

Report No.:	TW2310088E
Applicant:	GuangZhou WanJing Technology Co., Ltd.
Product:	Magnetofluid Wireless Speaker
Model No.:	J01
Trademark:	N/A
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
A	

Approved By

Terry long

Terry Tang

Manager

Dated:

October 25, 2023

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

SHENZHEN TIMEWAY TESTING LABORATORIES. Name: Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China Telephone: (755) 83448688 Fax: (755) 83442996 Site on File with the Federal Communications Commission - United Sates Registration Number: 744189 For 3m Anechoic Chamber 1.2 Applicant Details

Applicant: GuangZhou WanJing Technology Co., Ltd. Address: Room 816, building A, No. 579 Jingang Avenue, Nansha New Area, Guangzhou Telephone: \_\_\_

- Fax:
- 1.3 Description of EUT

Product:	Magnetofluid Wireless Speaker
Manufacturer:	SHENZHEN FORM Electronics Co., Ltd.
Address:	4/F, Building E, LeZhuJiao Junfeng Science Park, Xixiang, Baoan District,
	Shenzhen
Trademark:	N/A
Model Number:	J01
Additional Model Name	N/A
Rating:	Input: DC5V, 2.0A
Battery:	DC3.7V, 2200mAh Li-ion battery
Modulation Type:	GFSK, Л/4DQPSK, 8DPSK for Bluetooth
<b>Operation Frequency:</b>	2402-2480MHz
Channel Number:	79
Channel Separation:	1MHz
Hardware Version:	CLT-V01 2023-09-15/CLT-LED-V01
Software Version:	莲花_2A9EAB60_20230922
Serial No.:	N/A
Antenna Designation	PCB antenna with gain 1.7dBi Max (Get from the antenna specification)

1.4 Submitted Sample: 2 Samples

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- 1.5 Test Duration 2023-10-09 to 2023-10-25
- 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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The EUT has been tested according to the following specifications:

#### **3.0** Technical Details

#### 3.1 Summary of test results

The EOT has been rested according to the following specifications.				
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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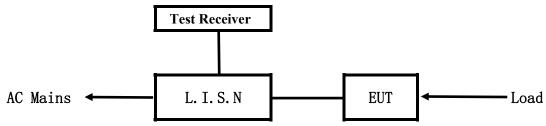
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#### 5.0 Power Line Conducted Emission Test

5.1 Schematics of the test

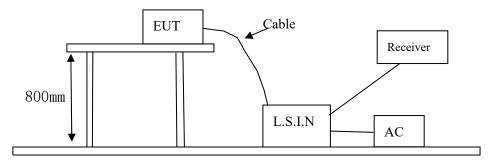


EUT: Equipment Under Test

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

Δ	EUT
л.	LUI

Device	Manufacturer	Model	FCC ID
Magnetofluid Wireless	GuangZhou WanJing Technology	101	2BDJJ-J01
Speaker	Co., Ltd.	J01	2DDJJ-J01

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B. Internal Device

2.				
	Device	Manufacturer	Model	FCC ID/DOC
	N/A			

C. Peripherals

Device	Manufacturer	Model	Rating
Power Supply	KEYU	KA23-0502000DEU	Input: 100-240V~, 50/60Hz, 0.35A;
			Output: DC5V, 2A

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

5.5 Power line conducted Emission Limit according to Paragraph 15.207

6 61				
Frequency	Limits (dB µ V)			
(MHz)	Quasi-peak Level	Average 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		

Notes: 1. \*Decreasing linearly with logarithm of frequency.

2. The tighter limit shall apply at the transition frequencies

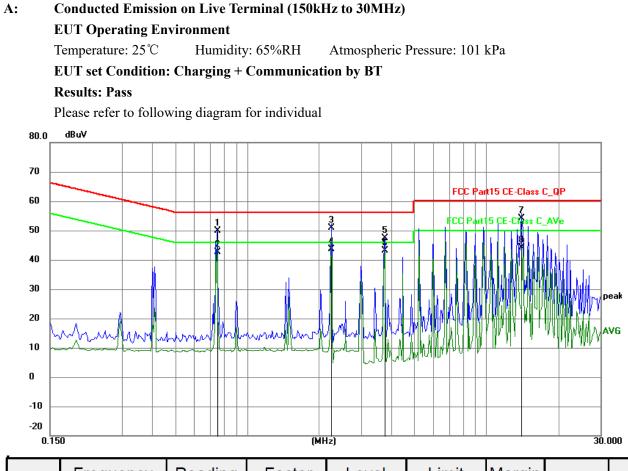
5.6 Test Results:

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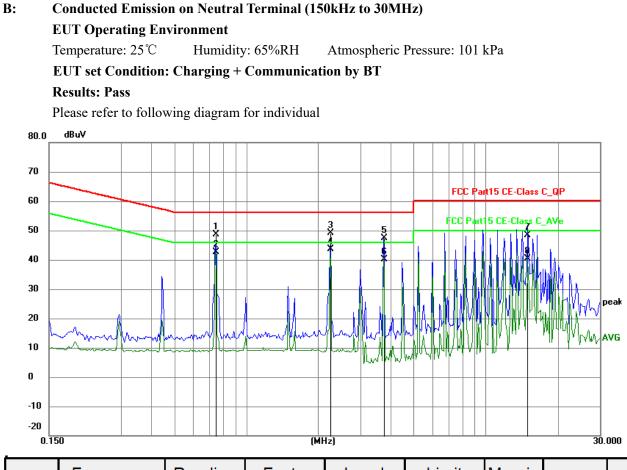


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.7506	40.03	9.78	49.81	56.00	-6.19	QP	Р
2	0.7506	32.93	9.78	42.71	46.00	-3.29	AVG	Ρ
3	2.2482	41.02	9.81	50.83	56.00	-5.17	QP	Р
4	2.2482	33.73	9.81	43.54	46.00	-2.46	AVG	Ρ
5	3.7527	37.60	9.88	47.48	56.00	-8.52	QP	Ρ
6	3.7527	33.26	9.88	43.14	46.00	-2.86	AVG	Р
7	13.9941	43.86	10.34	54.20	60.00	-5.80	QP	Р
8	13.9941	33.91	10.34	44.25	50.00	-5.75	AVG	Ρ

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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.7467	38.80	9.78	48.58	56.00	-7.42	QP	Р
2	0.7467	32.91	9.78	42.69	46.00	-3.31	AVG	Р
3	2.2443	39.32	9.81	49.13	<u>56.00</u>	- <mark>6.8</mark> 7	QP	Р
4	2.2443	33.91	9.81	43.72	46.00	-2.28	AVG	Р
5	3.7527	37.40	9.88	47.28	56.00	-8.72	QP	Р
6	3.7527	30.37	9.88	40.25	46.00	-5.75	AVG	Ρ
7	14.9730	38.07	10.38	48.45	60.00	-11.55	QP	Ρ
8	14.9730	30. <mark>1</mark> 1	10.38	40.49	50.00	-9.51	AVG	Ρ

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#### 6 Radiated Emission Test

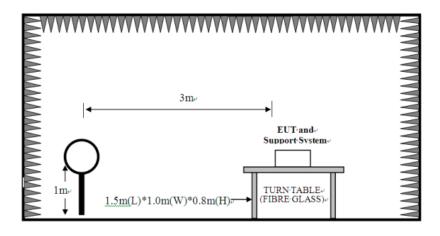
- 6.1 Test Method and test Procedure:
- The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) The EUT, peripherals were put on the turntable which table size is 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

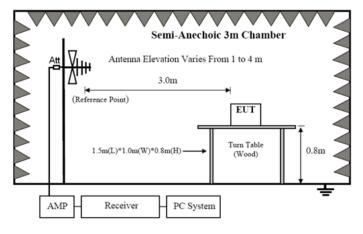


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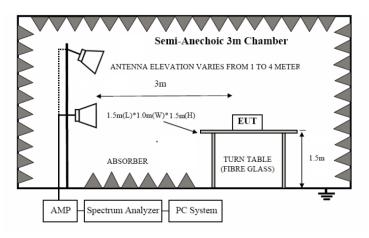
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For radiated emissions from 30MHz to1GHz



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:

<u> </u>		.gp. 1012 12 () 2			
Fundamental Frequency	Field Stre	ength of Fundamental (3m)	Field Strength 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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2	2400-2483.5	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.

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

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

Note:

1. RF Voltage (dBuV) =  $20 \log RF$  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 three modulation modes of GFSK, Pi/4D-QPSK and 8DPSK were tested. And only the worst case was recorded in the test report. GFSK was the worst case.

6. This is a portable device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.

7. Battery fully charged was used during the test.

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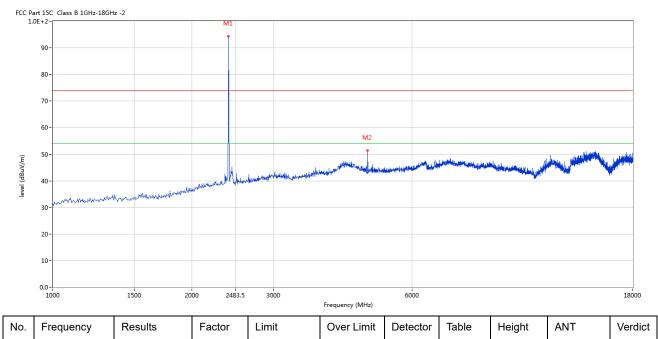
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# 6.5 Test resultA Fundamental & Harmonics Radiated Emission Data

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

#### Horizontal

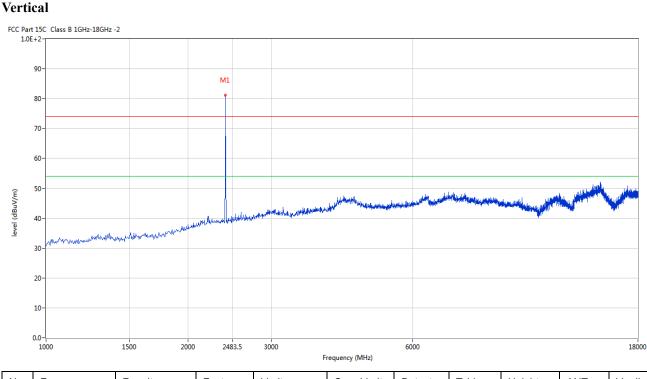


INU.	Frequency	Results	Facior	LIIIII		Delector	Table	rieigin	ANT	veruici
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2402	94.32	-3.57	114.0	-19.68	Peak	253.00	100	Horizontal	Pass
1**	2402	85.53	-3.57	94.0	-8.47	AV	253.00	100	Horizontal	Pass
2	4802.799	51.35	3.12	74.0	-22.65	Peak	259.00	100	Horizontal	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	2402	81.25	-3.57	114.0	-32.75	Peak	131.00	100	Vertical	Pass

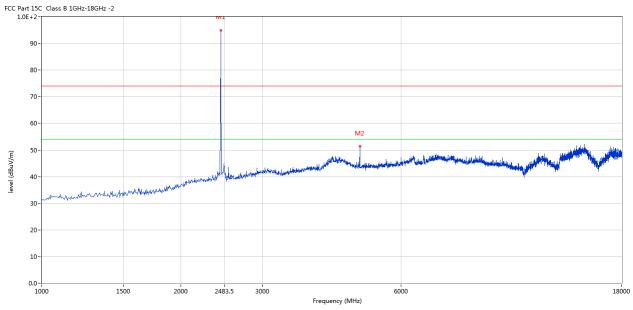
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#### Please refer to the following test plots for details: Middle Channel-2441MHz

#### Horizontal

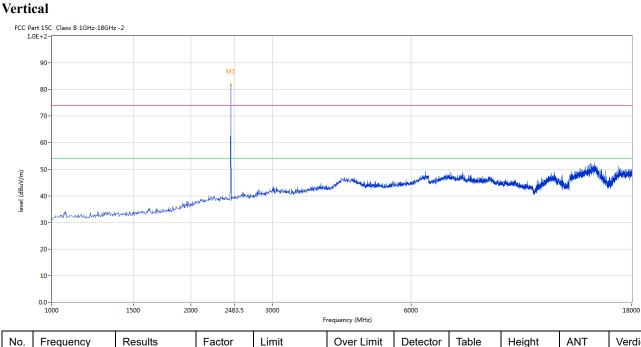


No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2441	94.93	-3.57	114.0	-19.07	Peak	225.00	100	Horizontal	Pass
1**	2441	85.31	-3.57	94.0	-8.69	AV	225.00	100	Horizontal	Pass
2	4879.280	51.44	3.20	74.0	-22.56	Peak	259.00	100	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	81.65	-3.57	114.0	-32.35	Peak	132.00	100	Vertical	Pass

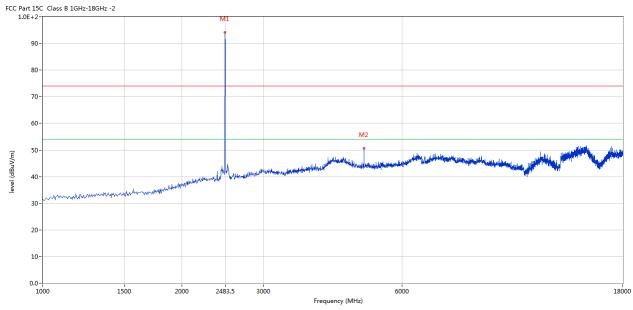
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#### Please refer to the following test plots for details: High Channel-2480MHz

#### Horizontal

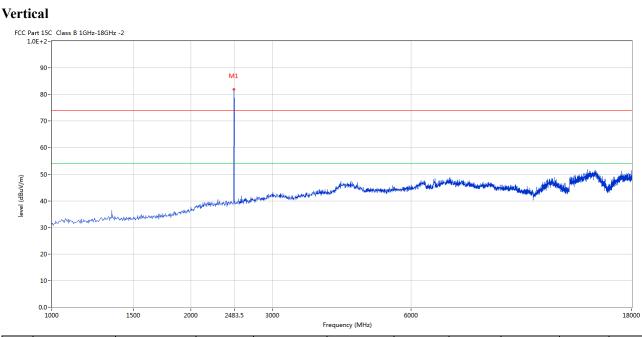


No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2480	94.23	-3.57	114.0	-19.77	Peak	252.00	100	Horizontal	Pass
1**	2480	85.67	-3.57	94.0	-8.33	AV	252.00	100	Horizontal	Pass
2	4960.010	50.57	3.36	74.0	-23.43	Peak	231.00	100	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	81.89	-3.57	114.0	-32.11	Peak	128.00	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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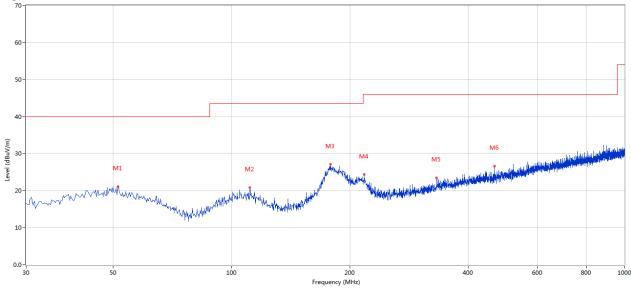
## B. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

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	51.335	21.06	-11.41	40.0	18.94	Peak	220.00	100	Horizontal	Pass
2	111.217	20.85	-13.67	43.5	22.65	Peak	281.00	100	Horizontal	Pass
3	178.373	27.12	-15.46	43.5	16.38	Peak	248.00	100	Horizontal	Pass
4	217.648	24.45	-13.45	46.0	21.55	Peak	260.00	100	Horizontal	Pass
5	332.322	23.52	-10.10	46.0	22.48	Peak	28.00	100	Horizontal	Pass
6	467.118	26.67	-7.73	46.0	19.33	Peak	120.00	100	Horizontal	Pass

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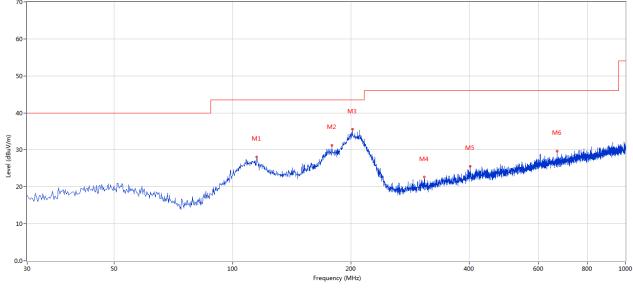
#### Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

#### **Results:** Pass

Please refer to following diagram for individual

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



No.	Frequency	Results	Factor	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	115.339	28.06	-14.48	43.5	15.44	Peak	274.00	100	Vertical	Pass
2	179.100	31.26	-15.39	43.5	12.24	Peak	175.00	100	Vertical	Pass
3	201.647	35.53	-13.41	43.5	7.97	Peak	339.00	100	Vertical	Pass
4	307.593	22.61	-10.94	46.0	23.39	Peak	51.00	100	Vertical	Pass
5	401.902	25.54	-8.60	46.0	20.46	Peak	63.00	100	Vertical	Pass
6	669.070	29.70	-4.42	46.0	16.30	Peak	175.00	100	Vertical	Pass

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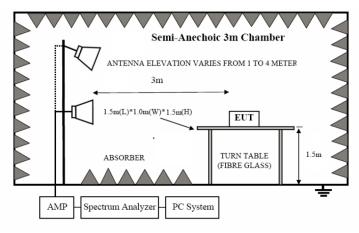


### 7. Band Edge

#### 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

1	Product: Magnetofluid		etofluid W	Wireless Speaker Polari		ity		Horizontal		
	Mode	I	Keeping Tr	ansmitting	smitting Test Voltage		ltage	DC3.7V		
Te	mperature		24 deg. C,			Humidity		56% RH		
Τe	est Result:		Pa	SS						
	rt 15C Class B 1GHz-18G E+2	Hz -2						M2 M4 •	MI	
level (dBuV/m)	50- 40- 30- 20- 10-	nepeli salahi yiki kermbanlip alah d	katen in the state of the state	handre service and the service of th	break annous de alles instances a	i i i i i i i i i i i i i i i i i i i				
level (dBuV/m)	40- 30- 20-	neperius latin esti kierodantie oleku	4.05.00.0000 	1	Frequency (MHz)					2410
	40- 30- 20- 10- 2350 Frequency	Results	Factor	Limit	Frequency (MHz)	Detector	M3	Height	ANT	1
	40- 30- 20- 10- 2350	Results (dBuV/m)			Frequency (MHz)	Detector	Table (o)	Height (cm)	ANT	
٩o.	40- 30- 20- 10- 2350 Frequency	Results	Factor	Limit	Frequency (MHz)	Detector Peak		-	ANT	
٩o.	40- 30- 20- 10- 2350 Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Frequency (MHz) Over Limit (dB)		(o)	(cm)		Verdi
No.	40- 30- 20- 10- 2350 Frequency (MHz) 2402.112	Results (dBuV/m) 94.28	Factor (dB) -3.57	Limit (dBuV/m) 74.0	Frequency (MHz) Over Limit (dB) 20.28	Peak	(o) 267.00	(cm) 100	Horizontal	-
	40- 30- 20- 10- 2350 Frequency (MHz) 2402.112 2400.002	Results (dBuV/m) 94.28 64.51	Factor (dB) -3.57 -3.57	Limit (dBuV/m) 74.0 74.0	Frequency (MHz) Over Limit (dB) 20.28 -9.49	Peak Peak	(o) 267.00 267.00	(cm) 100 100	Horizontal Horizontal	Verdie N/A Pass

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	Product:		Magnetofluid Wireless Speaker				Detector		Vertical	
	Mode		Keeping Transmitting			Te	Test Voltage		DC3.7V	
Temperature			24 deg. C,			]	Humidity		56% RH	
	Test Result:			Pass						
C Part 15 1.0E+2	C Class B 1GHz-18GHz	-2								
90										
80									M1	
70									/	
60										
								/	<u> </u>	
								/	· · · · · ·	
50	-						M2	M	2	
. 50 40		ter Hannelsen von die ster ster er ster ster bester ster ster ster ster ster ster ster	nik İleveni yerine diki peng	version and the state of the second	-	han a contrar de provellen Altrend (Mar	M3		2	an a
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40 30		talantantan tana kanalan di salah s	nk di, nga ang ang ang ang ang ang ang ang ang	yydd yn defer y		inina uina kanala ito di fili		internetion	2	Antoni Balge and a
40 30 20 10		1.5.6000.000.0000.0000.0000.0000	าร์แล้งมี และ เป็นการณ์ 	19895-2019-1996-1996-1996-1996-1996-1996-1996-1				eelannyiiki	2	2410
40 30 20 10 0.0 2					Frequency (Mł	+z)	in, Huli de de de la contra de la	unlannyidd		2410
40 30 20 10 0.0 2		Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)				Height (cm)	ANT	2410
. 40 30 20 10 0.0 2 NO.	Frequency	Results	Factor	Limit	Frequency (Mł	+z)	in, Huli de de de la contra de la	Height		2410
. 40 30 20 10 0.0 2 10 NO.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Frequency (MF Over Limit (dB)	<sup>1z)</sup> Detector	Table (o)	Height (cm)	ANT	2410 Verdict
40 30 20 10	Frequency (MHz) 2401.662	Results (dBuV/m) 81.06	Factor (dB) -3.57	Limit (dBuV/m) 74.0	Frequency (Mł Over Limit (dB) 7.06	<sup>iz)</sup> Detector Peak	Table (o)	Height (cm) 100	ANT	2410 Verdict N/A

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Product:		Magnetofluid Wireless Speaker			Р	olarity		Horizont	al	
	Mode		Keeping 7	Fransmitting		Test Voltage			DC3.7V	
Te	mperature		24 deg. C,			Humidity			56% RH	
	est Result:		Pass							
C Part 1.0E+	15C Class B 1GHz-18GHz	-2								
	90-		M	1 Lawing						
8	80 -									
7	70-									
6	60-	/	ſ		X.					
					70.					
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	40 - United of the state of the			M • • 248	3.5	ha Niederlander of the second	50090-80449666-144	a kudi kuda ina kuda ku		25
El/ango 2 2 1	40- 30- 20- 10- 2470			248	3.5 Frequency (MHz)					
	40- 40- 40- 40- 40- 40- 40- 40-	Results	Factor	248 Limit	3.5 Frequency (MHz)	Detector	Table	Height	ANT	25 Verdic
W/Angp 2 2 1	40- 30- 20- 10- 2470 Frequency (MHz)	(dBuV/m)	(dB)	248 Limit (dBuV/m)	3.5 Frequency (MHz) Over Limit (dB)	Detector	Table (o)	Height (cm)		Verdic
W/Angp 2 2 1	40- 40- 40- 40- 40- 40- 40- 40-			248 Limit	3.5 Frequency (MHz)		Table	Height	ANT	
u/nnon) 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	40- 30- 20- 10- 2470 Frequency (MHz)	(dBuV/m)	(dB)	248 Limit (dBuV/m)	3.5 Frequency (MHz) Over Limit (dB)	Detector	Table (o)	Height (cm)		Verdic

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	Product:	Magnetofluid Wireless Speaker				Detec	tor		Vertical	
	Mode	ŀ	Keeping Transmitting			Test Voltage		DC3.7V		
Te	emperature		24 deg. C,			Humidity		56% RH		
Te	est Result:		Pass							
	nt 1SC Class B 1GHz-18GH JE+2	iz -2	М							
level (dBuV/m)	50- 40- 	er en	/	M2	Marine Concernation	ting the state of the	Relation, and an a finite	affile an o <sup>l</sup> ementer der ool	เหราะมีสีรับกลุ่มมาให้กับสุดระจับก	Hydrand Hoseladd Ma
No.	50- 40-	Results (dBuV/m) 81.20	Factor (dB) -3.57	2483.3 Limit (dBuV/m) 74.0		Detector Peak	Table (o) 138.00	Height (cm) 100	ANT Vertical	2500 Verdic

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

2. For Restricted band test, the three modulation modes of GFSK, Pi/4D-QPSK and 8DPSK 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. The antenna gain is 1.7dBi Max. 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.

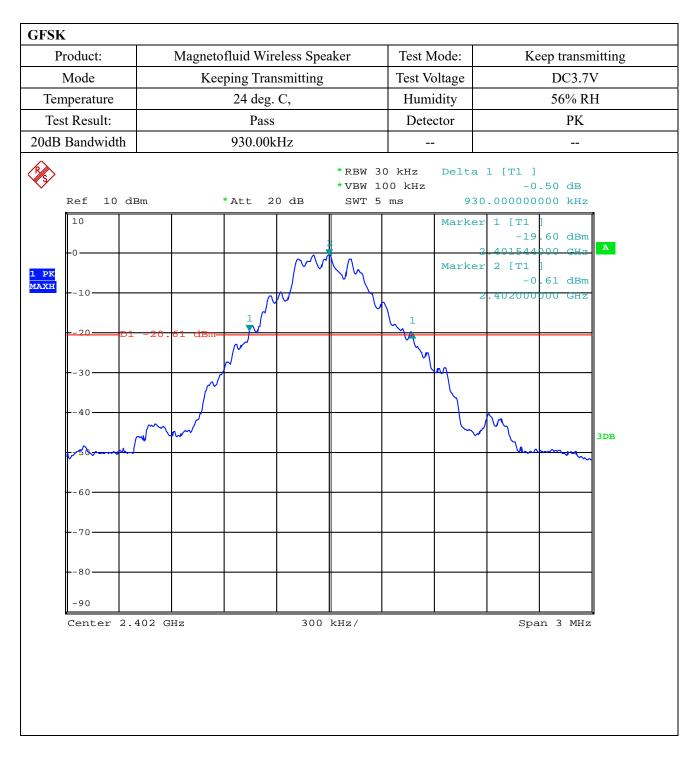
Limit

The report refers only to the sample tested and does not apply to the bulk.

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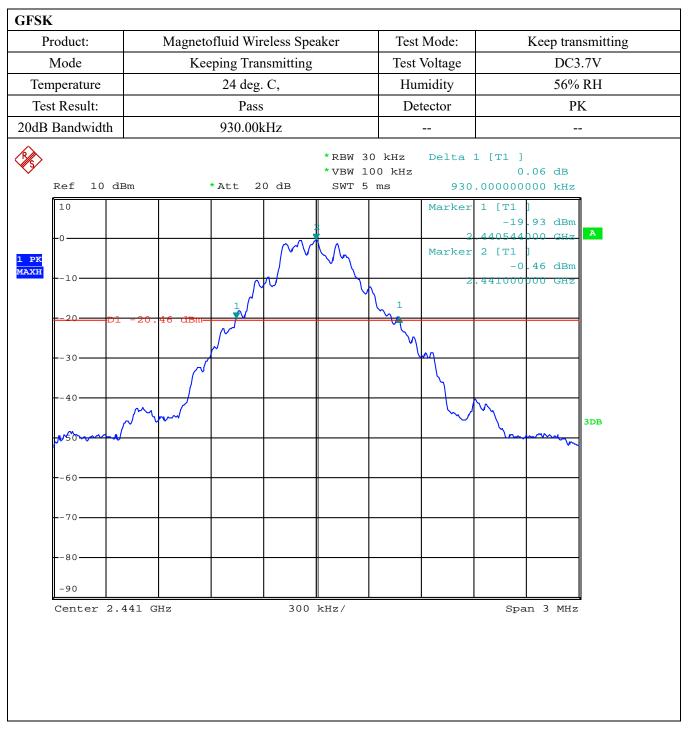
#### **Test Result**



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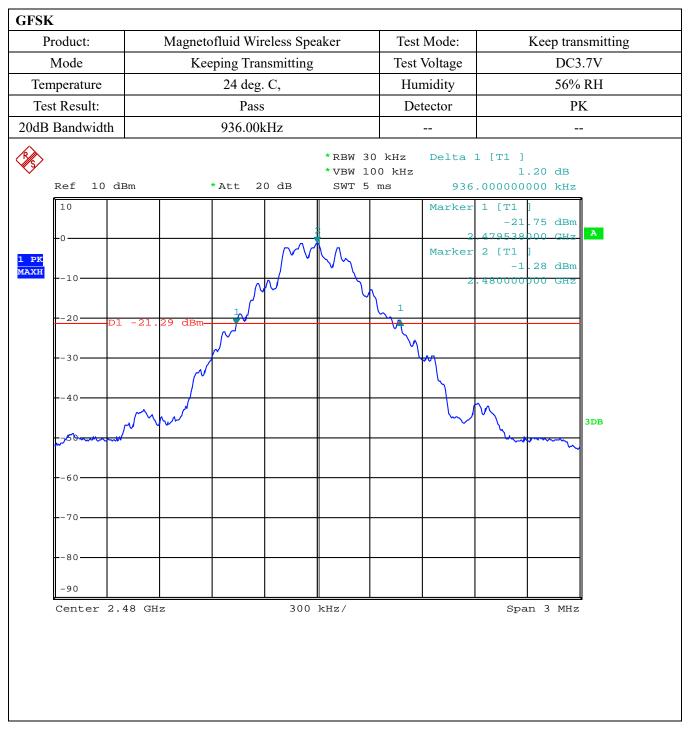




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Product:	Magnetoflui	Wireless Spe	kor	Test M	[ode:	K	aan transm	itting
Mode	Magnetofluid Wireless Speaker					Keep transmittin		
	Keeping Transmitting 24 deg. C,				Test Voltage DC3.7V			
Temperature Test Result:	24	Pass		Humi			56% RH	1
20dB Bandwidth	1 ′			Detector PK				
	dB Bandwidth 1.278MHz							
	-		*RBW 30	00 kHz			.45 dBm	
Ref 10 d	Bm *At	t 20 dB	SWT 5	ms		2.402120	000 GHz	
			1			1.278000	000 MHz	A
-0				20.	L L		.90 dBm	
-10			~ \\*	·~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		z [Tl nd	в]	
	74			Ň	т2	-20 2.402636	.45 dBm 000 GHz	
20					X			
					+			
40								
					5	$\bigwedge$		3DB
50	,						han	
-60								
70								
-90								
Center 2.	402 GHz	300	kHz/	I		Spa	an 3 MHz	l

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Л/4DQPSK					
Product:	Magnetofluid Wireless Spe	aker	Test Mode:	Keep trans	mitting
Mode	Keeping Transmitting		Test Voltage	DC3.7	νV
Temperature	24 deg. C,		Humidity	56% R	H
Test Result:	Pass		Detector	РК	
20dB Bandwidth	DdB Bandwidth 1.278MHz				
Ref 10 d 1 PK MAXH -10 -20 -30 -40 -40 -60 -60 -70 -80 -90 Center 2.	Bm *Att 20 dB   Image: Constraint of the second sec	* RBW 30 * VBW 10 SWT 5 1	0 kHz ms 2 ndB [T BW 1 Temp 1 2 Temp 2	.278000 000 MHz [T1 ndB] -20.58 dBm .440358 000 GHz [T1 ndB] -20.27 dBm .441636 000 GHz	DB

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I/4DQPSK					
Product:	Magnetofluid Wireless Sp	beaker	Test Mode:	Keep tran	smitting
Mode	Keeping Transmittin	g	Test Voltage	DC3.	7V
Temperature	24 deg. C,		Humidity	56%	RH
Test Result:	Pass		Detector	PK	-
DdB Bandwidth 1.278MHz					
20dB Bandwidth	Bm *Att 20 dB	* RBW 30 * VBW 100 SWT 5 r 1 1 1 1 1 1 1 1 1 1 1 1 1	kHz Marker O kHz ns 2 ndB [T BW 1 Temp 1 2 Yemp 2	1 [T1 ] -1.15 dBm .480120000 GHz 1] 20.00 dB .278000 00 MHz [T1 nd8] -21.52 dBm .479358 000 GHz [T1 nd8] -21.31 dBm .480636 000 GHz	A 3DB

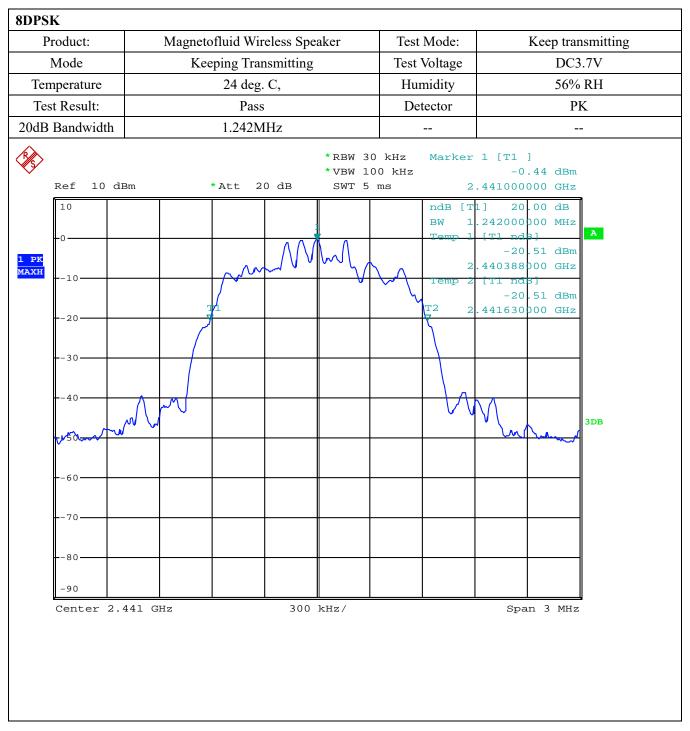
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Due des sta				
Product:	Magnetofluid Wireless Spe	eaker	Test Mode:	Keep transmitting
Mode	Keeping Transmitting		Test Voltage	DC3.7V
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector PK	
20dB Bandwidth	dB Bandwidth 1.236MHz			
20dB Bandwidth	Bm * Att 20 dB   Image: Constraint of the second se	* RBW 30 * VBW 10 SWT 5	) kHz Mark )0 kHz	er 1 [T1 ] -0.60 dBm 2.402000000 GHz [T1] 20.00 dB 1.236000000 MHz 1 [T1 ndB] -20.53 dBm 2.401388000 GHz

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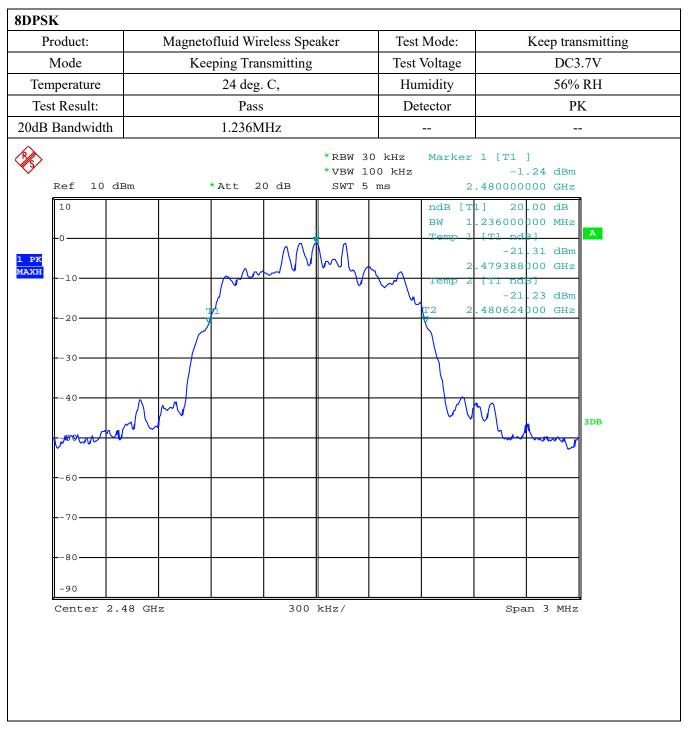




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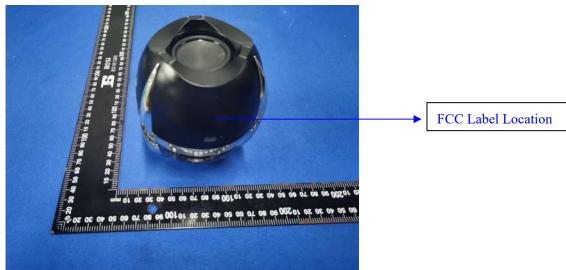
Page 39 of 51

## FCC ID Label 10.0

## FCC ID: 2BDJJ-J01

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:

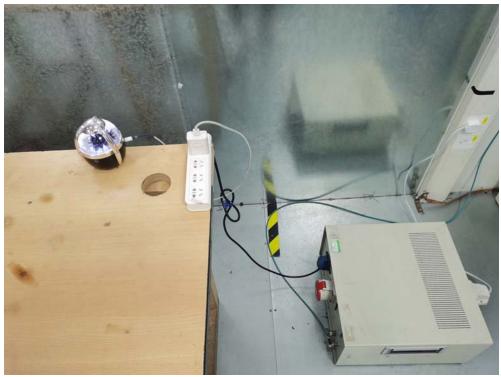


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## 11.0 Photo of testing

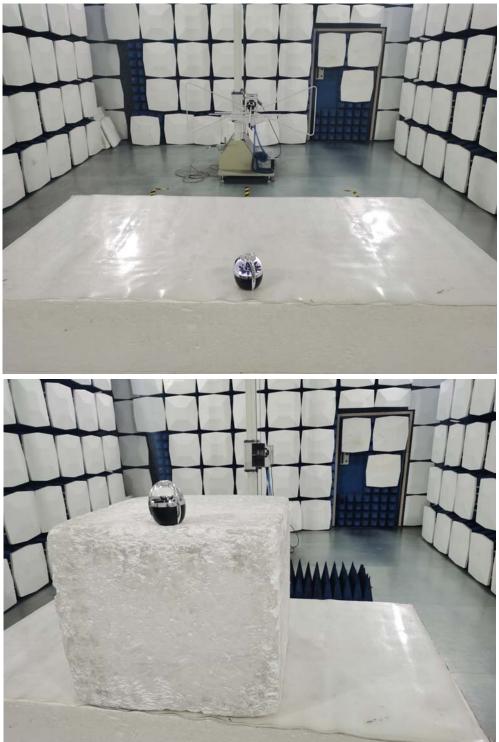
11.1 Conducted test View



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Radiated emission test view



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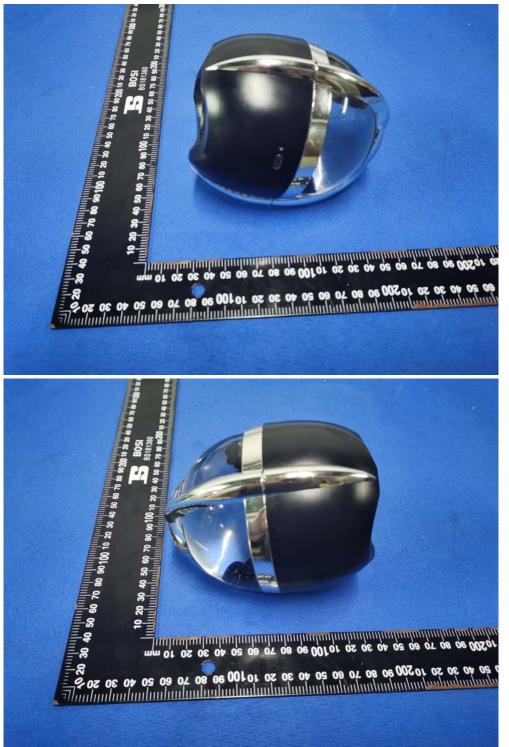


## 11.2 Photographs - EUT

Outside View 9 eo eo vo so so 10500 ao 80 10 eo eo eo vo so so 10100 ao 80 10 eo eo eo ao so 
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Outside View



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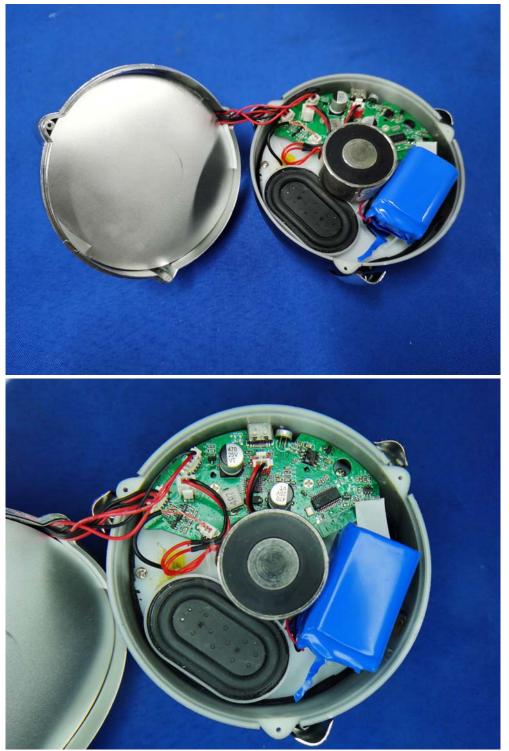
Outside View



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Inside View

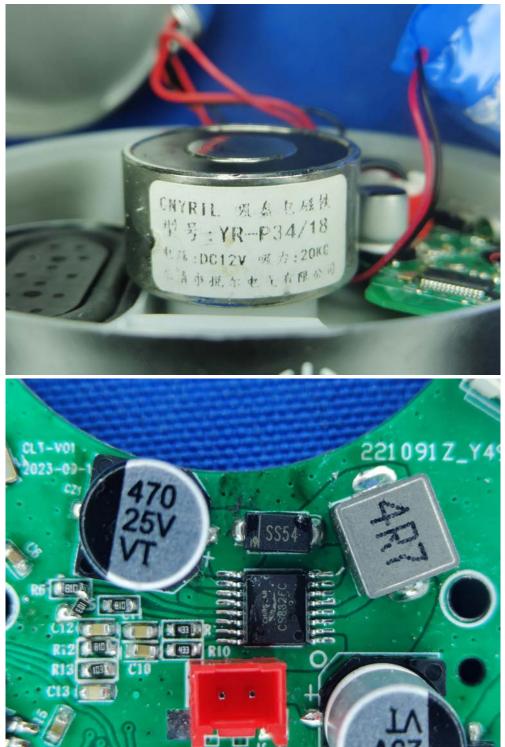


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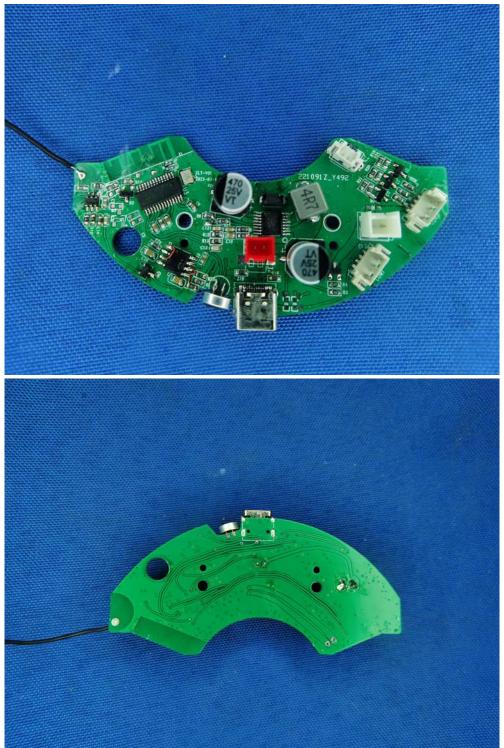
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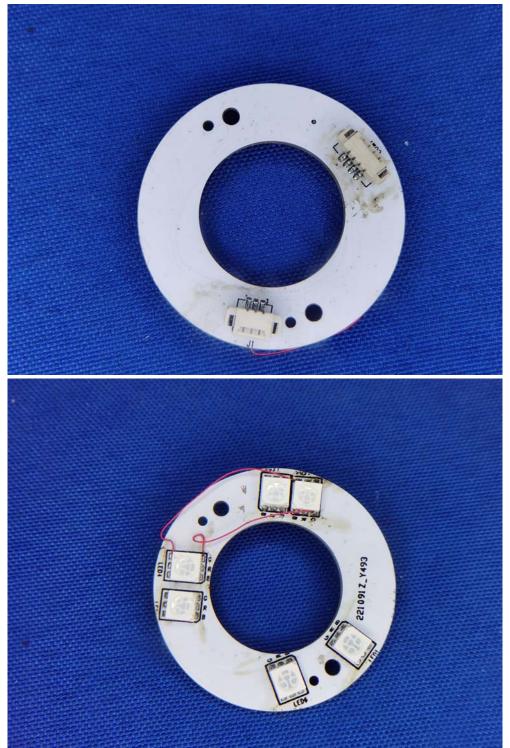
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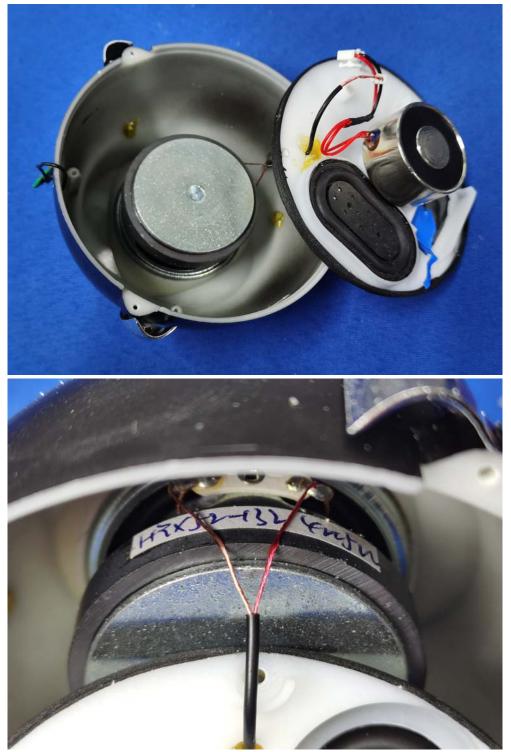
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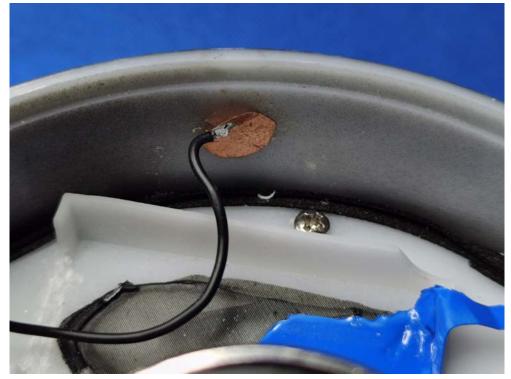
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Inside View



--End of the report--

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