RF TEST REPORT

For

ShenzhenshiChangminghongdianzikejiYouxiangongsi
Product Name: Electronic alarm clock
Test Model(s).: BT100

Report Reference No.	:	**DACE240820003RF001**
FCC ID	:	**2BLAM-BT100**
Applicant's Name	:	ShenzhenshiChangminghongdianzikejiYouxiangongsi
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Testing Laboratory	:	Shenzhen DACE Testing Technology Co., Ltd.
Address	:	102, Building H1, & 1/F., Building H, Hongfa Science & Technology Park, Tangtou Connunity, Shiyan Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Test Specification Standard	:	**47 CFR Part 15.225**
Date of Receipt	:	August 20, 2024
Date of Test	:	August 20, 2024 to September 23, 2024
Data of Issue	:	September 23, 2024
Result	:	**Pass**

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Revision History Of Report

Version	Description	REPORT No.	Issue Date
V1.0	Original	DACE240820003RF001	September 23, 2024

NOTE1:

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

Compiled by:	Supervised by:	Approved by:
Keren Huang	Stone Yin	Tom Chen
Keren Huang / Test Engineer	Stone Yin / Project Engineer	Tom Chen / Manager

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1 TEST SUMMARY

1.1 Test Standards

The tests were performed according to following standards:

47 CFR Part 15.225: Operation within the band 13.110–14.010 MHz

1.2 Summary of Test Result

Item	Standard	Method	Requirement	Result
Antenna requirement	47 CFR Part 15.225	/	47 CFR 15.203	Pass
Conducted Emission at AC power line	47 CFR Part 15.225	ANSI C63.10-2013 section 6.2	47 CFR 15.207(a)	Pass
20dB Bandwidth	47 CFR Part 15.225	ANSI C63.10-2013, section 6.9.2	47 CFR 15.215(c)	Pass
Frequency Tolerance	47 CFR Part 15.225	ANSI C63.10-2013, Section 6.8	47 CFR 15.231(e)	Pass
Field Strength of The Fundamental Signal	47 CFR Part 15.225	ANSI C63.10-2013, Section 6.4	47 CFR 15.225(a)	Pass
Emission Mask	47 CFR Part 15.225	ANSI C63.10-2013, Section 6.4	47 CFR 15.225(b), 15.225(c)	Pass
Emissions in frequency bands (below 30MHz)	47 CFR Part 15.225	ANSI C63.10-2013, Section 6.4	47 CFR 15.225(d)	Pass
Emissions in frequency bands (30M-1GHz)	47 CFR Part 15.225	ANSI C63.10-2013, Section 6.5	47 CFR 15.225(d)	Pass

Note: 1.N/A -this device(EUT) is not applicable to this testing item
2. RF-conducted test results including cable loss.

2 GENERAL INFORMATION

2.1 Client Information

Applicant's Name : Shenzhen Huabiao Testing Technology Co., Ltd.
Address : A309-J7, Rong Chao Economic and Trade Center, No.4028 Jintian Road, Fuzhong Community, Lianhua Street, Futian District, Shenzhen

Manufacturer : Shenzhen Huabiao Testing Technology Co., Ltd.
Address : A309-J7, Rong Chao Economic and Trade Center, No.4028 Jintian Road, Fuzhong Community, Lianhua Street, Futian District, Shenzhen

2.2 Description of Device (EUT)*

Product Name:	Electronic alarm clock
Model/Type reference:	BT100
Trade Mark:	BUTTING
Product Description:	Alarm Clock
Power Supply:	DC5.0V from adapter or others
Operation Frequency:	13.56MHz
Number of Channels:	1
Modulation Type:	ASK
Antenna Type:	PCB ANT
Antenna Gain:	0dBi

2.3 Description of Test Modes

No	Title	Description
TM1	wireless working	wireless working mode+adapter
TM1	Normal working	Clock+adapter

2.4 Description of Support Units

Title	Manufacturer	Model No.	Serial No.
ADAPTER	PHOTON	ATXC-069AC65B	/

2.5 Equipments Used During The Test

Conducted Emission at AC power line					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Cable	SCHWARZ BECK	/	/	2024-03-20	2025-03-19
Pulse Limiter	SCHWARZ BECK	VTSD 9561-F Pulse limiter 10dB Attenuation	561-G071	2023-12-12	2024-12-11
50ΩCoaxial Switch	Anritsu	MP59B	M20531	/	/
Test Receiver	Rohde & Schwarz	ESPI TEST RECEIVER	1164.6607K03 -102109-MH	2024-06-12	2025-06-11
L.I.S.N	R&S	ESH3-Z5	831.5518.52	2023-12-12	2024-12-11
L.I.S.N	SCHWARZ BECK	NSLK 8126	05055	2024-06-14	2025-06-13
Pulse Limiter	CYBERTEK	EM5010A	/	2023-09-27	2024-09-26
EMI test software	EZ -EMC	EZ	V1.1.42	/	/

20dB Bandwidth Frequency Tolerance					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
RF Test Software	TACHOY	RTS-01	V1.0.0	/	/
RF Sensor Unit	TACHOY	TR1029-2	000001	/	/
Signal Generator	Keysight	N5181A	MY48180415	2023-11-09	2024-11-08
Signal Generator	Keysight	N5182A	MY50143455	2023-11-09	2024-11-08
Spectrum Analyzer	Keysight	N9020A	MY53420323	2023-12-12	2024-12-11

Field Strength of The Fundamental Signal Emissions in frequency bands (below 30MHz) Emissions in frequency bands (30M-1GHz)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
EMI Test software	Farad	EZ -EMC	V1.1.42	/	/
Positioning Controller	/	MF-7802	/	/	/
Horn antenna	COM-POWER	AH-1840 (18-40G)	10100008	2023-04-05	2025-04-04
Loop antenna	ZHINAN	ZN30900C	ZN30900C	2024-06-14	2026-06-13
Cable(LF)#2	Schwarzbeck	/	/	2024-02-19	2025-02-18
Cable(LF)#1	Schwarzbeck	/	/	2024-02-19	2025-02-18
Cable(HF)#2	Schwarzbeck	AK9515E	96250	2024-03-20	2025-03-19
Cable(HF)#1	Schwarzbeck	SYV-50-3-1	/	2024-03-20	2025-03-19
Power amplifier(LF)	Schwarzbeck	BBV9743	9743-151	2024-06-12	2025-06-11
Power amplifier(HF)	Schwarzbeck	BBV9718	9718-282	2024-06-12	2025-06-11
Spectrum Analyzer	R&S	FSP30	1321.3008K40 -101729-jR	2024-06-12	2025-06-11
Test Receiver	R&S	ESCI 3	1166.5950K03 -101431-Jq	2024-06-13	2025-06-12
Horn Antenna	Sunol Sciences	DRH-118	A091114	2023-05-13	2025-05-12
Broadband Antenna	Sunol Sciences	JB6 Antenna	A090414	2023-05-21	2025-05-20

2.6 Statement Of The Measurement Uncertainty

Test Item	**Measurement Uncertainty**
Conducted Disturbance (0.15~30MHz)	±2.72dB
Occupied Bandwidth	±3.63%
RF conducted power	±0.733dB
Duty cycle	±3.1%
Conducted Spurious emissions	±1.98dB
Radiated Emission (Above 1GHz)	±5.46dB
Radiated Emission (Below 1GHz)	±5.79dB
Note: (1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

2.7 Authorizations

Company Name:	Shenzhen DACE Testing Technology Co., Ltd.
Address:	101-102 Building H5 & 1/F., Building H, Hongfa Science & Technology Park, Tangtou, Shiyan, Bao'an District, Shenzhen, Guangdong, China
Phone Number:	+86-13267178997
Fax Number:	86-755-29113252

Identification of the Responsible Testing Location

Company Name:	Shenzhen DACE Testing Technology Co., Ltd.

Address:	101-102 Building H5 & 1/F., Building H, Hongfa Science & Technology Park, Tangtou, Shiyan, Bao'an District, Shenzhen, Guangdong, China
Phone Number:	+86-13267178997
Fax Number:	86-755-29113252
FCC Registration Number:	0032847402
Designation Number:	CN1342
Test Firm Registration No.:	778666
A2LA Certificate Number:	6270.01

2.8 Announcement

(1) The test report reference to the report template version v0.

(2) The test report is invalid if not marked with the signatures of the persons responsible for preparing, reviewing and approving the test report.

(3) The test report is invalid if there is any evidence and/or falsification.

(4) This document may not be altered or revised in any way unless done so by DACE and all revisions are duly noted in the revisions section.

(5) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.

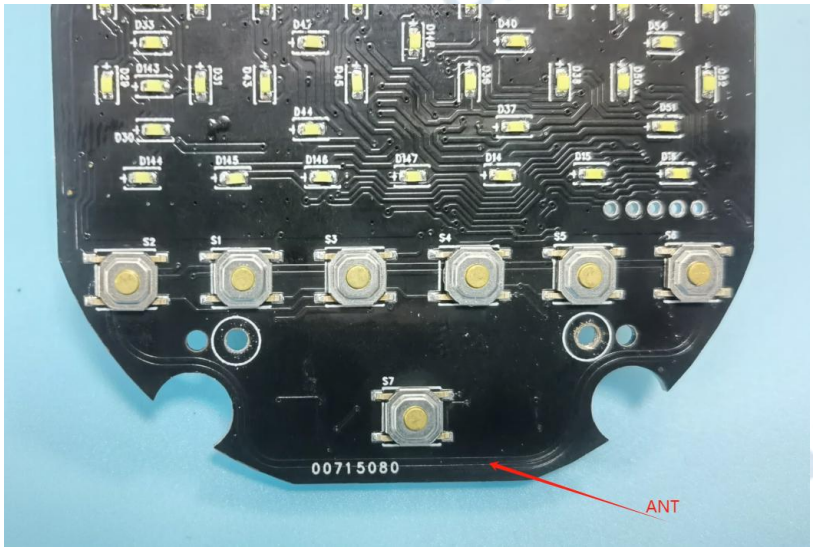
(6) We hereby declare that the laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant(information with "*" provided by applicant). the laboratory is not responsible for the accuracy of the information provided by the client. When the information provided by the customer may affect the effectiveness of the results, the responsibility lies with the customer, and the laboratory does not assume any responsibility.

3 Evaluation Results (Evaluation)

3.1 Antenna requirement

Test Requirement:	Refer to 47 CFR Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

3.1.1 Conclusion:



4 Radio Spectrum Matter Test Results (RF)

4.1 Conducted Emission at AC power line

Test Requirement:	Except as shown in paragraphs (b)and (c)of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN).
Test Limit:	

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

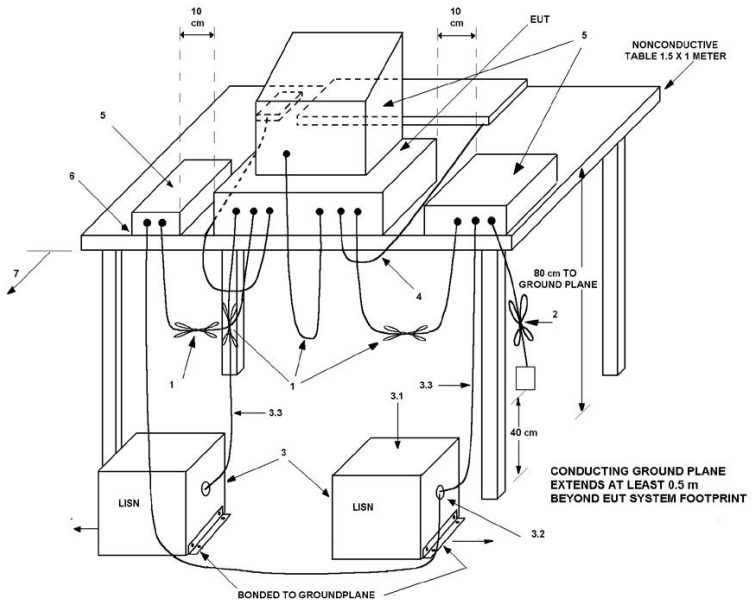
*Decreases with the logarithm of the frequency.

Test Method:	ANSI C63.10-2013 section 6.2
Procedure:	Refer to ANSI C63.10-2013 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices

4.1.1 E.U.T. Operation:

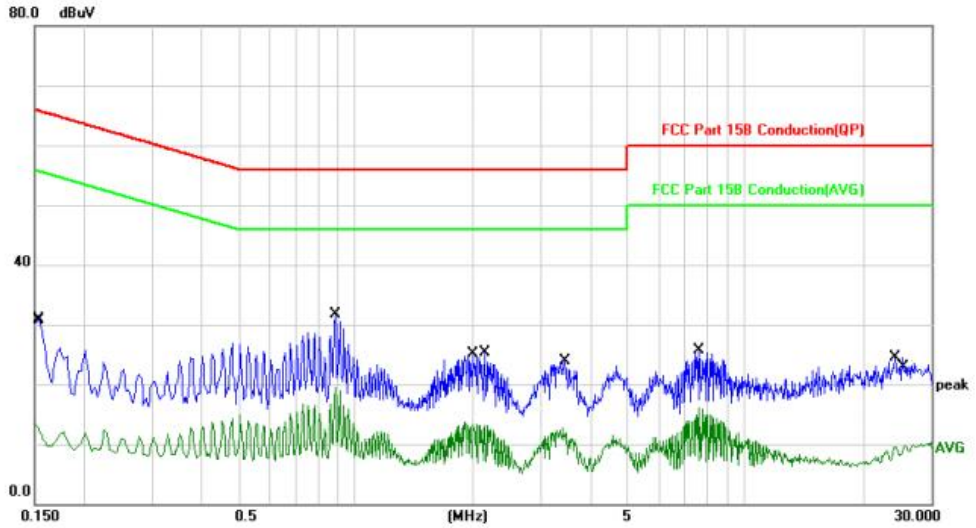
Operating Environment:					
Temperature:	23.7 °C	Humidity:	53 %	Atmospheric Pressure:	101 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

4.1.2 Test Setup Diagram:



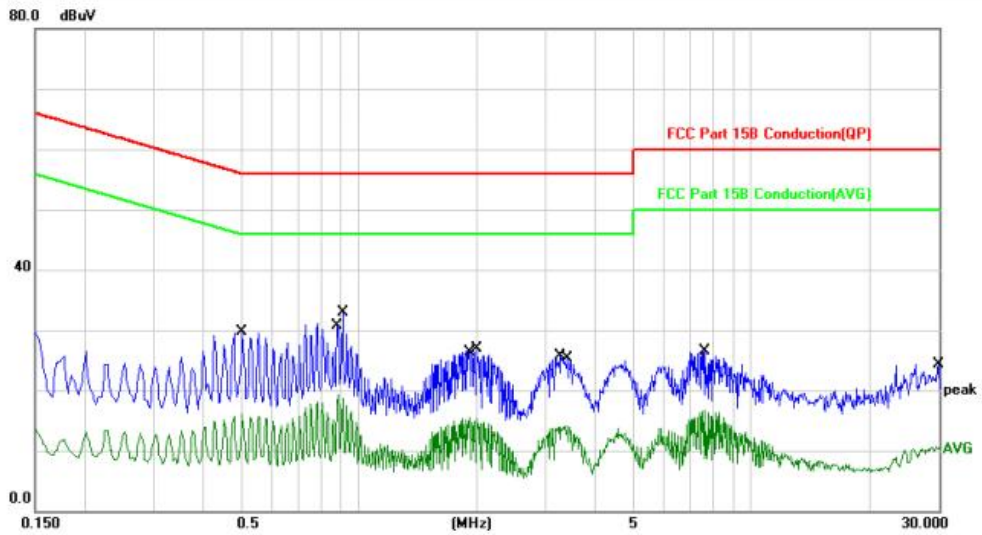
4.1.3 Test Data:

TM1 / Line: Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	3.31	10.10	13.41	55.99	-42.58	AVG	
2		0.1539	20.71	10.10	30.81	65.78	-34.97	QP	
3	*	0.8860	21.53	10.08	31.61	56.00	-24.39	QP	
4		0.8860	9.35	10.08	19.43	46.00	-26.57	AVG	
5		1.9980	3.34	9.99	13.33	46.00	-32.67	AVG	
6		2.1500	15.26	10.01	25.27	56.00	-30.73	QP	
7		3.4140	2.50	10.11	12.61	46.00	-33.39	AVG	
8		3.4380	13.70	10.12	23.82	56.00	-32.18	QP	
9		7.6340	15.47	10.25	25.72	60.00	-34.28	QP	
10		7.6340	5.90	10.25	16.15	50.00	-33.85	AVG	
11		24.1860	13.77	10.80	24.57	60.00	-35.43	QP	
12		25.8500	-1.21	10.88	9.67	50.00	-40.33	AVG	

TM1 / Line: Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.5060	19.58	10.08	29.66	56.00	-26.34	QP	
2		0.5060	5.93	10.08	16.01	46.00	-29.99	AVG	
3		0.8860	9.31	10.08	19.39	46.00	-26.61	AVG	
4	*	0.9100	22.78	10.08	32.86	56.00	-23.14	QP	
5		1.9220	5.52	10.00	15.52	46.00	-30.48	AVG	
6		1.9980	16.94	9.99	26.93	56.00	-29.07	QP	
7		3.2620	15.58	10.10	25.68	56.00	-30.32	QP	
8		3.4140	3.93	10.11	14.04	46.00	-31.96	AVG	
9		7.6340	16.22	10.25	26.47	60.00	-33.53	QP	
10		7.6340	6.54	10.25	16.79	50.00	-33.21	AVG	
11		29.6540	-0.50	11.12	10.62	50.00	-39.38	AVG	
12		29.8900	13.27	11.13	24.40	60.00	-35.60	QP	

NOTE:

1.An initial pre-scan was performed on the line and neutral lines with peak detector.

2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.

3.Mesurement Level = Reading level + Correct Factor, Over=Limit- Mesurement

4.2 20dB Bandwidth

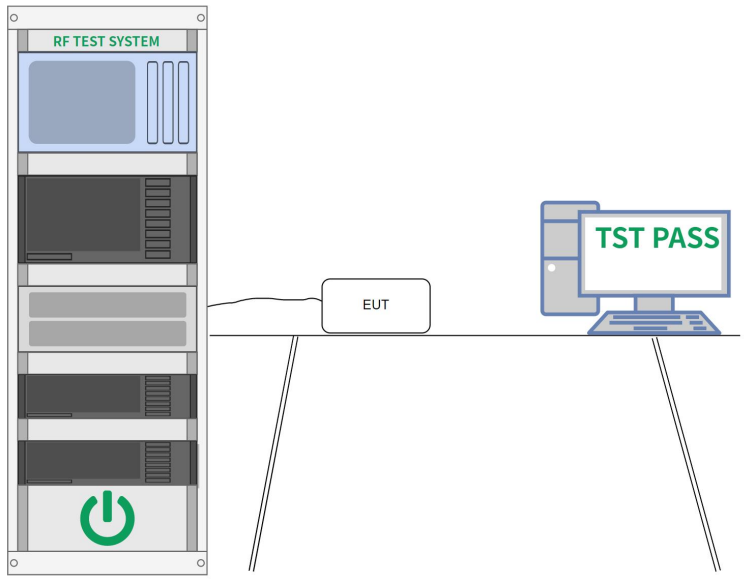
Test Requirement:	47 CFR 15.215(c)
Test Limit:	Refer to 47 CFR 15.215(c), intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.
Test Method:	ANSI C63.10-2013, section 6.9.2
Procedure:	a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW. b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW, unless otherwise specified by the applicable requirement. c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2. d) Steps a) through c) might require iteration to adjust within the specified tolerances. e) The dynamic range of the instrument at the selected RBW shall be more than 10 dB below the target “-xx dB down” requirement; that is, if the requirement calls for measuring the -20 dB OBW, the instrument noise floor at the selected RBW shall be at least 30 dB below the reference value. f) Set detection mode to peak and trace mode to max hold. g) Determine the reference value: Set the EUT to transmit an unmodulated carrier or modulated signal, as applicable. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value). h) Determine the “-xx dB down amplitude” using [(reference value) - xx]. Alternatively, this calculation may be made by using the marker-delta function of the instrument. i) If the reference value is determined by an unmodulated carrier, then turn the EUT modulation ON, and either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise, the trace from step g) shall be used for step j). j) Place two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “íxx dB down amplitude” determined in step h). If a marker is below this “-xx dB down amplitude” value,then it shall be as close as possible to this value. The occupied bandwidth is the frequency difference between the two markers. Alternatively, set a marker at the lowest frequency of the envelope of the spectral display, such that the marker is at or slightly below the “íxx dB down amplitude” determined in step h). Reset the marker-delta function and move the marker to the other side of the emission until the delta marker amplitude is at the same level as the reference marker amplitude. The marker-delta frequency reading at this point is the specified emission bandwidth. k) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

4.2.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.7 °C	Humidity:	53 %	Atmospheric Pressure:	101 kPa
Pretest mode:	TM1				

Final test mode:	TM1

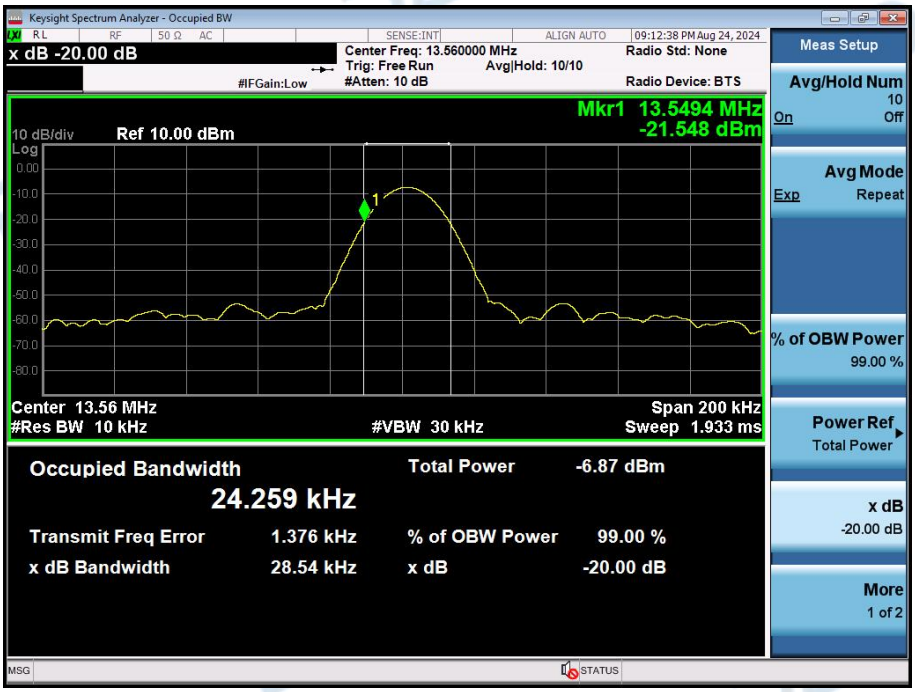
4.2.2 Test Setup Diagram:



4.2.3 Test Data:

Condition	Antenna	Modulation	Frequency (MHz)	20BW(KHz)	99%BW(KHz)
NVNT	ANT1	ASK	13.56	28.54	24.259

Occupied_Bandwidth_NVNT_ANT1_13.56



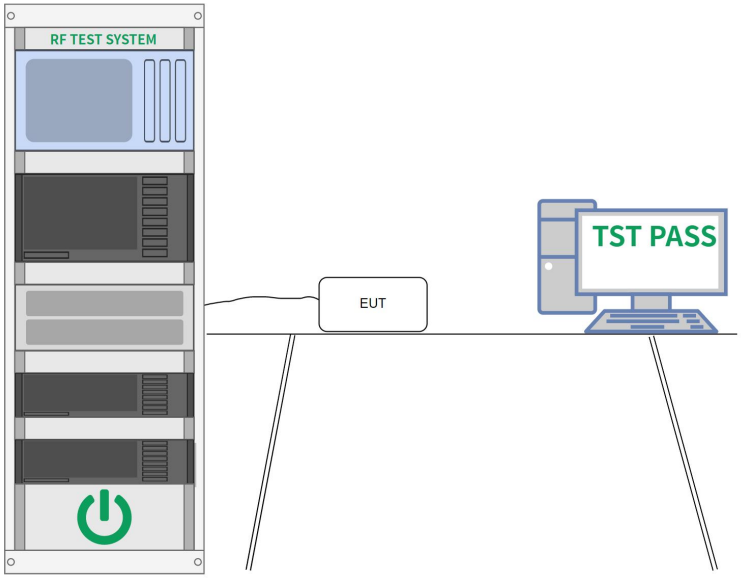
4.3 Frequency Tolerance

Test Requirement:	47 CFR 15.231(e)
Test Limit:	The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency over a temperature variation of −20 degrees to + 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.
Test Method:	ANSI C63.10-2013, Section 6.8
Procedure:	Refer to ANSI C63.10-2013, Section 6.8

4.3.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.7 °C	Humidity:	53 %	Atmospheric Pressure:	101 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

4.3.2 Test Setup Diagram:



4.3.3 Test Data:

Condition	Antenna	Frequency (MHz)	Test Frequency (MHz)	Frequency Tolerance (ppm)	Limit	Result
NVNT	ANT1	13.56	13.56025	18.767	±0.01%(100ppm)	Pass
NVLT	ANT1	13.56	13.56056	41.632	±0.01%(100ppm)	Pass
NVHT	ANT1	13.56	13.56055	40.441	±0.01%(100ppm)	Pass
LVNT	ANT1	13.56	13.56019	13.734	±0.01%(100ppm)	Pass
HVNT	ANT1	13.56	13.56029	21.130	±0.01%(100ppm)	Pass

4.4 Emission Mask

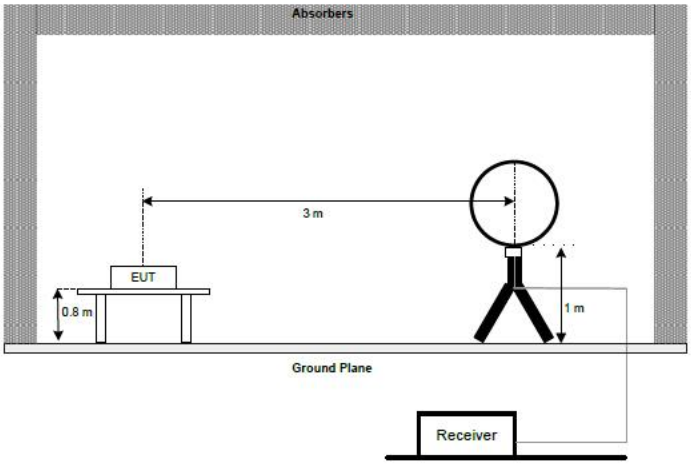
Test Requirement:	47 CFR 15.225(b), 15.225(c)
Test Limit:	(b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters. (c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.
Test Method:	ANSI C63.10-2013, Section 6.4
Procedure:	Refer to ANSI C63.10-2013, Section 6.4

Frequency (MHz)	Field strength (uV/m)	Distance (meters)	Level
13.553-13.567 MHz	15848	30	104dBuV/m
13.410–13.553 13.567–13.710	334	30	70.47
13.110–13.410 MHz 13.710–14.010 MHz	106	30	60.51
Outside 13.110-14.010 MHz	§ 15.209	§ 15.209.	

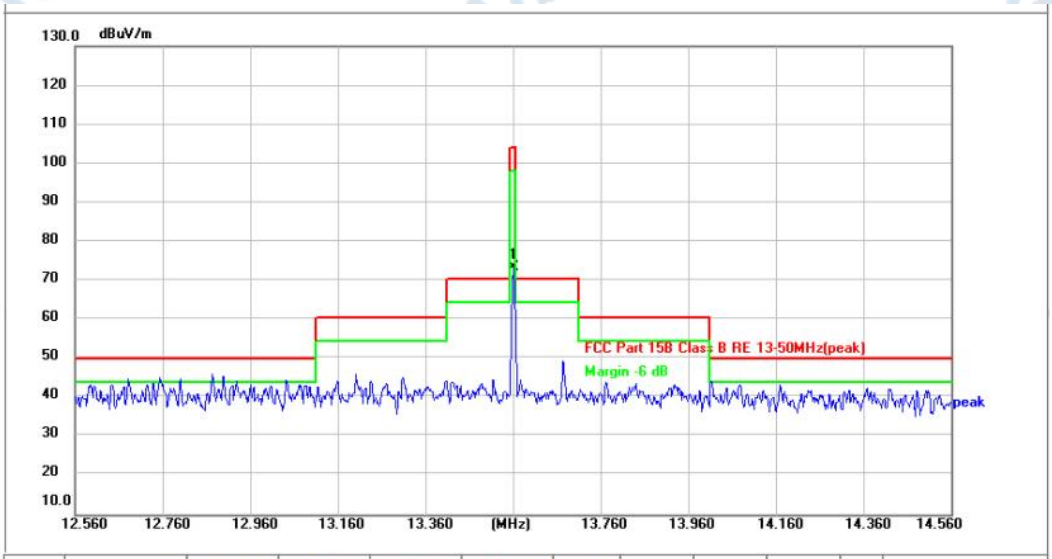
4.4.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.7 °C	Humidity:	53 %	Atmospheric Pressure:	101 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

4.4.2 Test Setup Diagram:



4.4.3 Test Data:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	13.5600	73.02	0.39	73.41	104.00	-30.59	peak	150		P	

4.5 Emissions in frequency bands (below 30MHz)

Test Requirement:	47 CFR 15.225(d)
Test Limit:	Refer to 47 CFR Part 15.225(d), The field strength of any emissions appearing outside of the 13.110–14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

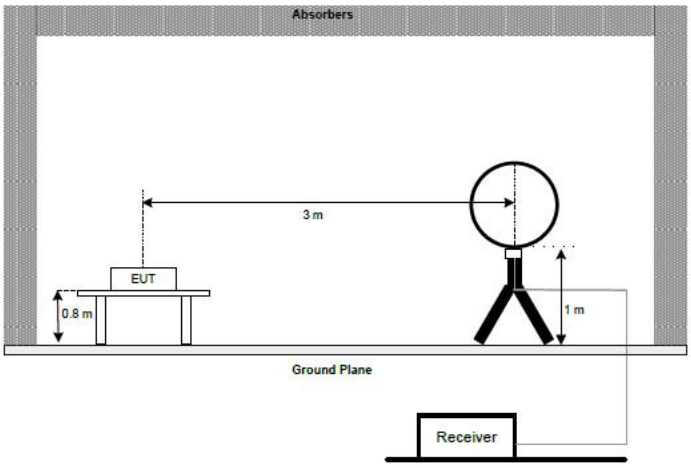
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.
In the emission table above, the tighter limit applies at the band edges.
The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
As shown in § 15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a)and (b)of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation under paragraph (b)of this section, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.

Test Method:	ANSI C63.10-2013, Section 6.4
Procedure:	Refer to ANSI C63.10-2013 section 6.4

4.5.1 E.U.T. Operation:

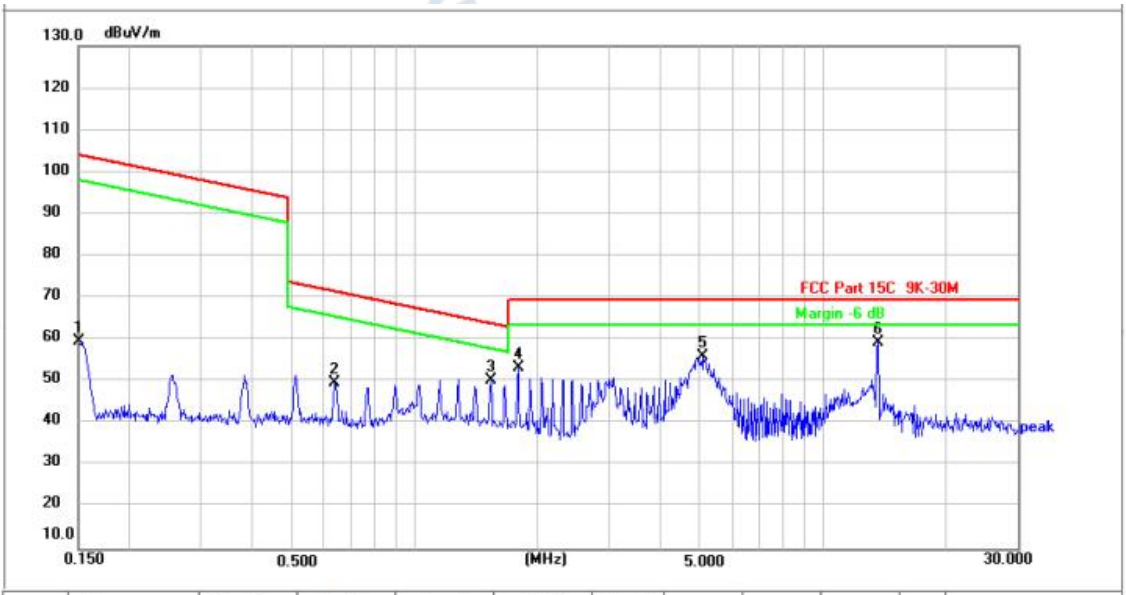
Operating Environment:					
Temperature:	23.7 °C	Humidity:	53 %	Atmospheric Pressure:	101 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

4.5.2 Test Setup Diagram:



4.5.3 Test Data:

TM1



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	0.1500	40.05	19.64	59.69	104.08	-44.39	peak	100		P	
2	0.6372	28.99	20.77	49.76	71.52	-21.76	peak	100		P	
3	1.5355	28.83	21.41	50.24	63.91	-13.67	peak	100		P	
4	1.7905	32.07	21.38	53.45	69.54	-16.09	peak	100		P	
5	5.0848	35.05	21.08	56.13	69.54	-13.41	peak	100		P	
6 *	13.6228	38.63	20.81	59.44	69.54	-10.10	peak	100		P	

4.6 Emissions in frequency bands (30M-1GHz)

Test Requirement:	47 CFR 15.225(d)
Test Limit:	Refer to 47 CFR Part 15.225(d), The field strength of any emissions appearing outside of the 13.110–14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.
In the emission table above, the tighter limit applies at the band edges.
The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
As shown in § 15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a) and (b) of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation under paragraph (b) of this section, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.

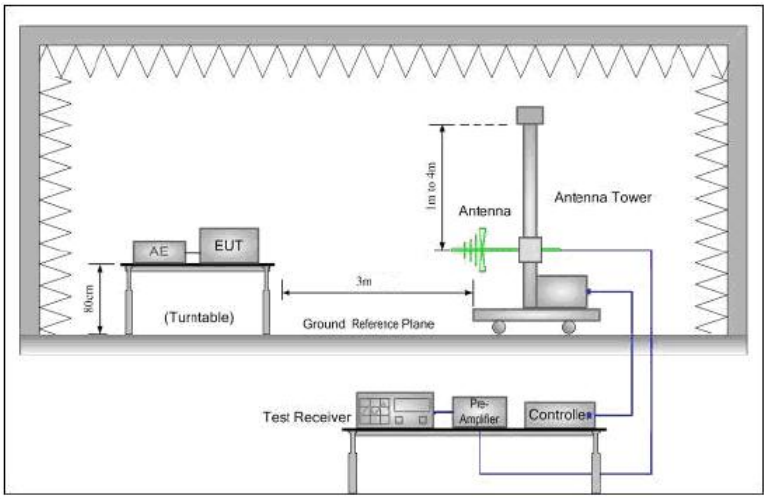
Test Method:	ANSI C63.10-2013, Section 6.5
Procedure:	a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel, the Highest channel. h. The radiation measurements are performed in X, Y, Z axis positioning for

	Transmitting mode, and found the X axis positioning which it is the worst case. i. Repeat above procedures until all frequencies measured was complete. Remark: 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor 2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. 3. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

4.6.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.7 °C	Humidity:	53 %	Atmospheric Pressure:	101 kPa
Pretest mode:	TM1				
Final test mode:	TM1				

4.6.2 Test Setup Diagram:

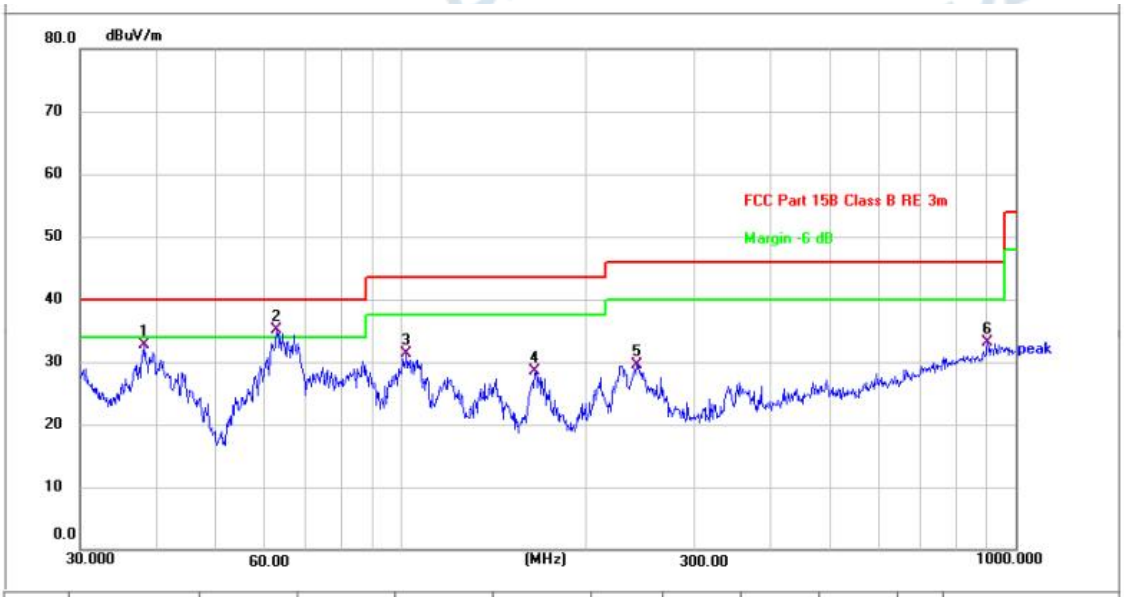


4.6.3 Test Data:

TM1 / Polarization: Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	103.4421	33.70	-6.96	26.74	43.50	-16.76	QP	100		P	
2	117.7725	33.52	-5.53	27.99	43.50	-15.51	QP	100		P	
3	143.3261	34.95	-5.87	29.08	43.50	-14.42	QP	100		P	
4	227.6906	38.52	-8.62	29.90	46.00	-16.10	QP	100		P	
5	365.5391	35.32	-4.34	30.98	46.00	-15.02	QP	100		P	
6 *	929.0082	28.79	5.81	34.60	46.00	-11.40	QP	100		P	

TM1 / Polarization: Vertical

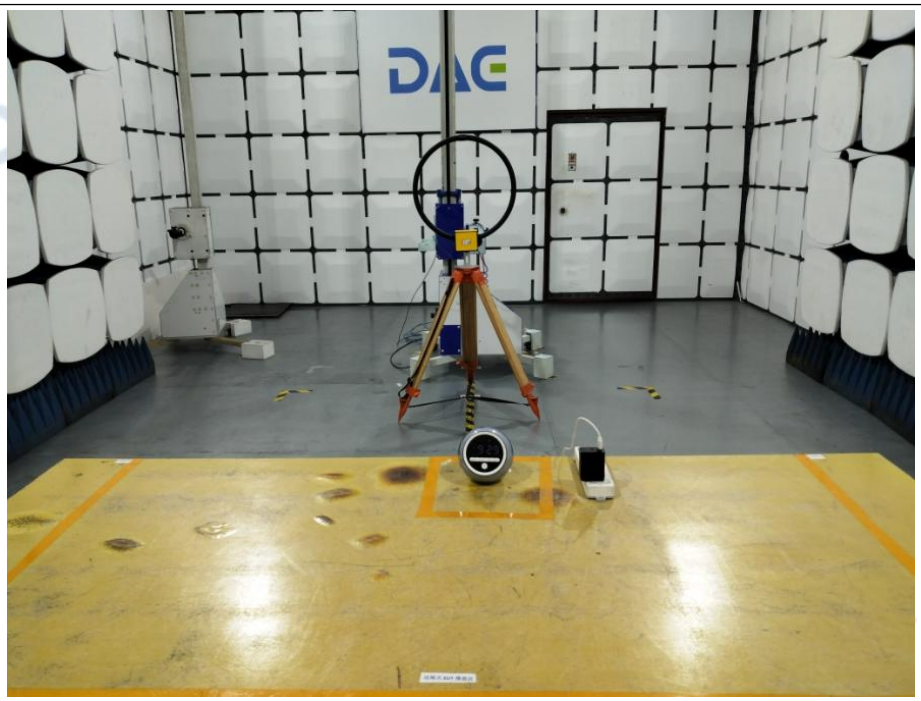
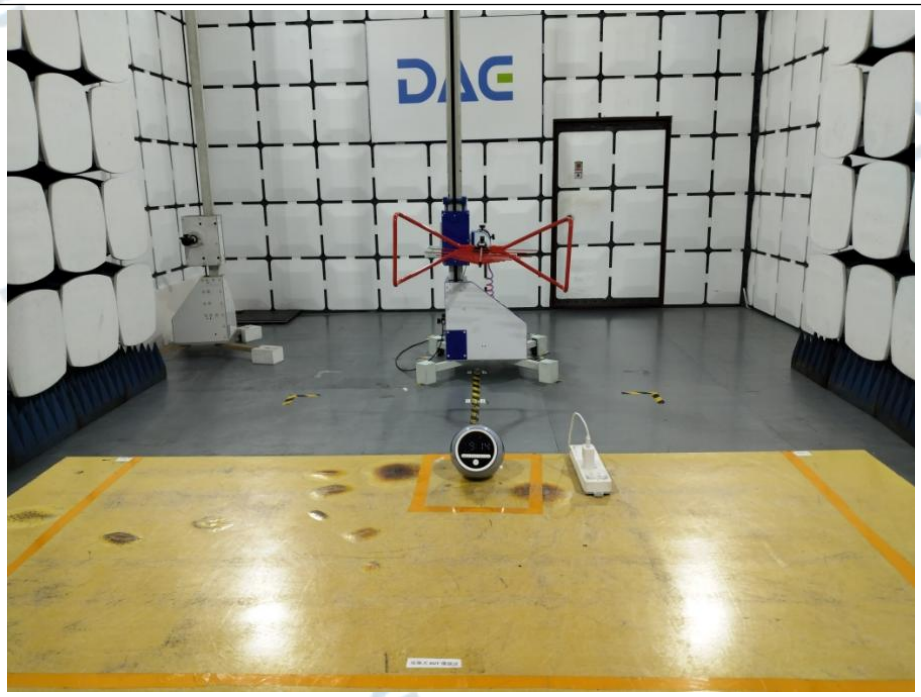


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	38.2120	37.74	-4.96	32.78	40.00	-7.22	QP	100		P	
2 *	62.6507	47.75	-12.71	35.04	40.00	-4.96	QP	100		P	
3	102.0014	38.79	-7.50	31.29	43.50	-12.21	QP	100		P	
4	165.4866	35.79	-7.38	28.41	43.50	-15.09	QP	100		P	
5	241.6763	37.68	-8.21	29.47	46.00	-16.53	QP	100		P	
6	900.1474	27.73	5.42	33.15	46.00	-12.85	QP	100		P	

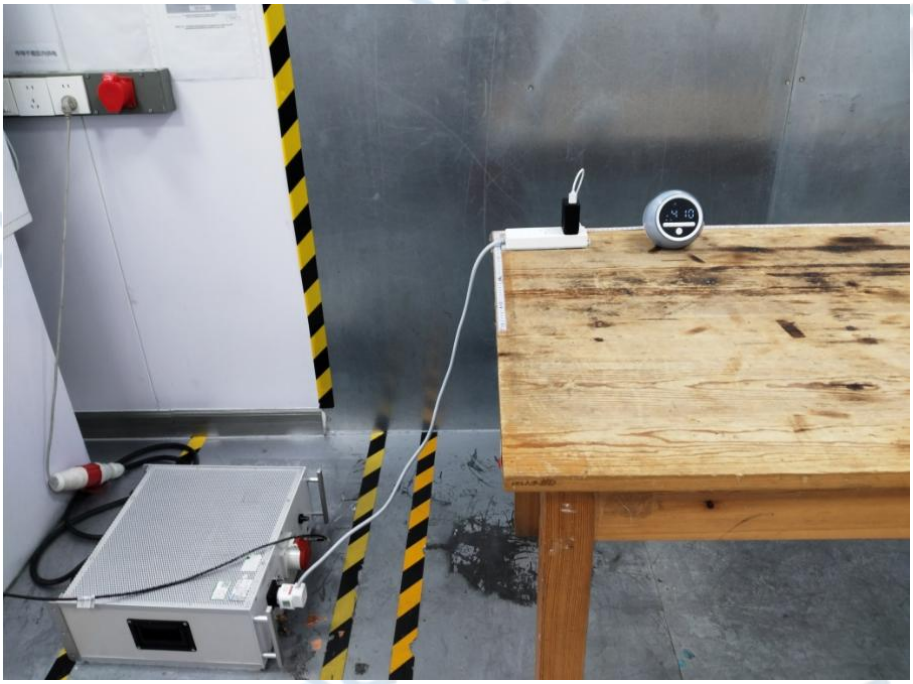
Remark: 1.Margin= Level – Limit; Level=Test receiver reading + correction factor

2.The test software will only record the worst test angle and height, and only the worst case will be recorded in the test report.

5 TEST SETUP PHOTOS

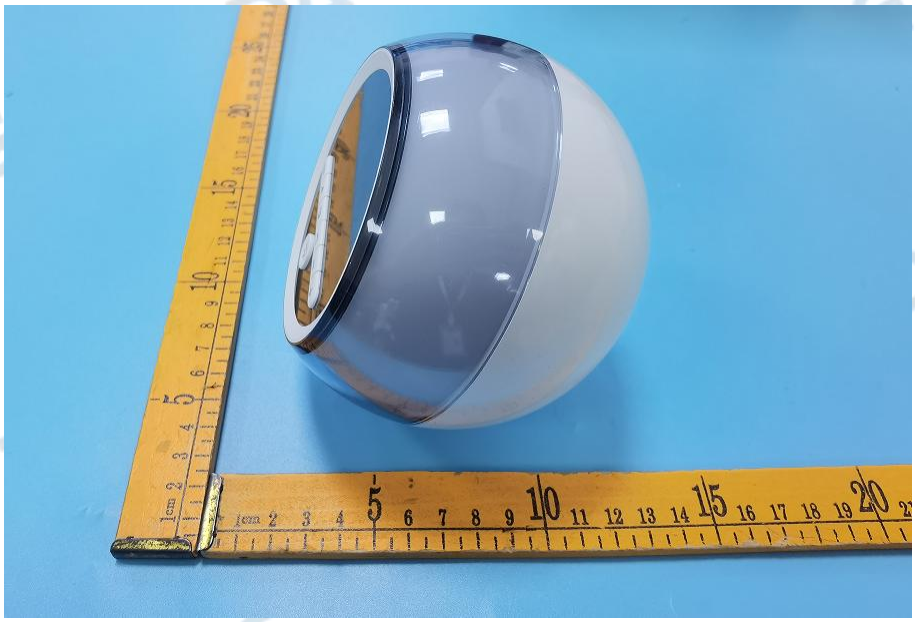
Emissions in frequency bands (below 30MHz)

Emissions in frequency bands (30M-1GHz)


Conducted Emission at AC power line

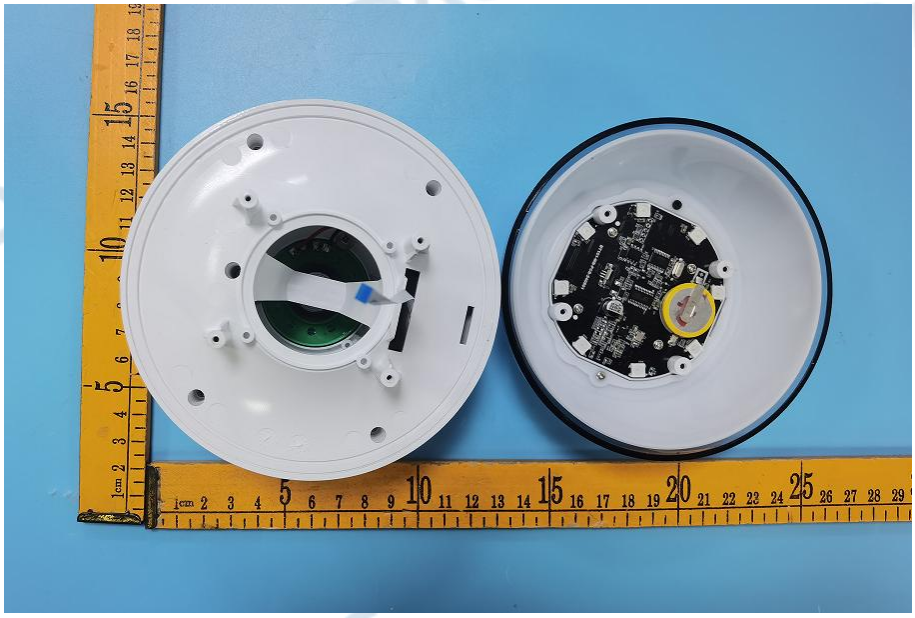


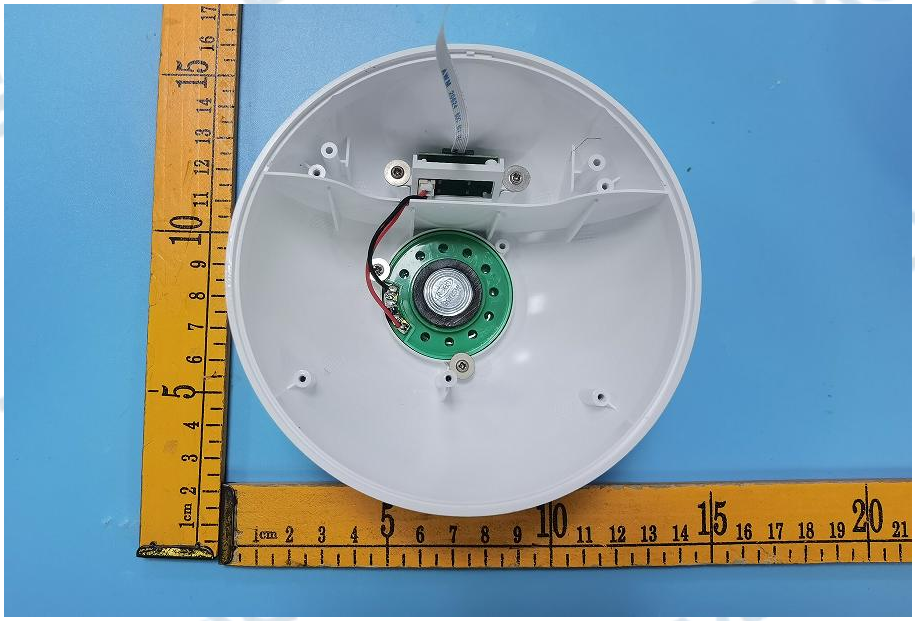
6 PHOTOS OF THE EUT

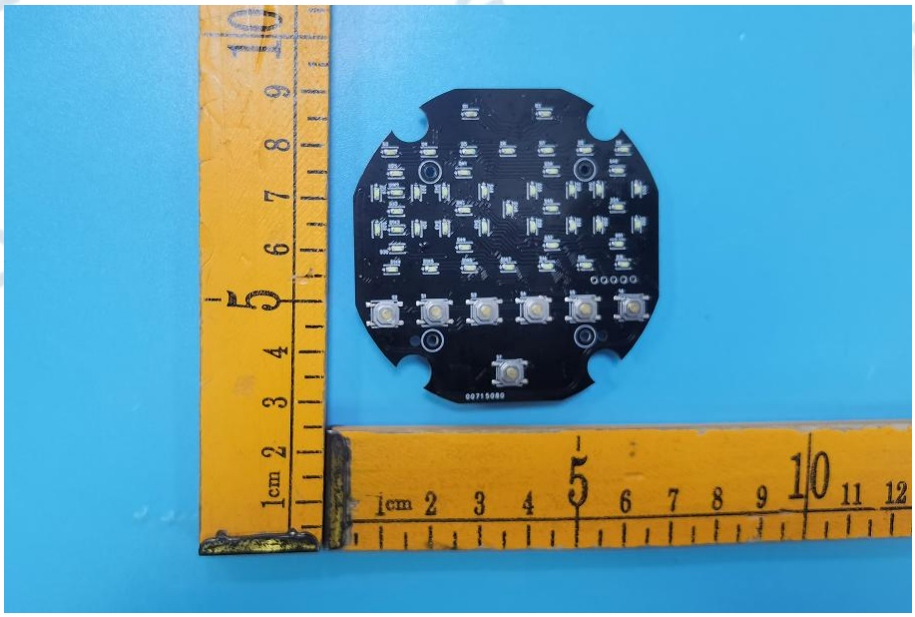
External

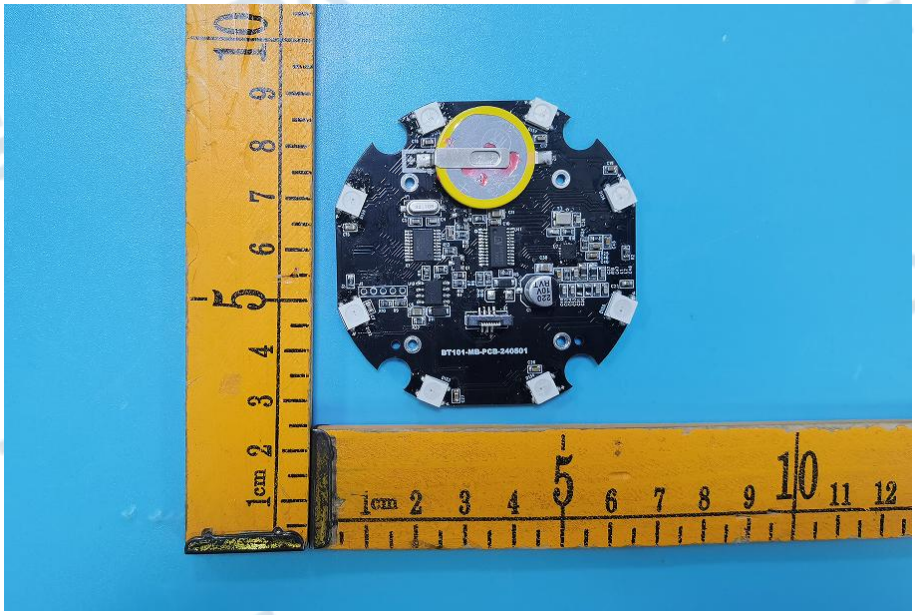


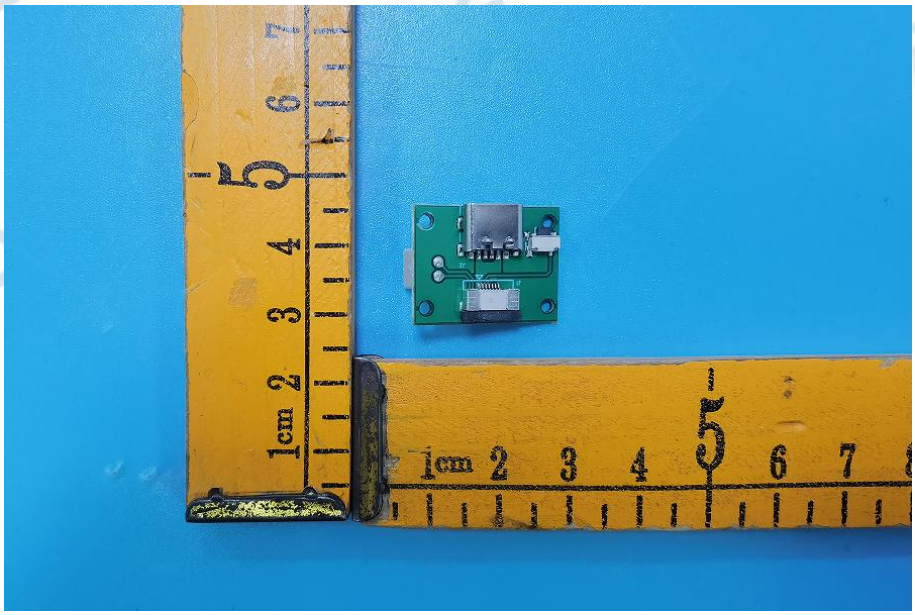
Internal

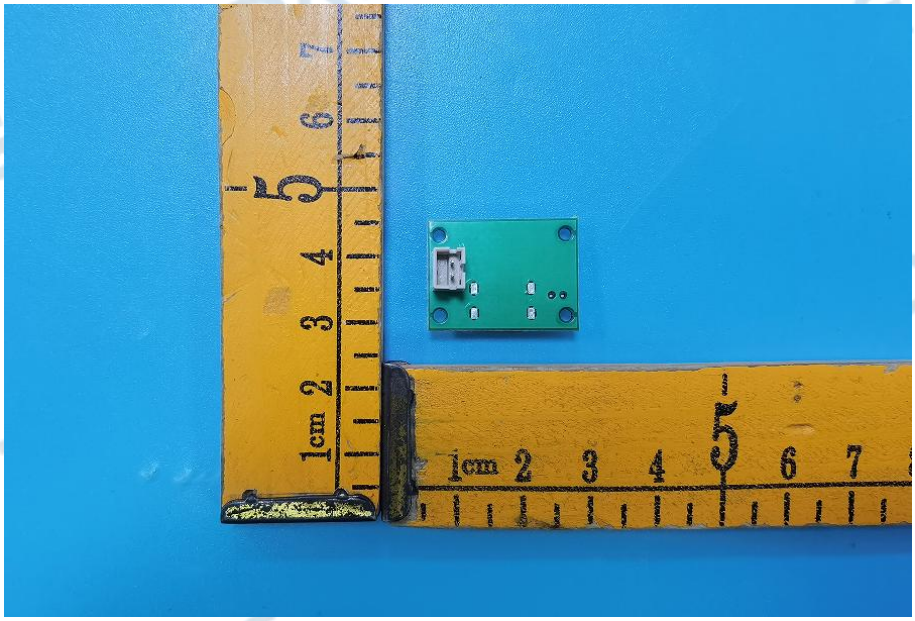


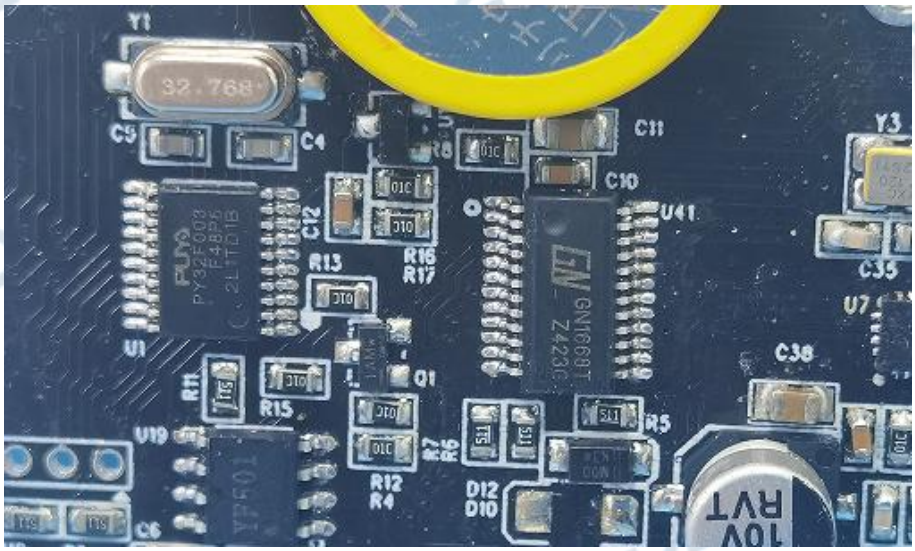












********** End of Report **********