

Applicant: LEADER PREMIUMS LIMITED

Product: SPEAKER

Model No.: AE0275

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

Approved By

Terry Tang

Manager

Dated: June 07, 2023

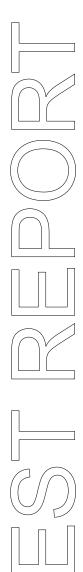
Results appearing herein relate only to the sample tested

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



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## **Special Statement:**

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

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

#### **CNAS-LAB Code: L2292**

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2017 General Requirements) for the Competence of testing Laboratories.

## 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

Date: 2023-07-07



## Test Report Conclusion

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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

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: LEADER PREMIUMS LIMITED

Address: ROOM 901, HENGFU MANSION, NO.858, FUMINGROAD, NINGBO, CHINA

Telephone: -Fax: --

## 1.3 Description of EUT

Product: SPEAKER

Manufacturer: LEADER PREMIUMS LIMITED

Address: ROOM 901, HENGFU MANSION, NO.858, FUMINGROAD, NINGBO,

**CHINA** 

Trademark: N/A
Model Number: AE0275
Additional Model Name N/A

Rating: Input: DC5V, 1A, 5W

Battery: DC3.7V, 500mAh Li-ion battery
Modulation Type: GFSK, J/4DQPSK for Bluetooth

Operation Frequency: 2402-2480MHz

Channel Number: 79
Channel Separation: 1MHz

Hardware Version: Wireless charging pad-AE0275

Software Version: leader.2023.03

Antenna Designation PCB antenna with gain -0.58dBi Max (Get from the antenna specification)

#### 1.4 Submitted Sample: 2 Samples

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#### 1.5 Test Duration

2023-06-27 to 2023-07-07

## 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

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	2022-07-15	2023-07-14		
LISN	R&S	EZH3-Z5	100294	2022-07-18	2023-07-17		
LISN	R&S	EZH3-Z5	100253	2022-07-18	2023-07-17		
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2022-07-18	2023-07-17		
Loop Antenna	EMCO	6507	00078608	2022-07-18	2025-07-17		
Spectrum	R&S	FSIQ26	100292	2022-07-15	2023-07-14		
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	2022-07-18	2023-07-17		
Power sensor	Anritsu	MA2491A	32263	2022-07-18	2023-07-17		
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	2022-07-15	2023-07-14		
EMI Test Receiver	RS	ESCS 30	834115/006	2022-07-15	2023-07-14		
Spectrum	HP/Agilent	E4407B	MY50441392	2022-07-15	2023-07-14		
Spectrum	RS	FSP	1164.4391.38	2022-07-15	2023-07-14		
RF Cable	Zhengdi	ZT26-NJ-NJ-8M/FA		2022-07-15	2023-07-14		
RF Cable	Zhengdi	7m		2022-07-15	2023-07-14		
Pre-Amplifier	Schwarebeck	BBV9743	#218	2022-07-15	2023-07-14		
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2022-07-15	2023-07-14		
LISN	SCHAFFNER	NNB42	00012	2022-08-18	2023-07-17		
ESPI Test Receiver	R&S	ESPI 3	100379	2022-07-15	2023-07-14		
LISN	R&S	EZH3-Z5	100294	2022-07-18	2023-07-17		

## 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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#### 3.0 Technical Details

## 3.1 Summary of test results

The EUT has	been teste	d according	to the f	following	specifications:
	~~~~		,		000000000000000000000000000000000000000

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

#### 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

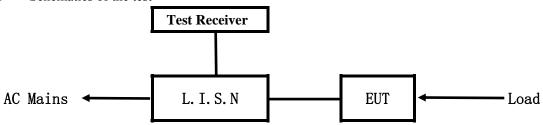
No modification by SHENZHEN TIMEWAY TESTING LABORATORIES

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#### 5.0 Power Line Conducted Emission Test

#### 5.1 Schematics of the test

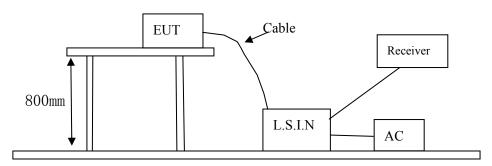


**EUT: Equipment Under Test** 

## 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

Device	Manufacturer	Model	FCC ID
SPEAKER	LEADER PREMIUMS	A E 0.275	2APYY-AE0275
	LIMITED	AE0275	

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#### B. Internal Device

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

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

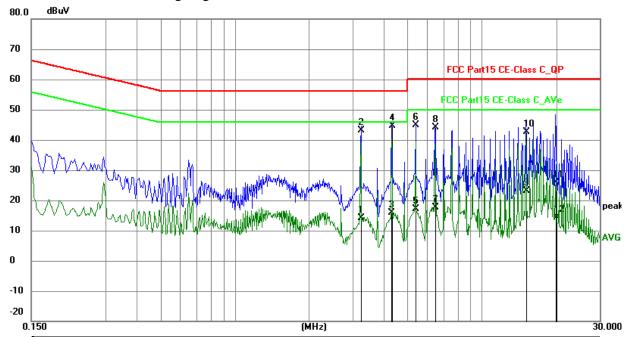
## **EUT Operating Environment**

Temperature: 25°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

**EUT set Condition: Charging + Communication by BT** 

**Results: Pass** 

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	3.2300	4.40	9.85	14.25	46.00	-31.75	AVG	Р
2	3.2420	33.36	9.85	43.21	56.00	-12.79	QP	Р
3	4.3120	6.02	9.90	15.92	46.00	-30.08	AVG	Р
4	4.3229	34.71	9.90	44.61	56.00	-11.39	QP	Р
5	5.3910	7.09	9.95	17.04	50.00	-32.96	AVG	Р
6	5.4040	34.87	9.95	44.82	60.00	-15.18	QP	Р
7	6.4730	7.56	9.99	17.55	50.00	-32.45	AVG	Р
8	6.4850	34.03	9.99	44.02	60.00	-15.98	QP	Л
9	15.1220	12.71	10.39	23.10	50.00	-26.90	AVG	Р
10	15.1310	32.23	10.39	42.62	60.00	-17.38	QP	Р
11	19.9160	15.18	10.67	25.85	60.00	-34.15	QP	Р
12	19.9860	3.72	10.68	14.40	50.00	-35.60	AVG	Р

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

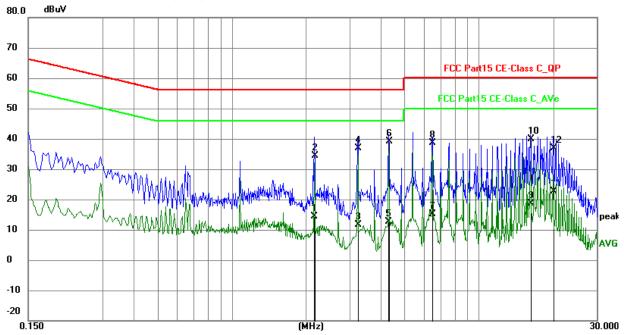
## **EUT Operating Environment**

Temperature: 25°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

**EUT set Condition: Charging + Communication by BT** 

**Results: Pass** 

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	2.1490	4.67	9.81	14.48	46.00	-31.52	AVG	П
2	2.1600	24.69	9.81	34.50	56.00	-21.50	QP	Л
3	3.2310	1.89	9.85	11.74	46.00	-34.26	AVG	Р
4	3.2410	26.96	9.85	36.81	56.00	-19.19	QP	Р
5	4.3110	2.85	9.90	12.75	46.00	-33.25	AVG	А
6	4.3239	29.14	9.90	39.04	56.00	-16.96	QP	Л
7	6.4760	5.06	9.99	15.05	50.00	-34.95	AVG	Р
8	6.4870	28.55	9.99	38.54	60.00	-21.46	QP	Р
9	16.2070	8.14	10.45	18.59	50.00	-31.41	AVG	Р
10	16.2230	29.53	10.45	39.98	60.00	-20.02	QP	Р
11	20.0000	12.04	10.68	22.72	50.00	-27.28	AVG	Р
12	20.0040	26.12	10.68	36.80	60.00	-23.20	QP	Р

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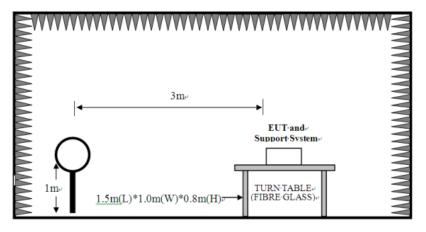


#### **6** Radiated Emission Test

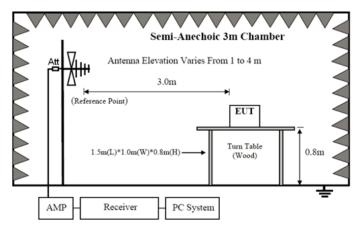
- 6.1 Test Method and test Procedure:
- (1) The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) The EUT, peripherals were put on the turntable which table size 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 30 MHz to 25 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 kHz. All readings are above 1 GHz, peak values with a resolution bandwidth of 1 MHz (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



For radiated emissions from 30MHz to1GHz



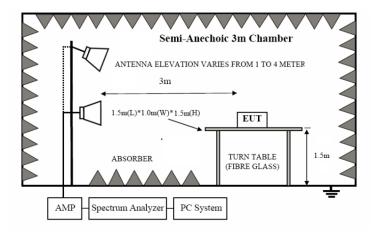
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For radiated emissions above 1GHz



- 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 Subpart C Paragraph 15.249(a) Limit

Fundamental Frequency	Field Strength of Fundamental (3m)			Field Strength of Harmonics (3m)		
(MHz)	mV/m	dBuV/m		uV/m	dBuV/m	
2400-2483.5	50	94 (Average)	114 (Peak)	500	54 (Average)	74 (Peak)

Note:

- 1. RF Field Strength (dBuV) = 20 log RF Voltage (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.

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

Frequency Range (MHz)	Distance (m)	Field strength (dB μ 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 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 and Pi/4D-QPSK were tested. And only the worst case was recorded in the test report. GFSK was the worst case.
- 6. This is a handhold 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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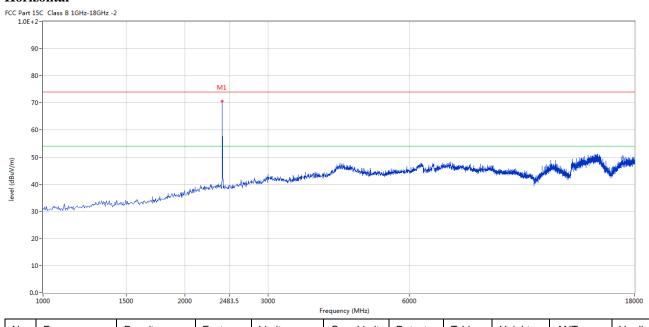


#### 6.5 Test result

## A Fundamental & Harmonics Radiated Emission Data

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

## Horizontal



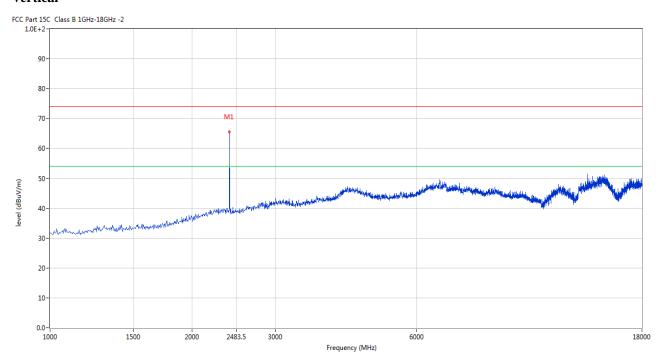
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2402	70.62	-3.57	114.0	-43.38	Peak	28.00	100	Horizontal	Pass

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## Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	2402	65.62	-3.57	114.0	-48.38	Peak	353.00	100	Vertical	Pass

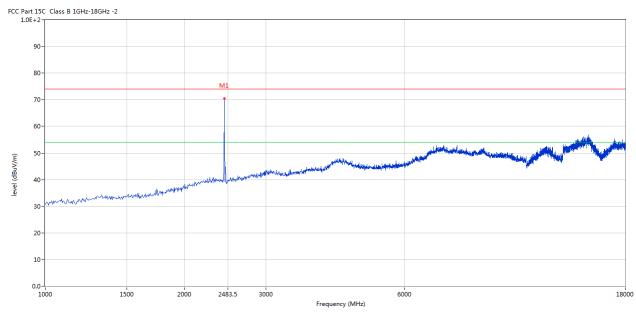
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Please refer to the following test plots for details: Middle Channel-2441MHz

#### **Horizontal**



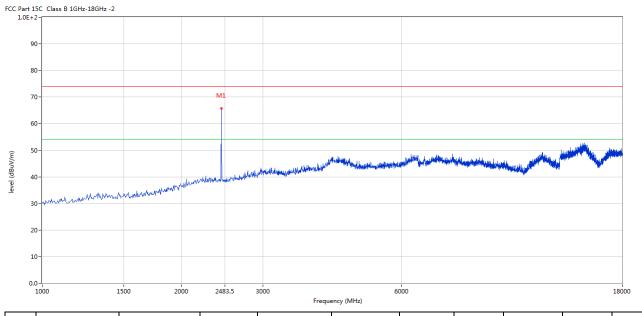
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2441	70.51	-3.57	114.0	-43.49	Peak	21.00	100	Horizontal	Pass

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## Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2441	65.69	-3.57	114.0	-48.31	Peak	27.00	100	Vertical	Pass

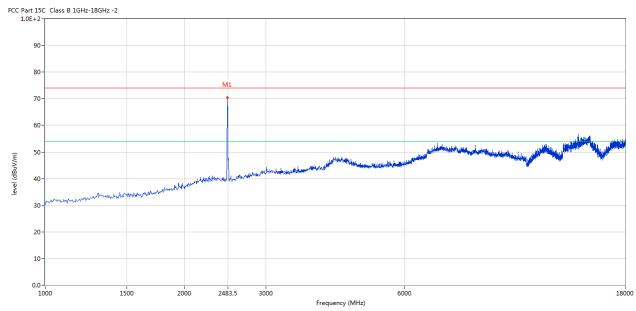
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Please refer to the following test plots for details: High Channel-2480MHz

#### Horizontal



Ī	No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
		(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
	1	2480	70.47	-3.57	114.0	-43.53	Peak	10.00	100	Horizontal	Pass

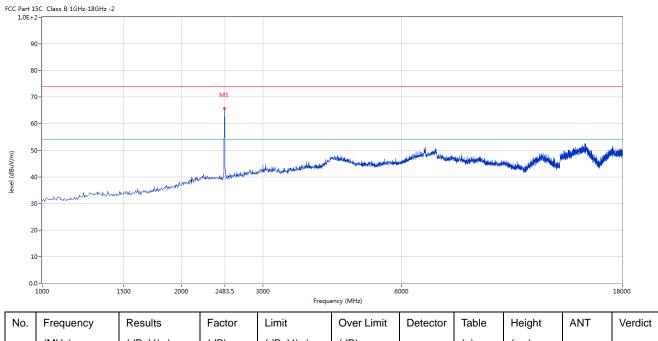
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#### Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2480	65.65	-3.57	114.0	-48.35	Peak	84.00	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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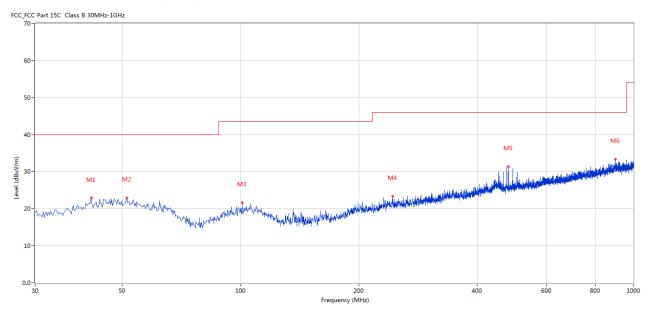


# B. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

**Results:** Pass

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	41.637	22.88	-11.82	40.0	17.12	Peak	0.00	200	Horizontal	Pass
2	51.335	23.00	-11.41	40.0	17.00	Peak	55.00	100	Horizontal	Pass
3	101.035	21.60	-13.46	43.5	21.90	Peak	0.00	200	Horizontal	Pass
4	243.589	23.37	-12.21	46.0	22.63	Peak	204.00	100	Horizontal	Pass
5	479.968	31.38	-7.40	46.0	14.62	Peak	0.00	200	Horizontal	Pass
6	899.873	33.31	-1.85	46.0	12.69	Peak	272.00	100	Horizontal	Pass

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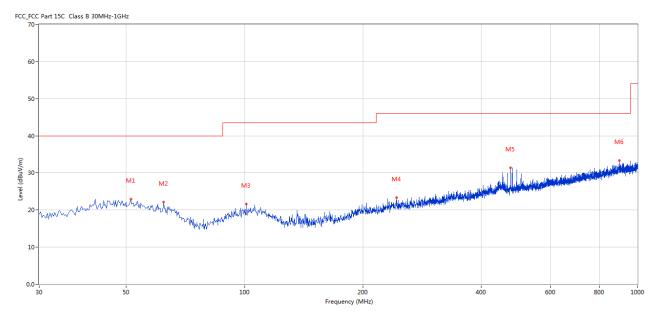


## Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

**Results:** Pass

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	51.335	23.00	-11.41	40.0	17.00	Peak	55.00	100	Vertical	Pass
2	62.244	22.15	-13.27	40.0	17.85	Peak	35.00	100	Vertical	Pass
3	101.035	21.60	-13.46	43.5	21.90	Peak	0.00	200	Vertical	Pass
4	243.589	23.37	-12.21	46.0	22.63	Peak	204.00	100	Vertical	Pass
5	475.361	31.36	-7.43	46.0	14.64	Peak	0.00	200	Vertical	Pass
6	899.873	33.31	-1.85	46.0	12.69	Peak	272.00	100	Vertical	Pass

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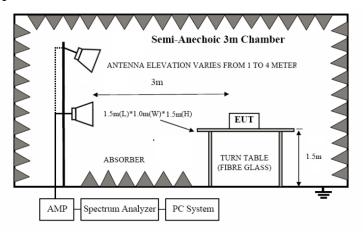


## 7. Band Edge

#### 7.1 Test Method and test Procedure:

- (1) 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.

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

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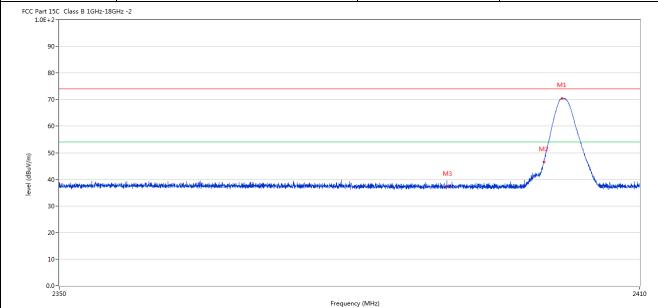
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#### 7.6 Test Result

Product:	SPEAKER	Polarity	Horizontal
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass		



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2401.887	70.50	-3.57	74.0	-3.50	Peak	16.00	100	Horizontal	Pass
2	2400.000	46.47	-3.57	74.0	-27.53	Peak	0.00	100	Horizontal	Pass
3	2390.000	37.23	-3.53	74.0	-36.77	Peak	54.00	100	Horizontal	Pass

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	Product:		SPEA	KER		Detect	tor		Vertical	
	Mode	k	Keeping Tr	ansmitting		Test Vol	tage		DC3.7V	
Те	mperature		24 de	g. C,		Humid	lity		56% RH	
Тє	est Result:		Pa	SS						
	t 15C Class B 1GHz-18GF E+2-	Hz -2								
	90-									
	80-									
	70-								M1	
	60-								^	
₽	50-									
=								M2	<b>\</b>	
(dBuV)	40-	di ana akan ang ang kanalan da ka		and the state of the state of	and a sure and	M3		I	\ \	
level (abuv)	40-	راده براد شده باواید بسته به مهمه به است. ا	<del>galperaliska j litela järelalaevik et</del>	Pagantapa da parajan maka da papaja	poljediska llegdijanski carpopologiska lektopa			hand the light of the last of	Mary Mary Andrews	epipo de Autorios
level (dbuv)	30-	لله حرارة ومن بالأوم باسعيام <del>هذا وجود</del> الديم و <u>يوام</u> م بدا الإيطال	Terlepusinska jänele <sub>st</sub> esulukseetskeel	المجازية والمراجعة والمراج	يونالجة الإيطان برمرين بالأساع بالانتجاب			his new mention and property of the second	Now highly	oplers and advantage
level (dBuV)	30 -	<del>વેર્કે</del> કાલ માન્યુસ્થાન હતા કાલકાર કાલકાર કેટના હતા કરો કરતા હતા. કરતા કાલકાર કાલકાર કાલકાર કાલકાર કાલકાર કાલકાર 	<del>garanirika pinek pendekenka</del>	Headhale ahuraleumhan daehan	وجوده أو الإيطان بالارون ومود ومن المارك الإيطان والمارك الماركة الماركة الماركة الماركة الماركة الماركة الماركة			ik ne , maliyat quantil	Secretarily de	option to the state of
level (dbuV)	30-	ikkasien, apper santasaan kanda yikitasa), mall	terigohridage jiirola <sub>t</sub> foundeleurulged	Hagarista atronologo medana dalaphila	gogistek kingdomiki sere-madasi kingdomiki se			ik ne. nendiyaliyinin da	and the last	apiro de Autoria
_	30 -	the second consideration of th	forten-window block-planning or the state of	Headerstein alternation and aphylon	Frequency (MHz)			ik an andisahar melala	The state of the s	
	30 - 20 -	Results	Factor	Limit				Height	ANT	241
	30 - 20 - 10 - 0.0 - 2350				Frequency (MHz)	and freithin dury being being the	eligence of the constitution of the constituti	A CONTRACTOR OF THE CONTRACTOR		241
√lo.	30	Results	Factor	Limit	Frequency (MHz)  Over Limit	and freithin dury being being the	Table	Height		241 Verdi
(m/\ngp) level	30- 10- 0.0- 2350 Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Frequency (MHz)  Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdi Pass Pass

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J	Product:		S	PEAKER			Polari	ty	Horizo	ntal	
	Mode		Keepin	g Transmittii	ng Test Voltage Humidity				DC3.7V 56% RH		
Te	mperature		2	4 deg. C,							
Те	est Result:			Pass							
CC Par	t 15C Class B 1GHz-18G E+2-	Hz -2									
	90-										
	80-										
			M	1							
	70-										
	60-										
(m//m)	50-		_/_								
(dBu	40		_/	M	2						
ě	40-	والمؤلف المؤلفة والمؤلفة والمعاونة المراجعة والمؤلفة والمؤلفة والمؤلفة والمؤلفة	proving (m.	Works	الإدوا فإطافا لعالمهم علاية تسدمة خادس بأرد	فيقود بالبائد فالمساولة وتواويه والاستخبا	الإعبنا إلأوجه والطومواء وأعابهما		المالين والمراوان والإسطالية والاوالية والمراوات	endendage dellers	
eve	30-	الله ما الله الله الله الله الله الله ال		Works	rafig orabb in a mid poet madeline hideliha jih	galentaljuensky propinsky de konsky	territik erriterik direte	gan ganggang gang gang dan gang p	oznabegijaliganikasa ibisadoribishophik	and photographers	
eve	had a bandhalan da sa sa kalan da	<del>addis safe safet anisat kulonata</del> asri ka <u>njekna asri d</u> a d <sup>a kulo</sup>	Protection (III)	4.4,	الإزمانة الأعراب <u>والمحارث ع</u> د المطاعد بالدر	<del>gine di pina di pina di pina di pina di</del>	kazuzik aprojekanaj haberada	en dik adamin dajika dajika ka badi	ويندي المورية والمواقعة وا	ar den differente la re	
eve	30-	ماند بناه الماند بناه الماند الم	Proce cody("	***	الإنفاقة المستماعة والمستماعة والمستماعة والمستماعة والمستماعة والمستماعة والمستماعة والمستماعة والمستماعة والم	gina di senggi interdesi kata da Saraha	eerittikaan oo taanah darada	im aft mild mysg ett lige per til fra företi.	·····································	endendliggedelderg	
	30- 20-	andiga a significan a significant constructive constructive constructive constructive constructive constructive	rences (f	***	nderneden er de	gine di senggini belak di senga	teatritick demonstraction despende	jon aga mili suga mili ju pa ap mili	enchyeloliganisesus Pederiliainhilli	er de printe de la constante d	
	30-	andiga a significance of the second s	navel)[*	248		ighen di productivi (glavita i kina kina kina kina kina kina kina k	ha parish da may da	jong and henry soft in great of the great	enchyelolizanie post vederitärinhild.		
	30 -	Results	Factor		3.5	Detector	Table	Height	ANT	2500	
	30 - 20 - 10 - 2470		Factor (dB)	248	3.5 Frequency (MHz)					2500	
(m/\ngp) level	30 - 20 - 10 - 2470 Frequency	Results		248 Limit	3.5 Frequency (MHz)		Table	Height		2500	

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]	Product:		S	SPEAKER			Detecto	or	Vertic	al	
	Mode		Keepi	ng Transmitti	ng		Test Volt	age	DC3.7	'V	
Те	mperature		2	24 deg. C,			Humidi	ty	56% RH		
Te	est Result:			Pass							
	rt 15C Class B 1GHz-18GI E+2-	-lz -2				· · · · · · · · · · · · · · · · · · ·		<u>'</u>			
	90-										
	80-										
	70-		M								
	60-			1							
			-								
3uV/m)	50-										
evel (dBuV/m)	40-	almanistration becomes a single and an experience of the second	A PARTIE AND A PAR	M2	المرانعة ووفر والإسرالان العراندات		februipaniy derberidir. Iribeles	والمارية والمارية والمارية والمارية والمارية	annimat filologica desperado de la constitución de la constitución de la constitución de la constitución de la	parameter de param	
	30-										
	20-										
	10-										
	0.0-			2483.						2500	
	0.0- 2470				Frequency (MHz)	T	ı	T			
No.	o.o. 2470 Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT		
No.	0.0- 2470	Results (dBuV/m)	Factor (dB)		Frequency (MHz)	Detector	Table (o)	Height (cm)		Verdic	
No.	o.o. 2470 Frequency			Limit	Over Limit	Detector Peak		_	ANT Vertical	verdic Pass	

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, 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. The antenna gain is -0.58dBi Max. It fulfills the requirement of this section. Test Result: Pass

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SK										
Product:	SPEA	KER		Test	Mode:		Keep tran	smitting		
Mode	Keeping Tr	ransmitting		Test Voltage		DC3.7V				
Temperature	24 de	eg. C,		Humidity		56% RH				
Test Result:	Pass				tector		PK			
dB Bandwidth	865.7	3kHz								
<u>,                                      </u>	Marker 1 [	T1 ndB]	RI	3W	30 kl	Hz Rl	7 Att	20 dB		
Ref Lvl	ndB	20.00 dB	VI	ЗW	100 ki	Hz				
10 dBm	BW 865.73	146293 kHz	sı	VΤ	8.5 m	s Uı	nit	dBm	ı	
10					<b>v</b> <sub>1</sub>	[T1]	-4	.92 dBm		
							2.40184	068 GHz		
0		1			ndB		20	.00 dB	l	
		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	. ^		BW		5.73146			
10		1 7 30	$\mathcal{N}$		$\nabla_{\mathrm{T}1}$	[T1]	-24	.69 dBm		
		$\sim$	·	7	$ abla_{\mathrm{T2}}$	[T1]		210 GHz		
-20				M	. 1.2	[11]	2.40241	.00 dBm		
1MAX				\ <u>\</u>	F2		2.40241	704 G112	1	
30					V	<u> </u>				
40	m. /					\ /	M			
50						V	7	\		
60								V		
70										
80										
-90										
Center 2.40	2 GHz	300 ]	kHz/				Spa	n 3 MHz		

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GFSK												
Product:		SI	PEAKER			Test Mod	e:		Keep tra	nsmitting		
Mode		Keepin		Test Volta	ge		DC	3.7V				
Temperature		2	4 deg. C,			Humidity	7	56% RH				
Test Result:			Pass			Detector			PK			
20dB Bandwidth	865.73kHz											
₹ <b>À</b>		Marker	RBV	W 30	kHz	RF	Att	20 dB				
Ref Lvl		ndB	20.	00 dB	VBV							
10 dBm		BW 865	5.731462	293 kHz	SWI	г 8.5	ms	Ur	nit	dBn	n	
10						▼:	L [T1	]	- 4	.60 dBm	A	
									2.44084	068 GHz		
0				1		no			20	.00 dB		
				\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\ Λ	BV V		86 11	5.73146	293 kHz .73 dBm		
-10					V 4				2.44055			
			/	$\mathcal{N}$		<b>\</b> \\\ ▼:	Г2 [Т	1]	-24	.69 dBm		
-20			T1/V			V <sub>E2</sub>			2.44141	784 GHz	1,	
1MAX						Ψ,					1M2	
-30			/				N				l	
		$\sim$					Υ.					
-40							17				l	
	Μ.							١	w			
-50		$\backslash /$						\ <u>\</u>	_		ł	
	~	V						•	YM			
-60									*1	Approactor.	À	
-70											-	
-80											ł	
-90											J	
Center 2	.441 GH	Hz		300	kHz/				Spa	n 3 MHz	:	
Date: 6	.JUL.20	23 17:	34:52									

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GFSK												
Product:		SI	PEAKER			Т	est Mode:		Keep tra	nsmitting		
Mode		Keepin	g Transmi	tting		Te	est Voltage	e	DC	3.7V		
Temperature		24	4 deg. C,			]	Humidity		56%	6 RH		
Test Result:	Pass						Detector		PK			
20dB Bandwidth	859.72kHz											
		Marker	1 [T1 r	ndB]	R	BW	30 k	Hz R	F Att	20 dB		
Ref Lvl		ndB		00 dB		BW	100 k					
10 dBm		BW 859	.719438	888 kHz	SI	ИT	8.5 m	ıs Uı	nit	dBm		
10							<b>v</b> <sub>1</sub>	[T1]	-4	.98 dBm	A	
0									2.47984	669 GHz		
				1			ndI	8	20	.00 dB		
				\\w\	Λ		BW ∇ <sub>T</sub>	85 L [T1]	9.71943	888 kHz .94 dBm		
-10					V /	`			2.47955			
			,	$\mathcal{N}$		$\lambda$	<b>▽</b> T:	2 [T1]	-24	.89 dBm		
-20			T1/			ď	<b>√</b> F2		2.48041	182 GHz	1MA	
-30							4				IMA	
			<i>{</i>				V	ή,				
-40	$\sim$								<b>~</b>			
-50		$\bigvee$						V				
-60										~~ <del>~</del> ~~~ <del>\</del>		
-70												
-80												
-90 Center 2	2.48 GH:	z		300	kHz/				Spa	n 3 MHz		
	.JUL.20		35:48		,							

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I/4DQPSK	SPEAKER						Cost Mada:	Keep transmitting			
Product:							est Mode:				
Mode						_	est Voltage		DC3.7V		
Temperature		24 deg. C,					Humidity	56% RH PK			
Test Result:			Pass				Detector				
20dB Bandwidth	1.257MHz  Marker 1 [T1 ndB]									•	
						BW 30 kHz			F Att	20 dB	
Ref Lvl 10 dBm		ndB	20. 256513.	00 dB		BW	100 ki 8.5 m		nit	d D.	
10 asm		BW 1	250513	SU3 MHZ	51	ИT		S U1	nit	dBm	1
							<b>v</b> <sub>1</sub>	[T1]	-4	.96 dBm	
0									2.40184	068 GHz	
				1			ndB		20 1.25651	.00 dB	
				$\land \land \land$	\		BW ▼ <sub>T1</sub>	[T1]	_25	303 MHz	
-10			^	1W	Ly.	~~	Λ.		2.40137		
			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	مما		<b>ا</b> ہر	$\sqrt{\gamma}_{T2}$	[T1]	-25	.13 dBm	
-20		Т]	N					<u>г</u> 2	2.40262	826 GHz	
1MAX		J					\\	Ţ			11
-30								<del>-}</del>			
								\			
-40								<del>-\</del>			
		$\mathcal{M}$									
-50	$\sqrt{\Lambda_{i}}$	•							V* \		
	"								M	l	
-60										<u>\</u> \ <u>\</u> \ <u>\</u> \\	
-70											
-80											
-90 Center 2.4	400 G	In		300	kHz/					n 3 MHz	J

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1/4DQPSK											
Product:		S	PEAKER			Test Mode:		Keep trai	nsmitting		
Mode		Keepir	ıg Transmi	tting	,	Test Voltage		DC3	3.7V		
Temperature		24 deg. C,						56% RH PK			
Test Result:	Pass					Detector					
20dB Bandwidth	1.251MHz							-			
		Marker	1 [T1 n	ndB]	RBW	1 30 k	KHZ R	F Att	20 dB		
Ref Lvl		ndB		00 dB	VBW						
10 dBm		BW 1	.250501	.00 MHz	SWI	8.5 n	ns U	nit	dBm		
10						<b>v</b> <sub>1</sub>	[T1]	- 4	.71 dBm	_	
								2.44084	068 GHz	A	
0				1		ndl	8	20	.00 dB		
				\ \ \		BW		1.25050	100 MHz		
-10				<del>-                                    </del>	\ <u> </u>	$\nabla_{\mathrm{T}}$	1 [T1]	-24	.72 dBm		
			$\sim$		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	why.		2.44037			
-20						A A/I	2 [T1]	-24			
1MAX		<u></u>				\	T2	2.44162	224 GHz	1M2	
-30											
-40	<u></u>	M					Wy.	40			
-60								The Contract of the Contract o	low h		
									ww/		
-70											
-80											
-90	4.45				1 '			_	2	l	
Center 2	.441 GI	HZ		300	kHz/			Spa	ın 3 MHz		
ate: 6.	JUL.20	23 17:	38:19								

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Л/4DQPSK											
Product:		Sl	PEAKER			T	est Mode		Keep tra	ansmitting	
Mode		Keepin	g Transmi	tting		Te	est Voltag	e	DC	23.7V	
Temperature		2	4 deg. C,			I	Humidity		56%	% RH	
Test Result:	Pass					]	Detector		PK		
20dB Bandwidth	1.226MHz										
<b>F</b>	Marker 1 [T1 ndB] R					ВW	30 }	Hz R	F Att	20 dB	
Ref Lvl		ndB		00 dB		BW	100 }				
10 dBm		BW 1	L.226452	91 MHz	SI	VT	8.5 r	ns Ui	nit	dBm	
							<b>v</b> <sub>1</sub>	[T1]	- 4	.98 dBm	A
0									2.47984	669 GHz	
				1			nd:	3	20	.00 dB	
				$\mathcal{M}$	Λ		BW ⊽ <sub>T</sub>	 1 [T1]	1.22645	291 MHz	
-10			^		ν ζ	1~	۸.,		2.47937	174 GHz	
			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	<b>~</b>		,	$\mathcal{T}_{\mathbb{T}}$	2 [T1]	-25	.17 dBm	
-20		T)	~				)	12	2.48059	820 GHz	1MA
-30		7					,	Λ,			IMA
-40	$\sim$	$\searrow$						Jan.	Λ		
-50	W								My	hy "	
-60										*** <del>**********************************</del>	
-70											
-80											
-90 Center 2	2.48 GH:	z		300	kHz/				Spa	n 3 MHz	
Date: 6	.JUL.20	23 17:	37:20								

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#### 10.0 FCC ID Label

#### FCC ID: 2APYY-AE0275

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



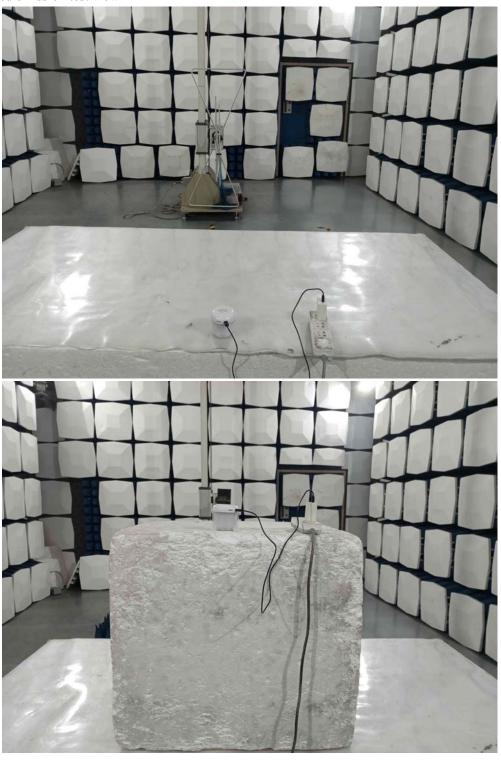
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## Radiated emission test view



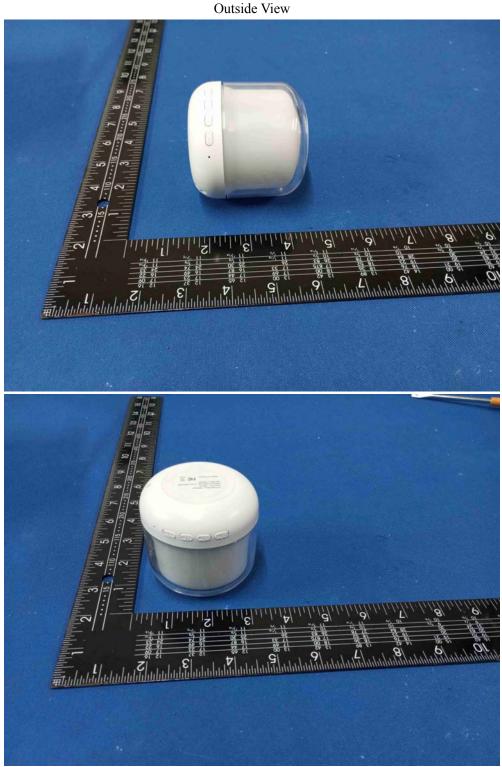
The report refers only to the sample tested and does not apply to the bulk.

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#### 11.2 Photographs – EUT



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Outside View





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Outside View



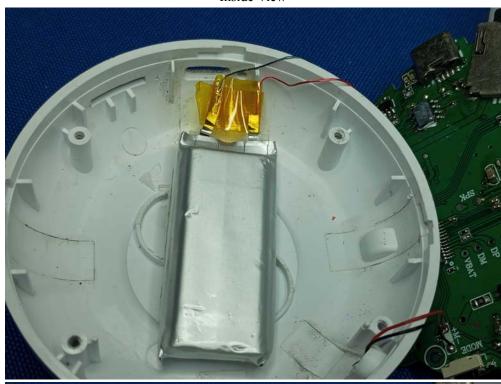
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Inside View





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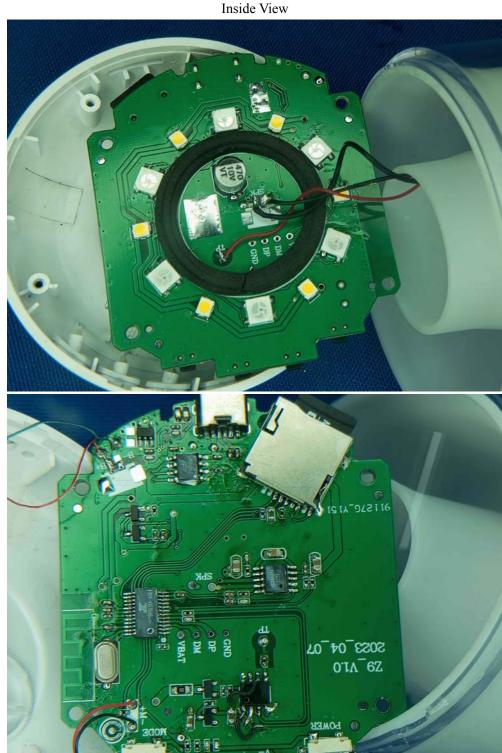
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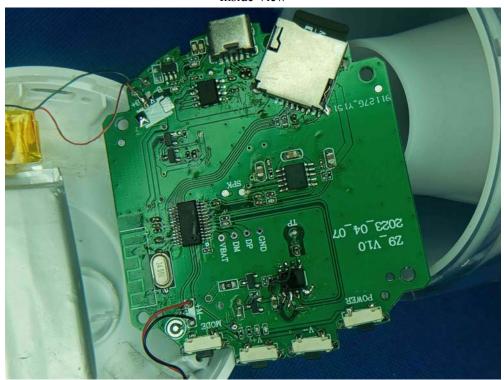
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Inside View



-- End of Report--