbs.ai-thinker.com>

Email: [overseas@aithinker.com](mailto:overseas@aithinker.com)