

Report No.:	TW2403049-01E
Applicant:	RADIOSHACK WORLDWIDE CORP.
Product:	SPEAKER BOX
Model No.:	4001941, MAX-12Q
Trademark:	Radioshack
Test Standards:	FCC Part 15.249
Test result:	It is herewith confirmed and found to comply with the requirements set up by ANSI C63.10 & FCC Part 15 Subpart C, Paragraph 15.249 regulations for the evaluation of electromagnetic compatibility
Approved By	

Terry long

Terry Tang

Manager

Dated:

March 20, 2024

Results appearing herein relate only to the sample tested The technical reports is issued errors and omissions exempt and is subject to withdrawal at

# SHENZHEN TIMEWAY TESTING LABORATORIES

Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com



# **Special Statement:**

# FCC-Registration No.: 744189

The 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.: 744189.

# Industry Canada (IC) — Registration No.: 5205A

The EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5205A.

# A2LA (Certification Number:5013.01)

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number:5013.01

# CAB identifier: CN0033

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# 1.0 General Details

1.1 Test Lab Details

Name:SHENZHEN TIMEWAY TESTING LABORATORIES.Address:Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le<br/>Village, Nanshan District, Shenzhen, ChinaTelephone:(755) 83448688Fax:(755) 83442996Site on File + the Federal Communications Commission – United SatesRegistration + T44189For 3m Ane-tic Chamber

# 1.2 Applicant Details

Applicant:	RADIOSHACK WORLDWIDE CORP.
Address:	Millennium Tower, 18th floor Paseo General Escalon Number 3675 Col. Escalon, San
	Salvador, El Salvador

1.3 Description of EUT

Description of EOT	
Product:	SPEAKER BOX
Manufacturer:	MAXTRONIX CO., LTD.
Address:	NO.12, HEXIANG ROAD, WUJIN ECONOMIC DEVELOPMENT ZONE,
	CHANGZHOU, JIANGSU, CHINA
Trademark:	Radioshack
Model Number:	4001941
Additional Model Name	MAX-12Q
Rating:	Input: 100-240V~, 50/60Hz, 500mA
Battery:	DC12V, 5.0AH Lead-Acid Battery
Serial No.:	MS400194120240328115B
Hardware Version:	4001941-V1.1
Software Version:	4001941-V1.1
Operation Frequency:	2402-2480MHz
Modulation Type:	GFSK, 川/4DQPSK
Number of Channels:	79
Channel Separation:	1MHz
Antenna Designation	PCB antenna with gain 0dBi maximum (Get from the antenna specification)

1.4 Submitted Sample: 2 Samples

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1.5 Test Duration 2024-03-07 to 2024-03-20

1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB Radiated Emissions below 1GHz Uncertainty =4.7dB Radiated Emissions above 1GHz Uncertainty =6.0dB Conducted Power Uncertainty =6.0dB Occupied Channel Bandwidth Uncertainty =5% Conducted Emissions Uncertainty =3.6dB Note: The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

1.7 Test Engineer

Andy -Xing

The sample tested by

Print Name: Andy Xing

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2.0 Test Equipment					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	R&S	ESPI 3	100379	2023-07-14	2024-07-13
LISN	R&S	EZH3-Z5	100294	2023-07-14	2024-07-13
LISN	R&S	EZH3-Z5	100253	2023-07-14	2024-07-13
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2023-07-14	2024-07-13
Loop Antenna	EMCO	6507	00078608	2022-07-18	2025-07-17
Spectrum	R&S	FSIQ26	100292	2023-07-14	2024-07-13
Horn Antenna	A-INFO	LB-180400-KF	J211060660	2022-07-18	2025-07-17
Horn Antenna	R&S	BBHA 9120D	9120D-631	2022-07-18	2024-07-17
Power meter	Anritsu	ML2487A	6K00003613	2023-07-14	2024-07-13
Power sensor	Anritsu	MA2491A	32263	2023-07-14	2024-07-13
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2022-07-18	2025-07-17
9*6*6 Anechoic			N/A	2022-07-26	2025-07-25
EMI Test Receiver	RS	ESVB	826156/011	2023-07-14	2024-07-13
EMI Test Receiver	RS	ESCS 30	834115/006	2023-07-14	2024-07-13
Spectrum	HP/Agilent	E4407B	MY50441392	2023-07-14	2024-07-13
Spectrum	RS	FSP	1164.4391.38	2023-07-14	2024-07-13
RF Cable	Zhengdi	ZT26-NJ-NJ-8M/FA		2023-07-14	2024-07-13
RF Cable	Zhengdi	7m		2023-07-14	2024-07-13
Pre-Amplifier	Schwarebeck	BBV9743	#218	2023-07-14	2024-07-13
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2023-07-14	2024-07-13
LISN	SCHAFFNER	NNB42	00012	2023-07-14	2024-07-13
ESPI Test Receiver	R&S	ESPI 3	100379	2023-07-14	2024-07-13
LISN	R&S	EZH3-Z5	100294	2023-07-14	2024-07-13

#### 2.2 Automation Test Software

For Conducted Emission Test

Name	Version
EZ-EMC	Ver.EMC-CON 3A1.1

#### For Radiated Emissions

Name	Version
EMI Test Software BL410-EV18.91	V18.905
EMI Test Software BL410-EV18.806 High Frequency	V18.06

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adopt any other remedies which may be appropriate.



The EUT has been tested according to the following specifications:

### **3.0** Technical Details

#### 3.1 Summary of test results

The EOT has been tested according to u	te tonowing speer	neations.	
Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.203	Antenna Requirement	Pass	Complies
FCC Part 15, Paragraph 15.207	Conducted Emission Test	Pass	Complies
FCC Part 15 Subpart C Paragraph 15.249(a) & 15.249(b) Limit	Field Strength of Fundamental	Pass	Complies
FCC Part 15, Paragraph 15.209	Radiated Emission Test	Pass	Complies
FCC Part 15 Subpart C Paragraph 15.249(d) Limit	Band Edge Test	Pass	Complies
FCC Part 15.215(c)	20dB bandwidth	Pass	Complies

### 3.2 Test Standards

FCC Part 15 Subpart C, Paragraph 15.249, ANSI C63.4 :2014 and ANSI C63.10 :2013

# 4.0 EUT Modification

No modification by SHENZHEN TIMEWAY TESTING LABORATORIES

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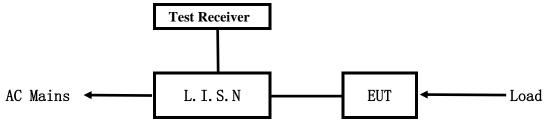
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# 5.0 Power Line Conducted Emission Test

5.1 Schematics of the test

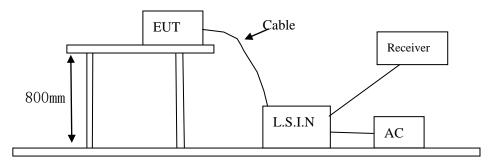


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2013. The Frequency spectrum from 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.10–2013. Test Voltage: 120V~, 60Hz

Block diagram of Test setup



### 5.3 Configuration of the EUT

The EUT was configured according to ANSI C63.10-2013. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below. 79 channels are provided to the EUT

A.	EUT
1 1.	<b>DU</b> I

Device	Manufacturer	Model	FCC ID
SPEAKER BOX	MAXTRONIX CO., LTD.	4001941, MAX-12Q	2BDUR-4001941

# B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

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### C. Peripherals

Device	Manufacturer	Model	Rating
N/A			

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.10-2013

- A Setup the EUT and simulators as shown on follow
- B Enable AF signal and confirm EUT active to normal condition

Frequency	Limits (dB µ V)					
(MHz)	Quasi-peak Level	Aver ge Level				
$0.15~\sim~0.50$	66.0~56.0*	56.0~46.0*				
$0.50~\sim~5.00$	56.0	46.0				
$5.00~\sim~30.00$	60.0	50.0				

5.5 Power line conducted Emission Limit according to Paragraph 15.207

Notes: 1. \*Decreasing linearly with logarithm of frequency.2. The tighter limit shall apply at the transition frequencies

- 2. The ugner mult shall apply at the transition freq
- 5.6 Test Results:

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A:



Conducted Emission on Live Terminal (150kHz to 30MHz)

**EUT Operating Environment** Temperature: 25℃ Humidity: 65%RH Atmospheric Pressure: 101 kPa EUT set Condition: Communication by BT **Results: Pass** Please refer to following diagram for individual dBu¥ 80.0 70 FCC Part15 CE-Class C\_QP 60 FCC Part 5 CE-Class C\_AVe 50 40 30 peal 20 AVG 10 0 -10 -20 0.150 (MHz) 30.000

-								
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1539	44.92	9.78	54.70	65.79	-11.09	QP	Ρ
2	0.1539	22.24	9.78	32.02	55.79	-23.77	AVG	Р
3	0.2319	44.71	9.75	54.46	62.38	-7.92	QP	Р
4	0.2319	17.17	9.75	26.92	52.38	-25.46	AVG	Ρ
5	0.3035	30.91	9.76	40.67	60.15	-19.48	QP	Р
6	0.3035	15.21	9.76	24.97	50.15	-25.18	AVG	Ρ
7	0.3177	38.10	9.76	47.86	59.77	-11.91	QP	Ρ
8	0.3177	16.13	9.76	25.89	49.77	-23.88	AVG	Р
9	0.4230	34.91	9.76	44.67	57.39	-12.72	QP	Р
10	0.4230	9.39	9.76	19.15	47.39	-28.24	AVG	Ρ
11	0.5049	27.38	9.77	37.15	56.00	-18.85	QP	Ρ
12	0.5049	18.21	9.77	27.98	46.00	-18.02	AVG	Р

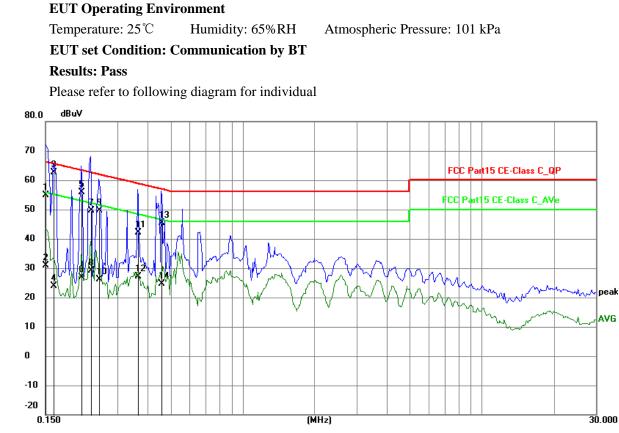
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B:



Conducted Emission on Neutral Terminal (150kHz to 30MHz)



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1500	45.12	9.79	54.91	66.00	-11.09	QP	Р
2	0.1500	21.10	9.79	30.89	56.00	-25.11	AVG	Р
3	0.1617	52.73	9.78	62.51	65.38	-2.87	QP	Р
4	0.1617	14.19	9.78	23.97	55.38	-31.41	AVG	Р
5	0.2124	46.23	9.75	55.98	63.11	-7.13	QP	Р
6	0.2124	17.09	9.75	26.84	53.11	-26.27	AVG	Р
7	0.2319	39.81	9.75	49.56	62.38	-12.82	QP	Р
8	0.2319	19.29	9.75	29.04	52.38	-23.34	AVG	Р
9	0.2514	39.84	9.75	49.59	61.71	-12.12	QP	Р
10	0.2514	16.46	9.75	26.21	51.71	-25.50	AVG	Р
11	0.3645	32.29	9.76	42.05	58.63	-16.58	QP	Р
12	0.3645	17.49	9.76	27.25	48.63	-21.38	AVG	Р
13	0.4581	35.52	9.77	45.29	56.73	-11.44	QP	Р
14	0.4581	14.75	9.77	24.52	46.73	-22.21	AVG	Р

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# 6 Radiated Emission Test

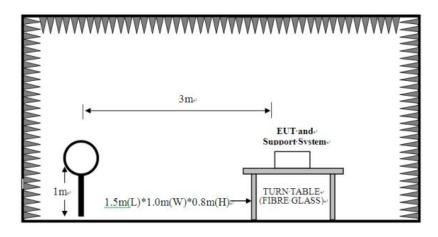
- 6.1 Test Method and test Procedure:
- The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10-2013.
- (3) The frequency spectrum from 9kHz to 25 GHz was investigated. The frequency spectrum is set as follows:

Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
Above IGHZ	Peak	1MHz	10Hz	Average

(Note: for Fundamental frequency radiated emission measurement, RBW=3MHz, VBW=10MHz). Measurements were made at 3 meters.

- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) The antenna polarization: Vertical polarization and Horizontal polarization.Block diagram of Test setup

For radiated emissions from 9kHz to 30MHz

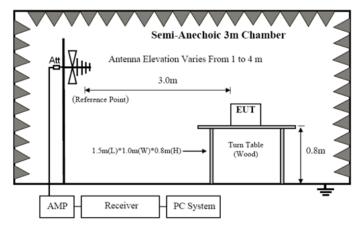


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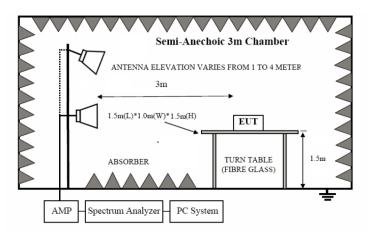
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For radiated emissions from 30MHz to1GHz



For radiated emissions above 1GHz



- 6.2 Configuration of the EUT Same as section 5.3 of this report
- 6.3 EUT Operating Condition Same as section 5.4 of this report.
- 6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

A FCC Part 15 Subp	art C Para	agraph 15.249(a) Limit		
Fundamental Frequency	Field Stre	ength of Fundamental (3m)	Field S	trength of Harmonics (3m)
(MHz)	mV/m	dBuV/m	uV/m	dBuV/m

### A FCC Part 15 Subpart C Paragraph 15.249(a) Limit

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24	400-2483.5	50	94 (Average)	114 (Peak)	500	54 (Average)	74 (Peak)
Note:	1. RF Field Streng	gth (dBuV)	$= 20 \log \text{RF Volt}$	age (uV)			

2.Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

### B. Frequencies in restricted band are complied to limit on Paragraph 15.209.

1	<b>I I I</b>	
Frequency Range (MHz)	Distance (m)	Field strength (dB $\mu$ V/m)
0.009-0.490	3	20log(2400/F(kHz)) +40log (300/3)
0.490-1.705	3	20log(24000/F(kHz)) +40log (30/3)
1.705-30	3	69.5
30-80	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note:

1. RF Voltage (dBuV) =  $20 \log \text{RF}$  Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT

4. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz.As to 1G-25G, the final emission level got using PK. For fundamental measurement, PK detector used.

5. The two modulation modes of GFSK and Pi/4D-QPSK were tested. And only the worst case was recorded in the test report. GFSK was the worst case.

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100

100

Horizontal

Horizontal

Pass

Pass

298.00

100.00

# 6.5 Test result

# A Fundamental & Harmonics Radiated Emission Data

Please refer to the following test plots for details: Low Channel-2402MHz

#### Horizontal

2402

4802.799

93.71

50.94

-3.57

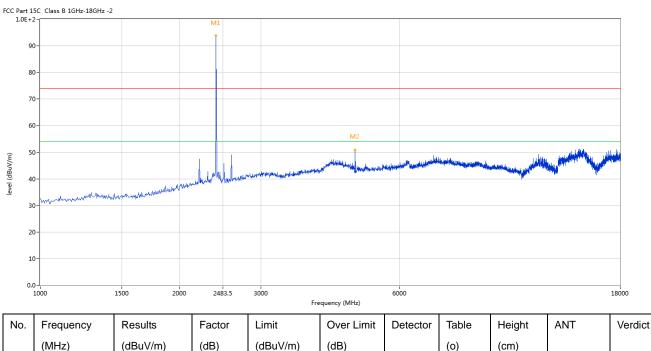
3.12

114.0

74.0

1

2



-20.29

-23.06

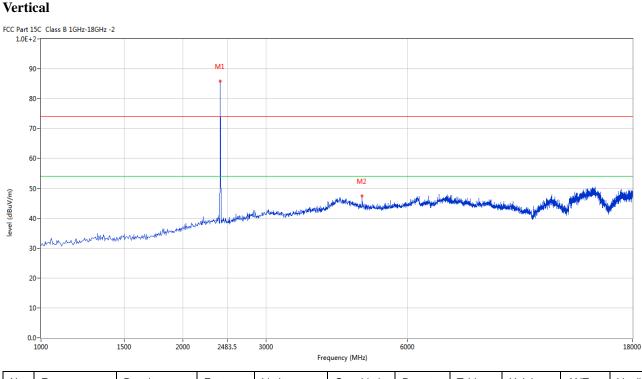
Peak

Peak

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No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2402	85.79	-3.57	114.0	-28.21	Peak	201.00	100	Vertical	Pass
2	4802.799	47.40	3.12	74.0	-26.60	Peak	360.00	100	Vertical	Pass

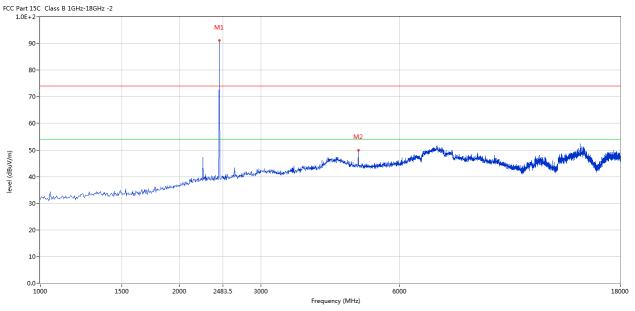
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# $Please \ refer \ to \ the \ following \ test \ plots \ for \ details: \ Middle \ Channel-2440 MHz$

#### Horizontal

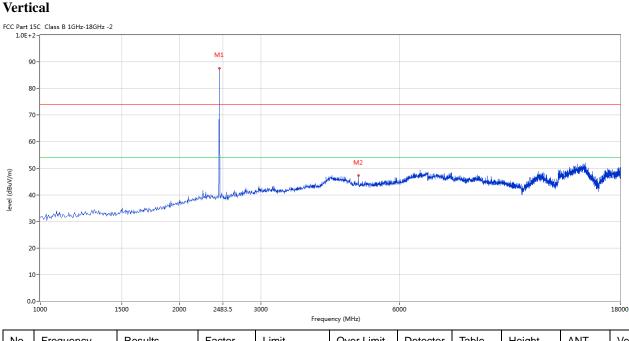


No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2441	91.06	-3.57	114.0	-22.94	Peak	293.00	100	Horizontal	Pass
2	4883.529	49.94	3.20	74.0	-24.06	Peak	284.00	100	Horizontal	Pass

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No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2441	87.60	-3.57	114.0	-26.40	Peak	43.00	100	Vertical	Pass
2	4883.529	47.24	3.20	74.0	-26.76	Peak	1.00	100	Vertical	Pass

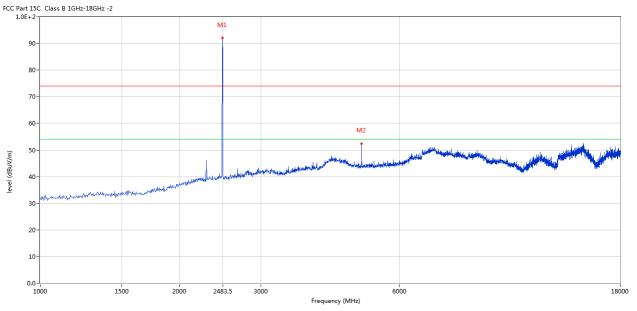
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# Please refer to the following test plots for details: High Channel-2480MHz

#### Horizontal

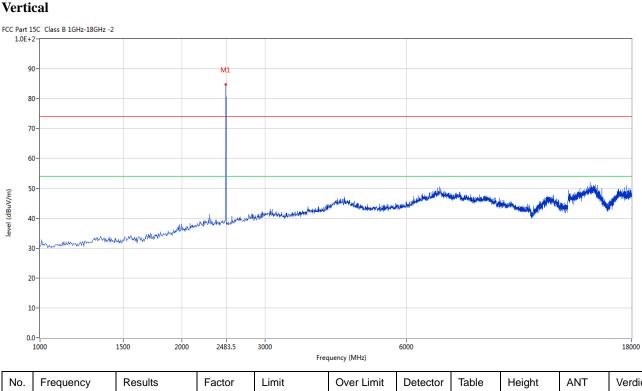


No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2480	92.01	-3.57	114.0	-21.99	Peak	272.00	100	Horizontal	Pass
2	4960.010	52.39	3.36	74.0	-21.61	Peak	263.00	100	Horizontal	Pass

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No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2480	84.73	-3.57	114.0	-29.27	Peak	53.00	100	Vertical	Pass

Note: (1) Emission Level = Reading Level + Antenna Factor + Cable Loss-Amplifier

- (2) Margin=Emission-Limits
- (3) According to section 15.35(b), the peak limit is 20dB higher than the average limit
- (4) For test purpose, keep EUT continuous transmitting
- (5) For emission above 18GHz and Below 30MHz, It is only the floor noise and less than the limit for more than 20dB. No necessary to take down.
- (6) the measured PK value less than the AV limit.

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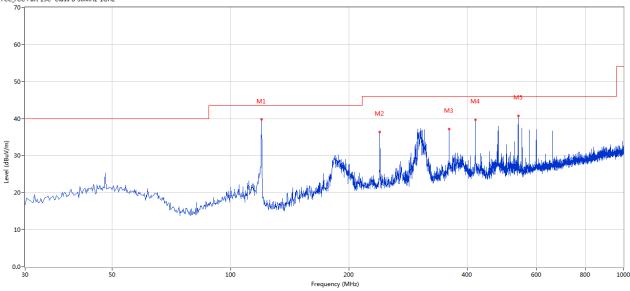
# B. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

# Results: Pass

Please refer to following diagram for individual

FCC\_FCC Part 15C Class B 30MHz-1GHz



No.	Frequency	Results	Factor	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	119.945	39.80	-15.32	43.5	3.70	Peak	34.00	100	Horizontal	Pass
2	239.953	36.45	-12.33	46.0	9.55	Peak	237.00	100	Horizontal	Pass
3	359.960	43.16	-9.46	46.0	2.84	Peak	209.00	100	Horizontal	Pass
4	419.843	45.65	-8.23	46.0	0.35	Peak	253.00	100	Horizontal	Pass
5	539.850	40.78	-6.51	46.0	5.22	Peak	99.00	100	Horizontal	Pass

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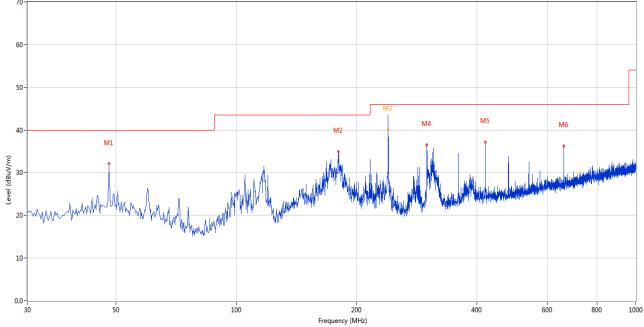
# Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

#### **Results:** Pass

Please refer to following diagram for individual

FCC\_FCC Part 15C Class B 30MHz-1GHz 70-



No.	Frequency	Results	Factor	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	47.941	32.10	-11.30	40.0	7.90	Peak	345.00	100	Vertical	Pass
2	180.070	34.92	-15.31	43.5	8.58	Peak	204.00	100	Vertical	Pass
3*	239.953	40.14	-12.33	46.0	5.86	QP	173.00	100	Vertical	Pass
4	300.077	36.57	-11.03	46.0	9.43	Peak	214.00	100	Vertical	Pass
5	419.843	37.24	-8.23	46.0	8.76	Peak	46.00	100	Vertical	Pass
6	659.858	36.27	-4.64	46.0	9.73	Peak	97.00	100	Vertical	Pass

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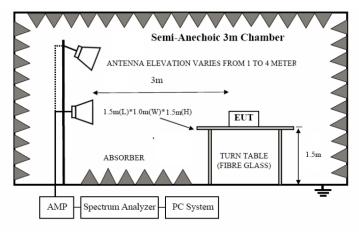


# 7. Band Edge

### 7.1 Test Method and test Procedure:

- The EUT was tested according to ANSI C63.10–2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) Set Spectrum as RBW=1MHz, VBW=3MHz and Peak detector used for PK value. RBW=1MHz, VBW=10Hz and Peak detector used for AV value.
- (3) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (4) The antenna polarization: Vertical polarization and Horizontal polarization.

# 7.2 Radiated Test Setup



For the actual test configuration, please refer to the related items - Photos of Testing

# 7.3 Configuration of the EUT

Same as section 5.3 of this report

# 7.4 EUT Operating Condition

Same as section 5.4 of this report.

# 7.5 Band Edge Limit

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

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### 7.6 Test Result

]	Product:		SPEAKE	ER BOX		Polar	ity		Horizontal	
	Mode	H	Keeping Tr	ansmitting		Test Vo	ltage		DC12V	
Te	mperature		24 de	g. C,		Humic	lity		56% RH	
Te	est Result:		Pa	SS						
FCC Pai 1.0	rt 15C Class B 1GHz-18C E+2- 90- 80- 70- 60-	iHz -2							M1	
	50-						N	I4M5	/	
level (dBuV/m)	30-20-	ulasi aka shekarati e vi kali ye dash	ng Mulana ang Kalana ya katang kana kat	likteri de ul hisposoto de la constranciji	r, i sedi i ili orta (s. edu i tragoning	information dit.		hill bollow of		
level (dBuV/m)	30-	under and a social state of the	ngh la isan jilin da isan jing d	likken den besteren och som den mys	Frequency (MHz)	41559 an 4166 an 4166.	M3			2410
	30-	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)		Detector	Table (0)	Height (cm)	ANT	1
No.	30- 20- 10- 2350 Frequency	Results	Factor	Limit	Frequency (MHz)	inhipanishkaranikh	Table	-	ANT	1
No. 1	30- 20- 10- 2350 Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Frequency (MHz) Over Limit (dB)	Detector	Table (o)	(cm)		Verdi N/A
No. 1	30- 20- 10- 2350 Frequency (MHz) 2402.247	Results (dBuV/m) 93.04	Factor (dB) -3.57	Limit (dBuV/m) 74.0	Frequency (MHz) Over Limit (dB) 19.04	Detector	Table (0) 264.00	(cm) 100	Horizontal	Verdi N/A
No. 1 2 <sup>2**</sup>	30- 20- 10- 2350 Frequency (MHz) 2402.247 2400.000	Results (dBuV/m) 93.04 62.88	Factor (dB) -3.57 -3.57	Limit (dBuV/m) 74.0 74.0	Frequency (MHz) Over Limit (dB) 19.04 -11.12	Detector Peak Peak	Table (o) 264.00 101.00	(cm) 100 100	Horizontal Horizontal	Verdi N/A Pass
No.	30- 20- 10- 2350 Frequency (MHz) 2402.247 2400.000 2400.000	Results (dBuV/m) 93.04 62.88 48.81	Factor (dB) -3.57 -3.57 -3.57	Limit (dBuV/m) 74.0 74.0 54.0	Frequency (MHz) Over Limit (dB) 19.04 -11.12 -5.19	Detector Peak Peak AV	Table (o) 264.00 101.00	(cm) 100 100 100	Horizontal Horizontal Horizontal	Pass Pass

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Product:			SPEAKER BOX			Detector		Vertical		
Mode		Keeping Transmitting				Test Voltage		DC12V		
Temperature		24 deg. C,				Humidity		56% RH		
Test Result:			Pass							
C Part : 1.0E+	15C Class B 1GHz-18GHz +2-	2 -2								
g	90 -								M1	
8	80-							/		
7	70-							/		
e	50 -								-	
. 5	50-							M2		
						M	3		1	М. ш.
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3 2 1	20-	<u>Liédovak</u> konoveletet	4446-0-946-0-96-0-96-4-96-4-96-4-96-4-96	ang din gradin Man Nation States and an ang Phat	Frequency (MHz)		3 aibiletegan attallerg	uillineald -		
3 2 1 0	20	Results	Factor	Limit			3 alata da la	Height	ANT	24
3 2 1 0	20				Frequency (MHz)	nd/de.side.side.side.side.side.side.side.si	alkilligen attalise	Height (cm)	ANT	24
3 2 1 0 NO.	20- 10- 2350 Frequency	Results	Factor	Limit	Frequency (MHz)	nd/de.side.side.side.side.side.side.side.si	Table	•	ANT	24
2 1 0 No.	00- 20- 10- 2350 Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Frequency (MHz) Over Limit (dB)	Detector	Table (o)	(cm)		24 Verdic
2	20- 10- 2350 Frequency (MHz) 2401.782	Results (dBuV/m) 85.71	Factor (dB) -3.57	Limit (dBuV/m) 74.0	Frequency (MHz) Over Limit (dB) 11.71	Detector	Table (o) 109.00	(cm) 100	Vertical	24 Verdic N/A

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	Product:		SPEAK	KER BOX		P	Polarity Horizo				
Mode			Keeping	Transmitting		Tes	Test Voltage		DC12V		
Temperature			24 deg. C,				Humidity		56% RH		
Test Result:			I	Pass							
CC Part 1 1.0E+	15C Class B 1GHz-18GHz	-2									
9	30-		M	1 NA							
7	70-			- M							
	50 -		N								
0			(	1912							
_	50-	M	[	1/12	North New York						
_		and the second s	[	172	an and a second se	adalatina di Shatima mana dika	uid gair all sug dilicities durch	marintly, the this state	hly, an an of second physical subscriptions of	Indiana si kin	
5 4 (m//m)	50-	and the second of the second of the second	[		and a second and a second and a second and a second a sec	ala farita di Sharena ma falikas	لا المراجعة	ennesinkke standett vanhe	sig	Indiana Arraita Indiana Arraita Indiana Arra	
level (dbu/ym) 3	50- 10	an a	(		North Contraction	ad detail i hetera wad dtaa	nið segar áll i na s Álking sin de r	en seine ben eine der seine der	ren and a complete the stands		
(m(m)) ever (dbuck) 3 2	50 - 40 - <mark>WARNER HERREN (1999) - 10</mark> 30 -	an a	(		and the second s	skelente di Sporte anglika	tik nga ki uu ki uga ka nga	چىمىدىنىكى دىلىرى يەلىكى	here we have been been been been been been been be		
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((( 5 ( ( // ngp) 4 3 2 1 0.	50 - 40 - <mark>40 - 40 - 41 - 41 - 41 - 41 - 41 - 41 - </mark>	an a	(	2483.		s det de la constant de la constant Internet de la constant	in ange ett ver det ver det som ett	eneritekin elen des ereke	la an de anna de de la de secon	2500	
((( 5 ( ( // ngp) 4 3 2 1 0.	50 - 10	Results	Factor	2483.	5	Detector	Table	Height	ANT	2500	
(m//ngp) 4 3 2 1	50 - 10 - 10 - 20 - 10 - 22 - 10 - 2470		Factor (dB)		5 Frequency (MHz)					2500	
(m//ngp) 4 3 2 1	50 - 10 - 10 - 10 - 20 - 10 - 2470 Frequency	Results		Limit	5 Frequency (MHz) Over		Table	Height			

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Product:			SPEAKE	ER BOX		Detector			Vertical	
Mode		ŀ	Keeping Tr	ansmitting		Test Voltage			DC12V	
Temperature			24 deg. C,			Humidity		56% RH		
Τe	est Result:		Pass							
	rt 15C Class B 1GHz-18Gi )E+2-r	Hz -2			I					
	90		MI PARA	A A M2						
level (dBuV/m)	50- 40- 30- 20- 10-	resunanter anticipation of			Martin Constitution of the second	demortunente entre de	an kapan kabupat kabumat a	an a	as <b>matur</b> as interference	
level (dBuV/m)	40- <b>A</b> ( <b>1</b> ) <b>A</b> ( <b>1</b> ) <b></b>	es una star norma friscoppi and		2483.		Loneolegesi serende	an ingen setter for the former and			
level (dBuV/m)	40 - <b>A</b> contribution to the design of the second	Results	Factor	2463. Limit	5	Detector	Table	Height	ANT	2500
	40		Factor (dB)		5 Frequency (MHz)					2500
	40- adhilledb.finday 30- 20- 10- 0.0- 2470 Frequency	Results		Limit	5 Frequency (MHz)		Table	Height		2500

Note: 1. The PK emission level less than the AV limit. No necessary to record the AV emission level.

2. The two modulation modes of GFSK and Pi/4D-QPSK were tested. And only the worst case was recorded in the test report. GFSK was the worst case.

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### 8.0 Antenna Requirement

#### **Applicable Standard**

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.

This product has a PCB antenna with gain 0dBi maximum. It fulfills the requirement of this section. Test Result: Pass

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### 9.0 20dB Bandwidth Measurement

**Test Configuration** 



#### **Test Procedure**

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 30kHz RBW and 100kHz VBW.

The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

#### Limit

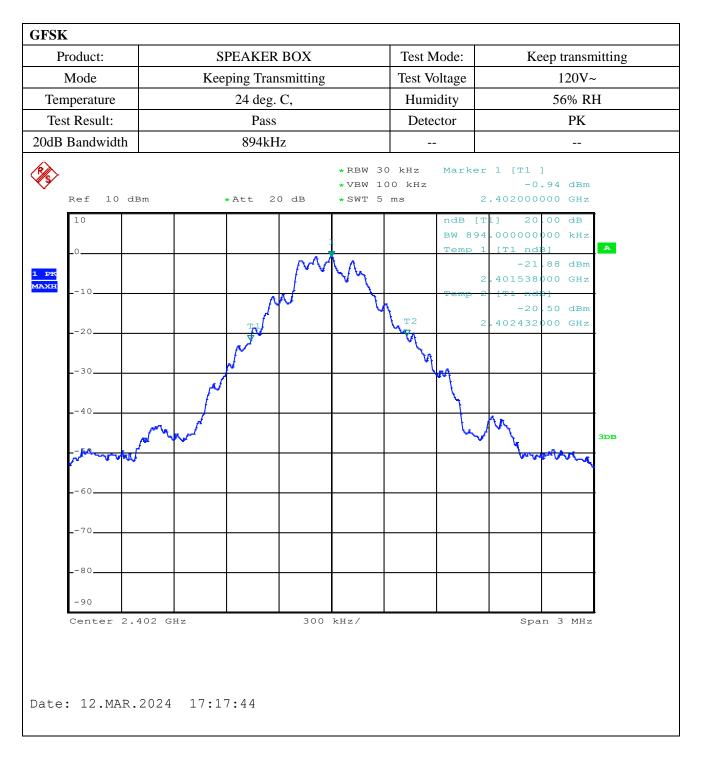
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#### **Test Result**

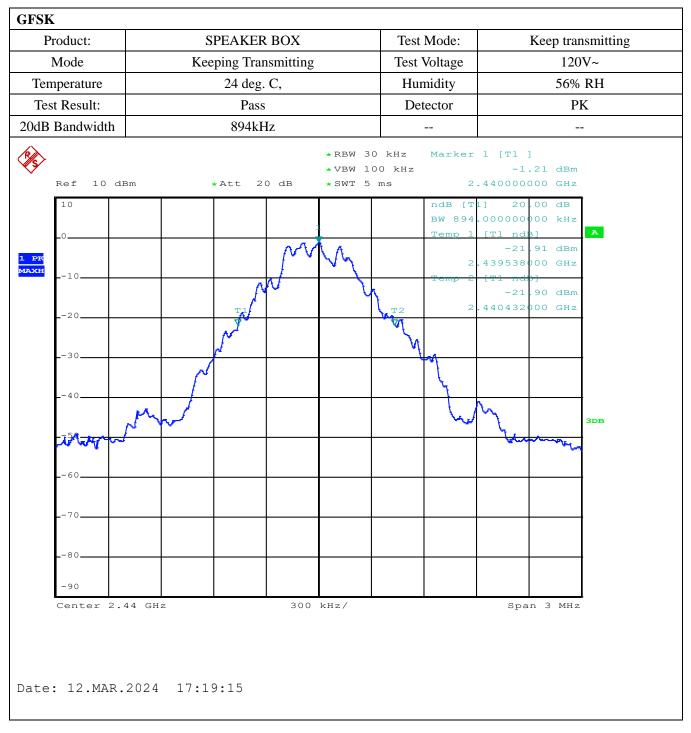


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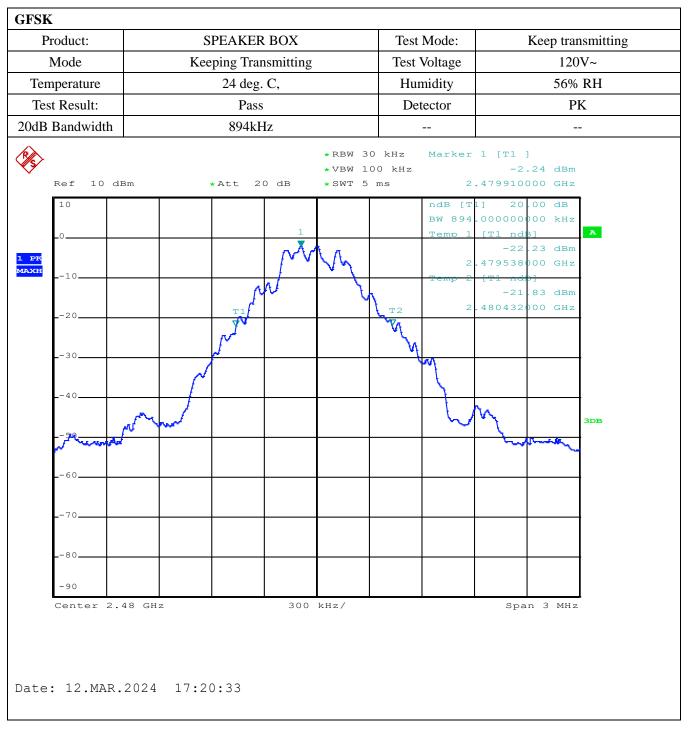




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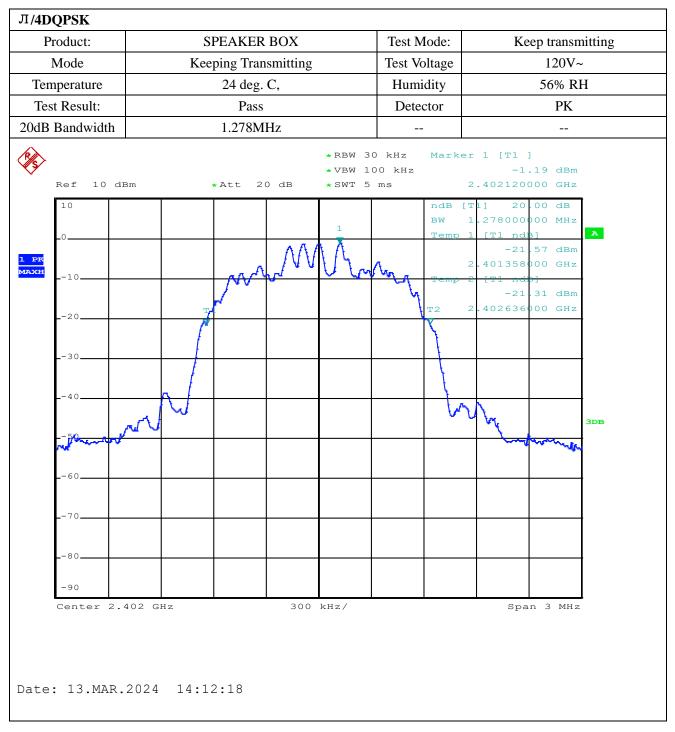




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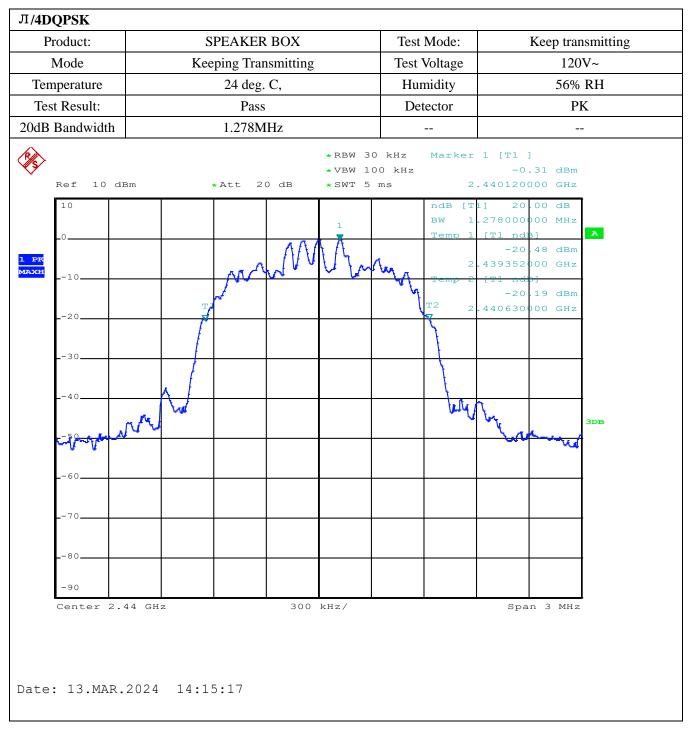




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#### 10.0 FCC ID Label

#### FCC ID: 2BDUR-4001941

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location:



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## 11.0 Photo of testing

## 11.1 Conducted test View

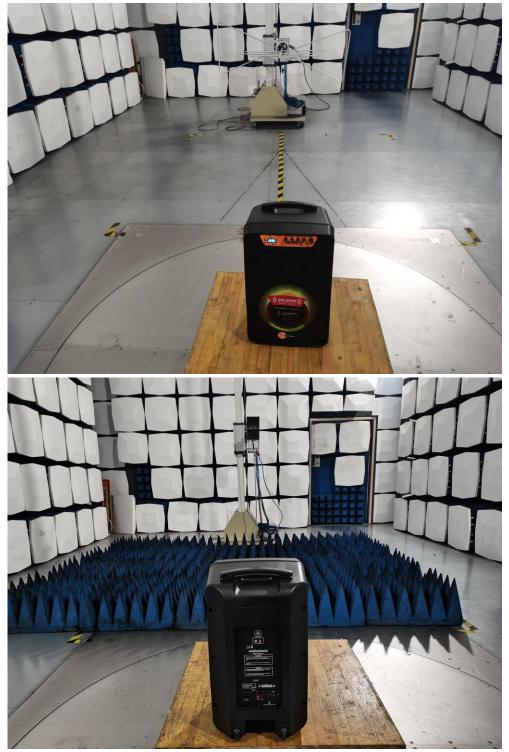


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Radiated emission test view



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11.2 Photographs - EUT Outside View



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Outside View

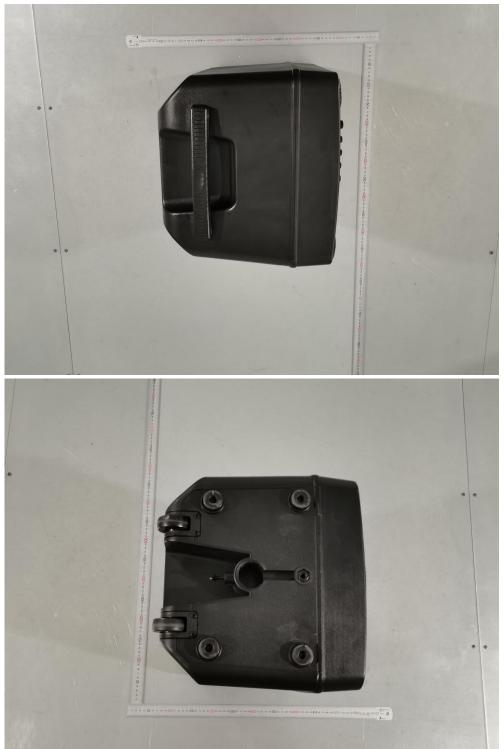


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Outside View



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Outside View

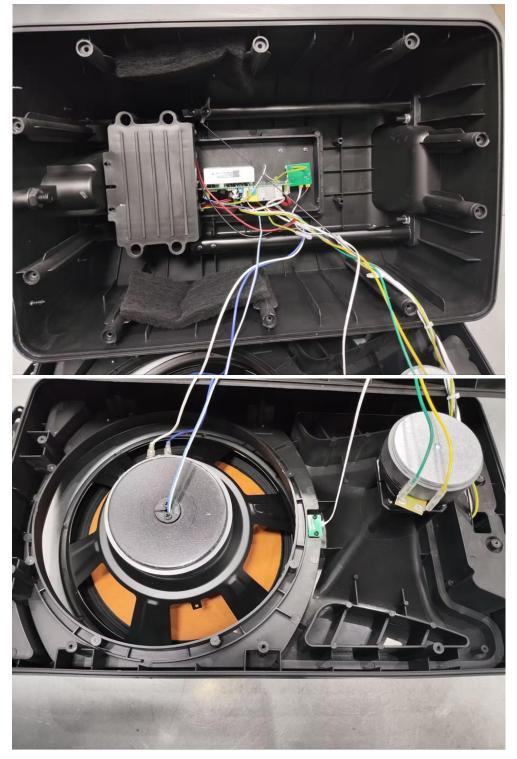


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Inside View



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Inside View

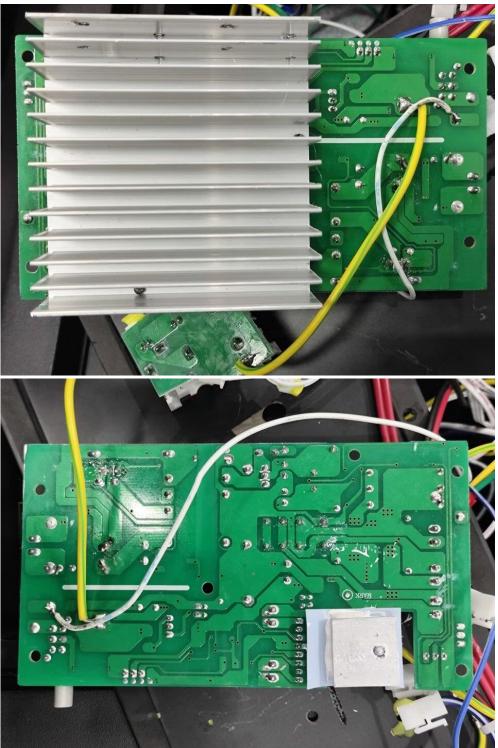


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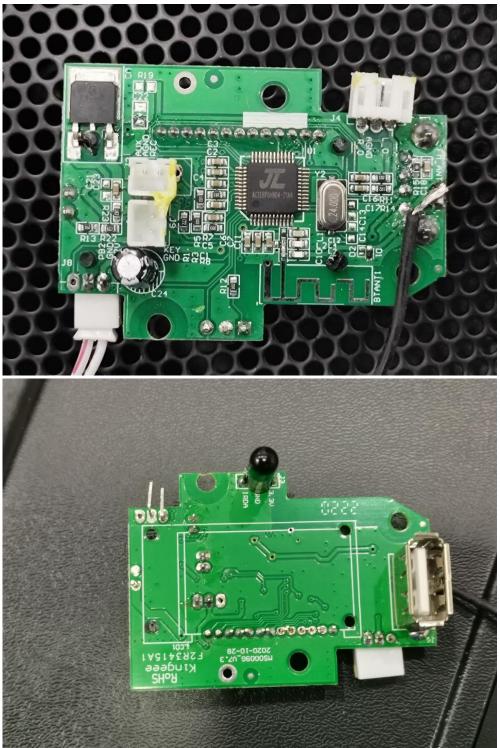


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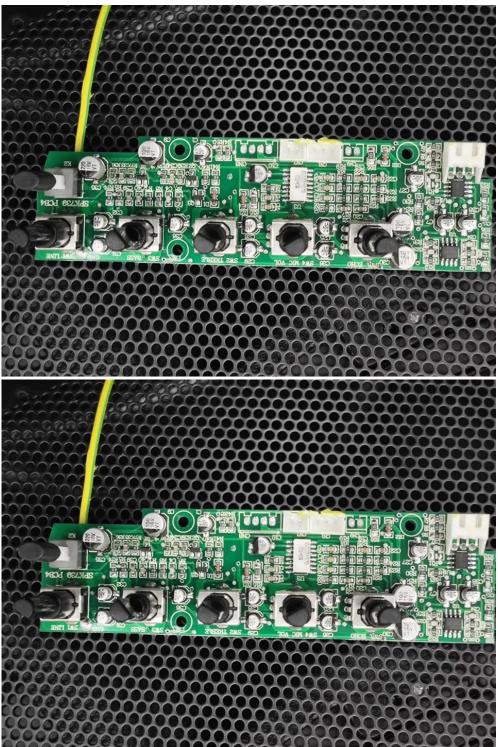


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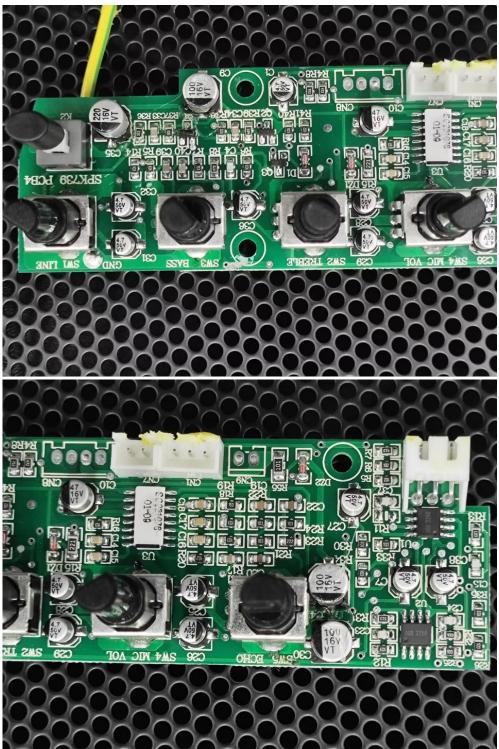


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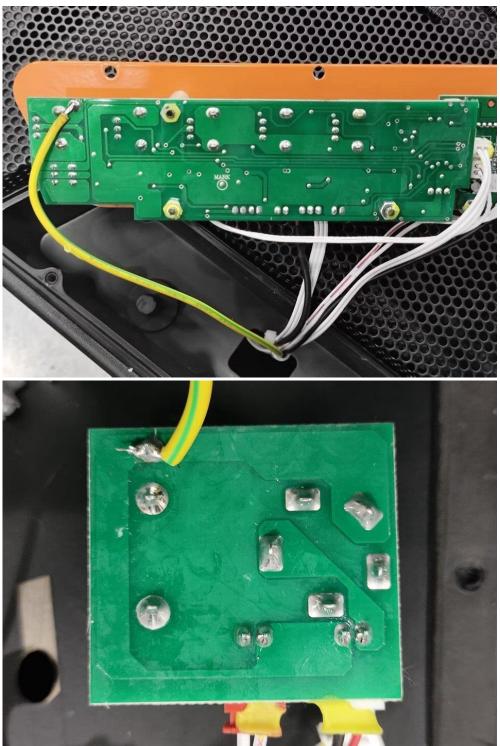


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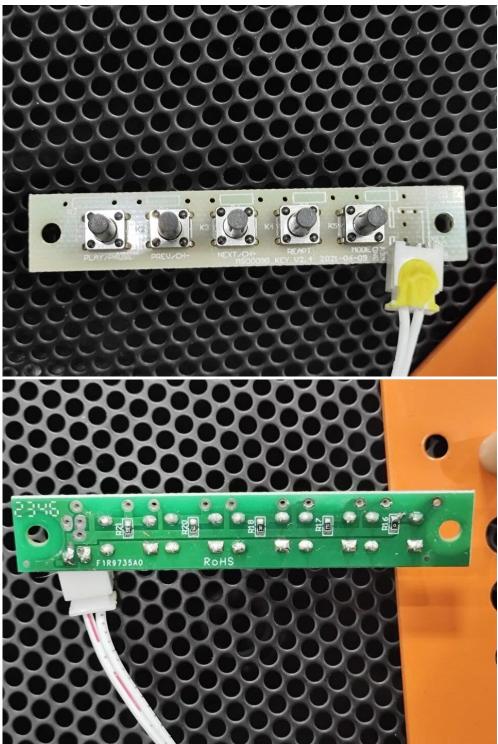


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