

File reference No.: 2022-06-13

Applicant: TOPSAIL (HONG KONG) LIMITED

Product: Bluetooth Speaker

Model No.: 8812A

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 13, 2022

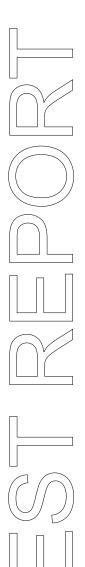
Results appearing herein relate only to the sample tested

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 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: 2022-06-13



Test Report Conclusion Content

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

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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: TOPSAIL (HONG KONG) LIMITED

Address: Room 402, No. 8, Sixth Street, Hekang New District, Changping Town, Dongguan City,

Guangdong Province, China

Telephone: -Fax: --

1.3 Description of EUT

Product: Bluetooth Speaker

Manufacturer: TOPSAIL (HONG KONG) LIMITED

Address: Room 402, No. 8, Sixth Street, Hekang New District, Changping Town,

Dongguan City, Guangdong Province, China

Trademark: N/A
Model Number: 8812A
Additional Model Name N/A

Rating: 5Vdc, 500mA

battery: DC3.7V, 800mAh Li-ion battery
Modulation Type: GFSK and Л/4DQPSK for Bluetooth

Operation Frequency: 2402-2480MHz

Channel Number: 79
Channel Separation: 1MHz
Hardware Version: V1.0
Software Version: V1.0

Serial No.: 202206100001

Antenna Designation PCB antenna with gain -0.60dBi Max (Get from the antenna specification)

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1.4 Submitted Sample: 1 Sample

1.5 Test Duration 2022-05-31 to 2022-06-13

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	2021-06-18	2022-06-17
LISN	R&S	EZH3-Z5	100294	2021-06-18	2022-06-17
LISN	R&S	EZH3-Z5	100253	2021-06-18	2022-06-17
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2021-06-18	2022-06-17
Loop Antenna	EMCO	6507	00078608	2021-06-18	2024-06-17
Spectrum	R&S	FSIQ26	100292	2021-06-18	2022-06-17
Horn Antenna	A-INFO	LB-180400-KF	J211060660	2021-07-02	2024-07-01
Horn Antenna	R&S	BBHA 9120D	9120D-631	2021-07-02	2024-07-01
Power meter	Anritsu	ML2487A	6K00003613	2021-06-18	2022-06-17
Power sensor	Anritsu	MA2491A	32263	2021-06-18	2022-06-17
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2021-07-02	2024-07-01
9*6*6 Anechoic		-	N/A	2021-07-02	2022-07-01
EMI Test Receiver	RS	ESVB	826156/011	2021-06-18	2022-06-17
EMI Test Receiver	RS	ESH3	860904/006	2021-06-18	2022-06-17
Spectrum	HP/Agilent	ESA-L1500A	US37451154	2021-06-18	2022-06-17
Spectrum	HP/Agilent	E4407B	MY50441392	2021-06-18	2022-06-17
Spectrum	RS	FSP	1164.4391.38	2022-01-15	2023-01-14
RF Cable	Zhengdi	ZT26-NJ-NJ-8M/FA		2021-06-18	2022-06-17
RF Cable	Zhengdi	7m		2021-06-18	2022-06-17
RF Switch	EM	EMSW18	060391	2021-06-18	2022-06-17
Pre-Amplifier	Schwarebeck	BBV9743	#218	2021-06-18	2022-06-17
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2021-06-18	2022-06-17
LISN	SCHAFFNER	NNB42	00012	2022-01-05	2023-01-04

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 tested 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 and RSS-210	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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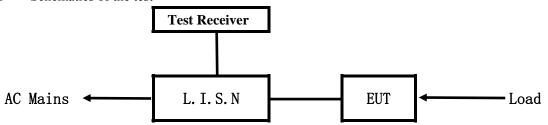
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5. Power Line Conducted Emission Test

5.1 Schematics of the test

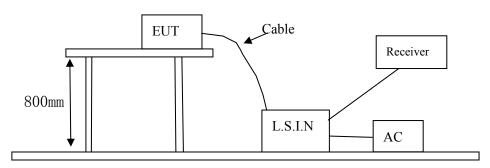


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2014. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4-2014.

Test Voltage: 120V~, 60Hz Block diagram of Test setup



5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.4-2014. 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
Bluetooth Speaker	TOPSAIL (HONG KONG) LIMITED	8812A	2ACCE-BT186

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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 C63.4 -2014

- 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 6 1						
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 ~ 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:

Pass

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

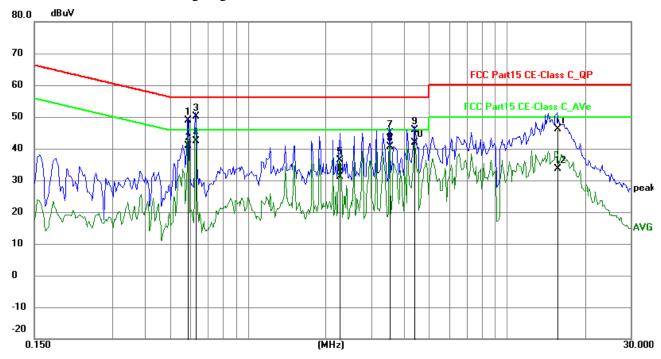
EUT Operating Environment

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

EUT set Condition: 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	0.5868	39.05	9.77	48.82	56.00	-7.18	QP	Р
2	0.5868	31.08	9.77	40.85	46.00	-5.15	AVG	Р
3	0.6297	40.35	9.78	50.13	56.00	-5.87	QP	Р
4	0.6297	32.58	9.78	42.36	46.00	-3.64	AVG	Р
5	2.2677	26.56	9.81	36.37	56.00	-19.63	QP	Р
6	2.2677	21.36	9.81	31.17	46.00	-14.83	AVG	Р
7	3.5226	35.07	9.87	44.94	56.00	-11.06	QP	Р
8	3.5226	30.75	9.87	40.62	46.00	-5.38	AVG	Р
9	4.4040	35.98	9.90	45.88	56.00	-10.12	QP	Р
10	4.4040	32.10	9.90	42.00	46.00	-4.00	AVG	Р
11	15.6438	35.77	10.42	46.19	60.00	-13.81	QP	Р
12	15.6438	23.14	10.42	33.56	50.00	-16.44	AVG	Р

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

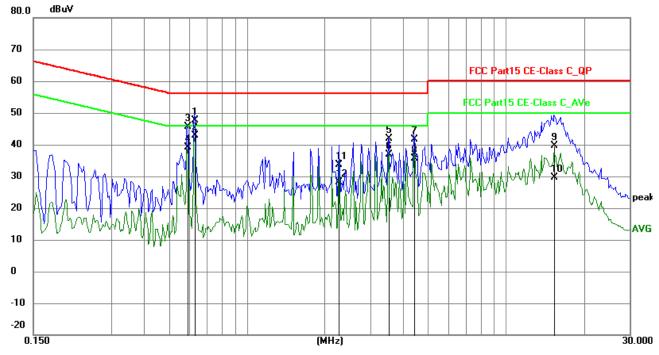
EUT Operating Environment

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

EUT set Condition: 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	0.6297	37.89	9.78	47.67	56.00	-8.33	QP	Р
2	0.6297	33.01	9.78	42.79	46.00	-3.21	AVG	Р
3	0.5907	35.82	9.77	45.59	56.00	-10.41	QP	Р
4	0.5907	29.32	9.77	39.09	46.00	-6.91	AVG	Р
5	3.5226	31.92	9.87	41.79	56.00	-14.21	QP	Р
6	3.5226	26.97	9.87	36.84	46.00	-9.16	AVG	Р
7	4.4079	31.77	9.90	41.67	56.00	-14.33	QP	Р
8	4.4079	25.77	9.90	35.67	46.00	-10.33	AVG	Р
9	15.3591	29.32	10.40	39.72	60.00	-20.28	QP	Р
10	15.3591	19.30	10.40	29.70	50.00	-20.30	AVG	Р
11	2.2677	23.83	9.81	33.64	56.00	-22.36	QP	Р
12	2.2677	18.44	9.81	28.25	46.00	-17.75	AVG	Р

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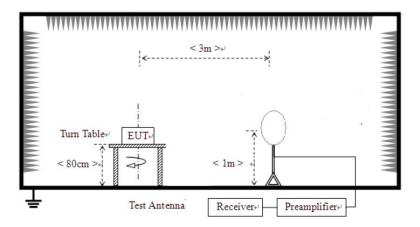


6 Radiated Emission Test

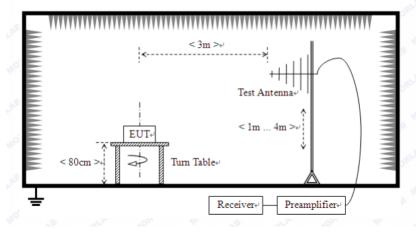
- 6.1 Test Method and test Procedure:
- (1) The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) The EUT, peripherals were put on the turntable which table size 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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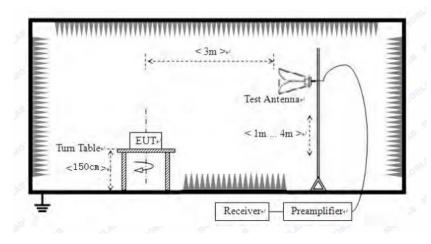
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For radiated emissions above 1GHz



- 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 Stre	ength of Fundame	ntal (3m)	Field S	trength of Harmo	nics (3m)
(MHz)	mV/m	dBu	V/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. For radiated emissions from 9kHz to 30MHz, the emission level is much less than the limit for more than 20dB. No necessary to take down the record.
- 6. Two modulation types were tested and only the worst case was reported in the test report. GFSK modulation was the worst case.
- 7. Battery fully charged during the test.

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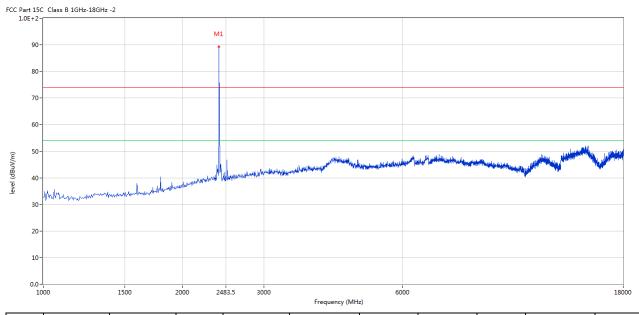


6.5 Test result

A Fundamental & Harmonics Radiated Emission Data

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

Horizontal



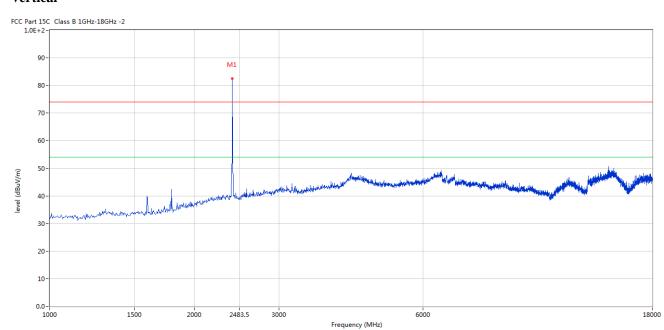
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	2402	89.19	-3.57	114.0	-24.81	Peak	130.00	100	Horizontal	Pass

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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	82.63	-3.57	114.0	-31.37	Peak	191.00	100	Vertical	Pass

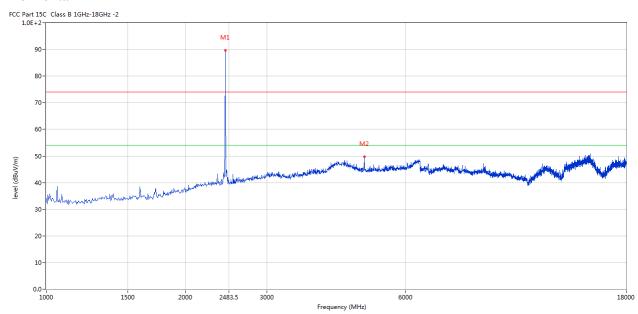
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Please refer to the following test plots for details: Middle Channel-2441MHz

Horizontal



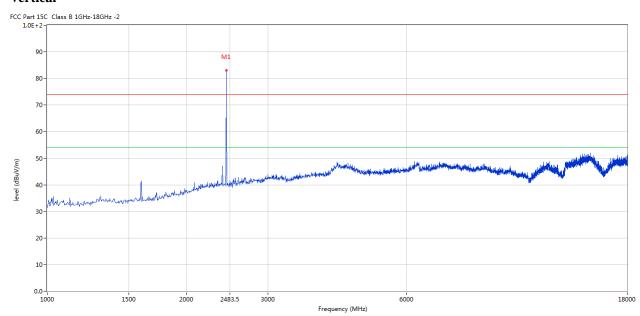
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	2441	89.07	-3.57	114.0	-24.93	Peak	220.00	100	Horizontal	Pass
2	4879.280	49.63	3.20	74.0	-24.37	Peak	240.00	100	Horizontal	Pass

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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	2441	82.96	-3.57	114.0	-31.04	Peak	178.00	100	Vertical	Pass

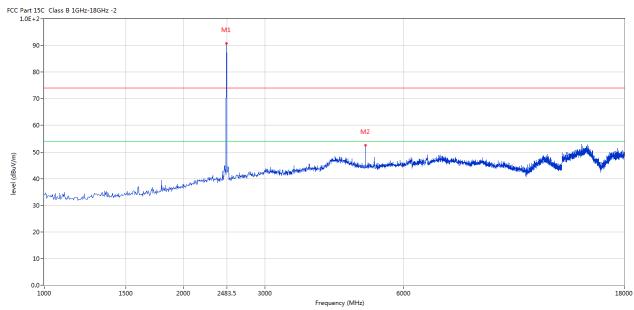
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Please refer to the following test plots for details: High Channel-2480MHz

Horizontal



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	2480	90.82	-3.57	114.0	-23.18	Peak	238.00	100	Horizontal	Pass
2	4960.010	52.55	3.36	74.0	-21.45	Peak	232.00	100	Horizontal	Pass

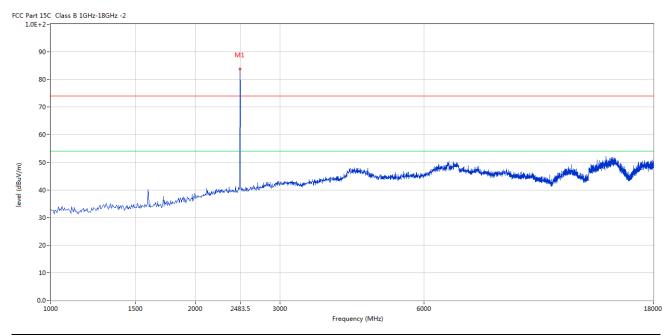
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Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	2480	83.80	-3.57	114.0	-30.20	Peak	190.00	100	Vertical	Pass

Note: (2) Emission Level = Reading Level + Antenna Factor + Cable Loss-Amplifier

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

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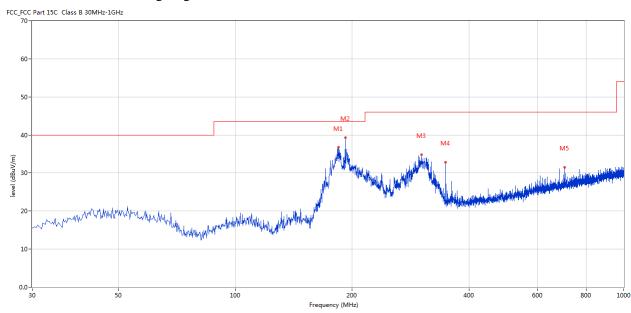


B. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

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	184.434	36.72	-14.99	43.5	-6.78	Peak	356.00	100	Horizontal	Pass
2	191.950	39.28	-14.07	43.5	-4.22	Peak	0.00	100	Horizontal	Pass
3	302.017	34.79	-10.99	46.0	-11.21	Peak	198.00	100	Horizontal	Pass
4	347.838	32.84	-9.43	46.0	-13.16	Peak	177.00	100	Horizontal	Pass
5	703.982	31.45	-4.14	46.0	-14.55	Peak	339.00	100	Horizontal	Pass

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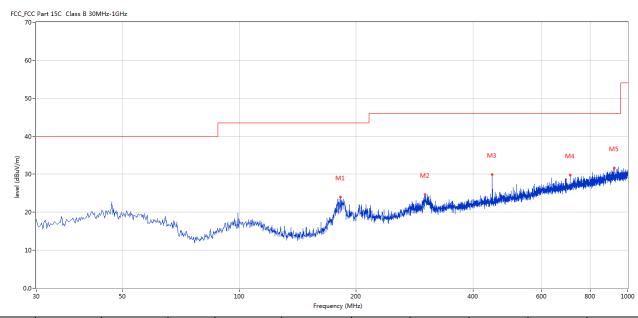


Radiated Emission In Vertical (30MHz----1000MHz)

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	182.009	23.95	-15.03	43.5	-19.55	Peak	285.00	100	Vertical	Pass
2	300.320	24.64	-11.02	46.0	-21.36	Peak	268.00	100	Vertical	Pass
3	447.966	29.99	-8.06	46.0	-16.01	Peak	360.00	100	Vertical	Pass
4	710.527	29.85	-3.95	46.0	-16.15	Peak	307.00	100	Vertical	Pass
5	921.692	31.58	-1.71	46.0	-14.42	Peak	0.00	100	Vertical	Pass

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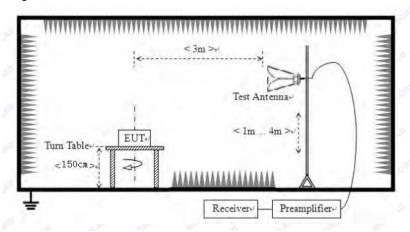


7. Band Edge

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.

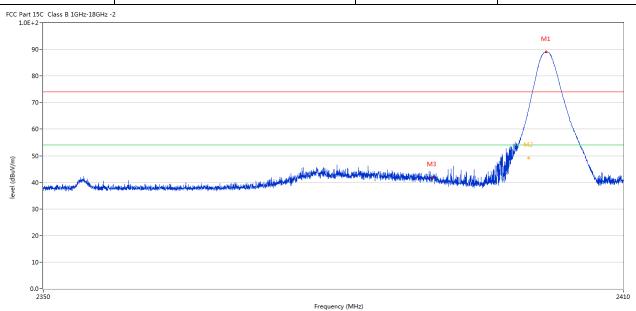
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7.6 Test Result

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

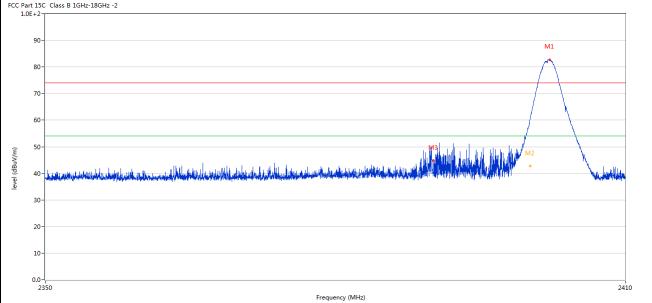


No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	2401.962	89.01	-3.57	74.0	15.01	Peak	133.00	100	Horizontal	N/A
2	2400.087	67.23	-3.57	74.0	-6.77	Peak	128.00	100	Horizontal	Pass
2**	2400.087	49.09	-3.57	54.0	-4.91	AV	128.00	100	Horizontal	Pass
3	2390.040	41.87	-3.53	74.0	-32.13	Peak	133.00	100	Horizontal	Pass

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Product:	Bluetooth Speaker	Detector	Vertical
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass		

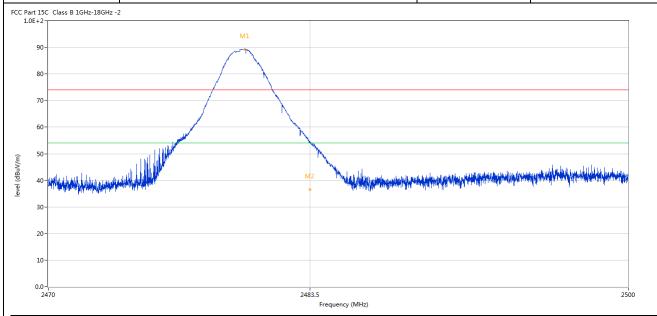


No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2402.082	82.69	-3.57	74.0	8.69	Peak	147.00	100	Vertical	N/A
2	2400.072	60.77	-3.57	74.0	-13.23	Peak	147.00	100	Vertical	Pass
2**	2400.072	42.71	-3.57	54.0	-11.29	AV	147.00	100	Vertical	Pass
3	2390.025	44.91	-3.53	74.0	-29.09	Peak	91.00	100	Vertical	Pass

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Product:	Bluetooth 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 (o)	Height	ANT	Verdict
		(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
	1	2480.137	89.33	-3.57	74.0	15.33	Peak	230.00	100	Horizontal	N/A
	2	2483.482	54.66	-3.57	74.0	-19.34	Peak	219.00	100	Horizontal	Pass
	2**	2483.482	36.61	-3.57	54.0	-17.39	AV	219.00	100	Horizontal	Pass
Г											

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	Pr	oduct:			Bluetooth S	peaker		Det	ector	Vertica		
	N	Mode		K	eeping Tran	smitting		Test V	/oltage	DC:	3.7V	
T	em;	perature			24 deg.	C,		Hun	nidity	56%	6 RH	
Γ	Product: Mode Temperature Test Result: Part 15c Class B 1GHz-18GHz -1 1.0E+2- 90- 80- 70- 60- 40- 40- 40- 40- 10- 10- 10- 10- 10- 10- 10- 10- 10- 1			Pass					-	-		
		Class B 1GHz-18GHz	-2									
	90-											
	80-				M1							
				N								
	60-			/	/							
						M2						
(m//m)	50-		li e li komi	of the same of the	,	M2						
vel (dBuV/m)	50-	ور المسرور والمالك وروالمالك والمالية		giant.		Ma lubis	n yan bik ka a sirah adike wasa kutul da	والمنافقة	agraphical de la		hala dalan sa ad	
level (dBuV/m)	50- 40-	والمعارف والمعارفة والمرادمة والمعارض و	make Wilaid de distribution	phone .	,	A STATE OF THE STA	والمرابع المرابع المرا	الدخاطة عدنت الماجة الإيونانية الإرافة	apropriate for fill because to be for	der will der jage der die der bereicht die der	h de de la companya d	
level (dBuV/m)	40 - 30 -	trind the plates of the state o	makalista kilika kalifa ka	phone of the second of the sec		And the party of the state of t	ويعرفه والمراجع والمراجع والمراجع المراجع المر	المستخدات المستخدمة المراجعة المستخدمة المستخدمة المستخدمة المستخدمة المستخدمة المستخدمة المستخدمة المستخدمة ا	graganija dobijak, baranda da da	ir Wagashaharen berildida.	h disabiling disabiling stati	
level (dBuV/m)	40 - 30 -	dalah kasaliktan malahkaran pelai	makalikalika da katalah	giring A		And the state of t	tang di kapangan di kecang perlaba	indida ayan da kalayaya ii indid	gregoria de la filla francosto de de	de all Anglish de Anglish be stall de Ang	h fir dal de d'almanne de	
	30- 20-	to had almost blade on a control to proceed party of the control o	makalilatilik kalik kalik	ging to		And And Legisland	tarylikies piekeristise japilek	المراجعة الم	ayraginga les p <mark>la</mark> pane rete de fa	to an angel de la companya de constituit de la constituit de la constituit de la constituit de la constituit d	tiveling of language	
	40- 30- 20-		amaka kili kilik kil	ging d		2483.5 Frequency (MF		and the law of the law	geographic for fall, because the defe		2500	
	30- 20- 10- 0.0- 247		Results	Factor	Limit	2483.5		Table (o)	Height	ANT		
	30- 20- 10- 0.0- 247	70			Limit (dBuV/m)	2483.5 Frequency (MI	Nz)				2500	
	30- 20- 10- 0.0- 247	Frequency	Results	Factor		2483.5 Frequency (MF	Nz)		Height		2500	

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

2. GFSK modulation 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 -0.60dBi Max. It fulfills the requirement of this section. Test Result: Pass

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FSK Product:	Bluetooth S	peaker	Test N	Iode:	Keep tra	nsmitting	
Mode	Keeping Tran		Test V	-		3.7V	
Temperature	24 deg.	-	Hum		56%	6 RH	
Test Result:	Pass		Dete	ctor	PK		
dB Bandwidth	883.77k	Hz		-			
Ref Lvl 10 dBm		l ndB] 20.00 dB 53507 kHz		30 kHz 00 kHz	RF Att Unit	20 dB	
0				▼1 [T	2.4018	-3.61 dBm 1062 GHz	
-10			\	BW	883.7675	3507 kHz	
-20				▼ _{T2} [2.4015 T1] -2 2.4024	23.21 dBm	
-30			٩	\ _A		1	
-40				Y			
-50	m /				\		
-60	V				V	1 ₀ , q.	
						My	
-70							
-80							
-90 Center 2.402	GII	300 kHz			~	an 3 MHz	

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FSK						1			W		
Product:			ooth Speal				est Mode:			ansmitting	
Mode		Keepin	g Transmi	tting		To	est Voltage		DC	23.7V	
Temperature		2	4 deg. C,]	Humidity		56%	% RH	
Test Result:			Pass				Detector]	PK	
0dB Bandwidth		88	83.77kHz								
Ŕ	Marker 1 [T1 ndB]				F	BW	30 k	Hz F	RF Att	20 dB	
Ref Lvl		ndB	20.	00 dB	V	BW	100 k				
10 dBm		BW 883	3.767535	07 kHz	S	TW	8.5 m	s U	Jnit	dBn	n
10							v ₁	[T1]	-3	.06 dBm	A
									2.44081	062 GHz	
0				<u></u>			ndB		20	0.00 dB	
					Vh		BW ▽ _{T1}	8 [T1]	83.76753 -21	3507 kHz	
-10					,			<u> </u>	2.44052		İ
						N	$ abla_{\mathrm{T1}}$	[T1]	-22	.90 dBm	ı
-20			YV				A.		2.44140)581 GHz	1 M2
			لسر				1				
-30		Ŋ	4				*\	\			
		\\\^\'						لي.			
-50	my								m		•
-60	У	J)						7	W. W.	بالر ميدا	
										M	
-70											
-80											
-90 Center 2	.441 GI	łz		300	kHz/				Spa	an 3 MHz	ļ
Date: 9.	TIINI 20										

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Product:		Rluet	ooth Speal	zer		т	est Mode:		Keen tr	ansmitting		
Mode			g Transmi				est Voltage			23.7V		
Temperature			4 deg. C,	umg		Humidity				% RH		
Test Result:			Pass			Detector			PK			
20dB Bandwidth		Q	33.77kHz									
^	Marker 1 [T1 ndB]				-	 DE-7	30 k		E 3++	20 dB		
Ref Lvl		ndB		.00 dB		BW BW	30 k		F Att	20 QB		
10 dBm			.767535			WT	8.5 m		nit	dBm	ı	
10	1						v ₁	5-2-2		0.5 1-	l	
							, T	[T1]	2.47981	2.97 dBm 062 GHz	A	
0				1			ndI	<u> </u>	2.17903	002 GHZ		
				M	\land		BW	8	83.76753	507 kHz		
-10				 	VY	<u>, </u>	∇_{T}	[T1]	-22	.42 dBm		
			pd.	ď		7	∇-		2.47952			
-20						V	VT2	[T1]	-22	2.61 dBm 0581 GHz		
1MAX									2.48040)581 GHz	1M	
-30							-	<u> </u>				
-40	M								n			
-50 Mywww	<i>y'</i>	√						W	M	1.1.1		
-60										My		
-70												
-80												
-90					_					_		
Center 2	.48 GHz	Z		Center 2.48 GHz 300					Spa	an 3 MHz		

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Л/4DQPSK											
Product:		Blue	tooth Spea	aker		Т	est Mode:		Keep tran	smitting	
Mode		Keepi	ng Transm	itting		Т	est Voltage		DC3	.7V	
Temperature	;	2	24 deg. C,]	Humidity		56%	RH	
Test Result:			Pass				Detector		Pk	<u> </u>	
20dB Bandwic	lth	1	.257MHz								
	-		1 [T1 n			BW	30 k		F Att	20 dB	
Ref Lv 10 dB		ndB BW 1	20. 1.256513	00 dB 803 MHz		BW WT	100 k 8.5 m		nit	dBn	n
10							v ₁	[T1]	-3	.63 dBm	A
0				1			20 01		2.40181		
				$\dot{\Lambda} \wedge$	٨٨		ndE BW ▽ _T	· [T1]	1.25651	.00 dB 303 MHz	
-10			\w\	<i>\</i>	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	M				168 GHz	
-20		T.	J					2 [T1]	-23 2.40259		
1MAX							\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	,	2.1023	020 0112	1MA
-30											
-40	\\\	\d							Λ		
-60 WMM	Mand								hum	Mylling.	
										•	
-70											
-80											
-90 Center	2.402 G	Hz		300	kHz/				l Spa	n 3 MHz	<u>I</u>
Date:	9.JUN.20	22 11:	15:55								

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Product:		Bluet	ooth Speal	ker		Γ	est Mode:		Keep tra	ansmitting	
Mode			g Transmi			T	est Voltage			3.7V	
Temperature			4 deg. C,			+	Humidity		56% RH		
Test Result:			Pass			_	Detector		I	PK	
OdB Bandwidth		1.	.257MHz								
Ŕ	Marker 1 [T1 ndB]				F	RBW	30 k	Hz R	F Att	20 dB	
Ref Lvl		ndB		00 dB	7	/BW	100 k				
10 dBm		BW 1	1.256513	03 MHz	S	SWT	8.5 m	s U	nit	dBm	ı
							v ₁	[T1]	-3	.06 dBm	A
									2.44081	062 GHz	
0				1			ndE		20	.00 dB	
				$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	۸.۸		BW ▼ _T	[11]	1.25651	303 MHz	
-10			MAN	W - W	7 V-	~~\	my a		2.44034		
		,		ĺ			V _{T2}	[T1]	-23	.44 dBm	
-20		7	*				Ţ	2	2.44159	820 GHz	
1MAX		<i>()</i>						4			1M
-30								 			
-40	,							-\			
	Λ	W						M	\mathcal{M}		
-50	1								Myl		
										Manon	
-60										- 40**0 4	
-70											
-80											
-90											,
Center 2	.441 GI	łz		300	kHz/	,			Spa	ın 3 MHz	

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Product:	Bluet	ooth Speak	ker		T	est Mode:		Keep tra	nsmitting		
Mode		g Transmit			Т	est Voltage		DC3.7V			
Temperature		4 deg. C,	*		Humidity			56% RH			
Test Result:		Pass				Detector		I	PK		
0dB Bandwidth	1.	.257MHz									
r	Marker 1 [T1 ndB]				BW	30 ki	Hz Rl	7 Att	20 dB		
Ref Lvl	ndB	20.	00 dB	V	BW	100 k	Hz				
10 dBm	BW 1	L.256513	03 MHz	S	WT	8.5 m	s Uı	nit	dBm	ı	
10						\mathbf{v}_1	[T1]	-2	.92 dBm	A	
								2.47981	062 GHz		
0			Ž a			ndB		20	.00 dB		
			$/\setminus /\setminus$	۸۳۸		BW ▼ _{T1}	[T1]	1.25651	303 MHz		
-10		MM	/\\	~ ~ /	√ √	m,		2.47934			
						V _{T2}	[T1]	-23	.09 dBm		
-20	7	•					2	2.48059	820 GHz		
1MAX							1			1M	
-30											
-40							Ty.	\wedge			
-50	,							W.	Mhun		
-60											
-70											
-80											
-90 Center 2.4	9 Cur		300	bu-/				Cro	ın 3 MHz		

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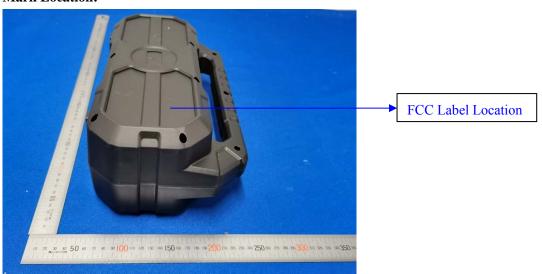
10.0 FCC ID Label

FCC ID: 2ACCE-BT186

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 Conducted test View 11.1

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Radiated emission test view



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11.2 Photographs – EUT

Outside View





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80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 220 240 250 250 210 280 210 280 250 300 300 300 300 300 300 300 300

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Outside View



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Inside view





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discussion of correspondence with any third party concerning the contents of the report.

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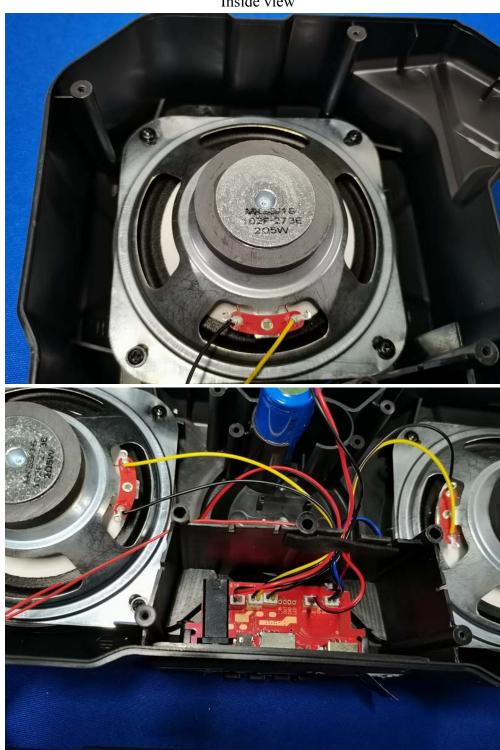
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Inside view



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

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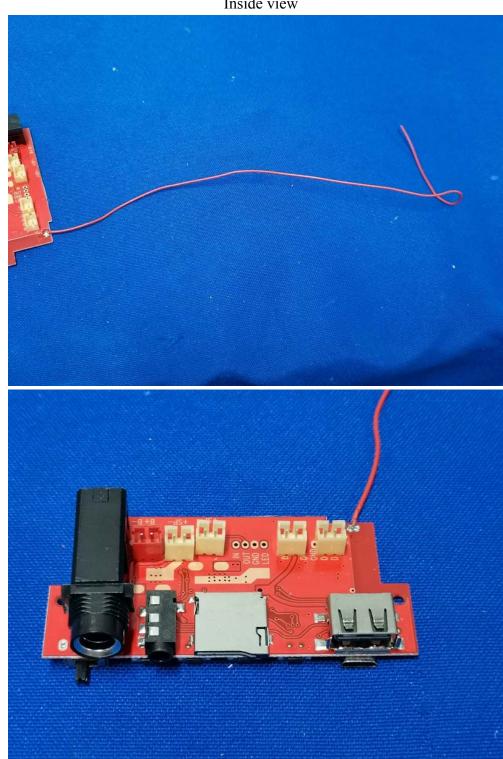
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Inside view



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Inside view





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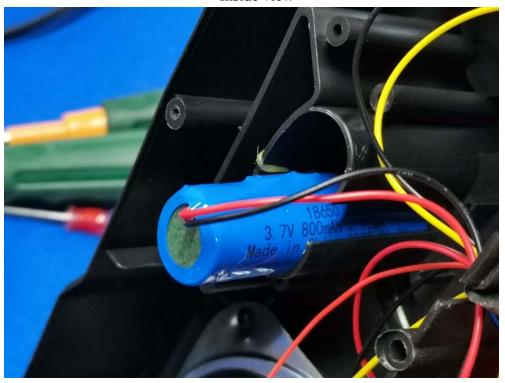
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Inside view



-- End of the report--