

Wiimu Factory Test Tool Manual

V0.5

2017/07/11

History

Ver	Data	
0.1	2016/09/08	Creation
0.2	2016/12/23	Add far field test
0.3	2017/02/25	Add seal test Add C02 version test
0.4	2017/03/18	Add WiFi throughput test
0.5	2017/07/11	Support English version

1. Brief	5
1.2. Main Frame	5
1.3. Menu	5
1.4. Log history	6
1.5. MAC input.....	6
1.6. Hint	6
2. Setting.....	6
2.2. Supervisor	6
2.3. Test Items	6
2.4. Test settings.....	7
2.5. Statistics.....	8
3. Detail settings	8
.....	8
.....	8
.....	8
3.2. Version.....	8
3.3. Sound Test	8
3.4. Key Test	9
3.5. Ethernet.....	9
3.6. WIFI Signal	9
3.7. LED	9
3.8. Voice Record Test	9
3.9. SD Test.....	10
3.10. UDisk Test.....	10
3.11. Burn data to speaker	10
3.12. FarField record test	10
3.12.1. Test environment	10
3.12.2. Steps	11
3.12.3. Settings	11
3.13. Far field reference test	11

3.13.1. Steps:	11
3.13.2. Settings	12
3.14. External seal test	12
3.14.1. Steps	12
3.14.2. Setting.....	12
3.15. Internal seal test.....	13
3.16. WIFI Throughput.....	13
3.16.1. Test environment	13
3.16.2. Steps	13
3.16.3. Settings	14

1. Brief

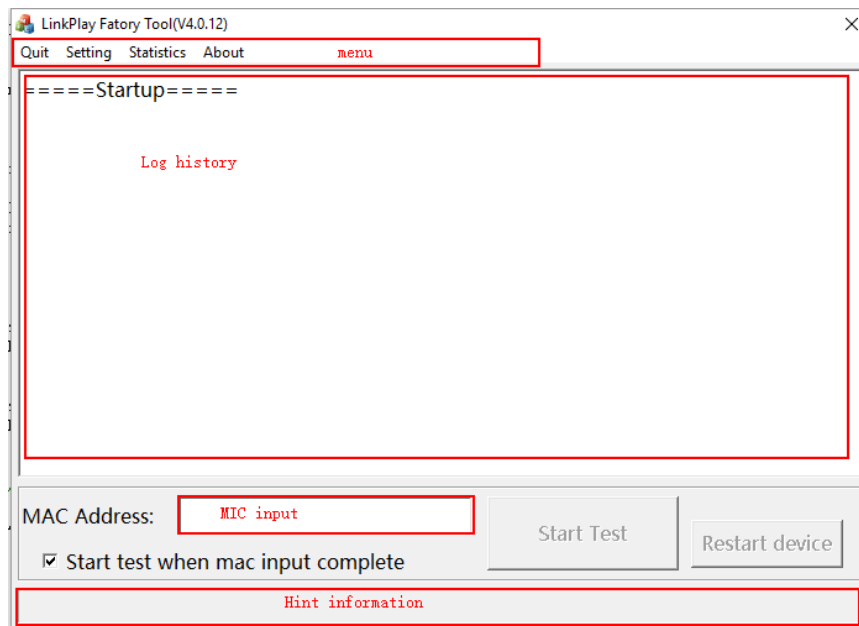
This tool can test Linkplay WiFi (A31/A28/A76/A88) modules and C02/C04 modules. To test WiFi module, you need:

The computer of Win7 (or above version), with the WiFi support.

Scan-gun to input the MAC with QR-code.

The computer will connect to the WiFi module and finish the test items.

1.2. Main Frame



1.3. Menu

“Quit”: Quit the application.

“Setting”: Set the test items and settings, read Chapter2

“Statistics”:

“About”:

1.4. Log history

All test logs include test process and result, will show here and be saved.

1.5. MAC input

You can input MAC address of the speaker here. Or you input the MAC address with the scan-gun and the QR-code on the WiFi module.

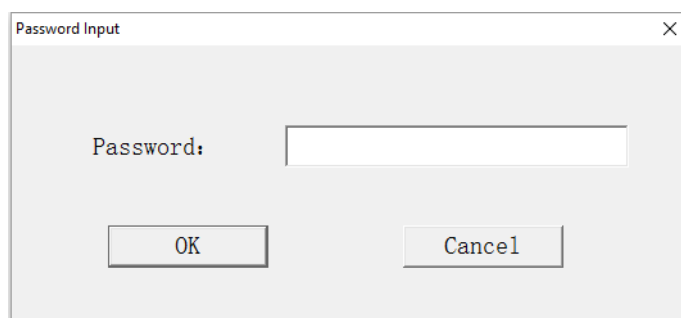
1.6. Hint

Show the speaker information and final test result here.

2. Setting

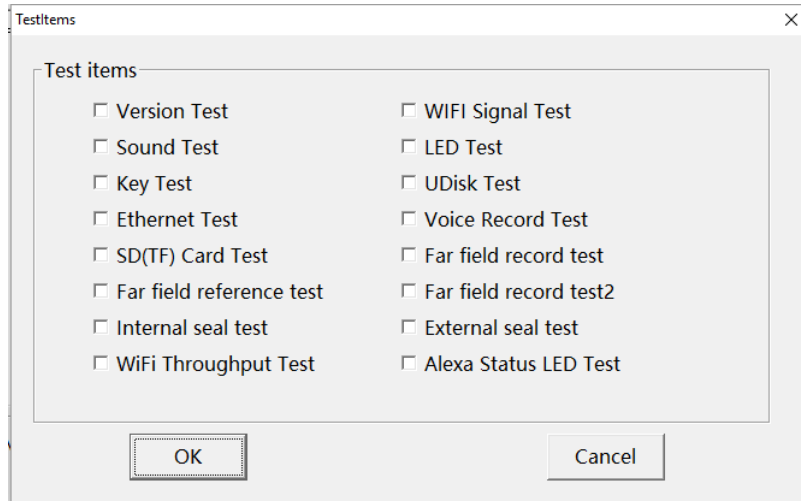
2.2. Supervisor

To change the test items and test setting, please input the supervisor password



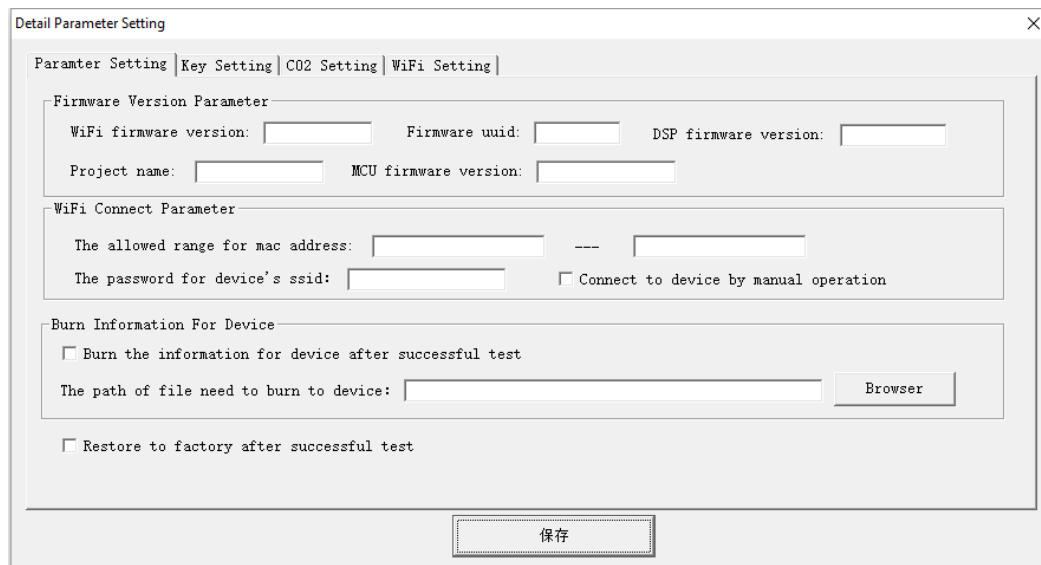
2.3. Test Items

Choose the test items here:



2.4. Test settings

Note: All setting, please be careful of the input is case sensitive.



WiFi password:

The tool will control the computer to connect to the speaker WiFi, if the speaker has password, please config to here:

The password for device's ssid:

Restore to factory:

If choosed, the speaker will restore to factory after test succeed. Suggested.

Restore to factory after successful test

2.5. Statistics

UUID	MAC	Date	Result
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Succeed: Fail:

3. Detail settings

3.2. Version

If you fill the form, the tool will check the firmware version, project UUID, project name, MCU version and C02 DSP version.

If you leave it blank, the tool will ignore the test.

Firmware Version Parameter

WiFi firmware version: Firmware uuid: DSP firmware version:

Project name: MCU firmware version:

3.3. Sound Test

Speaker (Test DUT) will stream from the tool and play the music (test.mp3)。

Please turn off the firewall and anti-virus tools.

3.4. Key Test

To test the key of the DUT, if you choose the key. You need to press the key in the test procedure and notification.

There is no press order for these keys. But we suggest you to press the mode key last.

You need to press all choosed key in 40 seconds.

<input type="checkbox"/> WPS	<input type="checkbox"/> 暂停播放 (Play/Pause)	<input type="checkbox"/> 上一曲 (Prev)	<input type="checkbox"/> 下一曲 (Next)	<input type="checkbox"/> VOL-
<input type="checkbox"/> VOL+	<input type="checkbox"/> 录音 (Record)	<input type="checkbox"/> 收藏 (Faverate)	<input type="checkbox"/> 解除收藏 (Un-Faverate)	<input type="checkbox"/> 循环模式 (Loop)
<input type="checkbox"/> 模式切换 (Mode)	<input type="checkbox"/> 按键1 (Key1)	<input type="checkbox"/> 按键2 (Key2)	<input type="checkbox"/> 按键3 (Key3)	<input type="checkbox"/> 按键4 (Key4)
<input type="checkbox"/> 按键5 (Key5)	<input type="checkbox"/> 按键6 (Key6)	<input type="checkbox"/> 按键7 (Key7)	<input type="checkbox"/> 按键8 (Key8)	<input type="checkbox"/> 按键9 (Key9)
<input type="checkbox"/> 按键10 (Key10)	<input type="checkbox"/> 预置 (Preset)	<input type="checkbox"/> Group键	<input type="checkbox"/> MIC静音 (Mic-mute)	

3.5. Ethernet

The purpose is to test the ethernet.

The tool will try to get the Ethernet IP address from the DUT

3.6. WIFI Signal

The purpose is to test the antenna.

The WiFi RSSI suggest to set as -15 ~ -50dB

WIFI Signal Strength Range			
Minimize (dB) :	<input type="text" value="0"/>	Maximum (dB) :	<input type="text" value="0"/>

3.7. LED

The purpose is to test the LED.

The simple way is to light on all LED.

3.8. Voice Record Test

The purpose is to test the MIC.

It will record some voice from MIC in 5 seconds and then play it.

3.9. SD Test

The purpose is to test the SD.

It will find the SD and get the SD information from the DUT

3.10. UDisk Test

The purpose is to test the UDisk.

It will find the SD and get the UDisk information from the DUT

3.11. Burn data to speaker

The purpose is to write some data to the DUT

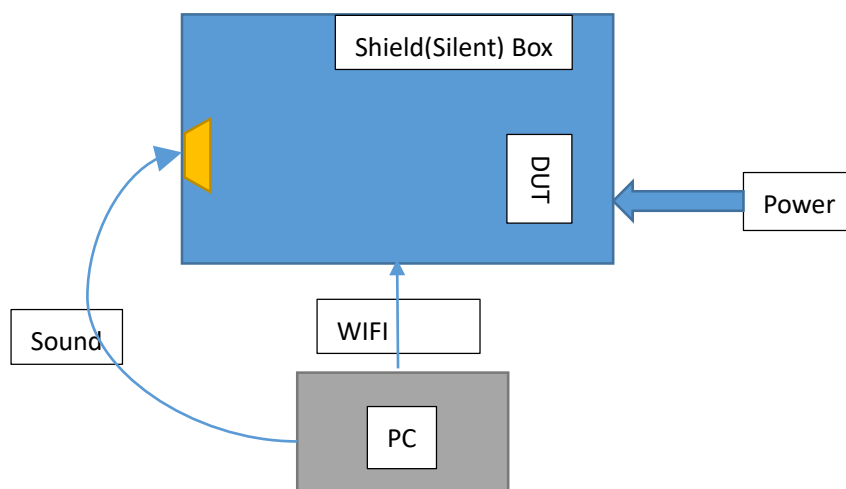
Burn Information For Device

Burn the information for device after successful test

The path of file need to burn to device:

3.12. FarField record test

3.12.1. Test environment



Need:

- Shield room or shield box

- Computer: WIN7 or Win10, has external WiFi adapter, and the WiFi antenna can put in the shield box
- Hi-Fidelity Speaker

3.12.2. Steps

- The tool plays 1KHz
- DUT will record and save it as wav file
- Stop the 1KHz playback
- The tool will download the record wav and get THD and the amplitude
- Check with the setting and show PASS or FAIL

3.12.3. Settings

For example:

MIC parameter	
THD of MIC: <input type="text" value="10"/>	Amplitude of MIC(db): <input type="text" value="-30"/>
The different amplitude between two MIC: <input type="text" value="3"/>	
<input checked="" type="checkbox"/> Need confirm before record	<input type="checkbox"/> Play the voice recorded after successful test
Reference signal parameter	
THD for reference signal: <input type="text" value="0.5"/>	Amplitude for reference signal: <input type="text" value="-20"/>
Seal test	
The amplitude delta after seal should >(dB): <input type="text" value="12.0000"/>	
The amplitude delta between two MIC after sealed should < (dB): <input type="text" value="2.0000"/>	

3.13. Far field reference test

The purpose is to test the I2S reference to C02

The environment is the same as far field record test.

3.13.1. Steps:

- DUT play 1KHz
- DUT will record the data from I2S reference
- Analyze the data
- Detect and show PASS or FAIL

3.13.2. Settings

Reference signal parameter

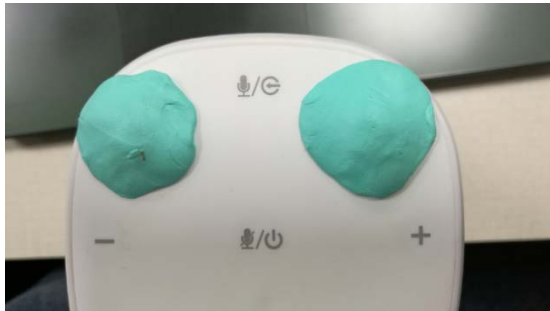
THD for reference signal: Amplitude for reference signal:

3.14. External seal test

The purpose is to test the DUT seal-ability
The environment is the same as far field record test.

3.14.1. Steps

- Seal the MIC and then put the DUT into the shield box



- Press "Continue test"
- Play 1KHz with a Hi-Fi speaker and the test tool will begin to record the voice data.
- Tool will popup a dialog, tell you to unseal the MIC and put the DUT into the shield box again.
- Press "Continue test"
- Download and analyze the data
- Show PASS or FAIL

3.14.2. Setting

Seal test

The amplitude delta after seal should >(dB):

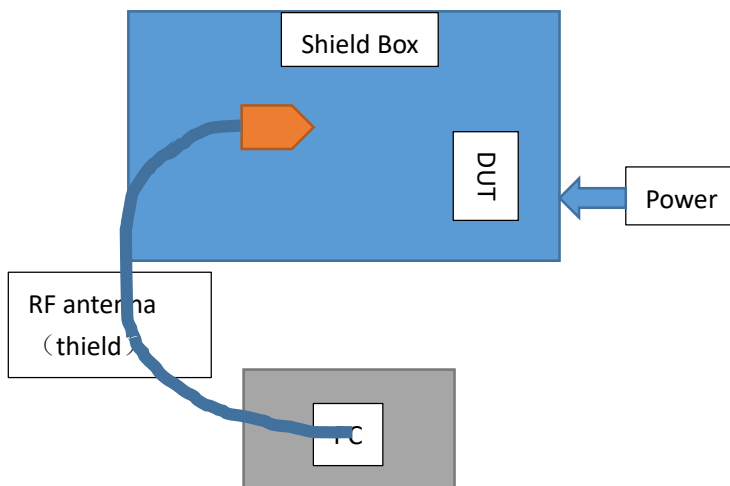
The amplitude delta between two MIC after sealed should < (dB):

3.15. Internal seal test

The test is the same as the external seal test, the only difference is:
In Internal Seal test, the 1KHz sound is played by the DUT itself.
In External Seal test, the 1KHz sound is played by the Hi-Fi speaker.

3.16. WIFI Throughput

3.16.1. Test environment



Need:

WiFi Shield Box or Room

A WiFi adapter of the computer, and the WiFi antenna can put in the shield box

3.16.2. Steps

- After scan and input the MAC address, put the DUT into the shield box, and then press "Continue Test":
- Testing, wait:
- Finish the test and show PASS or FAIL

3.16.3. Settings

SoftAP Throughput Test			
Test duration	<input type="text" value="10"/>		
WiFi RX (Mbits/s):	<input type="text" value="40.00"/>	WiFi TX (Mbits/s):	<input type="text" value="40.00"/>