JAPAN RADIO TEST REPORT

Applicant:	Shenzhen Xinzhi Future Technology Co., Ltd
Address:	Room 801, Hivac Technology Building, No.8 South Keji Road, Hi-tech ParkNanshan, Shenzhen, PR.C
Manufacturer:	Shenzhen Xinzhi Future Technology Co., Ltd
Address:	Room 801, Hivac Technology Building, No.8 South Keji Road, Hi-tech ParkNanshan, Shenzhen, PR.C
Product Name:	Whispal Smart Calendar
Trade Mark:	N/A
Model Number:	WF156A
Date of Receipt:	Jul. 29, 2026
Test Date:	Jul. 29, 2026 - Aug. 10, 2026
Date of Report:	Aug. 10, 2026
Prepared By:	Shenzhen DL Testing Technology Co., Ltd.
Address:	101-201, Comprehensive Building, Tongzhou Electronics Longgang Factory Area, No.1 Baolong Fifth Road, Baolong Community, Baolong Street, Longgang District, Shenzhen, China
Applicable Standards:	Article 2 Paragraph 1, item 19-3 MIC Notice No.88 Appendix No.45
Test Result:	Pass
Report Number:	DLE-260729017R

Prepared (Test Engineer):	Ken Tan
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Approved (Manager):	Jade Yang

This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.

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1. TEST SUMMARY

Test Standard	Description of Test	Result
Article 49-20	Frequency Tolerance	Compliance
Article 49-20 Article 14,table 7	Antenna Power& Output Power Tolerance	Compliance
Article 6 Annex 2.30	Occupied Bandwith	Compliance
Article 7 Annex 3.29	Unwanted Emission Strength/Spurious Area	Compliance
Article 49-20	Adjacent Channel Leakage Power	Compliance
Article 24.2	Secondary Radiated Emssion Strength	Compliance
Article 49-20	Transmission Burst Length	Compliance
Article 49-20 No.295 of 2022	Carrier Sensing Function	Compliance
Article 9-4.5 Article 6-2.3	Interference prevention function	Compliance
Article 49-20	EIRP	Compliance

1.1 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Conducted Emission Test	±3.2dB
2	Radiated Emission Test	±4.7dB
3	RF power, conducted	±0.16dB
4	Spurious emissions, conducted	±0.21dB
5	All emissions, radiated (<1G)	±4.68dB
6	All emissions, radiated(>1G)	±5.0dB
7	frequency error ppm	±0.5ppm
8	Occupied Bandwidth	±0.32MHz

2. GENERAL INFORMATION

2.1 General Description of E.U.T.

Product Name	:	Whispal Smart Calendar
Trademark	:	N/A
Model Number	:	WF156A
Test Model	:	WF156A
Model Difference	:	N/A
Specification	:	WIFI 5.2G(W52)
Operating frequency	:	5180MHz~5240MHz 802.11a/n/ac(HT20) 5190MHz~5230MHz (802.11n(HT40)
Modulation	:	OFDM with BPSK / QPSK / 16QAM / 64QAM for 802.11a OFDM with BPSK / QPSK / 16QAM / 64QAM for 802.11n
Antenna installation	:	Internal Antenna
Antenna Gain	:	-0.35dBi
Power supply	:	DC 12V from adapter
Adapter	:	Model: FX24P-120200J Input: 100-240VAC 50/60Hz 0.6A Max Output: 12V⎓2A Manufacturer: Shenzhen Fangxin Technology Co.,Ltd.
Hardware Version	:	HV01
Software Version	:	SV01

ANT	Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
1	N/A	Antenna	Internal Antenna	-0.35	N/A

2.2 General condition

Ambient Condition: 25 ℃ 59 %RH

2.3 Test condition

The wifi module was tested while in a continuous transmitter/receiver mode.

The EUT was tuned to a low, middle, and high channel for all tests. For all test case pre/scans were completed in all Modes to determine worst case levels.

Voltage Fluctuation Test		Normal Voltage	High Voltage + 10% of Normal Voltage	Low Voltage - 10% of Normal Voltage
Input Power		12V	13.2V	10.8V
Module Voltage		3.3V	3.3V	3.3V
Voltage error(%)	Result	Ref.level	0	0

Note:

Voltage Variation (%)

= (Output high or Low Voltage - Output Normal Voltage)/ Output Normal Voltage* 100

During the input supply voltage to the EUT from the external power source is varied by +/- 10%, if output voltage had been confirmed that the fluctuation of power supply to the RF circuit of EUT (excluding power source) is equal to or less than +/-1%. Exempt extremely high and low supply voltage condition test, EUT only operated in normal voltage to test all regulations.

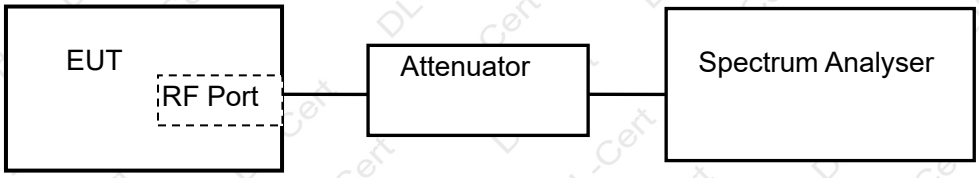
2.4 Test Mode

The EUT has been tested under operating condition.
Software used to control the EUT for staying in continuous transmitting and receiving mode is programmed.
IEEE802.11a: Channel 36(5180MHz), Channel 40(5200MHz) and Channel 48(5240MHz) with MCS0 Worst data rate (worst case) are chosen for the final testing.
IEEE802.11n20: Channel 36(5180MHz), Channel 40(5200MHz) and Channel 48(5240MHz) with MCS0 Worst data rate (worst case) are chosen for the final testing.
IEEE802.11n40: Channel 38(5190MHz), Channel 46(5230MHz) with MCS0 Worst data rate (worst case) are chosen for the final testing.

2.5 Test Equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	EMC Analyzer (9k~26.5GHz)	Agilent	E4407B	MY45109572	Oct. 25, 2025	Oct. 24, 2026	1 year
2	EMI Test Receiver	Rohde & Schwarz	ESCI	101417	Oct. 25, 2025	Oct. 24, 2026	1 year
3	Power Meter	Anritsu	ML2495A	0949003	Oct. 25, 2025	Oct. 24, 2026	1 year
4	Power Sensor	Anritsu	MA2411B	0917017	Oct. 25, 2025	Oct. 24, 2026	1 year
5	DC Power Source	GW Instek	GPC-303 DN	EK880675	Oct. 25, 2025	Oct. 24, 2026	1 year
6	Frequency Meter	Agilent	53132A	N/A	Oct. 25, 2025	Oct. 24, 2026	1 year
7	MXA Signal Analyzer (20k~26.5GHz)	Agilent	N9020A	MY51110381	Oct. 25, 2025	Oct. 24, 2026	1 year

2.6 Test Configuration



3 FREQUENCY TOLERANCE TEST

3.1 Test Limit

Test Limit	±20 ppm

3.2 Test Equipment

Same as 2.5.

3.3 Test Configuration

Same as 2.6.

3.4 Test Data

Pass, the table and plot please see annex 1.

4 OCCUPIED BANDWIDTH (99%) TEST

4.1 TEST EQUIPMENT

Same as 2.5

4.2 TEST CONFIGURATION

One antenna position was evaluated based on verification that changing the diversity switch position did not affect the occupied bandwidth of the center channel at nominal voltage.
The occupied bandwidth was measured with the spectrum analyzer configured according to the table below.
The occupied bandwidth was determined from the 99% power bandwidth by determining the highest and lowest frequencies at which 99.5% of the power was captured and then subtracting the two numbers.
The limits are as follows:

Modulation Type	Occupied Band Width
20MHz system for 5.2 (OFDM)	< 20 MHz
20MHz system for 5.2 (Other)	< 20 MHz
40MHz system for 5.2 (OFDM)	< 40 MHz

The calculation was done by either the analyzer directly or via the software used to capture the plot.

Instrument Settings and Test Requirements				
Modulation Type	Analyzer Settings			
	Span	RB	VB	Other
OFDM (eg 802.11an)	40-160 MHz	100kHz	300KHz	Sample detector, averaging (10 sweeps)2, sweep time auto1)

Note 1: For burst transmissions sweep time set to ensure dwell time in each bandwidth > transmission cycle time (sweep time = transmit cycle time x span/ measurement bandwidth)
Note 2: For burst transmissions trace set for max hold and detector set to positive peak.

4.3 TEST RESULTS

Pass, the table and plot please see annex 1.

5. SPURIOUS AND UNWANTED EMISSIONS

5.1. TEST EQUIPMENT

Same as 2.5

5.2. TEST CONFIGURATION

Any emissions above the limit from the initial peak scan (RB=VB=1MHz, peak detector) are measured by tuning to that signal, setting RB=VB=1MHz, span=0Hz and using a sample detector. The average power over a transmission burst is calculated if the highest signal level still exceeds the limit. If the system uses burst transmissions during testing the threshold for requiring individual measurements becomes limit -3dBrelative to the limit.

For Test from 30MHz to 1000MHz, set RBW=VBW= 1MHz;

For Test from 1000MHz to 26500MHz, set RBW=VBW= 1MHz;

The device transmits in a burst mode, sweep time is calculated for each band tested as shown below. The plots are composite plots of the individual frequency bands.

Frequency (MHz)		Bandwidth (MHz)	
Start	Stop	RB	VB
30	1000	1	1
1000	5140	1	1
5360	10000	1	1
10000	26500	1	1
5340	5360	1	1
5140	5360	1	1

The device transmits continuously so the analyzer sweep time is auto-coupled.

5.3. TEST REQUIREMENTS

W52			
20MHz system		40MHz system	80MHz system
OBW : 18MHz or less	OBW : 18 - 20 MHz		
5,142 MHz or less : 2.5 μW/MHz	5,142 MHz or less : 2.5 μW/MHz	5,141.6 MHz or less : 2.5 μW/MHz	5,123.2 MHz or less : 2.5 μW/MHz
5,142 - 5,150 MHz : 15 μW/MHz	5,142 - 5,150 MHz : 15 μW/MHz	5,141.6 - 5,150 MHz : 15 μW/MHz	5,123.2 - 5,150 MHz : 15 μW/MHz
	5,250 - 5,250.2 MHz : $10^{1-(8/3)(f-9.75)}$mW/MHz		
5,250 - 5,251 MHz : $10^{1-(f-9)}$mW/MHz	5,250.2 - 5,251 MHz : $10^{1-(f-9)}$mW/MHz	5,250 - 5,251 MHz : $10^{-(f-20)+log(1/2)}$mW/MHz	5,250 - 5,251 MHz : $10^{-(f-40)+log(1/4)}$mW/MHz
5,251 - 5,260 MHz : $10^{-1-(8/90)(f-11)}$mW/MHz	5,251 - 5,260 MHz : $10^{-1-(8/90)(f-11)}$mW/MHz	5,251 - 5,270 MHz : $10^{-(8/190)(f-21)-1+\log(1/2)}$mW/MHz	5,251 - 5,290 MHz : $10^{-(8/390)(f-41)-1+\log(1/4)}$mW/MHz
5,260 - 5,266.7 MHz : $10^{-1.8-(6/50)(f-20)}$mW/MHz	5,260 - 5,266.7 MHz : $10^{-1.8-(6/50)(f-20)}$mW/MHz	5,270 - 5,278.4 MHz : $10^{-(3/50)(f-40)-1.8+\log(1/2)}$mW/MHz	5,290 - 5,296.7 MHz : $10^{-(3/100)(f-80)-1.8+\log(1/4)}$mW/MHz
5,266.7 MHz or more : 2.5 μW/MHz	5,266.7 MHz or more : 2.5 μW/MHz	5,278.4 MHz or more : 2.5 μW/MHz	5,296.7 MHz or more : 2.5 μW/MHz
f = MHz, Difference from 5240 (MHz)	f = MHz, Difference from 5240 (MHz)	f = MHz, Difference from 5230 (MHz)	f = MHz, Difference from 5210 (MHz)

5.4. TEST RESULTS

Pass, the table and plot please see annex 1.

6. ANTENNA POWER TEST

6.1. TEST EQUIPMENT

Same as 2.5

6.2. TEST CONFIGURATION

Step1:

Spectrum Parameters	Setting
Center Frequency	Test Frequency
RBW	1MHz
VBW	Comparable to resolution bandwidth
Span	Approximately twice wider than the occupied bandwidth
Sweep Time	Minimum amount of time to ensure measurement accuracy (in the case of burst waves, one burst per sample)
Trigger Conditions	Free run
Data Points	Over 400 points
Sweep Mode	Continuous sweep
Detector	Positive peak
Trace Mode	Max hold

Step2:

Spectrum Parameters	Setting
Center Frequency	Frequencies providing maximum power density (acquired frequencies during search)
RBW	1MHz
VBW	Comparable to resolution bandwidth
Span	Zero
Sweep Time	Continuous sweep

a. Connect EUT antenna terminal to the spectrum analyzer with RF cable.
b. Set the EUT transmit continuously with maximum output power.
c. Spectrum analyzer setting parameters in accordance with section 6.2 step 1.
d. Allow trace to stabilize, use the marker function to mark the highest power density ,set the frequency of the highest emission level to the center frequency.
e. Change the Spectrum analyzer setting parameters in accordance with section 6.2 step 2, allow trace to stabilize, use the marker function to mark the highest level,the highest level is antenna Power.
f. Repeat above procedures until all channel and test mode were measured.
g. Record the results in the test report.

1) RF Output Power:

Conditions	Power Limits	EIRP Power Limits
5.2 for OBW for 20MHz	< 10mW/MHz	< 10mW/MHz
5.2 for OBW for 40MHz	< 5mW/MHz	< 5mW/MHz
5.2 for OBW for 80MHz	< 2.5mW/MHz	< 2.5mW/MHz

2) Tolerance:
-80% ~ +20% for 5.2GHz

6.3. TEST RESULTS

Pass, the table and plot please see annex 1.

7. ADJACENT CHANNEL LEAKAGE POWER

7.1. TEST EQUIPMENT

Same as 2.5

7.2. TEST CONFIGURATION

The power in a +/- 9MHz band centered on the operating frequency is measured and used as a reference value. The powers in the +/-9MHz band on the adjacent channels (+/-20MHz from the operating channel) and alternate channels (+/-40MHz from the operating channel) are also measured. The Channel Leakage ratio (CLR) shall be at least 25dB for the adjacent channels and at least 40dB for the alternate channels.
The limits are as follows:

OBW≤18MHz：Fc ±20MHz, ±9MHz , -25dBc

OBW≤18MHz：Fc ±40MHz, ±9MHz , -40dBc

18MHz≤OBW≤20MHz：Fc ±20MHz, ±10MHz , -25dBc

18MHz≤OBW≤20MHz：Fc ±40MHz, ±10MHz , -40dBc

OBW for 40MHz: Fc ±40MHz, ±20MHz , -25dBc

OBW for 40MHz: Fc ±80MHz, ±20MHz , -40dBc

7.3. TEST RESULTS

Pass, the table and plot please see annex 1.

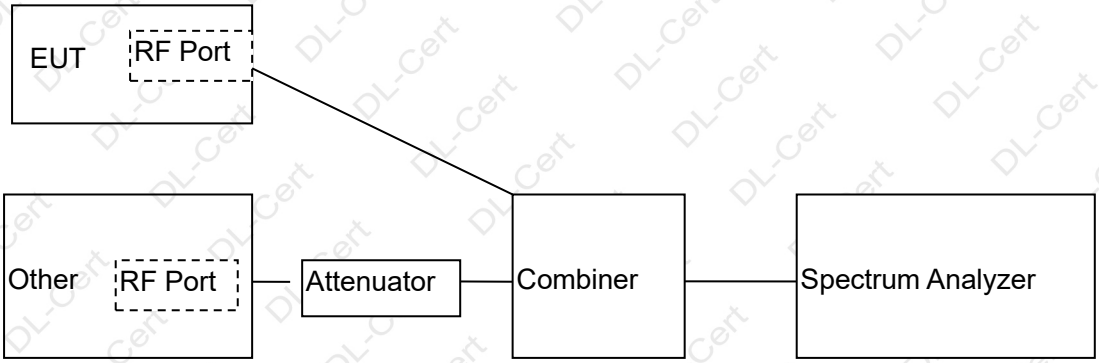
8. BURST TRANSMISSION DURATION

8.1. TEST EQUIPMENT

Same as 2.5

8.2. TEST CONFIGURATION

The device was configured to transmit maximum length packets at the fastest and slowest data rate



Conditions	Limits
5180-5240MHz	< 8ms

8.3. TEST RESULTS

Pass, the table and plot please see annex 1.

9. SECONDARY RADIATED EMISSIONS

9.1. TEST EQUIPMENT

Same as 2.5

9.2. TEST CONFIGURATION

Same as 3.6

Preliminary Measurements:

Instrument Settings: RB and VB as detailed below, positive peak detector and maximum hold for a minimum of 10 sweeps, but until the spectrum displayed becomes stable and no new signals are observed.

Sweep Settings

Frequency (MHz)		Bandwidth (MHz)		Sweep Time
Start	Stop	RB	VB	
30	1000	0.1	0.1	AUTO ms
1000	26500	1.0	1.0	AUTO ms

9.3. LIMIT

Frequency (MHz)		Limit
Start	Stop	
30	1000	4nW/-54dBm
1000	26000	20nW/-47dBm

9.4. TEST RESULTS

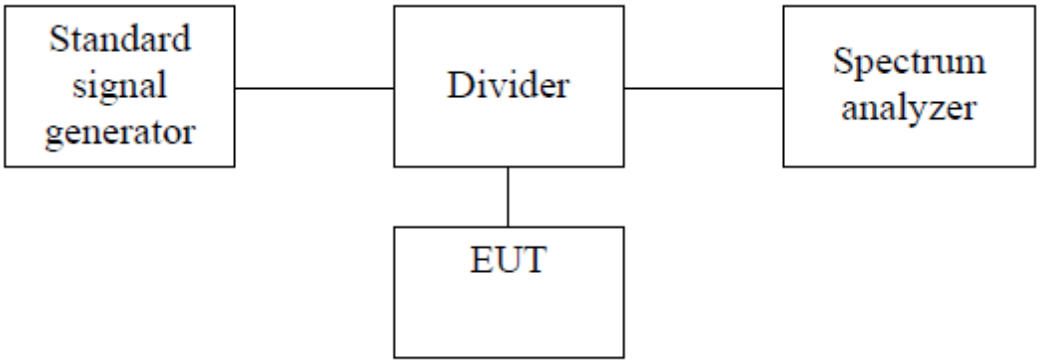
Pass, the table and plot please see annex 1.

10. CARRIER SENSE

10.1. TEST EQUIPMENT

Same as 2.5

10.2. TEST SETUP



10.3. TEST CONFIGURATION

1. Set the standard signal generator as follows.

Carrier frequency	Center frequency of received frequency band
Modulation	Non-modulation
Output level	declared level of applicant at the antenna input part of the EUT.

2. Set the spectrum analyzer as follows.

Frequency:	Center frequency of received frequency band
Span	50MHz
RBW	1MHz
VBW	1MHz
Triggered	Free run
Detector mode	Positive peak

10.4. TEST MEASUREMENT PROCEDURE

1. Confirm that EUT can transmit.
2. Set EUT into Rx Mode.
3. Signal Generator ON
4. Confirm that EUT don't transmit.
5.Start transmission after performing a carrier sense. However, when transmission and reception are controlled from other radio equipment, and when the radioequipment which performed transmission resumes transmission within 4 millisecond after a career sense, it can omit performing a career sense.

10.5. TEST DATA

Mode	Frequency (MHz)	Test Result
802.11a	5180	Pass
	5240	Pass
802.11n20	5180	Pass
	5240	Pass
802.11n40	5190	Pass
	5230	Pass

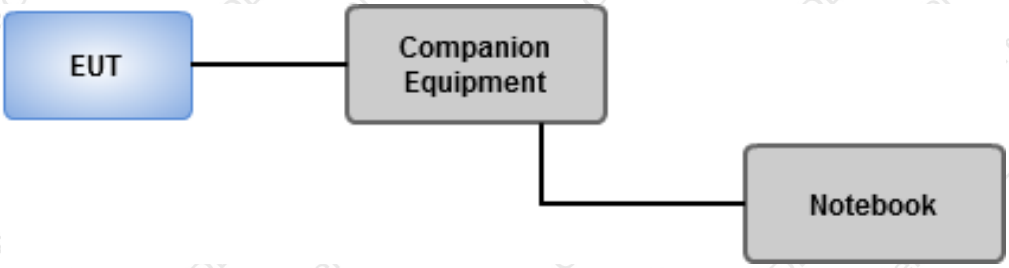
Note: after a carrier signal 22.79+Gr-20*log(f)(dBm] was injected into EUT, it stopped transmission.

11. INTERFERENCE PREVENTION FUNCTION

11.1. TEST LIMIT

Test Limit	The identification code shall be 48 bits long

11.2. TEST SETUP



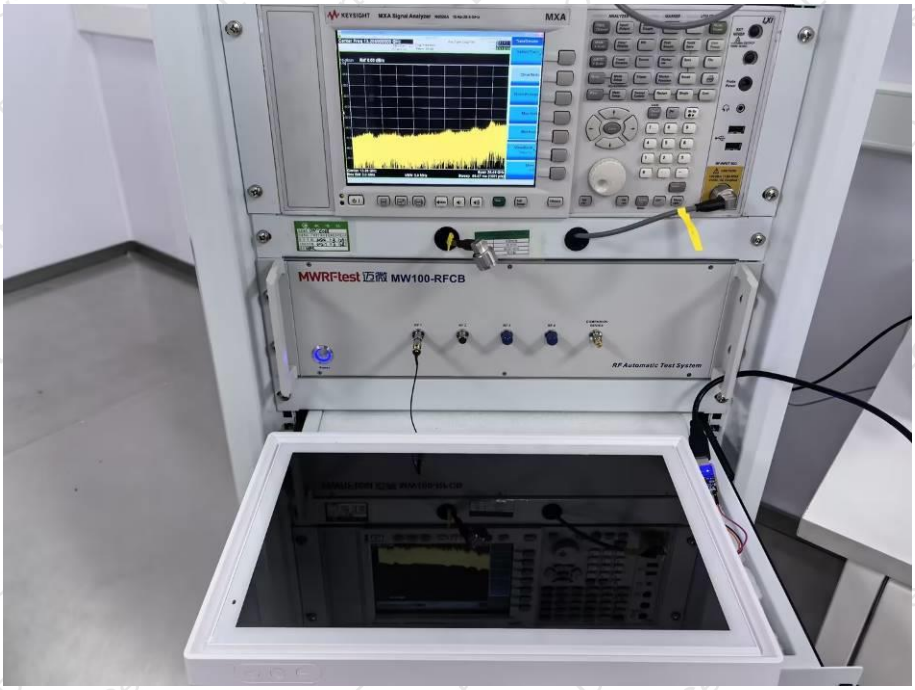
11.3. TEST CONFIGURATION

1. Set EUT under operating mode and link up with companion equipment
2. Check communication status between EUT and companion equipment is normal
3. Record the max. reading.
4. Confirm the MAC address of EUT

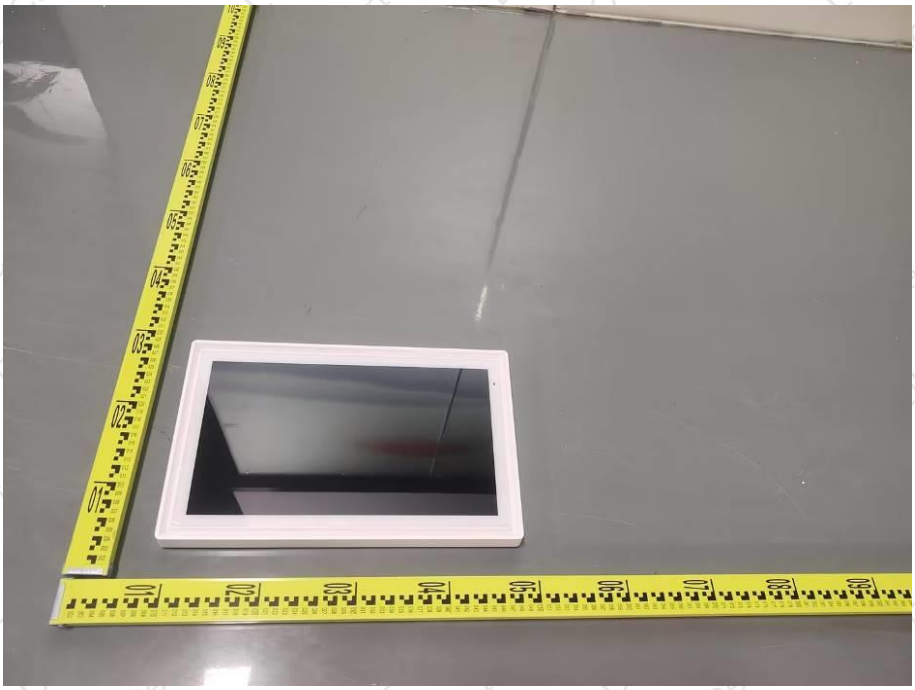
11.4. TEST DATA

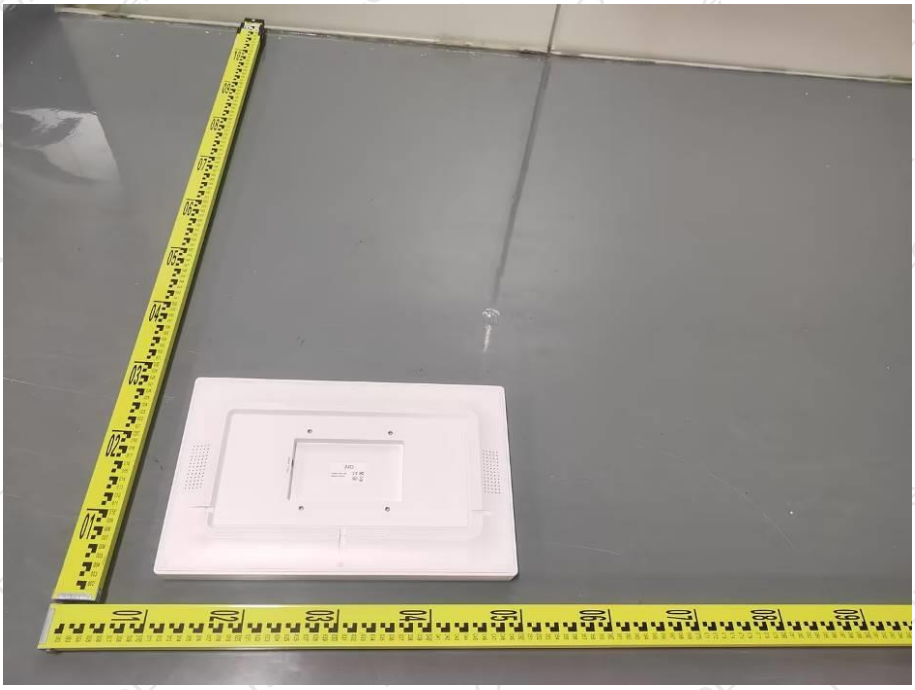
Test Mode	ID Code	Test Results
WIFI 5.2G(W52)	1a:9c:04:3f:00:47	Pass

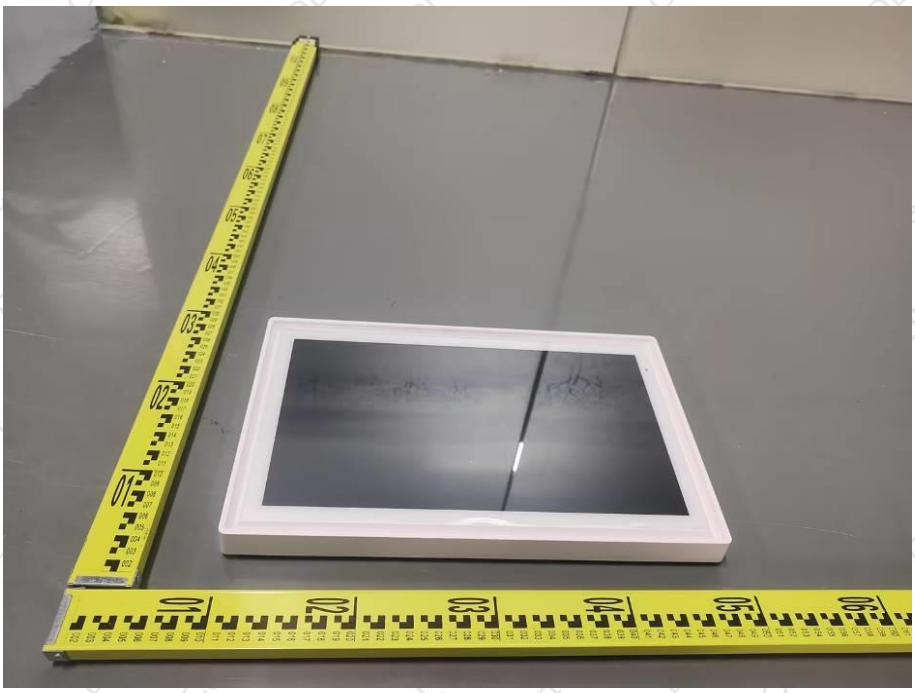
12. TEST SETUP PHOTOGRAPH

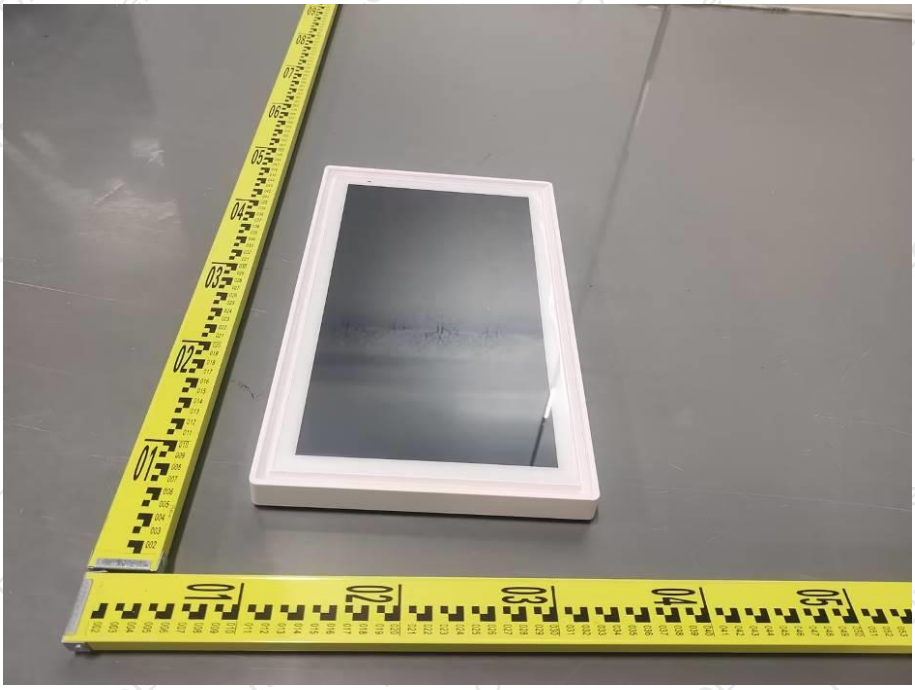


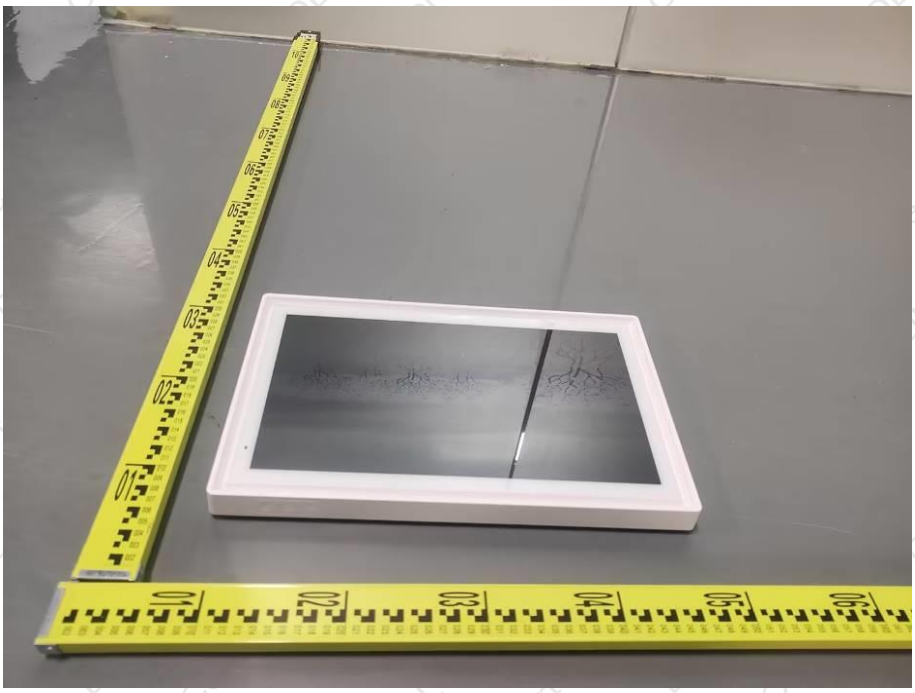
13. EUT PHOTOGRAPH



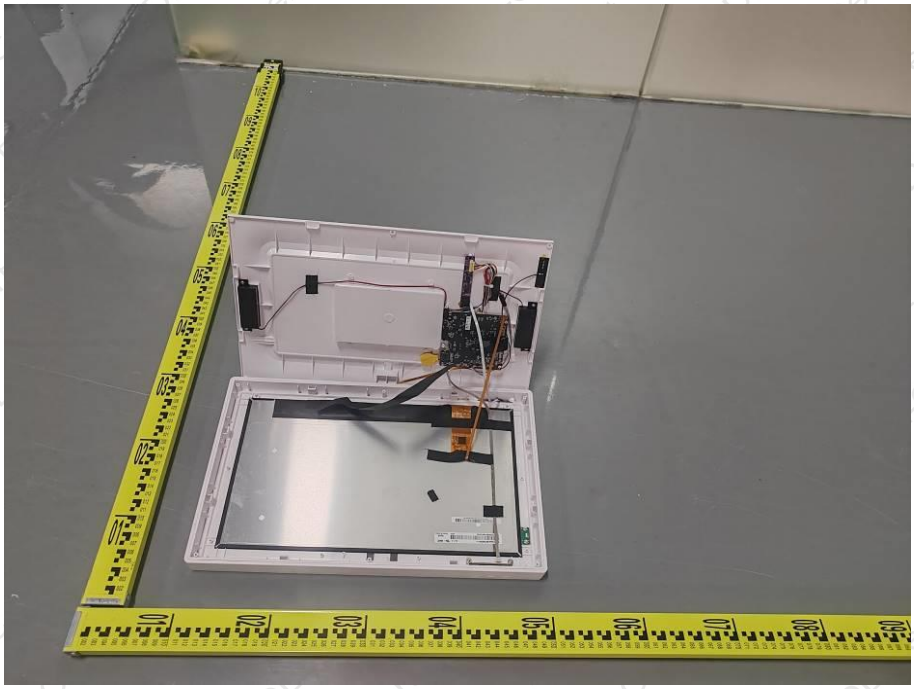


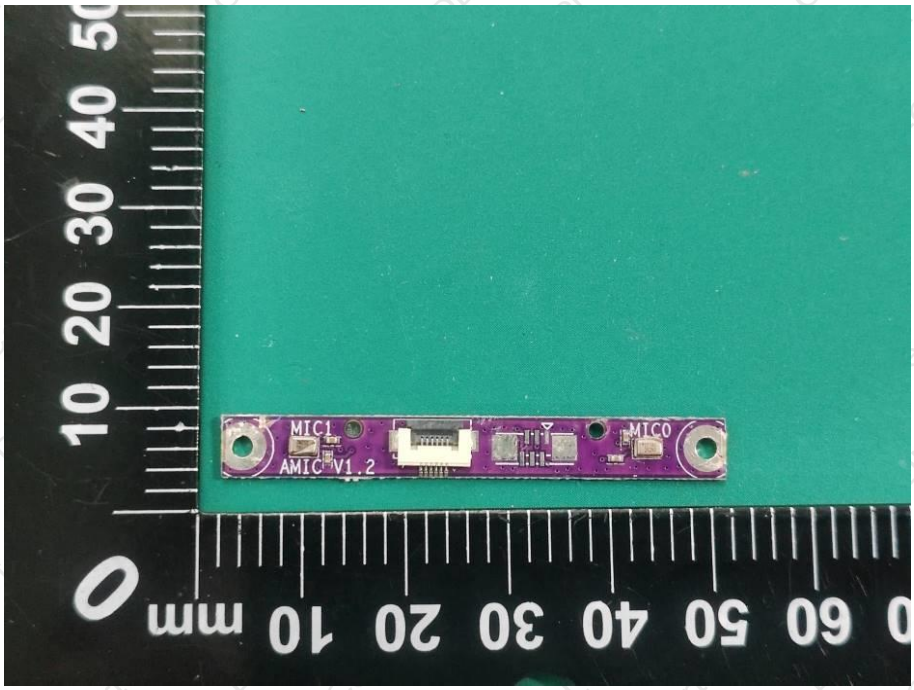


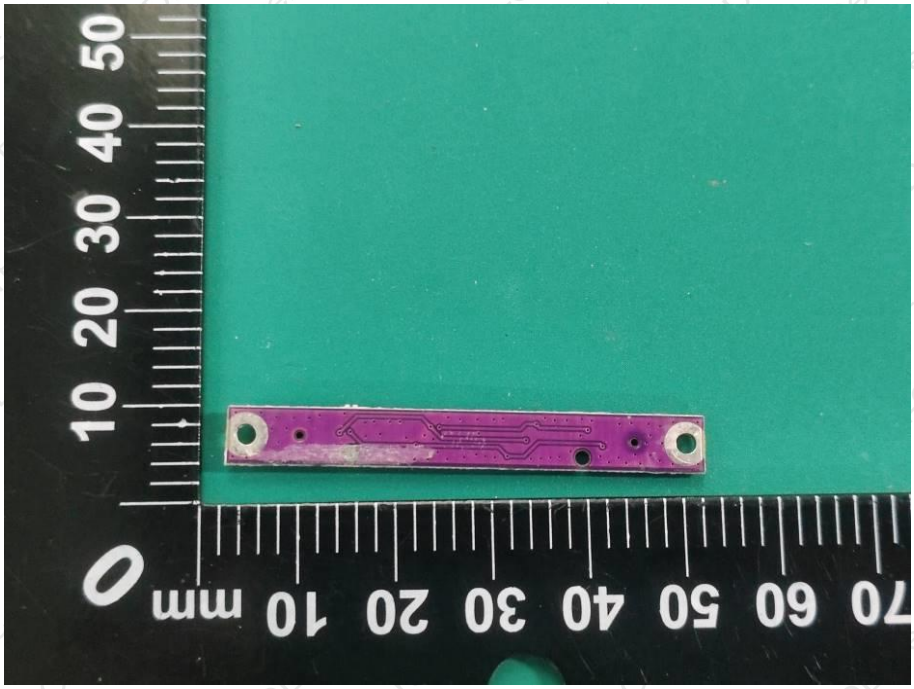


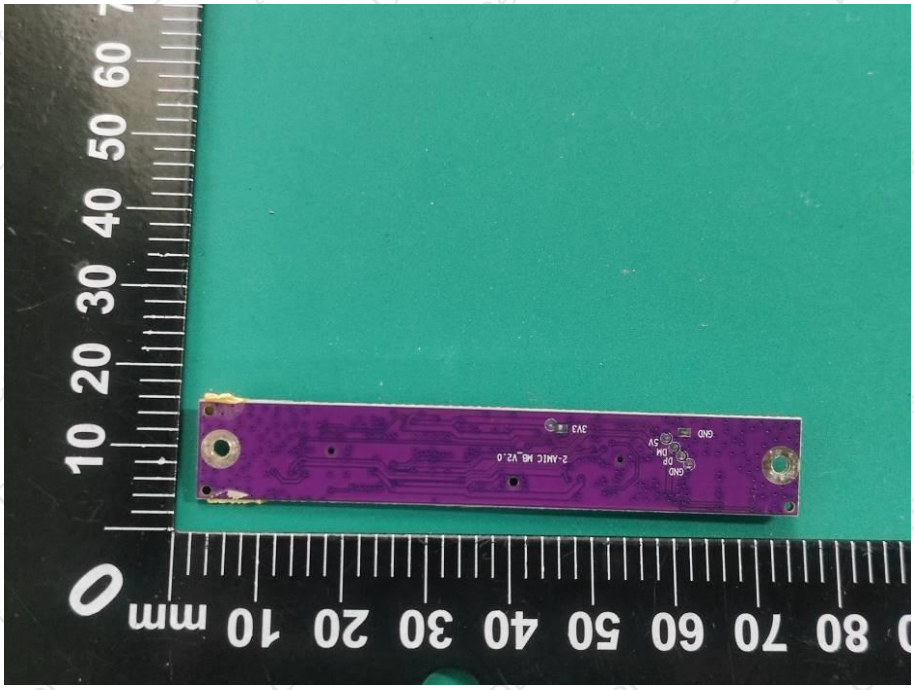


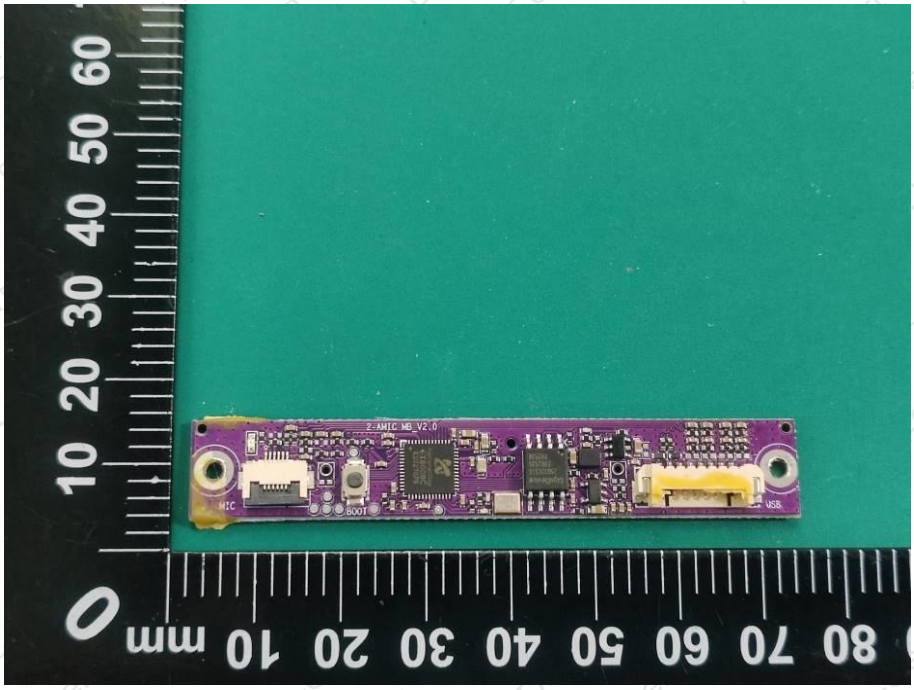
電源アダプター
モデル名:FX24P-120200J
入力:100-240V~50/60Hz 0.6 A Max.
出力: 12 V ⎓ 2 A
XXXXX株式会社
2623
MADE IN CHINA
Shenzhen Fangxin Technology Co.,Ltd.




MIC1
AMIC V1.2
MIC0



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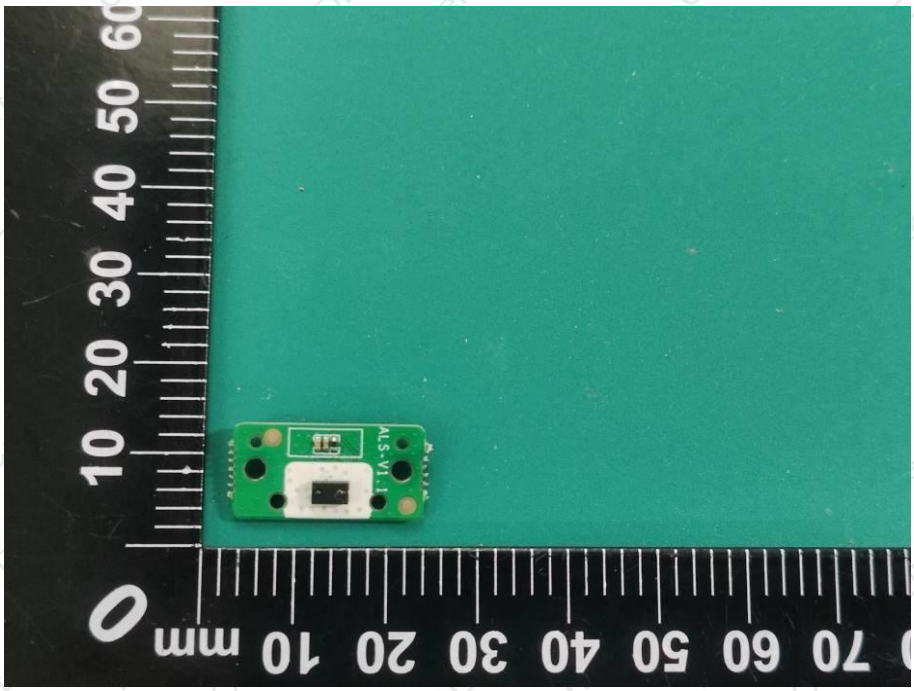
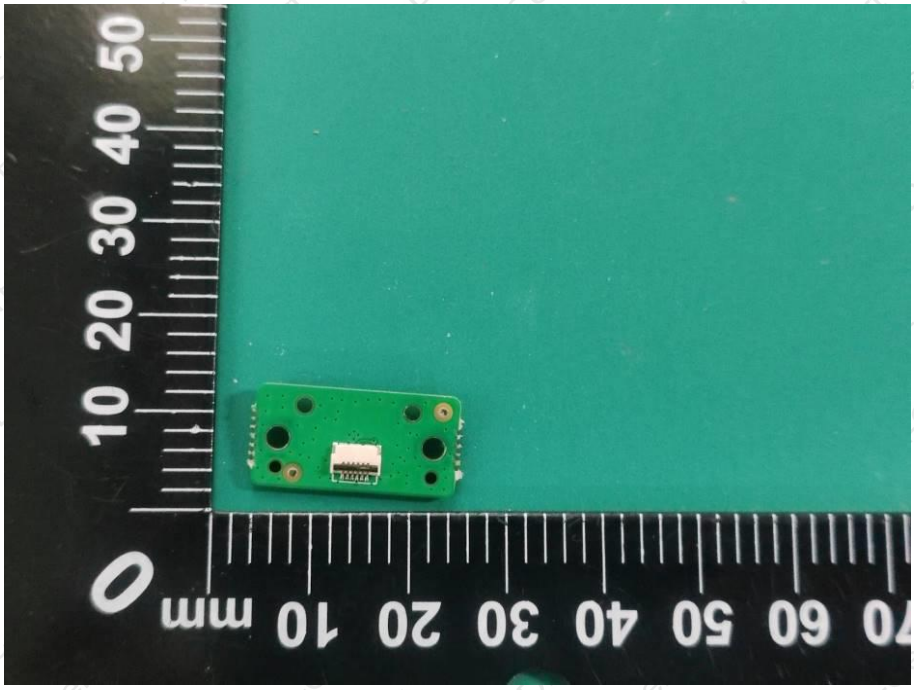
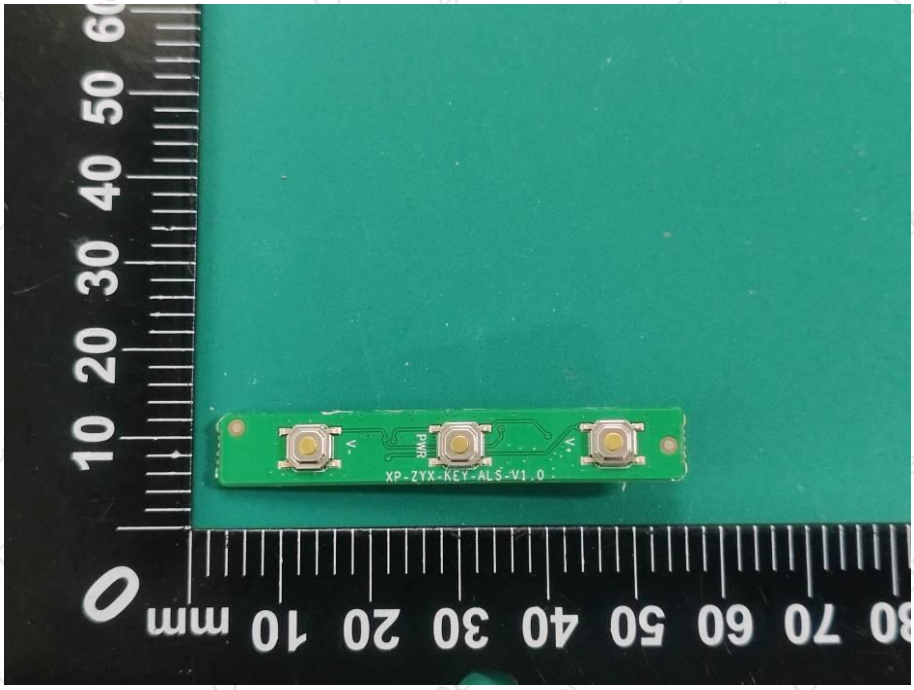
MIC
BOOT
USB


ALS-V1.1

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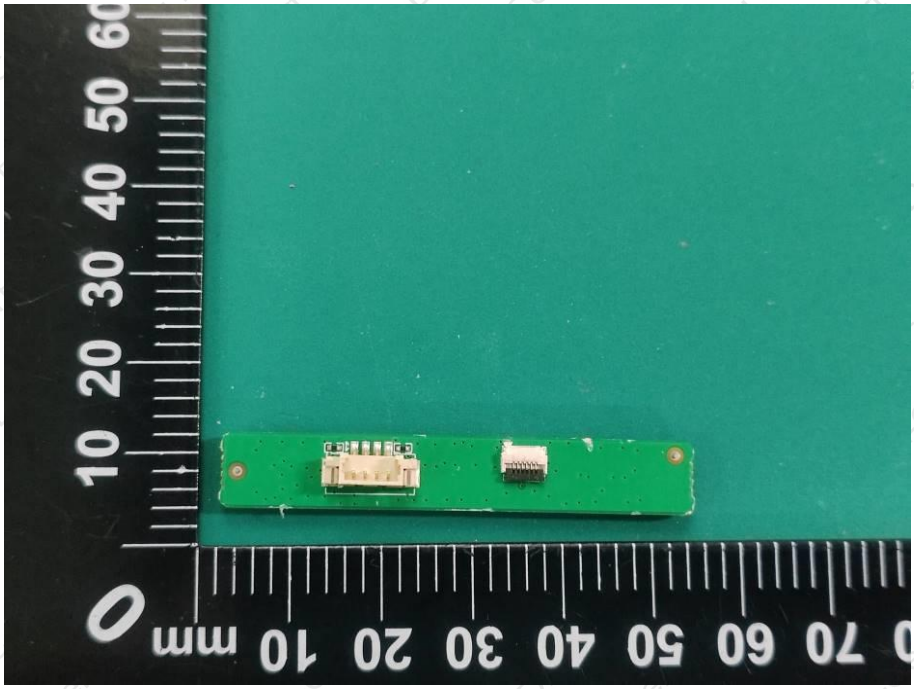

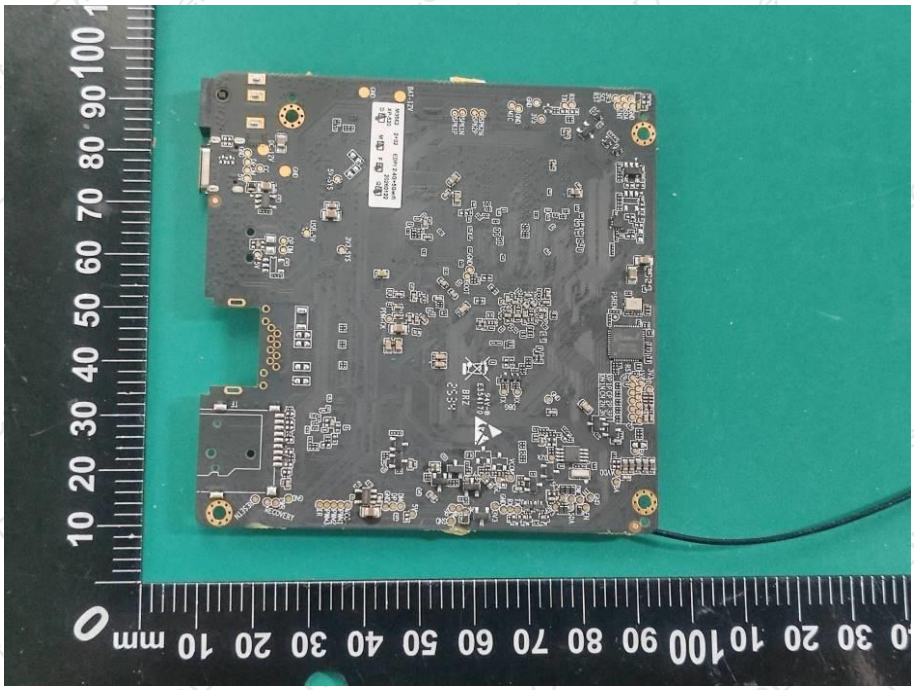

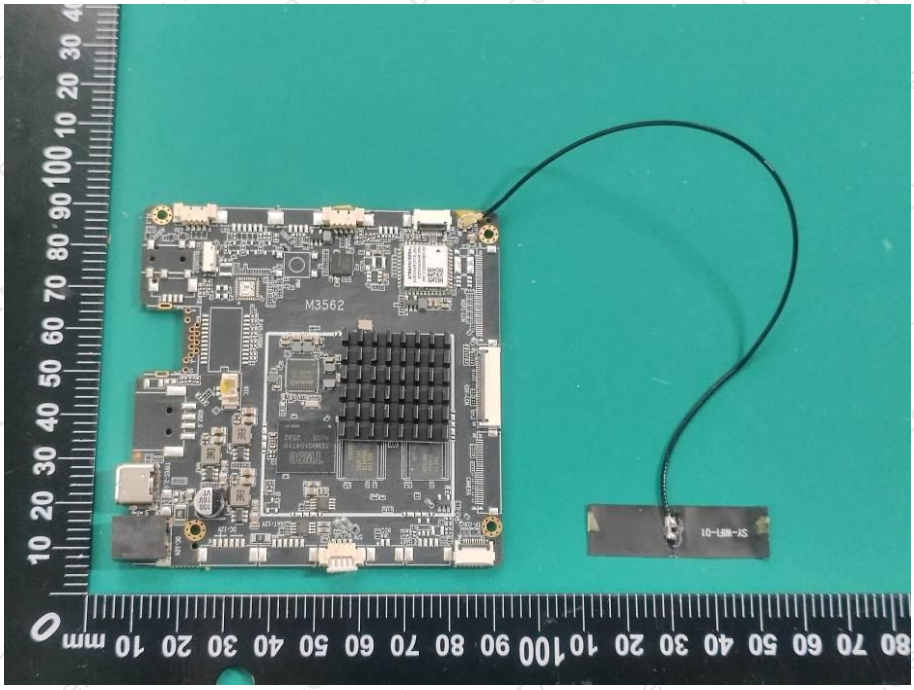
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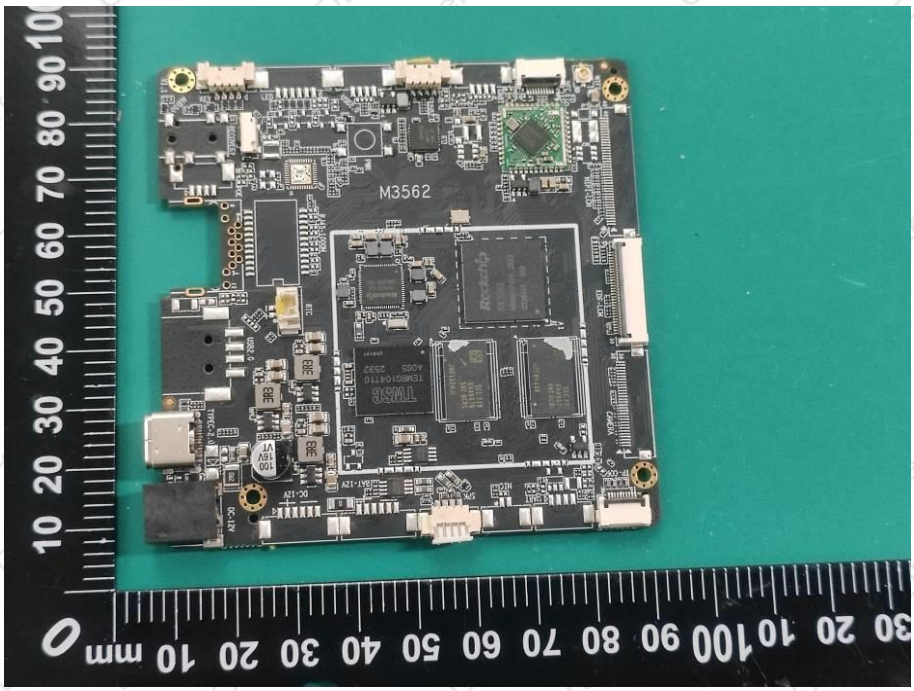
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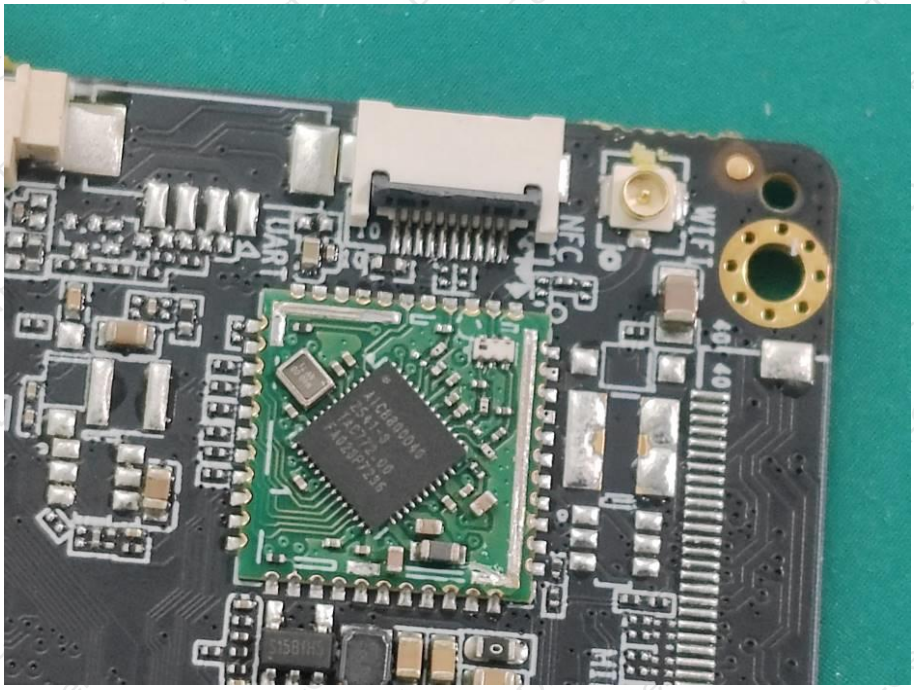

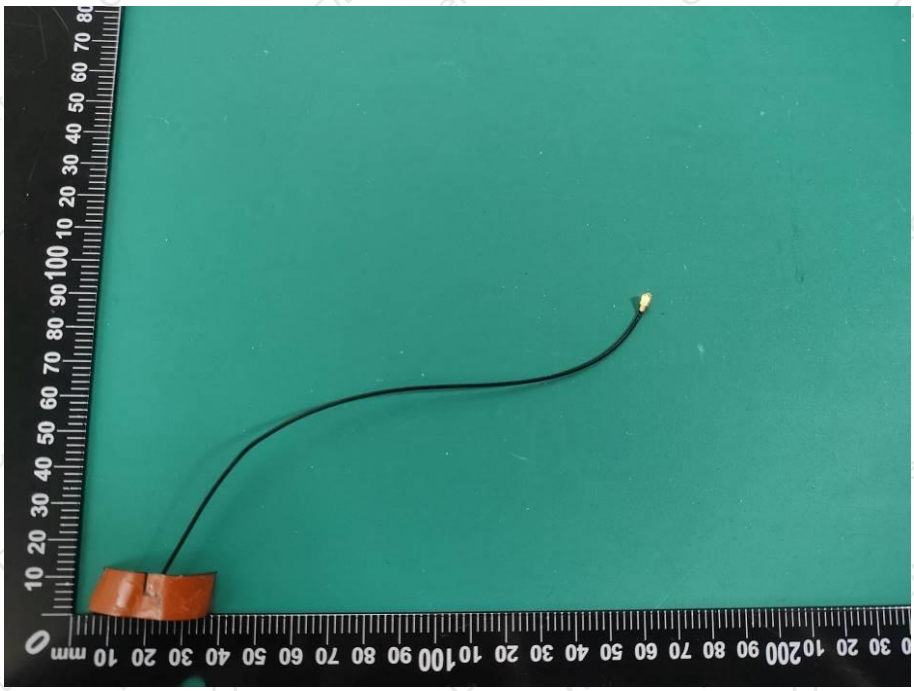

---END OF THE REPORT---