

FCC Test Report

Client Name : VENUS AI TECHNOLOGY CO., LTD

Address : 2F., NO.162, MAIJIN RD., YINGGE VIL., ANLE DIST.,
KEELUNG CITY 204, TAIWAN (R.O.C)

Product Name : Soap dispenser

Date : Jul. 22, 2021



Shenzhen Anbotech Compliance Laboratory Limited



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TEST REPORT

Applicant : VENUS AI TECHNOLOGY CO., LTD
Manufacturer : VENUS AI TECHNOLOGY CO., LTD
Product Name : Soap dispenser
Model No. : VE-48, VE-4RX, K9 PRO PLUS, K9 PRO DUAL
Trade Mark : N.A.
Rating(s) : DC 6V, 2A, 1.32W

Test Standard(s) : FCC Rules and Regulations Part 15 Subpart B: 2019
Test Method(s) : ANSI C63.4-2014

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited To determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B Class B limits both radiated and conducted emissions. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited Is assumed full responsibility for the accuracy and completeness of these measurements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited

Date of Receipt: Mar. 05, 2021

Date of Test: Mar. 05~10, 2021

Prepared By:

Yee Huang

(Yee Huang)

Approved & Authorized Signer:

KingKong Jin

(KingKong Jin)



1. General Information

1.1. Client Information

Applicant	:	VENUS AI TECHNOLOGY CO., LTD
Address	:	2F., NO.162, MAIJIN RD., YINGGE VIL., ANLE DIST., KEELUNG CITY 204, TAIWAN (R.O.C)
Manufacturer	:	VENUS AI TECHNOLOGY CO., LTD
Address	:	2F., NO.162, MAIJIN RD., YINGGE VIL., ANLE DIST., KEELUNG CITY 204, TAIWAN (R.O.C)
Factory	:	VENUS AI TECHNOLOGY CO., LTD
Address	:	2F., NO.162, MAIJIN RD., YINGGE VIL., ANLE DIST., KEELUNG CITY 204, TAIWAN (R.O.C)

1.2. Description of Device (EUT)

Product Name	:	Soap dispenser
Model No.	:	VE-48, VE-4RX, K9 PRO PLUS, K9 PRO DUAL
Trade Mark	:	N.A.
Test Power Supply	:	DC 6V / DC 5V via adapter
Test Sample No.	:	1-1-1
Product Description	:	Adapter: N/A
Remark: (1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual. (2)As specified by the client, all the results in this report were quoted from report 18250EC10017101, test model: K9 PRO PLUS.		

1.3. Auxiliary Equipment Used During Test

N/A	
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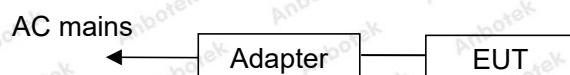
1.4. Description of Test Modes

Pretest Modes	Descriptions
Mode 1	Battery Mode
Mode 2	DC Mode

For Mode 1 Block Diagram of Test Setup



For Mode 2 Block Diagram of Test Setup



1.5. Test Summary

Test Items	Test Modes	Status
Power Line Conducted Emission Test (150KHz To 30MHz)	Mode 2	P
Radiated Emission Test (30MHz To 1000MHz)	All Mode	P
P) Indicates "PASS". N) Indicates "Not applicable".		

1.6. Test Equipment List

Conducted Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	100055	Oct. 26, 2020	1 Year
2.	L.I.S.N. Artificial Mains Network	Schwarzbeck	NSLK 8127	8127386	Oct. 26, 2020	1 Year
3.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Oct. 26, 2020	1 Year
4.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Oct. 26, 2020	1 Year
5.	Software Name EZ-EMC	Ferrari Technology	ANB-03A	N/A	N/A	N/A

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F., Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel: (86) 755-26066440 Fax: (86) 755-26014772 Email: service@anbotek.com

Code: AB-EMC-04-b



Hotline
400-003-0500
www.anbotek.com

Radiated Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESR26	101481	Oct. 26, 2020	1 Year
2.	Pre-amplifier	SONOMA	310N	186860	Oct. 26, 2020	1 Year
3.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Nov. 02, 2020	2 Year
4.	Software Name EZ-EMC	Ferrari Technology	ANB-03A	N/A	N/A	N/A

1.7. Measurement Uncertainty

Radiation Uncertainty	:	Ur = 3.9 dB (Horizontal)
		Ur = 3.8 dB (Vertical)
Conduction Uncertainty	:	Uc = 3.4 dB
Disturbance Uncertainty	:	Ud = 3.4 dB

1.8. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 184111

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 184111, September 30, 2020.

ISED-Registration No.: 8058A

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A, September 30, 2020.

Test Location

Shenzhen Anbotek Compliance Laboratory Limited.

1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.518128

Shenzhen Anbotek Compliance Laboratory Limited

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Code:AB-EMC-04-b



Hotline

400-003-0500

www.anbotek.com

2. Power Line Conducted Emission Test

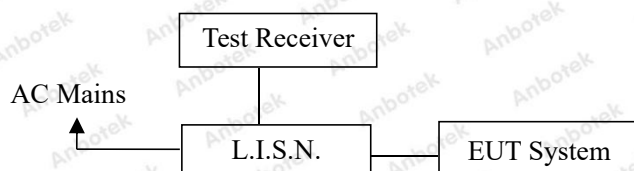
2.1. Test Standard and Limit

Test Standard	FCC Part 15 Subpart B
---------------	-----------------------

Power Line Conducted Emission Measurement Limits (FCC Part 15 Class B)

Test Limit	Frequency (MHz)	At mains terminals (dB μ V)	
		Quasi-peak Level	Average Level
	0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
	0.50 ~ 5.00	56	46
	5.00 ~ 30.00	60	50
Remark: (1) The lower limit shall apply at the transition frequencies. (2) * Decreasing linearly with logarithm of frequency.			

2.2. Test Setup



2.3. EUT Configuration on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

2.4. Operating Condition of EUT

2.4.1. Setup the EUT as shown in Section 2.2.

2.4.2. Turn on the power of all equipments.

2.4.3. Let the EUT work in test mode and measure it.

2.5. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.4-2014 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9KHz.

The frequency range from 150KHz to 30MHz is checked.

All the test results are listed in Section 2.6.

2.6. Test Results

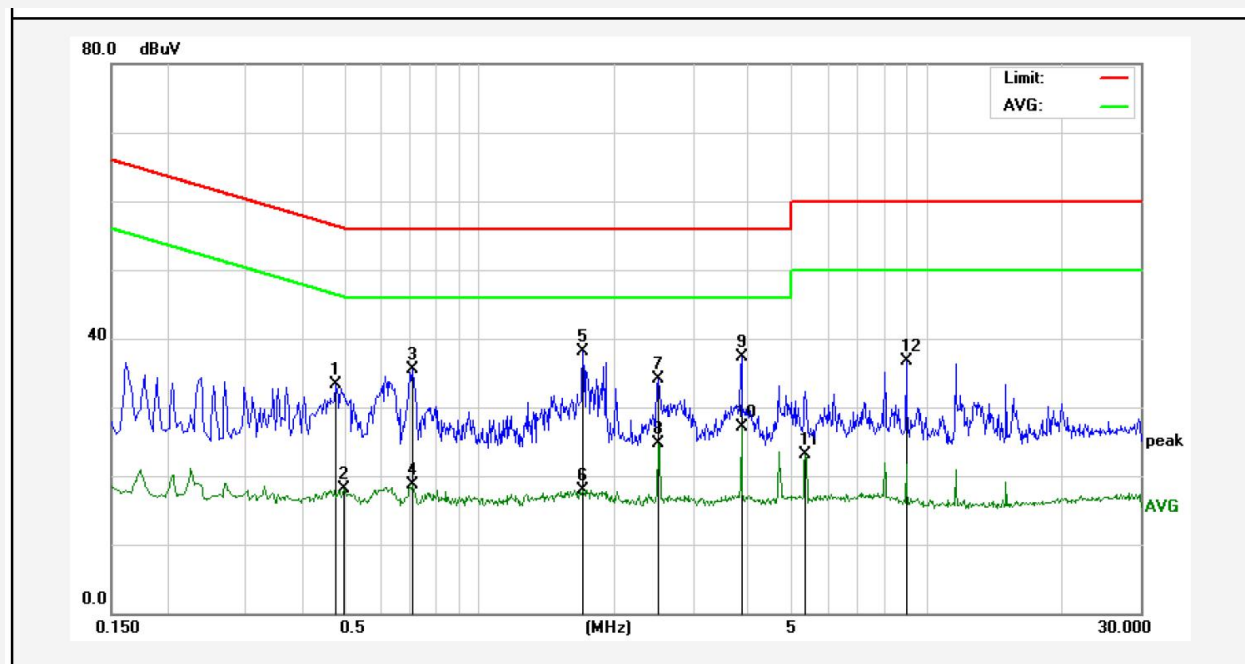
PASS

The test curves are shown in the following pages.



Conducted Emission Test Data

Test Site: 1# Shielded Room
 Test Specification: DC 5V via adapter
 Comment: Live Line
 Temp.: 21.6°C Hum.: 50%



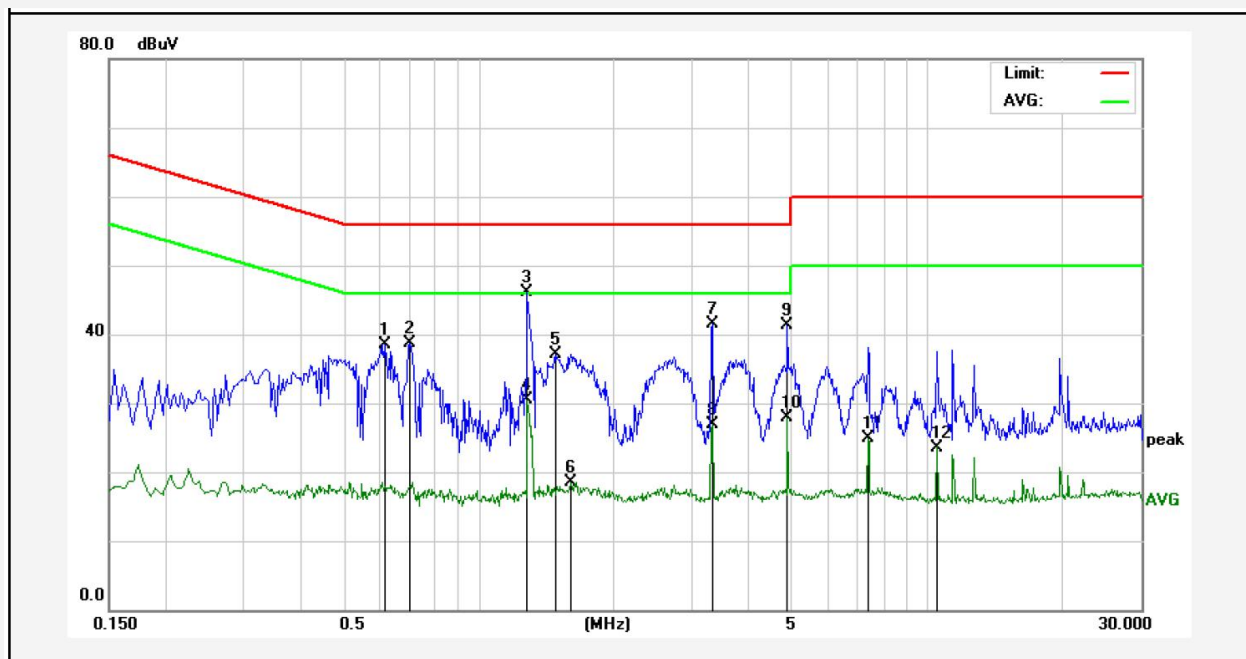
No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.4780	13.25	19.97	33.22	56.37	-23.15	QP	
2	0.4980	-1.78	19.98	18.20	46.03	-27.83	AVG	
3	0.7060	15.51	20.04	35.55	56.00	-20.45	QP	
4	0.7060	-1.37	20.04	18.67	46.00	-27.33	AVG	
5	1.7020	18.01	20.13	38.14	56.00	-17.86	QP	
6	1.7020	-2.19	20.13	17.94	46.00	-28.06	AVG	
7	2.5100	13.90	20.15	34.05	56.00	-21.95	QP	
8	2.5100	4.55	20.15	24.70	46.00	-21.30	AVG	
9	3.8420	17.21	20.18	37.39	56.00	-18.61	QP	
10	3.8420	6.86	20.18	27.04	46.00	-18.96	AVG	
11	5.3459	2.96	20.22	23.18	50.00	-26.82	AVG	
12	8.9859	16.35	20.31	36.66	60.00	-23.34	QP	

Note: Result=Reading+Factor Over Limit=Result-Limit



Conducted Emission Test Data

Test Site: 1# Shielded Room
Test Specification: DC 5V via adapter
Comment: Neutral Line
Temp.: 21.6°C Hum.: 50%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.6180	18.48	20.02	38.50	56.00	-17.50	QP	
2	0.7019	18.70	20.04	38.74	56.00	-17.26	QP	
3	1.2860	25.93	20.13	46.06	56.00	-9.94	QP	
4	1.2860	10.42	20.13	30.55	46.00	-15.45	AVG	
5	1.4819	17.02	20.13	37.15	56.00	-18.85	QP	
6	1.6060	-1.56	20.13	18.57	46.00	-27.43	AVG	
7	3.3140	21.25	20.17	41.42	56.00	-14.58	QP	
8	3.3140	6.72	20.17	26.89	46.00	-19.11	AVG	
9	4.8819	21.19	20.20	41.39	56.00	-14.61	QP	
10	4.8819	7.75	20.20	27.95	46.00	-18.05	AVG	
11	7.3979	4.62	20.27	24.89	50.00	-25.11	AVG	
12	10.5219	3.27	20.33	23.60	50.00	-26.40	AVG	

Note: Result=Reading+Factor Over Limit=Result-Limit



3. Radiated Emission Test

3.1. Test Standard and Limit

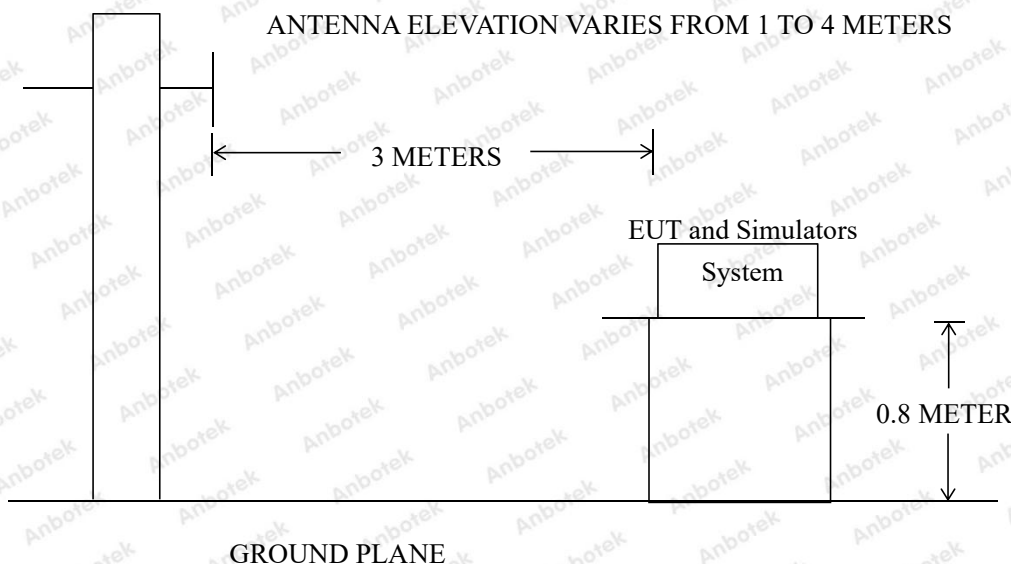
Test Standard	FCC Part 15 Subpart B
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Radiated Emission Test Limit (Subpart B Class B)

Test Limit	Frequency (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMIT	
			$\mu\text{V/m}$	(dB $\mu\text{V/m}$)
	30 ~ 88	3	100	40
	88 ~ 216	3	150	43.5
	216 ~ 960	3	200	46
	960 ~ 1000	3	500	54

Remark: (1) Emission level (dB) μV = 20 log Emission level $\mu\text{V/m}$
 (2) The smaller limit shall apply at the cross point between two frequency bands.
 (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

3.2. Test Setup



3.3. EUT Configuration on Measurement

The following equipments are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

3.4. Operating Condition of EUT

3.4.1. Setup the EUT as shown in Section 3.2.

3.4.2. Turn on the power of all equipments.

3.4.3. Let the EUT work in test mode and measure it.

3.5. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (Trilog Broadband Antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2014 on radiated emission measurement.

The bandwidth of the EMI test receiver (ESCI) is set at 120kHz.

The frequency range from 30MHz to 1000MHz is checked.

The test results are listed in Section 3.6.

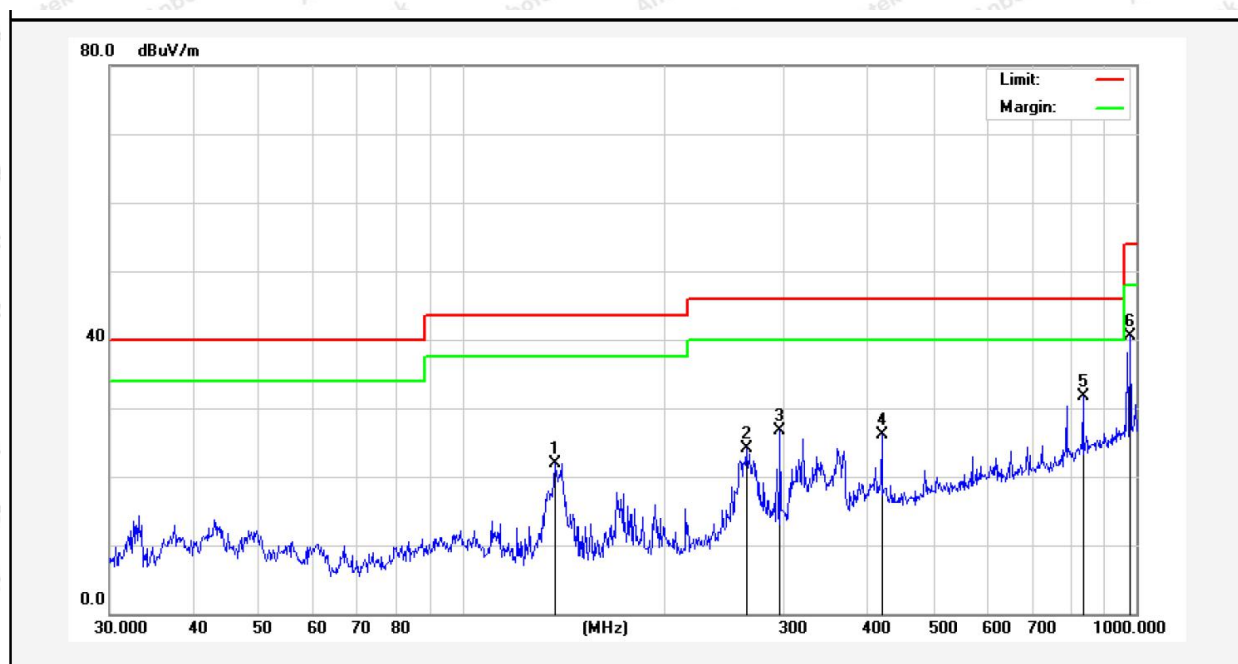
3.6. Test Results

PASS

The test curves are shown in the following pages.



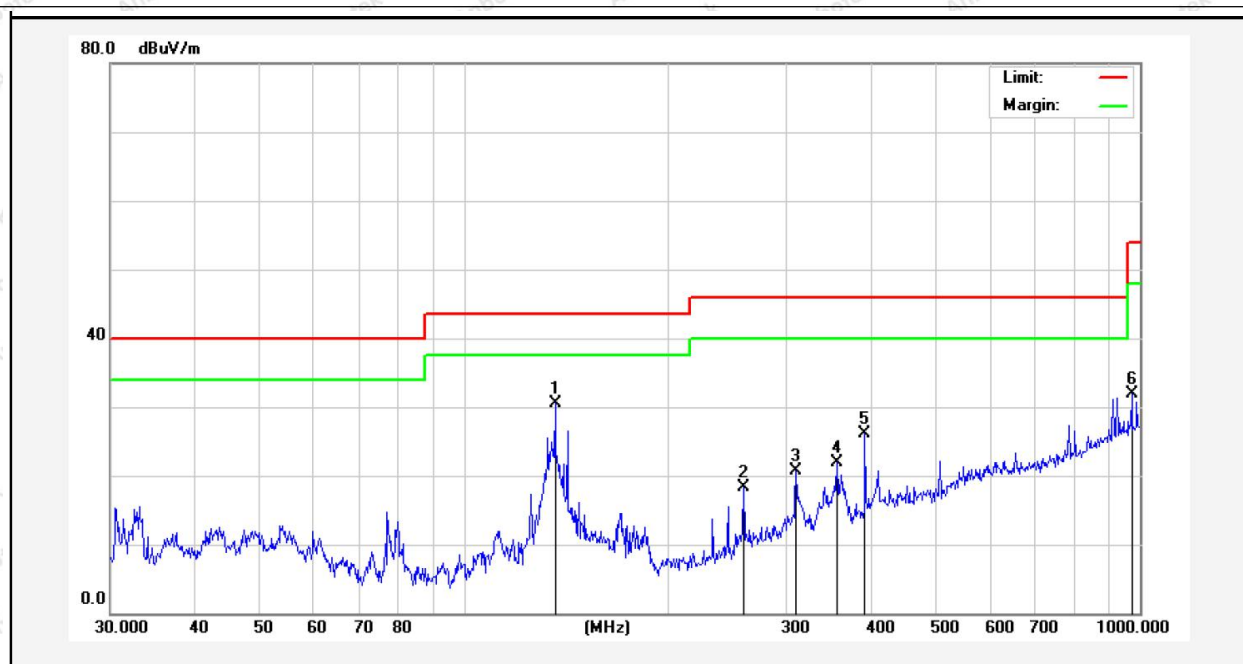
Test item: Radiation Test **Polarization:** Horizontal
Standard: (RE)FCC Part 15 Subpart B **Power Source:** DC 6V
Distance: 3m **Temp.(°C)/Hum.(%RH):** 22.5(°C)/50%RH
Test Mode: Battery Mode



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	137.4202	42.73	-20.82	21.91	43.50	-21.59	peak			
2	263.8190	41.66	-17.58	24.08	46.00	-21.92	peak			
3	296.1836	41.27	-14.65	26.62	46.00	-19.38	peak			
4	419.1081	38.78	-12.63	26.15	46.00	-19.85	peak			
5	833.3171	35.18	-3.50	31.68	46.00	-14.32	peak			
6	979.1804	40.61	-0.17	40.44	54.00	-13.56	peak			

Note: Result=Reading+Factor Over Limit=Result-Limit

Test item: Radiation Test **Polarization:** Vertical
Standard: (RE)FCC Part 15 Subpart B **Power Source:** DC 6V
Distance: 3m **Temp.(°C)/Hum.(%RH):** 22.5(°C)/50%RH
Test Mode: Battery Mode

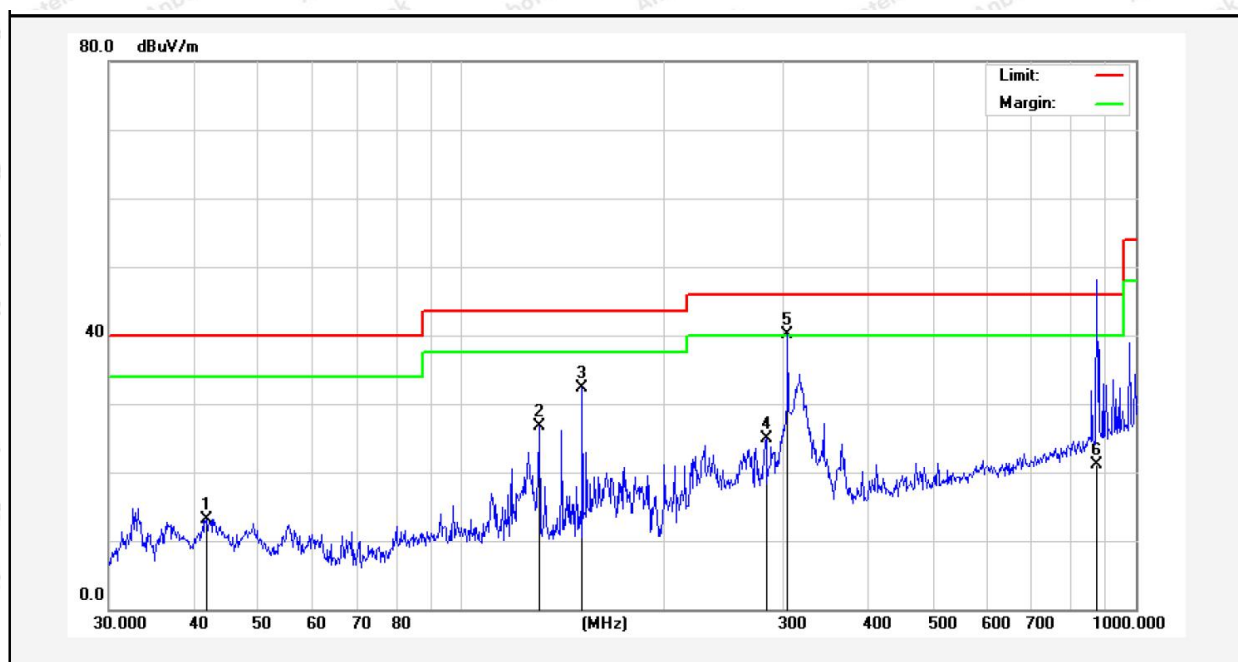


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	136.4598	50.26	-19.83	30.43	43.50	-13.07	peak			
2	259.2338	33.15	-14.92	18.23	46.00	-27.77	peak			
3	309.9977	33.81	-13.11	20.70	46.00	-25.30	peak			
4	356.6758	33.88	-11.90	21.98	46.00	-24.02	peak			
5	392.0951	37.51	-11.40	26.11	46.00	-19.89	peak			
6	972.3374	32.30	-0.33	31.97	54.00	-22.03	peak			

Note: Result=Reading+Factor Over Limit=Result-Limit



Test item:	Radiation Test	Polarization:	Horizontal
Standard:	(RE)FCC Part 15 Subpart B	Power Source:	DC 5V via adapter
Distance:	3m	Temp.(°C)/Hum.(%RH):	22.5(°C)/50%RH
Test Mode:	DC Mode		

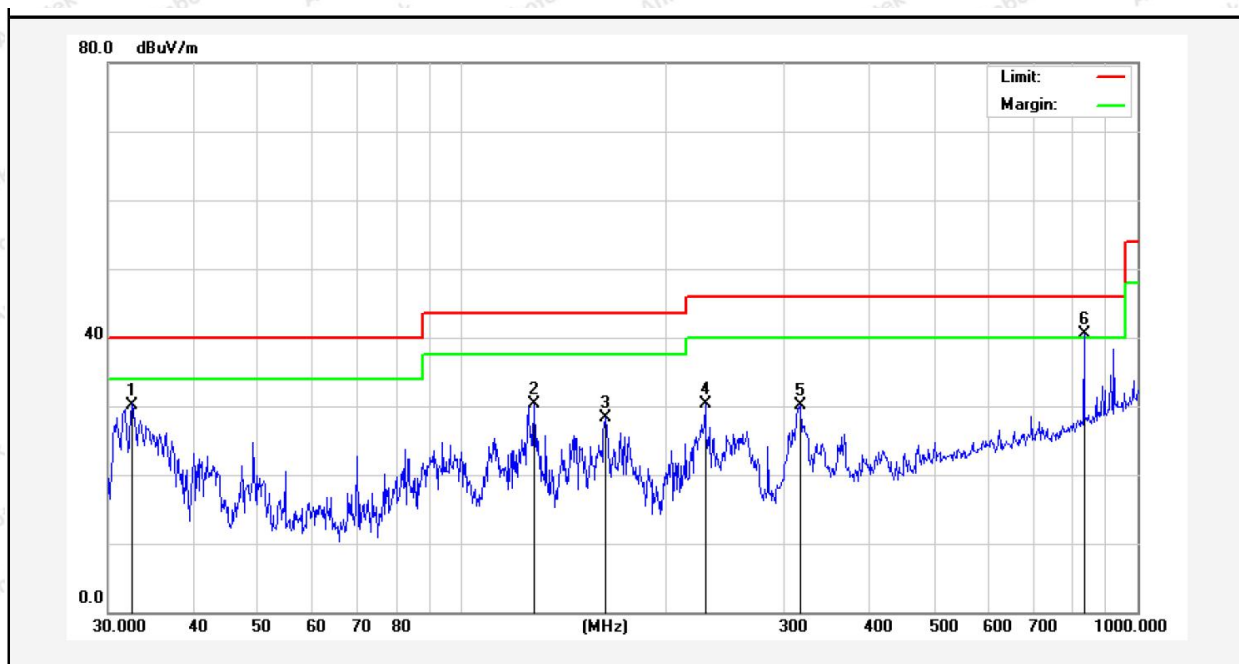


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	41.8596	27.84	-14.76	13.08	40.00	-26.92	peak			
2	130.3789	47.17	-20.44	26.73	43.50	-16.77	peak			
3	151.0666	53.03	-20.80	32.23	43.50	-11.27	peak			
4	282.9852	40.76	-15.85	24.91	46.00	-21.09	peak			
5	304.6099	54.22	-14.18	40.04	46.00	-5.96	peak			
6	876.1960	23.54	-2.41	21.13	46.00	-24.87	QP	100	360	

Note: Result=Reading+Factor Over Limit=Result-Limit



Test item: Radiation Test **Polarization:** Vertical
Standard: (RE)FCC Part 15 Subpart B **Power Source:** DC 5V via adapter
Distance: 3m **Temp.(°C)/Hum.(%RH):** 22.5(°C)/50%RH
Test Mode: DC Mode



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	32.5198	46.93	-16.73	30.20	40.00	-9.80	peak			
2	128.1130	49.46	-19.12	30.34	43.50	-13.16	peak			
3	163.1818	47.55	-19.24	28.31	43.50	-15.19	peak			
4	229.2931	46.30	-16.08	30.22	46.00	-15.78	peak			
5	317.7011	42.96	-12.91	30.05	46.00	-15.95	peak			
6	833.3171	44.08	-3.50	40.58	46.00	-5.42	peak			

Note: Result=Reading+Factor Over Limit=Result-Limit



APPENDIX I -- TEST SETUP PHOTOGRAPH

Photo of Power Line Conducted Emission Test

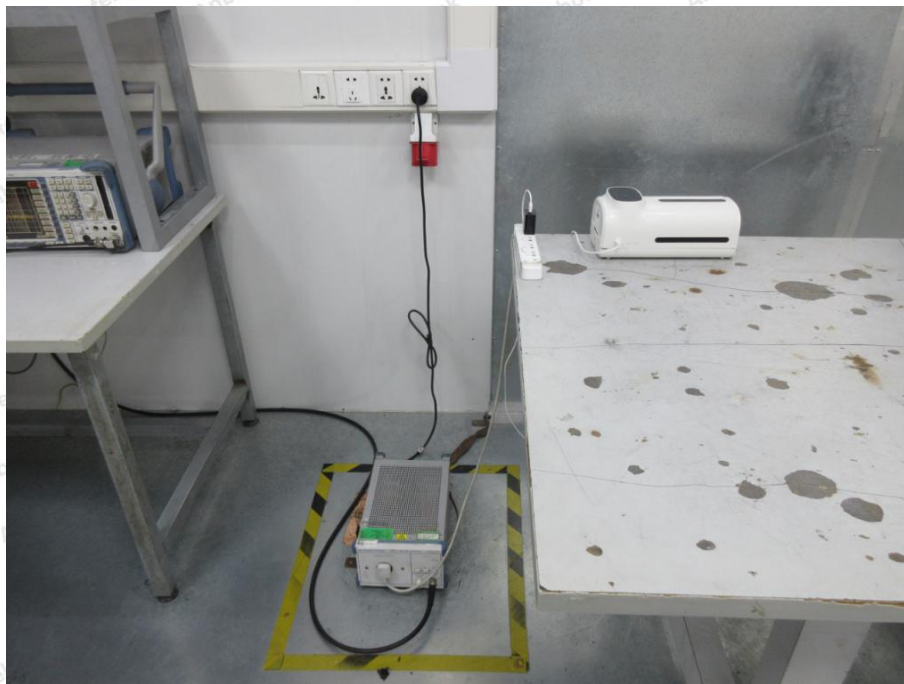
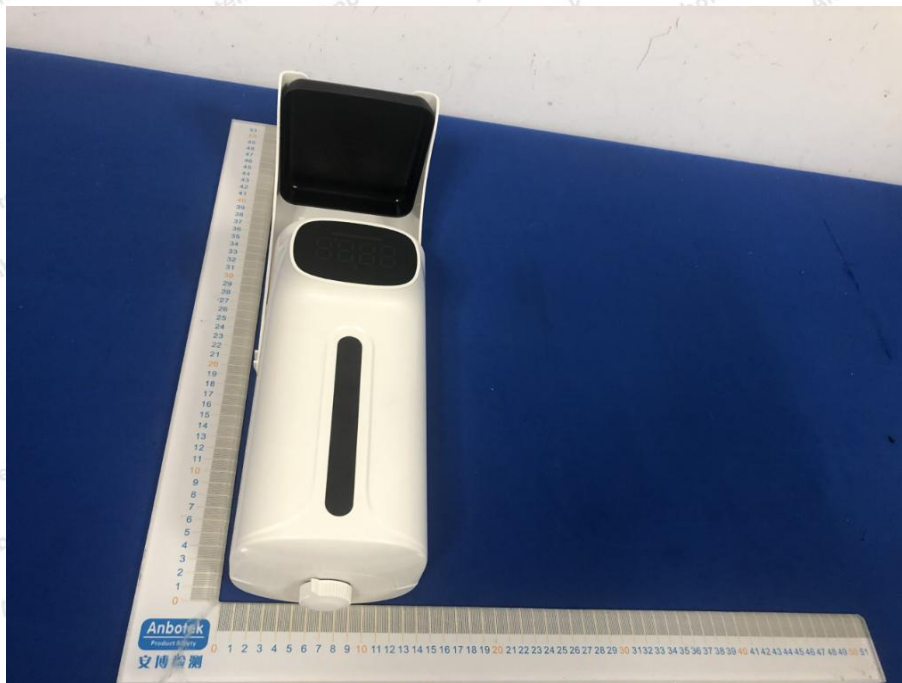


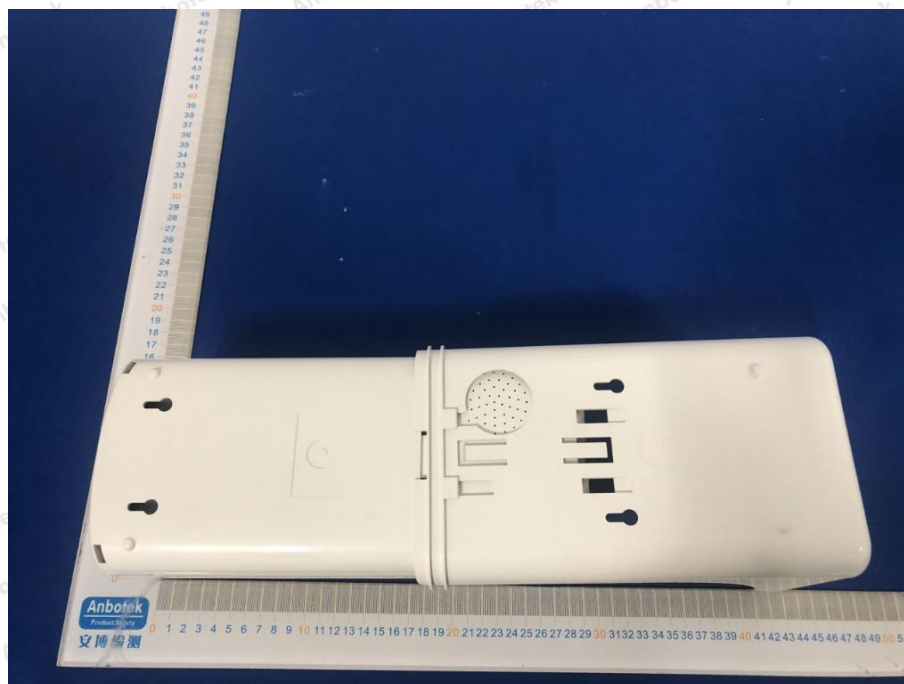
Photo of Radiated Emission Test



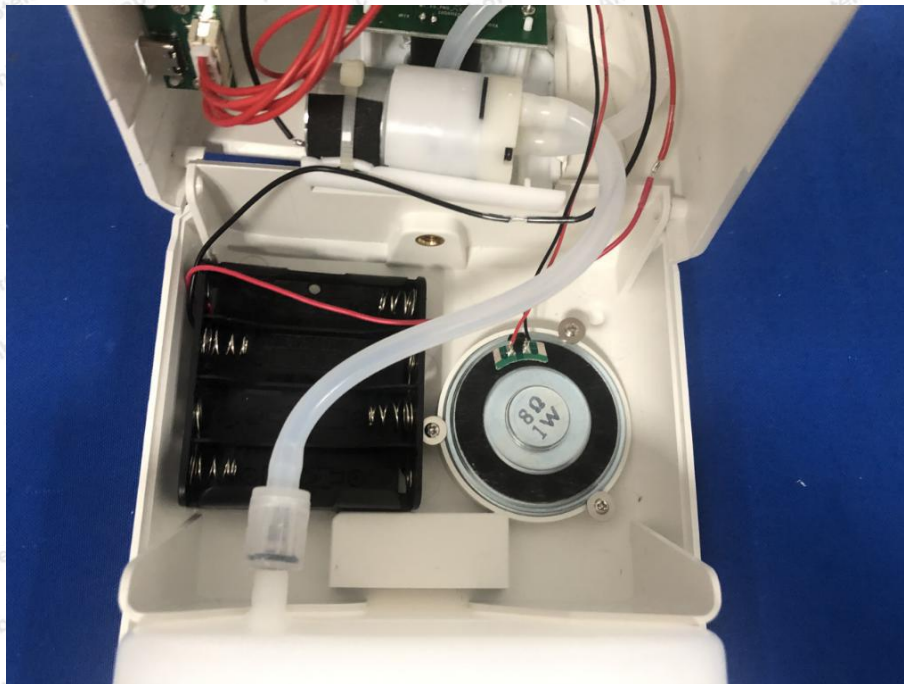
APPENDIX II -- EXTERNAL PHOTOGRAPH

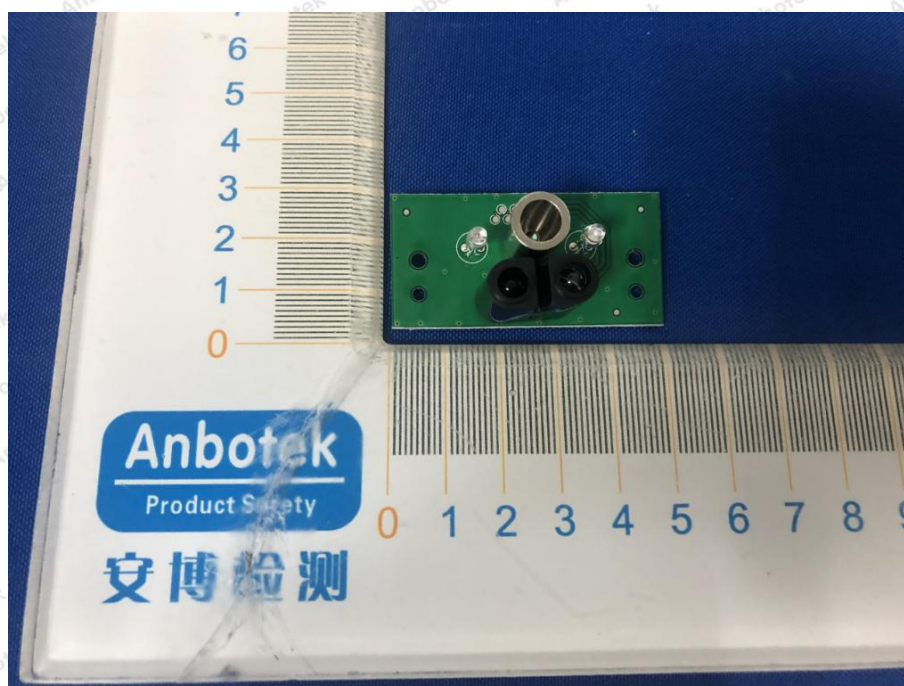
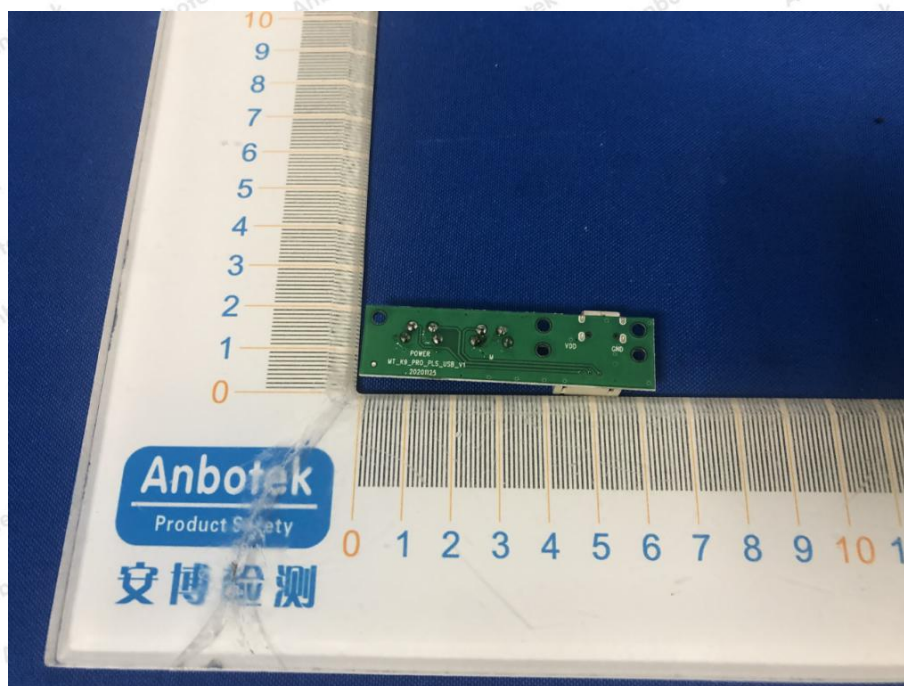


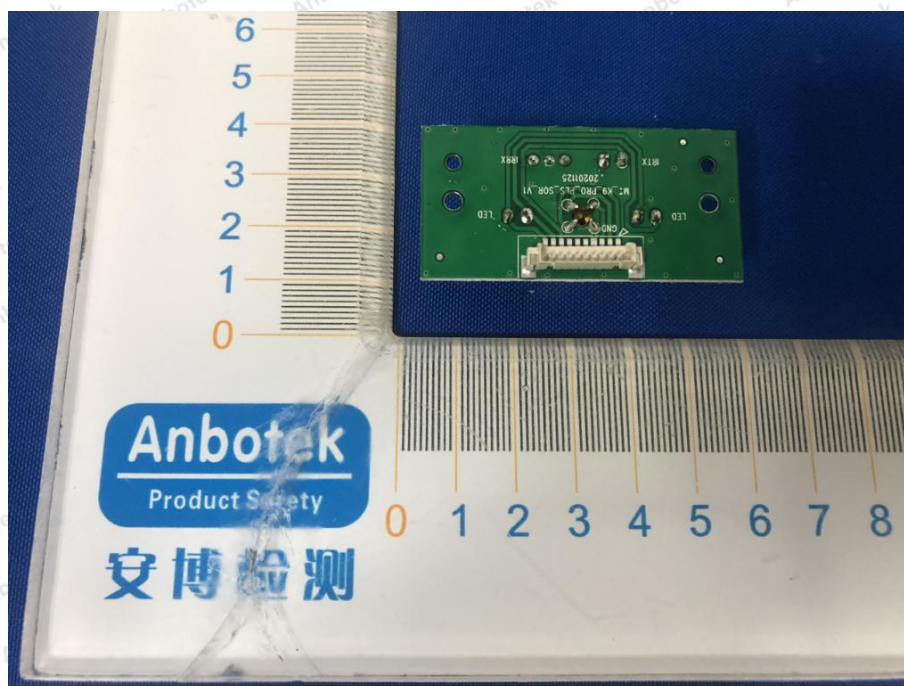


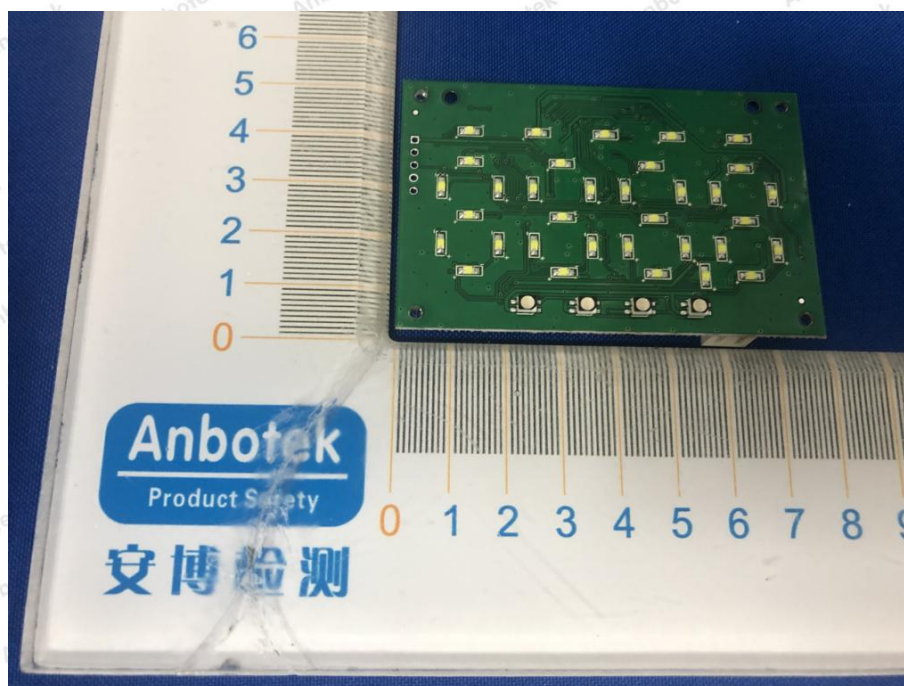


APPENDIX III -- INTERNAL PHOTOGRAPH









----- End of Report -----

