



Report No.: TW2401242-01E

Applicant: TOPSAIL (HONG KONG) LIMITED

Product: Bluetooth Speaker

Model No.: 557B, BC-AU-BS-261

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*

Terry Tang

Manager

Dated: February 21, 2024

**Results appearing herein relate only to the sample tested**

**The technical reports is issued errors and omissions exempt and is subject to withdrawal at**

**SHENZHEN TIMEWAY TESTING LABORATORIES**

**Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China**

**Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com**



## Special Statement:

### **FCC-Registration No.: 744189**

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 744189.

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

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

### **A2LA (Certification Number:5013.01)**

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

### **CAB identifier: CN0033**

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## 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 States  
Registration Number: 744189  
For 3m Anechoic Chamber

### 1.2 Applicant Details

Applicant: TOPSAIL (HONG KONG) LIMITED  
Address: Room 803, Chevalier House, 45-51 Chatham Road South, Tsim Sha Tsui, Kowloon Hong Kong  
Telephone: --  
Fax: --

### 1.3 Description of EUT

Product:	Bluetooth Speaker
Manufacturer:	TOPSAIL (HONG KONG) LIMITED
Address:	Floor 3, Building 1, HongYuan Industry Park, #101 ZhongXin Road, Jiujiangshui, Changping Town, Dongguan City, GuangDong Province, P.R.China, 523570
Factory:	TOPSAIL (HONG KONG) LIMITED
Address:	Floor 3, Building 1, HongYuan Industry Park, #101 ZhongXin Road, Jiujiangshui, Changping Town, Dongguan City, GuangDong Province, P.R.China, 523570
Trademark:	N/A
Model Number:	557B
Additional Model Name	BC-AU-BS-261
Rating:	DC5V, 0.5A
Battery:	DC3.7V, 1200mAh Li-ion battery
Modulation Type:	GFSK, JI/4DQPSK, 8DPSK for Bluetooth
Operation Frequency:	2402-2480MHz
Channel Number:	79
Channel Separation:	1MHz
Hardware Version:	V1.1
Software Version:	V1.1
Serial No.:	20240125001

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Antenna Designation      PCB antenna with gain 1.7dBi Max (Get from the antenna specification)

1.4 Submitted Sample: 2 Samples

1.5 Test Duration

2024-01-27 to 2024-02-21

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

A handwritten signature in black ink that reads "Andy Xing".

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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### 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	Radiated Emission Test	Pass	Complies
FCC Part 15 Subpart C Paragraph 15.249(d) Limit	Band Edge Test	Pass	Complies
FCC Part 15.215(c)	20dB bandwidth	Pass	Complies

#### 3.2 Test Standards

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

#### 4.0 EUT Modification

No modification by SHENZHEN TIMEWAY TESTING LABORATORIES

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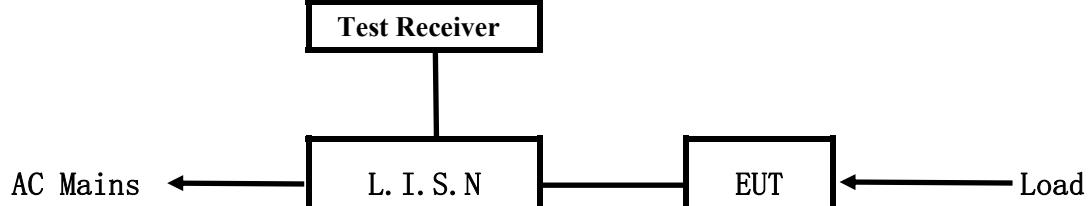
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## 5.0 Power Line Conducted Emission Test

### 5.1 Schematics of the test



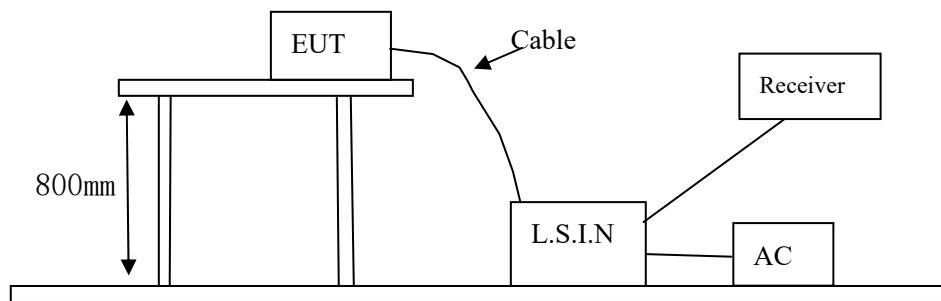
EUT: Equipment Under Test

### 5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2013. The Frequency spectrum from 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.10-2013.

Test Voltage: 120V~, 60Hz

Block diagram of Test setup



### 5.3 Configuration of the EUT

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

79 channels are provided to the EUT

#### A. EUT

Device	Manufacturer	Model	FCC ID
Bluetooth Speaker	TOPSAIL (HONG KONG) LIMITED	557B, BC-AU-BS-261	2ACCE-557B

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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 (MHz)	Limits (dB $\mu$ V)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66.0~56.0*	56.0~46.0*
0.50 ~ 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:

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

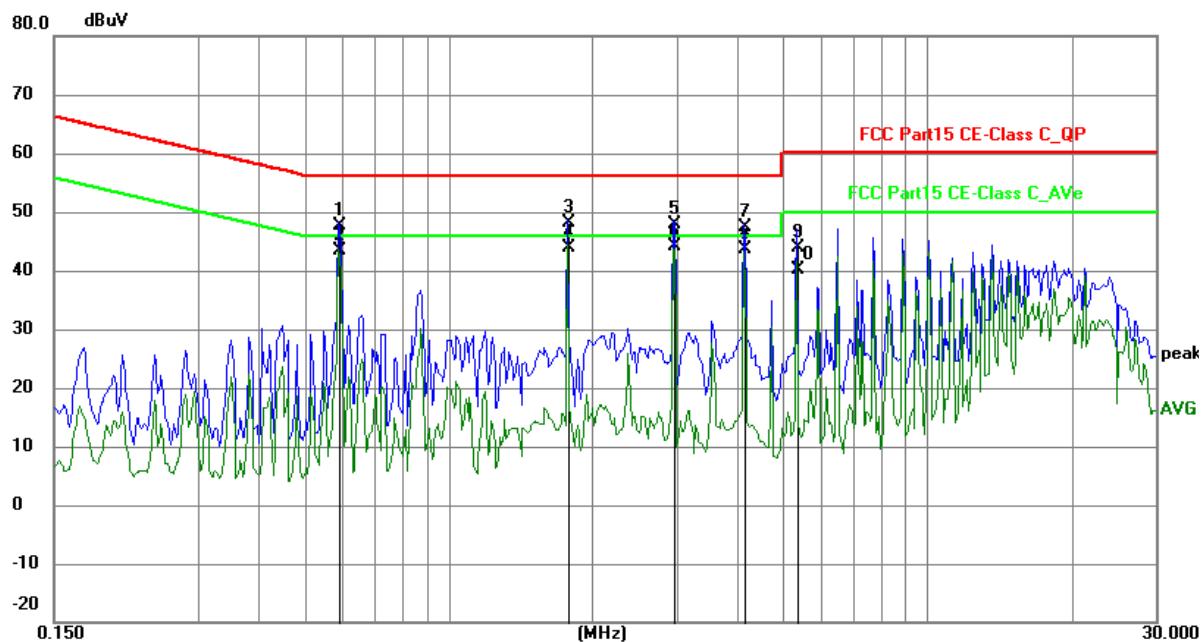
#### EUT Operating Environment

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	0.5907	37.78	9.77	47.55	56.00	-8.45	QP	P
2	0.5907	33.60	9.77	43.37	46.00	-2.63	AVG	P
3	1.7763	38.21	9.80	48.01	56.00	-7.99	QP	P
4	1.7763	34.15	9.80	43.95	46.00	-2.05	AVG	P
5	2.9619	38.07	9.84	47.91	56.00	-8.09	QP	P
6	2.9619	34.22	9.84	44.06	46.00	-1.94	AVG	P
7	4.1466	37.45	9.89	47.34	56.00	-8.66	QP	P
8	4.1466	33.79	9.89	43.68	46.00	-2.32	AVG	P
9	5.3361	34.00	9.94	43.94	60.00	-16.06	QP	P
10	5.3361	30.11	9.94	40.05	50.00	-9.95	AVG	P

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

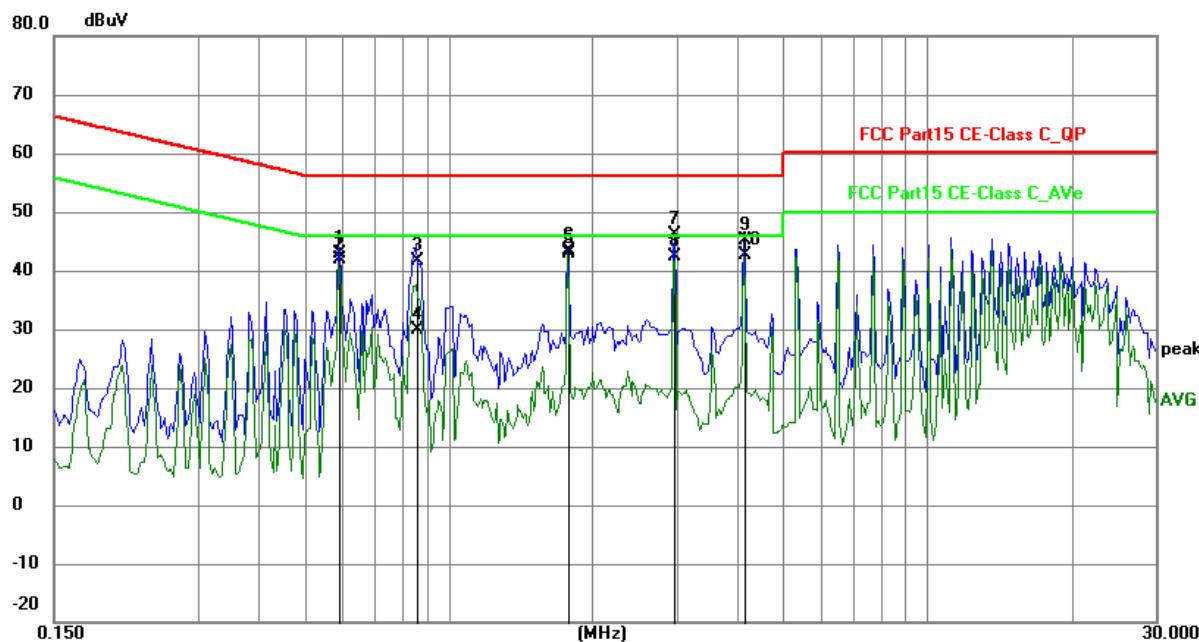
### EUT Operating Environment

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	0.5907	33.11	9.77	42.88	56.00	-13.12	QP	P
2	0.5907	32.07	9.77	41.84	46.00	-4.16	AVG	P
3	0.8598	31.81	9.78	41.59	56.00	-14.41	QP	P
4	0.8598	20.18	9.78	29.96	46.00	-16.04	AVG	P
5	1.7763	33.16	9.80	42.96	56.00	-13.04	QP	P
6	1.7763	33.62	9.80	43.42	46.00	-2.58	AVG	P
7	2.9619	36.25	9.84	46.09	56.00	-9.91	QP	P
8	2.9619	32.45	9.84	42.29	46.00	-3.71	AVG	P
9	4.1466	35.23	9.89	45.12	56.00	-10.88	QP	P
10	4.1466	32.65	9.89	42.54	46.00	-3.46	AVG	P

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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 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
	Peak	1MHz	10Hz	Average

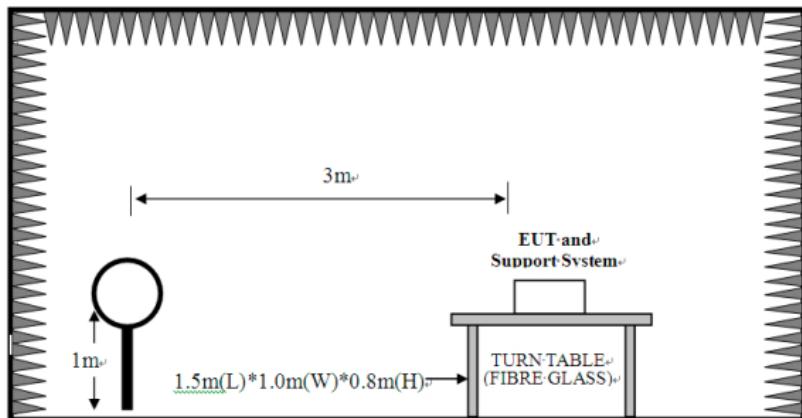
(Note: for Fundamental frequency radiated emission measurement, RBW=3MHz, VBW=10MHz).

Measurements were made at 3 meters.

- (4) The antenna height 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



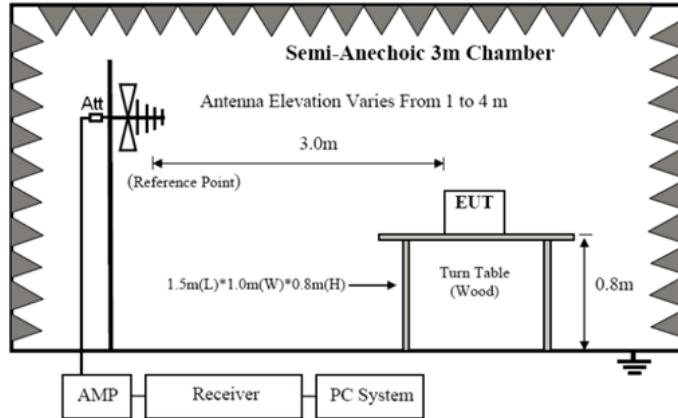
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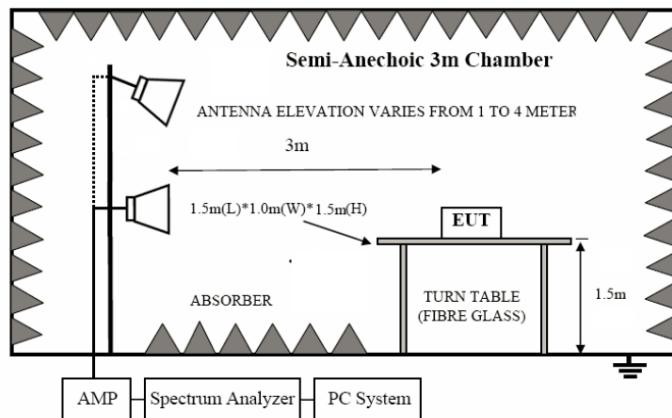
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For radiated emissions from 30MHz to 1GHz



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 (MHz)	Field Strength of Fundamental (3m)		Field Strength of Harmonics (3m)	
	mV/m	dBuV/m	uV/m	dBuV/m

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2400-2483.5	50	94 (Average)	114 (Peak)	500	54 (Average)	74 (Peak)
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Note:

1. RF Field Strength (dBuV) =  $20 \log_{10} \text{RF Voltage (uV)}$
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.

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

Frequency Range (MHz)	Distance (m)	Field strength (dB $\mu$ V/m)
0.009-0.490	3	$20\log_{10}(2400/F(\text{kHz})) + 40\log_{10}(300/3)$
0.490-1.705	3	$20\log_{10}(24000/F(\text{kHz})) + 40\log_{10}(30/3)$
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) =  $20 \log_{10} \text{RF Voltage (uV)}$
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
4. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz. As to 1G-25G, the final emission level got using PK. For fundamental measurement, PK detector used.
5. The 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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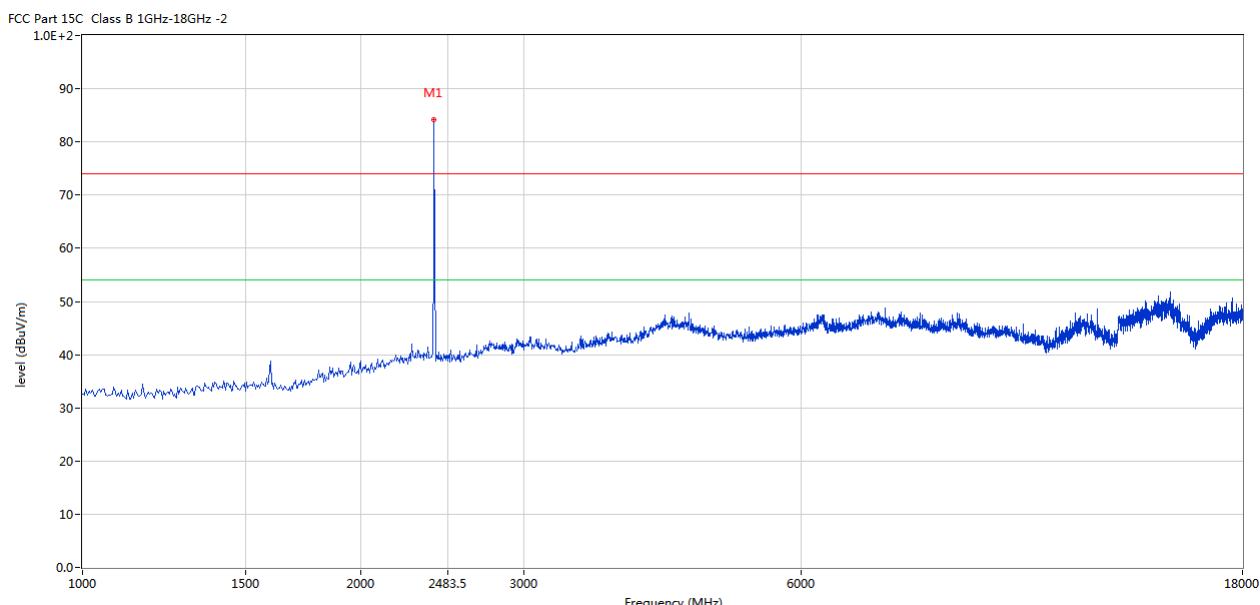


## 6.5 Test result

### A Fundamental & Harmonics Radiated Emission Data

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

#### Horizontal



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2402	84.18	-3.57	114.0	-29.82	Peak	298.00	100	Horizontal	Pass

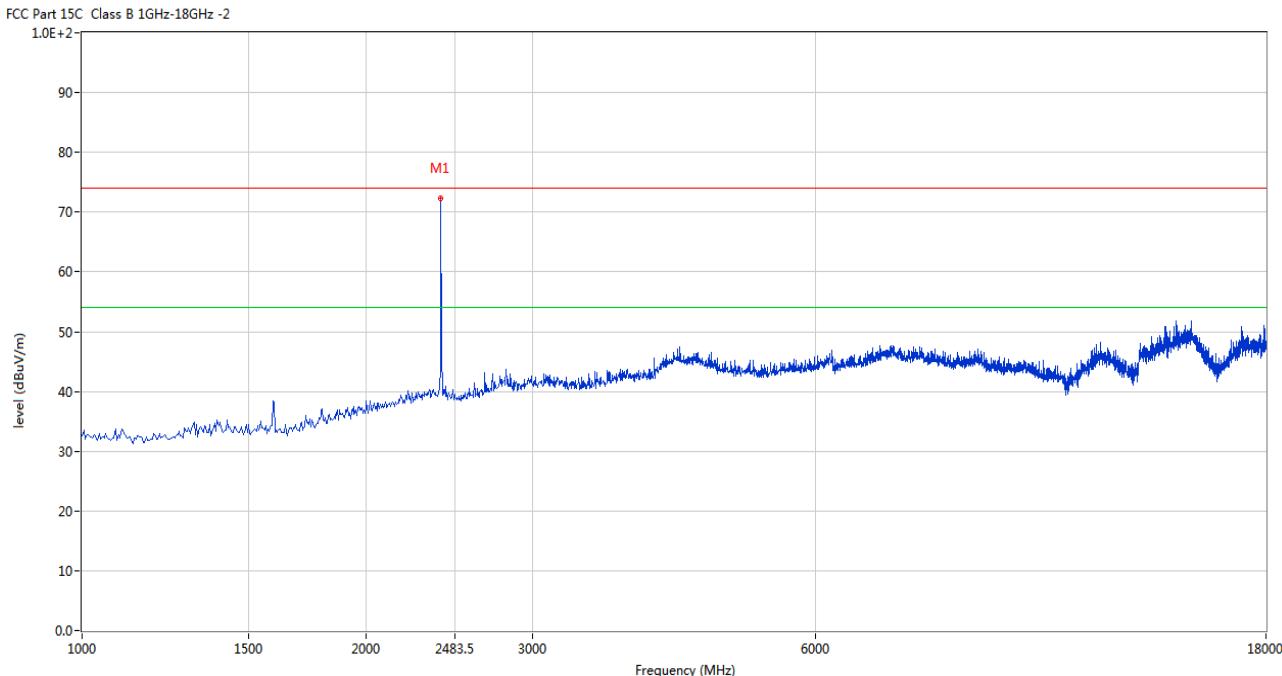
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## Vertical



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2402	72.38	-3.57	114.0	-41.62	Peak	146.00	100	Vertical	Pass

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

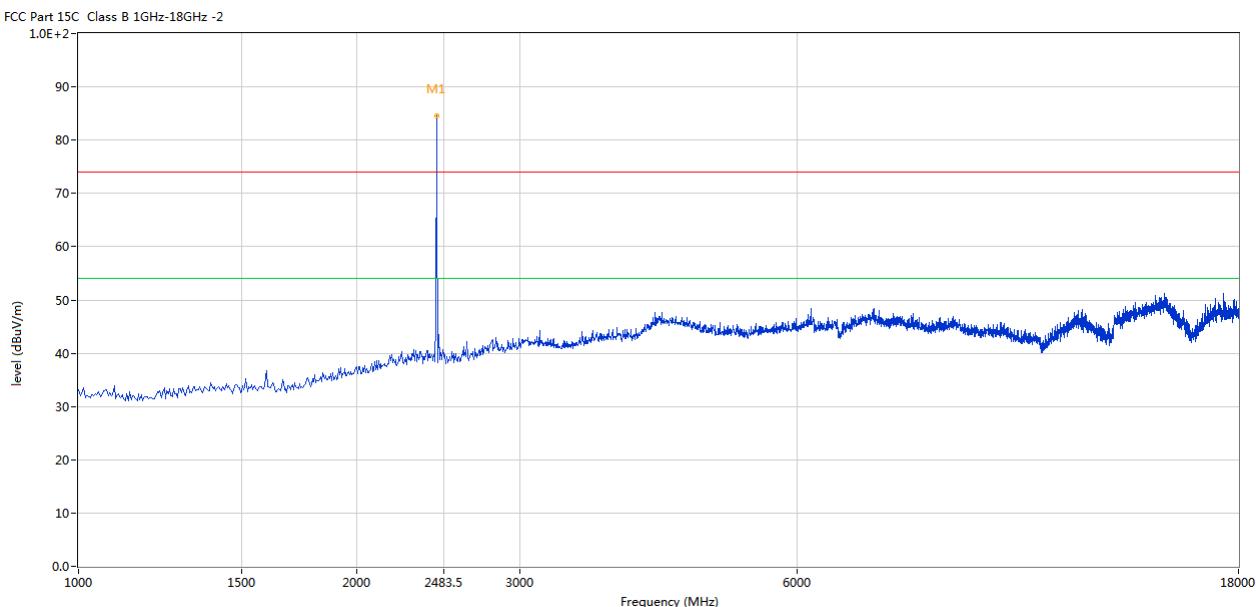
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Please refer to the following test plots for details: Middle Channel-2441MHz

### Horizontal



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2441	84.49	-3.57	114.0	-29.51	Peak	199.00	100	Horizontal	Pass

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

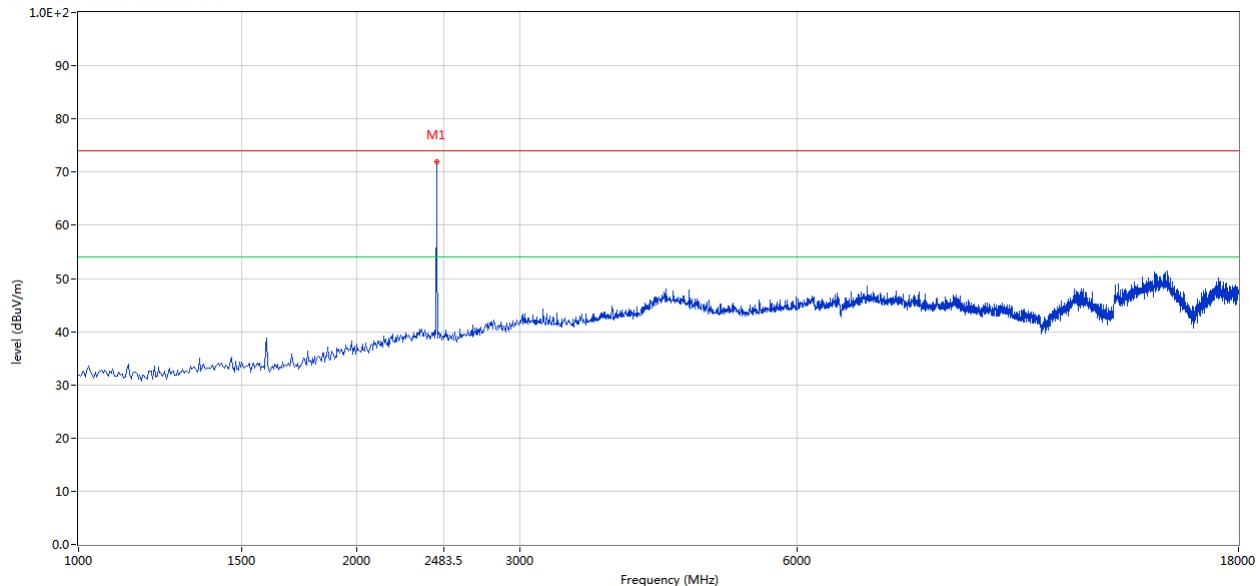
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## Vertical

FCC Part 15C Class B 1GHz-18GHz -2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2441	71.99	-3.57	114.0	-42.01	Peak	238.00	100	Vertical	Pass

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

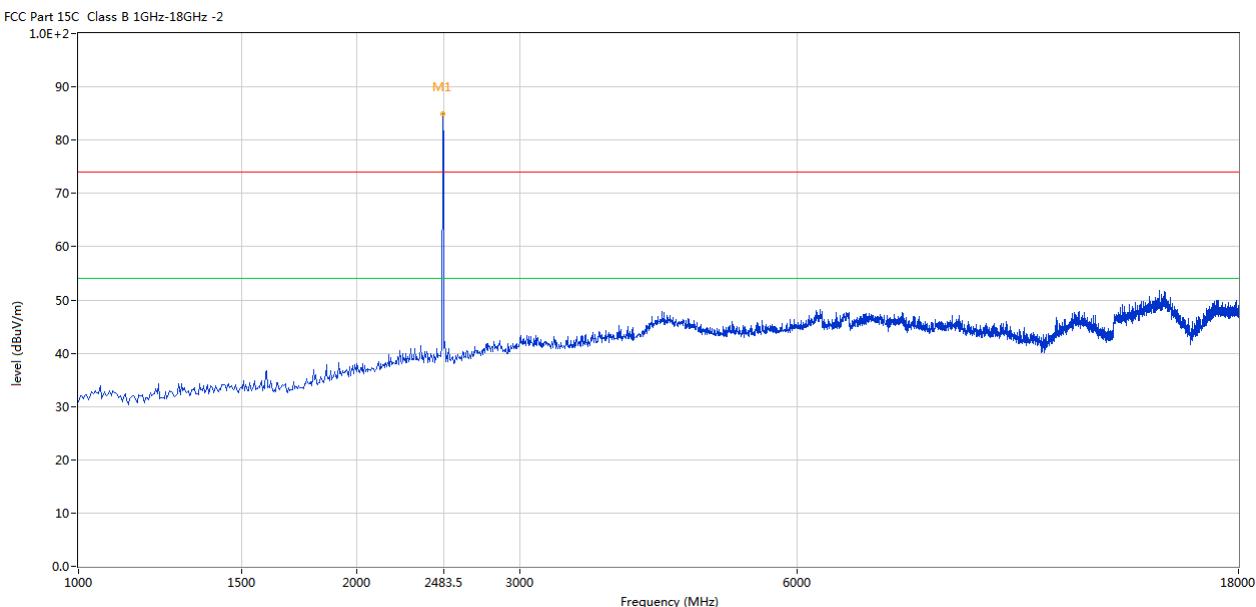
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Please refer to the following test plots for details: High Channel-2480MHz

### Horizontal



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2480	84.96	-3.57	114.0	-29.04	Peak	278.00	100	Horizontal	Pass

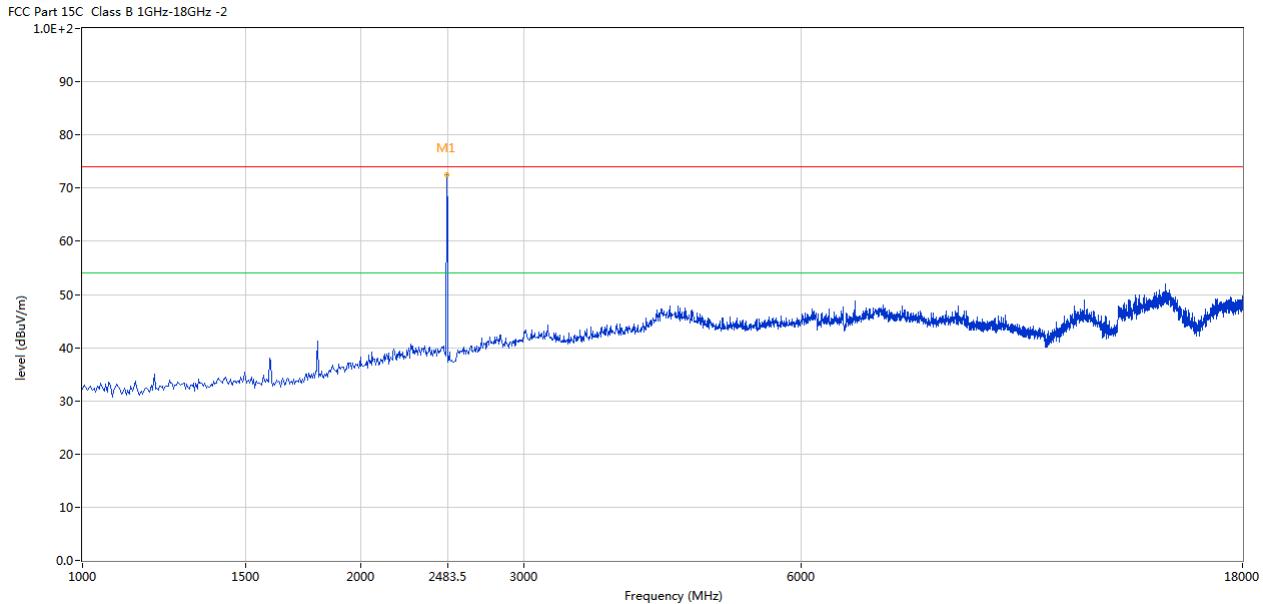
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## Vertical



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2480	72.44	-3.57	114.0	-41.56	Peak	105.00	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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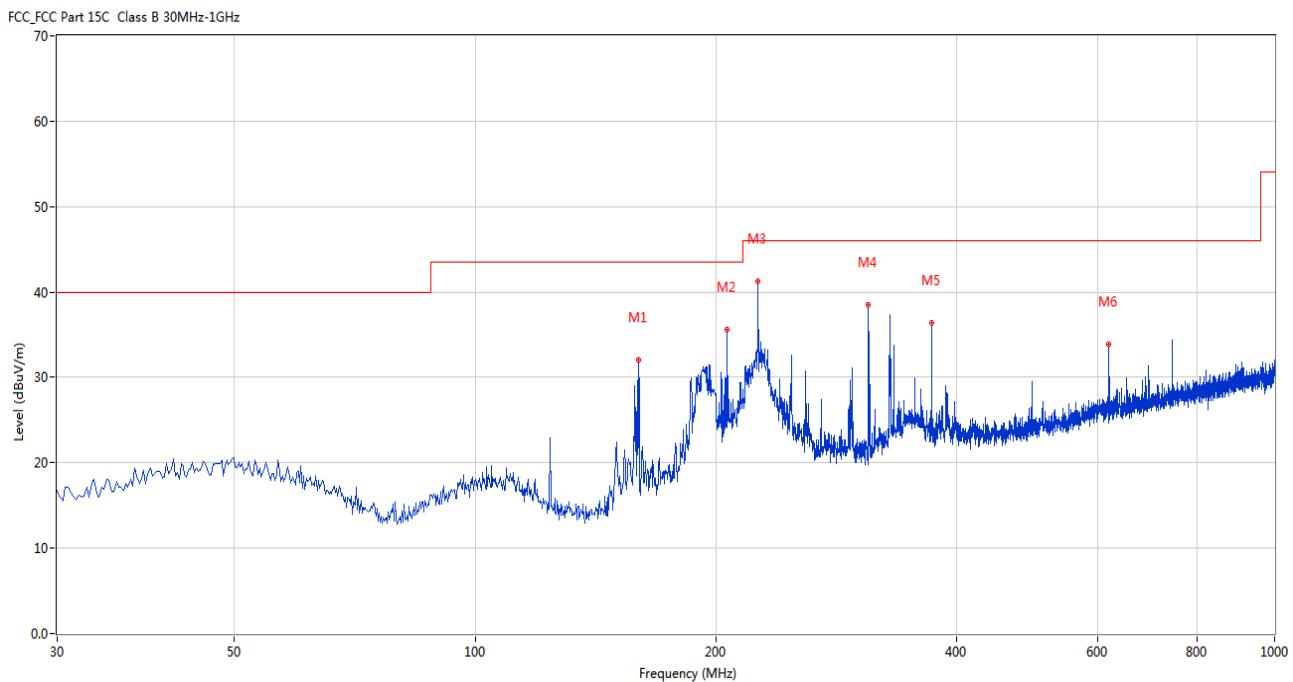
## B. General Radiated Emission Data

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

EUT set Condition: Keep Tx transmitting

**Results: Pass**

Please refer to following diagram for individual



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	160.190	31.99	-16.34	43.5	11.51	Peak	48.00	100	Horizontal	Pass
2	206.253	35.53	-13.64	43.5	7.97	Peak	75.00	100	Horizontal	Pass
3	225.649	41.24	-12.87	46.0	4.76	Peak	150.00	100	Horizontal	Pass
4	310.502	38.55	-10.71	46.0	7.45	Peak	145.00	100	Horizontal	Pass
5	372.567	36.34	-9.47	46.0	9.66	Peak	209.00	100	Horizontal	Pass
6	620.825	33.93	-4.90	46.0	12.07	Peak	101.00	100	Horizontal	Pass

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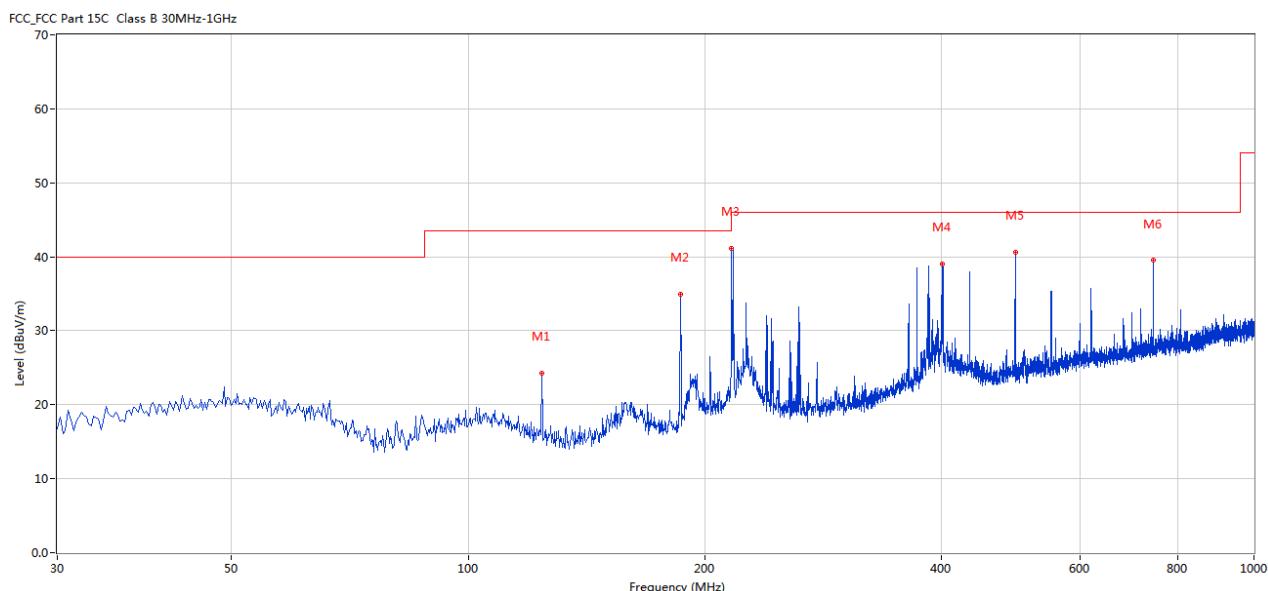


### Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

**Results: Pass**

Please refer to following diagram for individual



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	124.066	24.24	-16.09	43.5	19.26	Peak	280.00	100	Vertical	Pass
2	186.373	34.97	-14.73	43.5	8.53	Peak	316.00	100	Vertical	Pass
3	216.436	41.19	-13.55	46.0	4.81	Peak	151.00	100	Vertical	Pass
4	400.932	39.04	-8.59	46.0	6.96	Peak	266.00	100	Vertical	Pass
5	496.696	40.62	-7.13	46.0	5.38	Peak	221.00	100	Vertical	Pass
6	745.196	39.48	-3.44	46.0	6.52	Peak	185.00	100	Vertical	Pass

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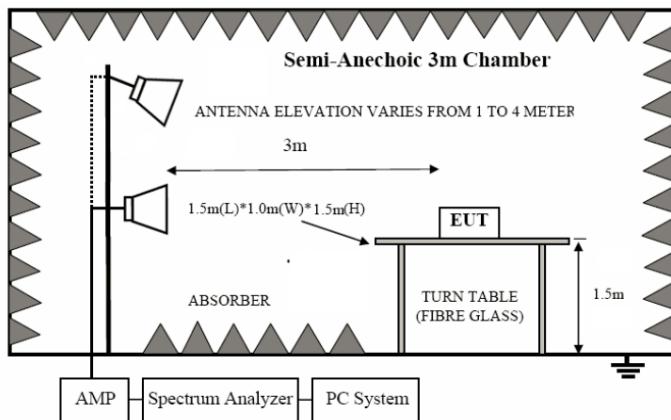


## 7. Band Edge

### 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.

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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	--	--

FCC Part 15C Class B 1GHz-18GHz -2

Level (dBuV/m)

Frequency (MHz)

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2401.797	83.94	-3.57	74.0	9.94	Peak	295.00	100	Horizontal	N/A
2	2400.012	60.87	-3.57	74.0	-13.13	Peak	295.00	100	Horizontal	Pass
2**	2400.012	50.84	-3.57	54.0	-3.16	AV	295.00	100	Horizontal	Pass
3	2390.025	37.36	-3.53	74.0	-36.64	Peak	255.00	100	Horizontal	Pass
4	2389.500	42.20	-3.53	74.0	-31.80	Peak	158.00	100	Horizontal	Pass

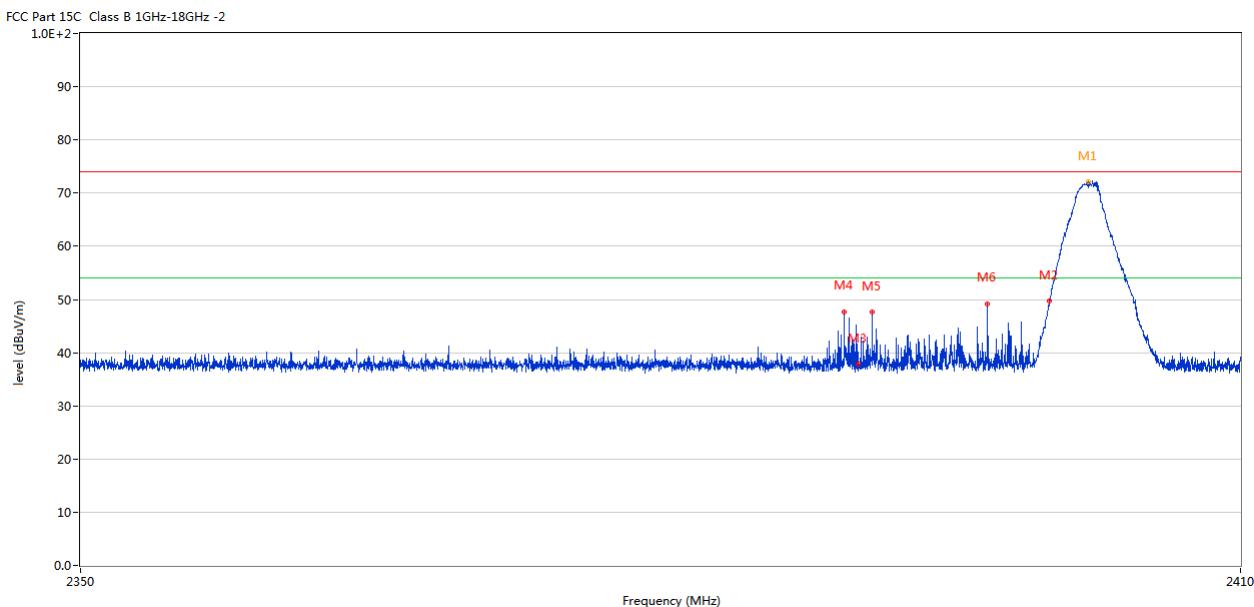
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Product:	Bluetooth Speaker	Detector	Vertical
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	--	--



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2402.052	72.11	-3.57	74.0	-1.89	Peak	141.00	100	Vertical	Pass
2	2400.027	49.79	-3.57	74.0	-24.21	Peak	196.00	100	Vertical	Pass
3	2390.070	37.90	-3.53	74.0	-36.10	Peak	3.00	100	Vertical	Pass
4	2389.335	47.71	-3.53	74.0	-26.29	Peak	100.00	100	Vertical	Pass
5	2390.790	47.56	-3.53	74.0	-26.44	Peak	100.00	100	Vertical	Pass
6	2396.788	49.16	-3.56	74.0	-24.84	Peak	110.00	100	Vertical	Pass

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

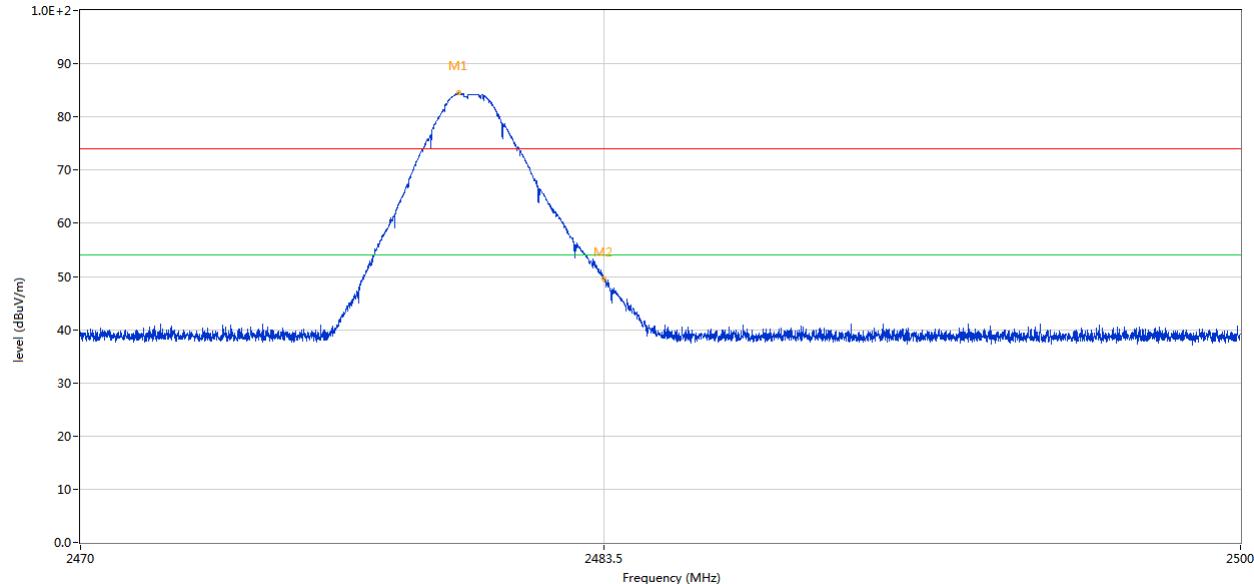
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Product:	Bluetooth Speaker	Polarity	Horizontal
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	--	--

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No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2479.733	84.53	-3.57	74.0	10.53	Peak	309.00	100	Horizontal	N/A
2	2483.500	49.50	-3.57	74.0	-24.50	Peak	269.00	100	Horizont	Pass

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

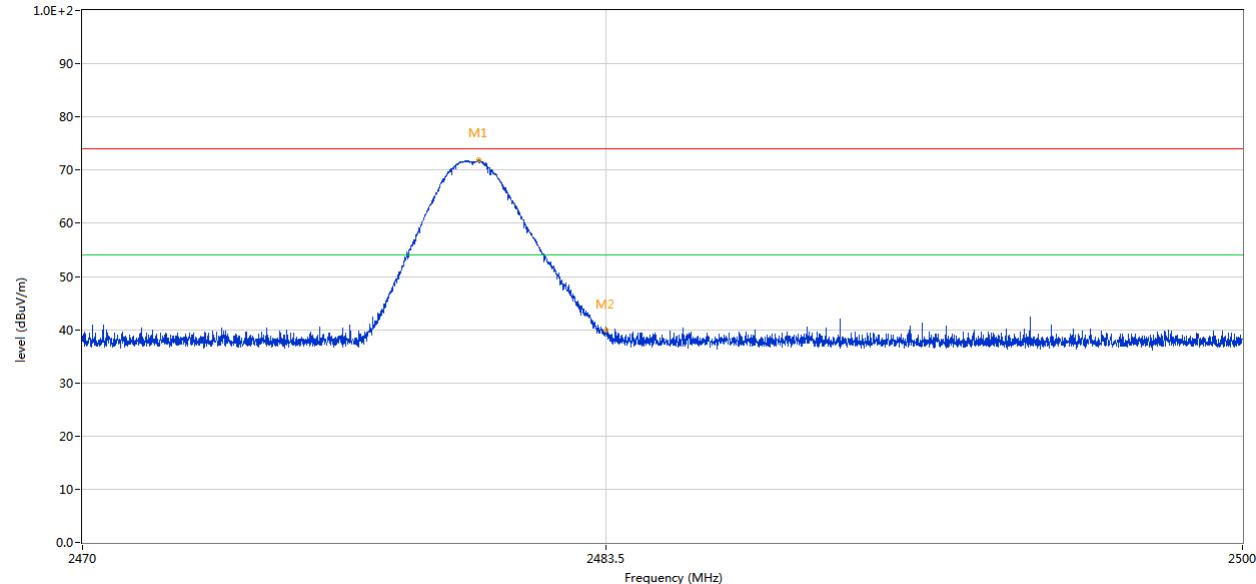
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Product:	Bluetooth Speaker	Detector	Vertical
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	--	--

FCC Part 15C Class B 1GHz-18GHz -2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2480.197	71.85	-3.57	74.0	-2.15	Peak	155.00	100	Vertical	Pass
2	2483.500	39.89	-3.57	74.0	-34.11	Peak	84.71	100	Vertical	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, 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

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

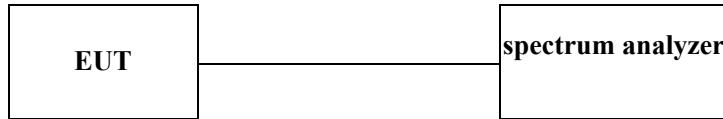
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## 9.0 20dB Bandwidth Measurement

### 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

N/A

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

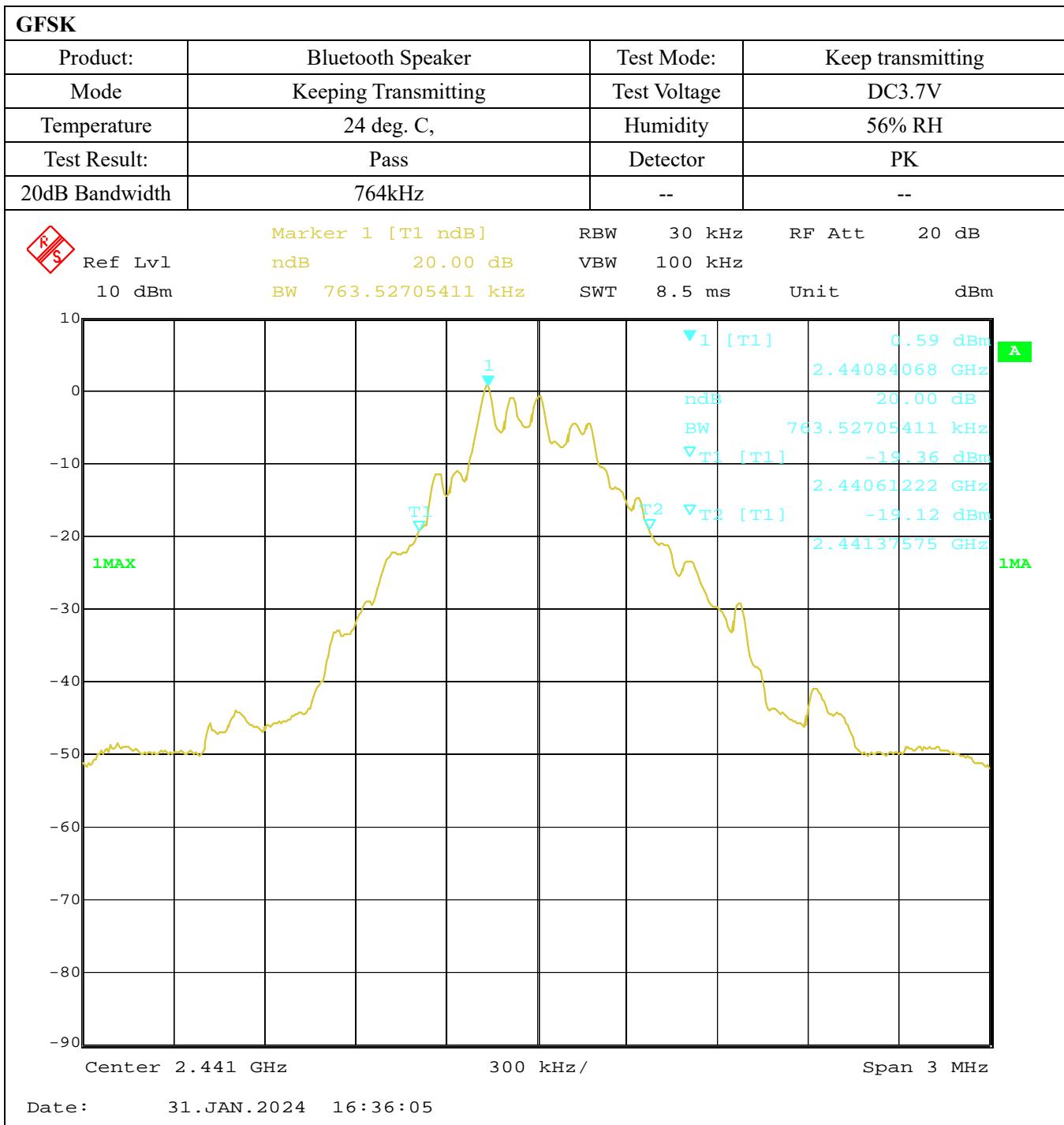
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## Test Result

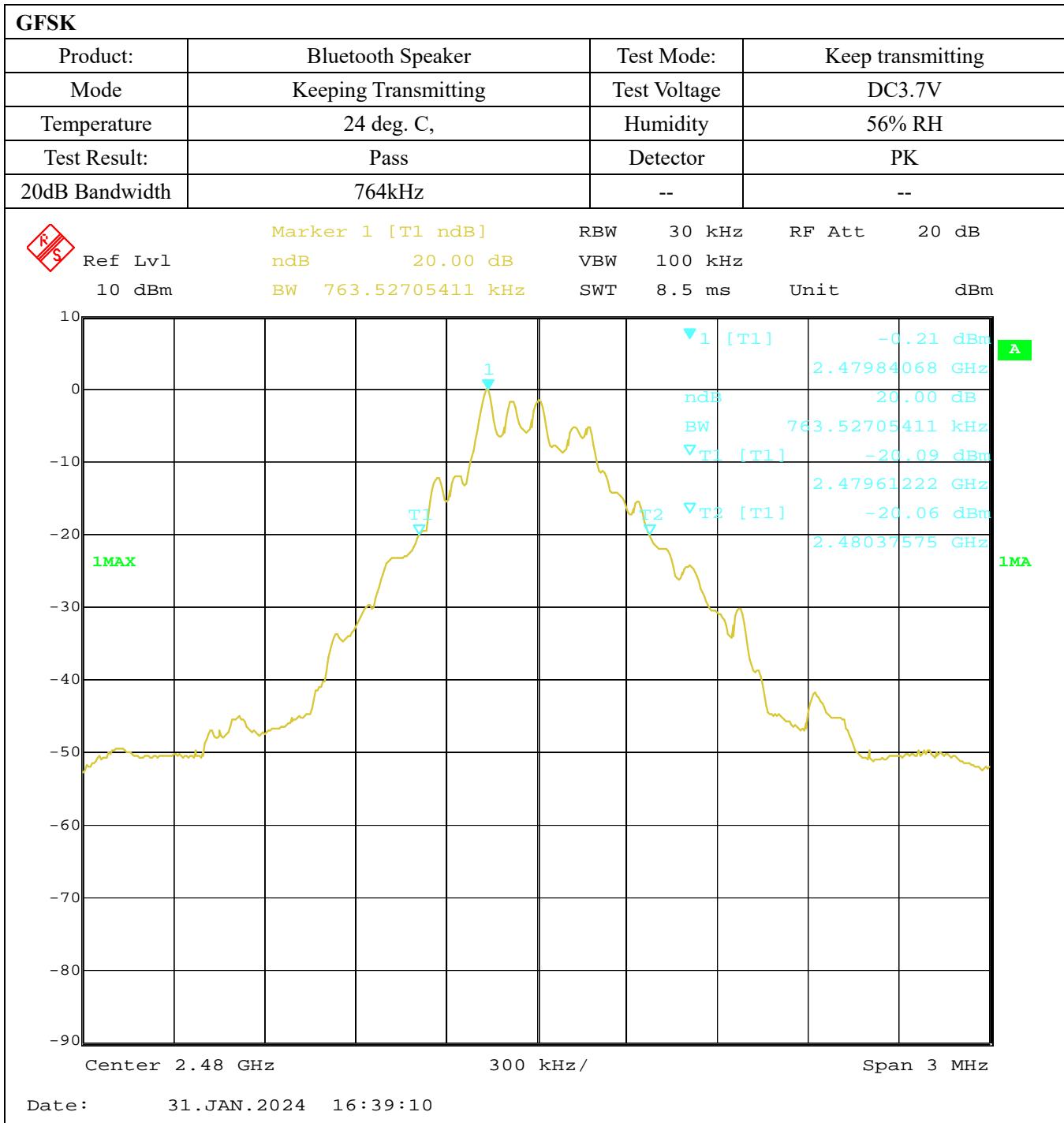
GFSK						
Product:	Bluetooth Speaker		Test Mode:	Keep transmitting		
Mode	Keeping Transmitting		Test Voltage	DC3.7V		
Temperature	24 deg. C,		Humidity	56% RH		
Test Result:	Pass		Detector	PK		
20dB Bandwidth	764kHz		--	--		
<img alt="RF Spectrum Analyzer screenshot showing a GFSK signal with markers T1, T2, and T3. The plot shows a carrier at 2.402 GHz with sidebands at 2.40184068 GHz and 2.40161222 GHz. The x-axis is						



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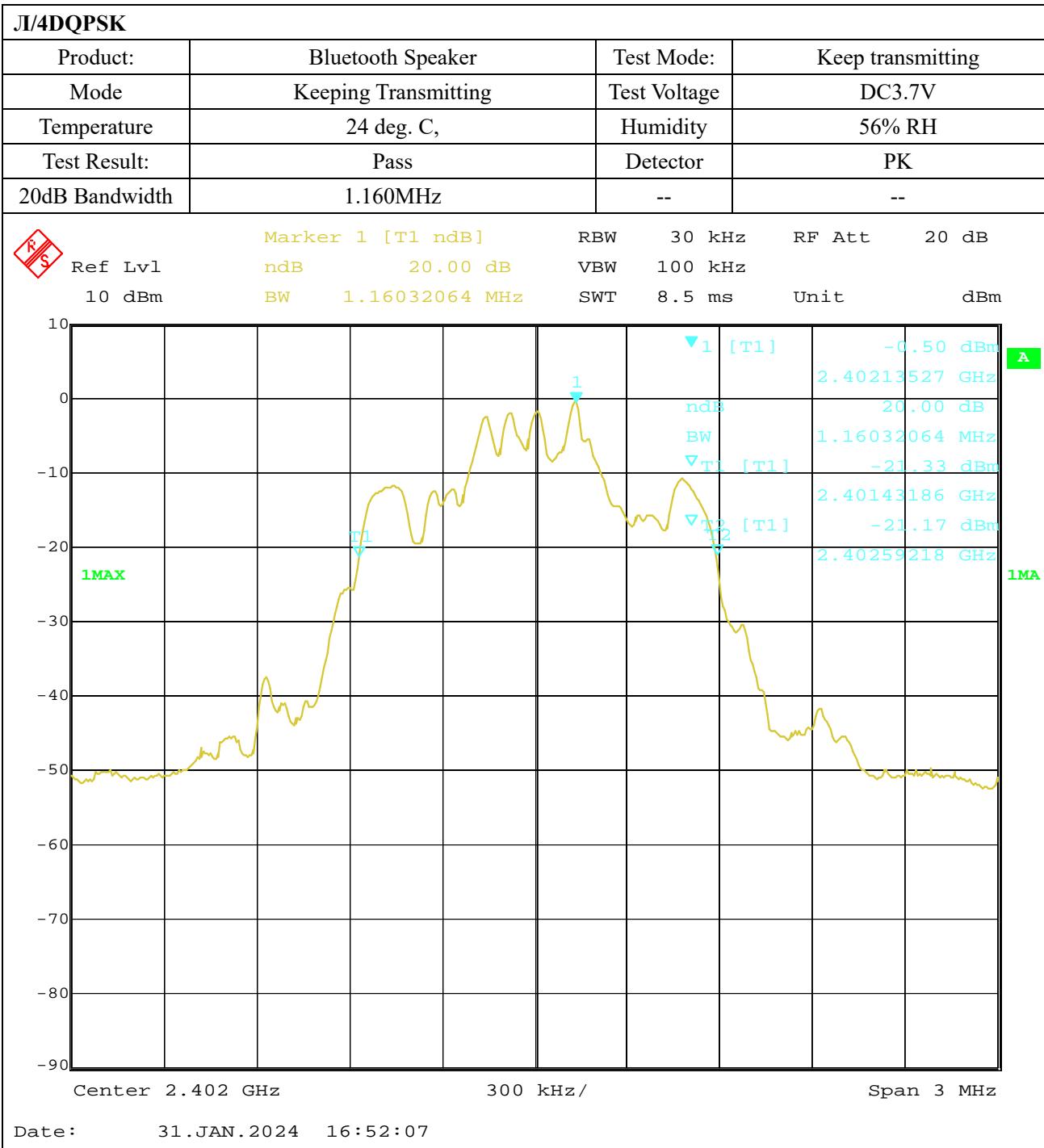
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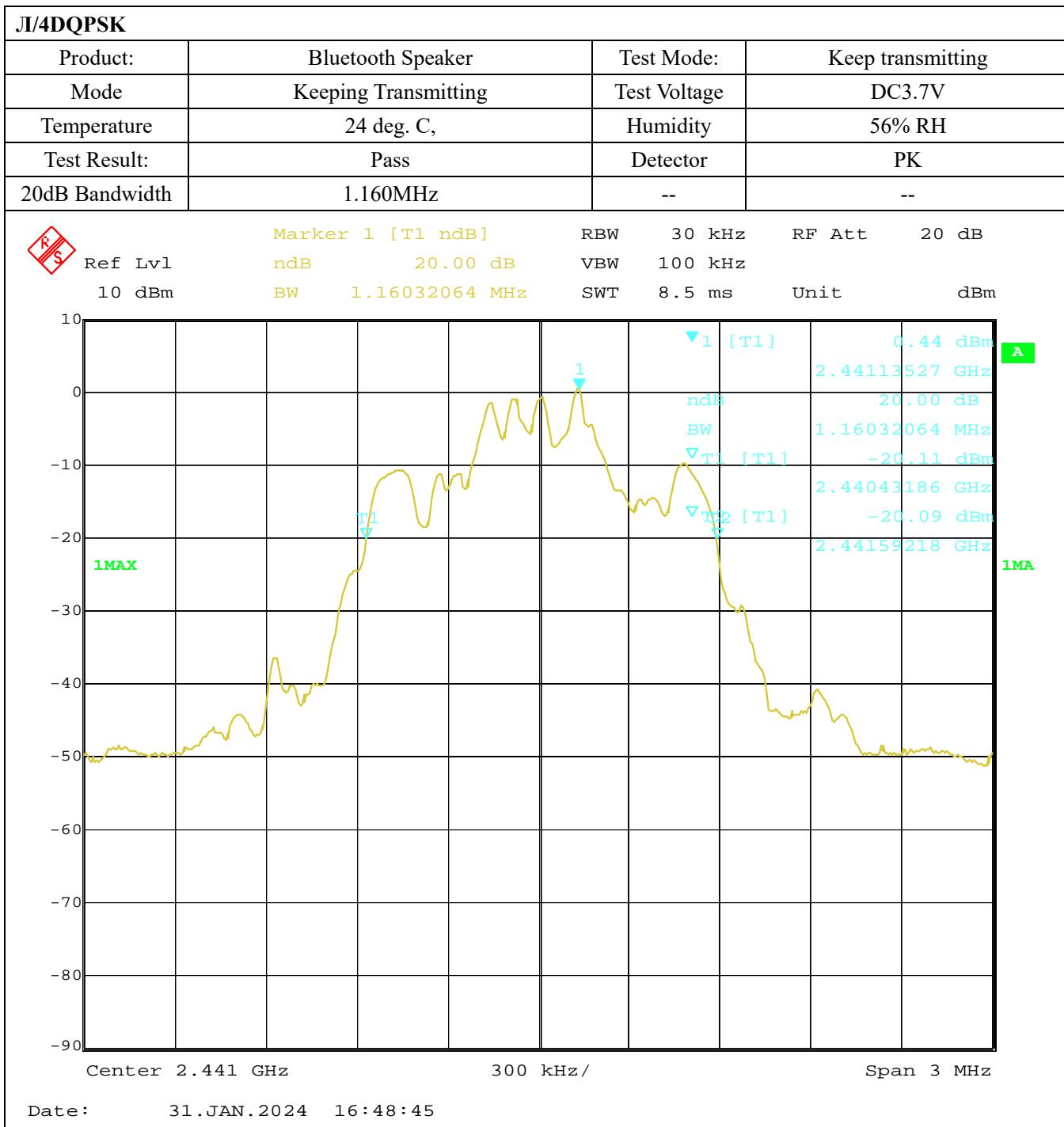
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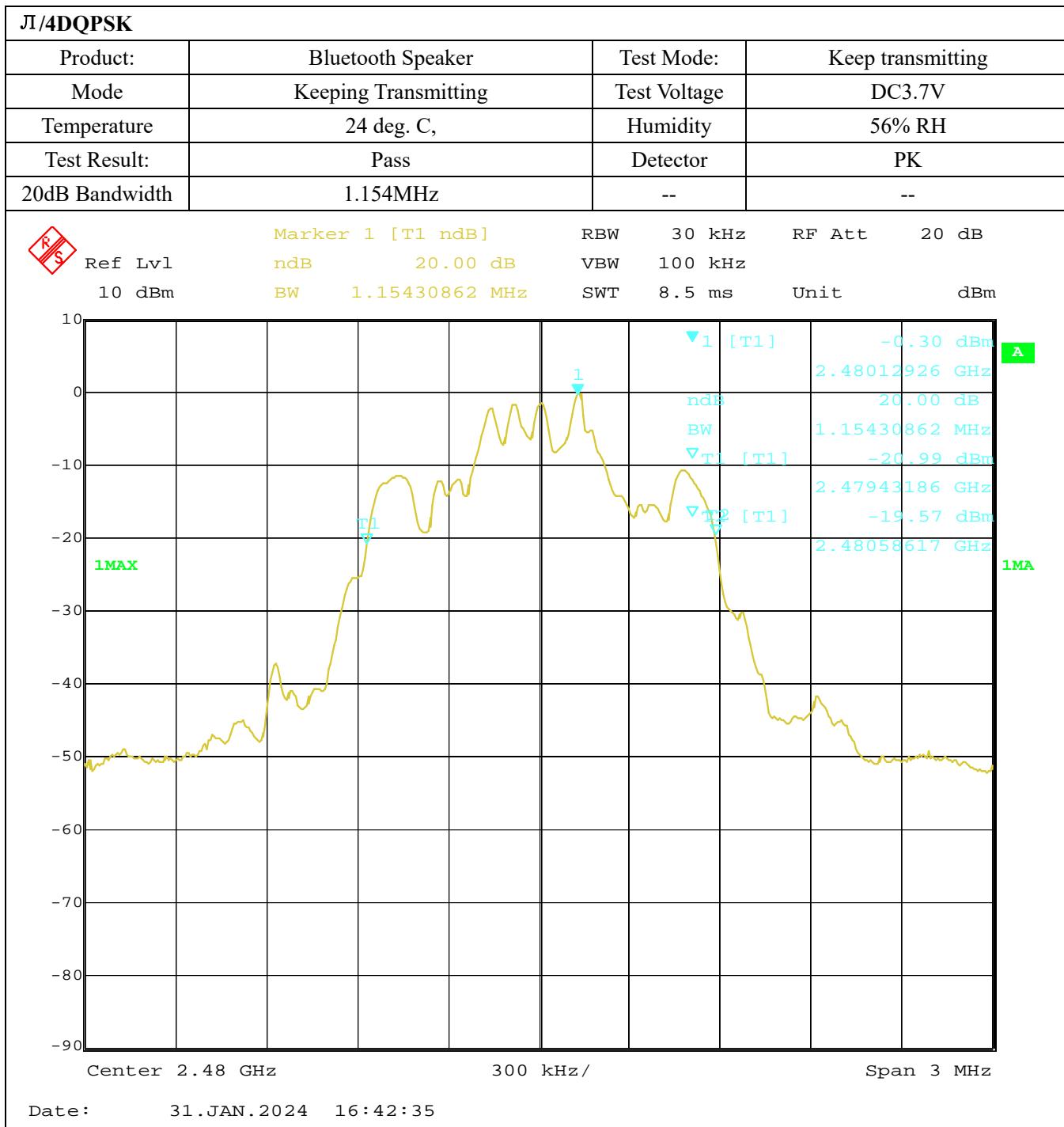
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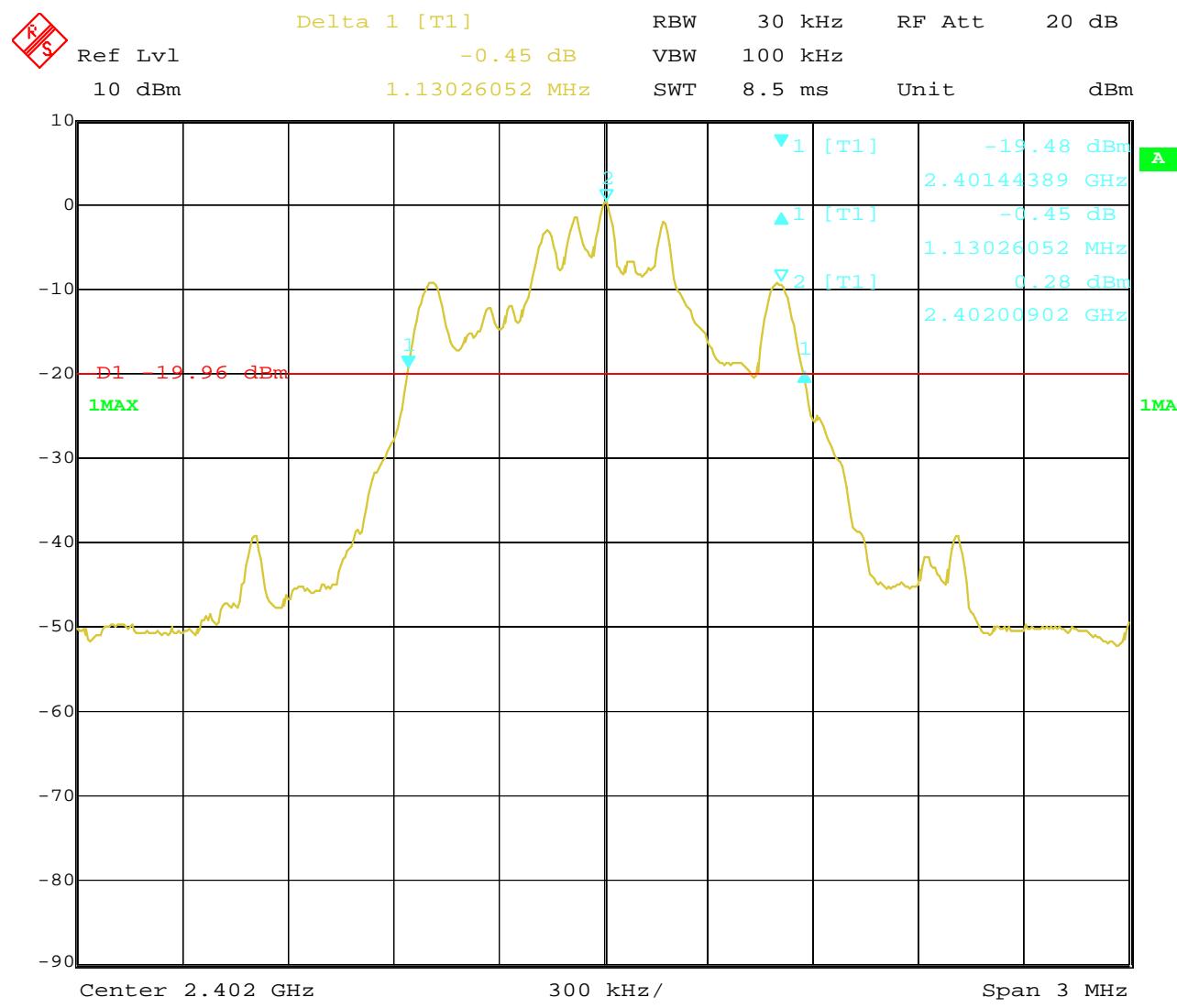
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**8DPSK**

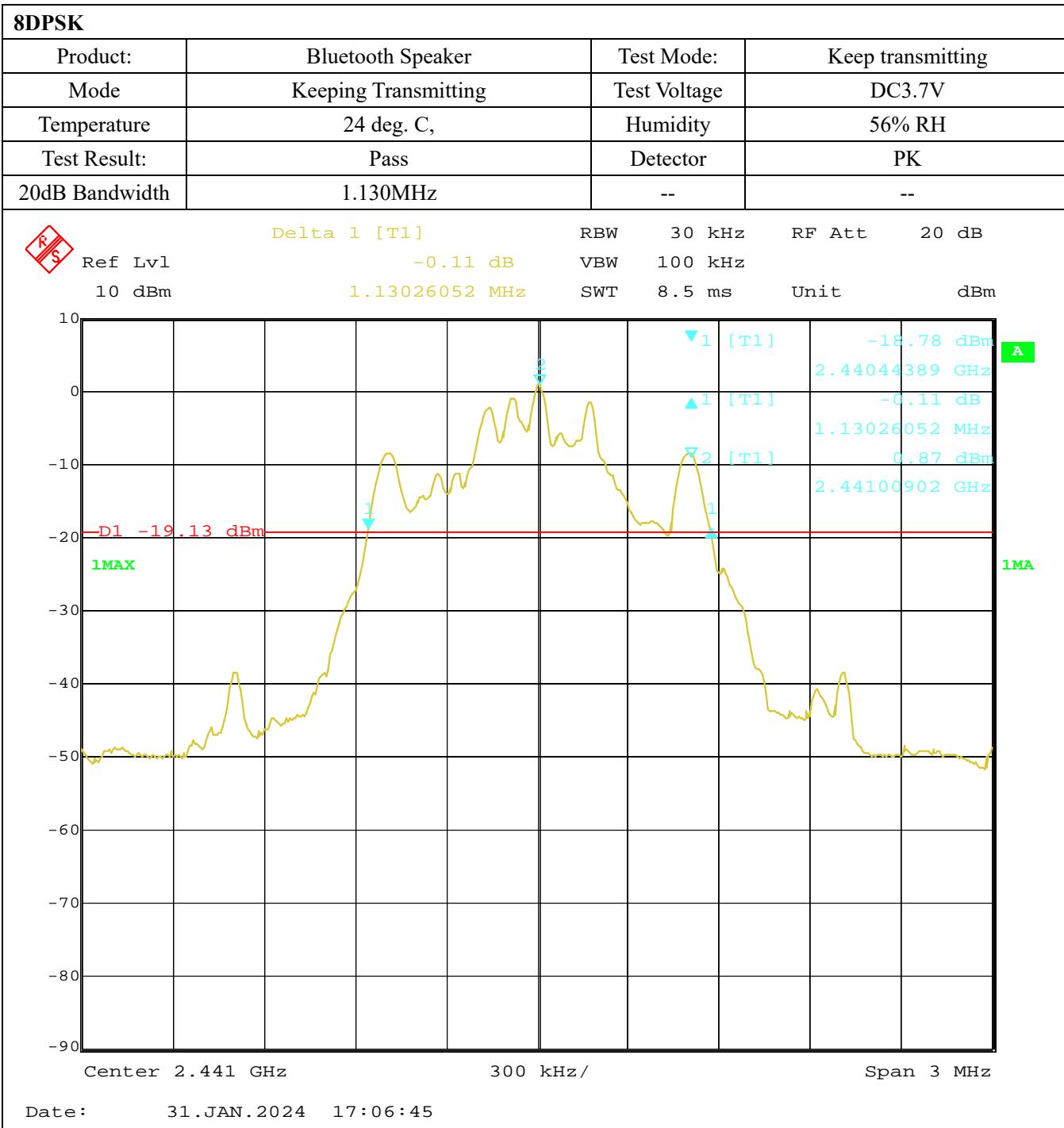
Product:	Bluetooth Speaker	Test Mode:	Keep transmitting
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK
20dB Bandwidth	1.130MHz	--	--



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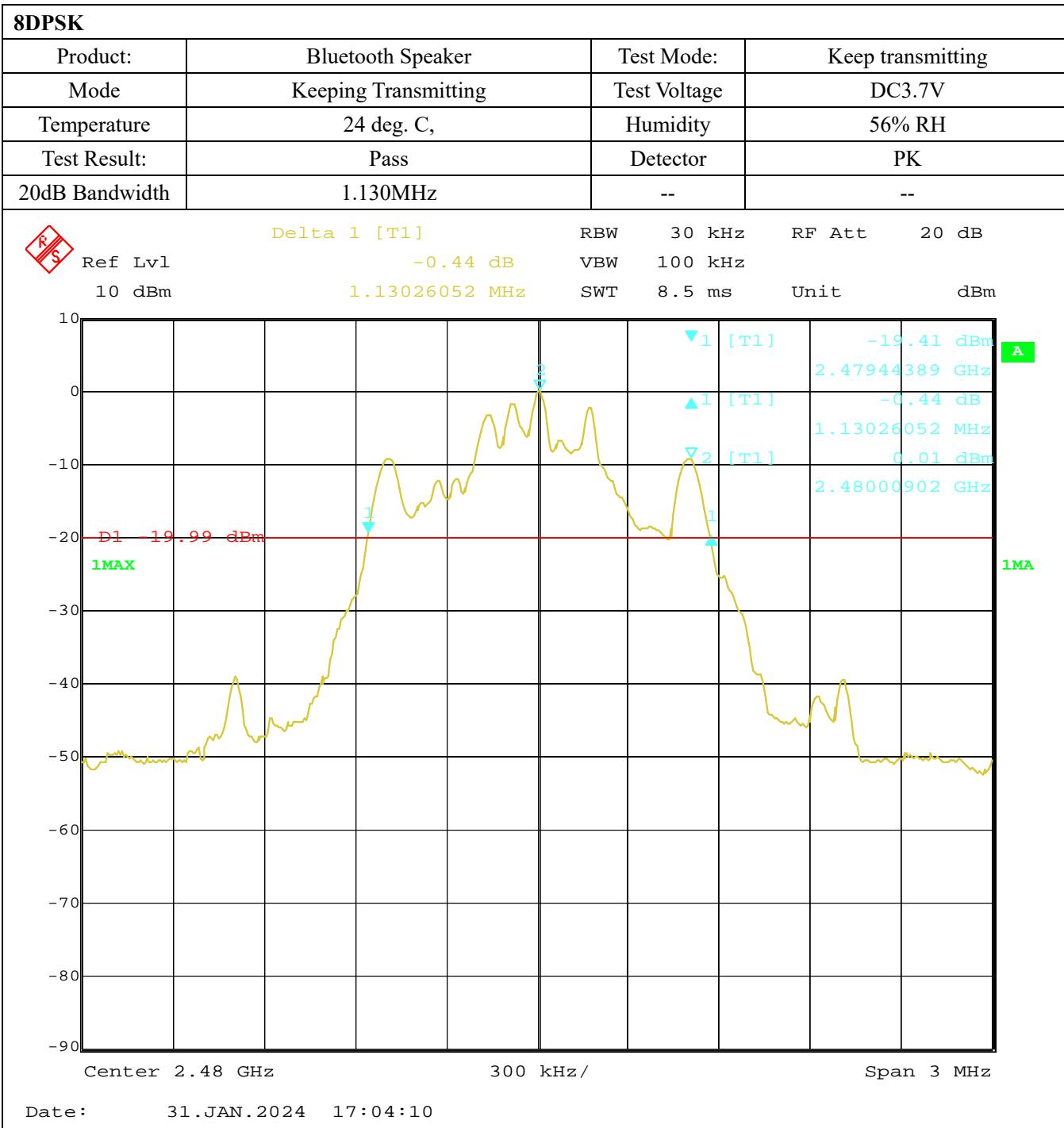
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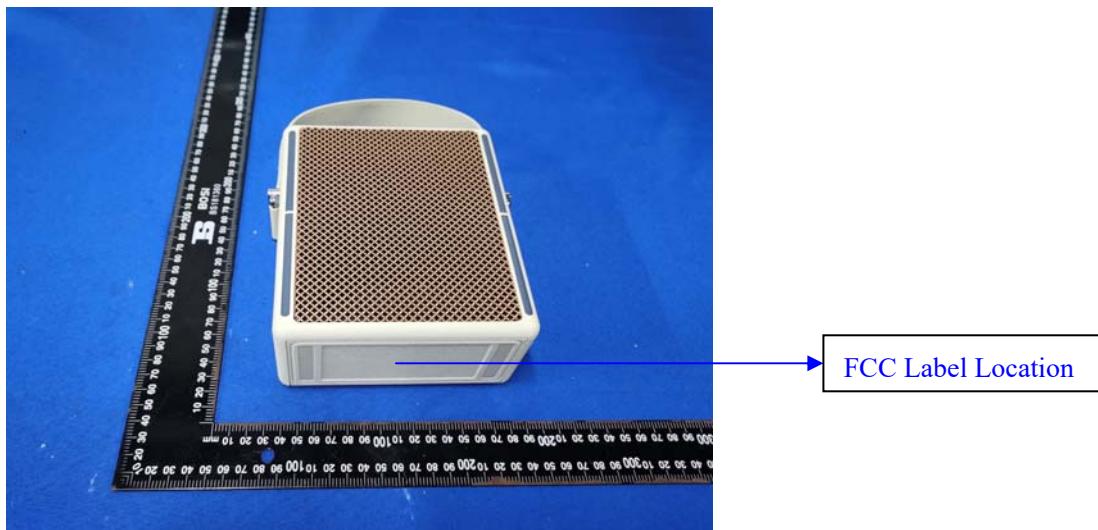


## 10.0 FCC ID Label

**FCC ID: 2ACCE-557B**

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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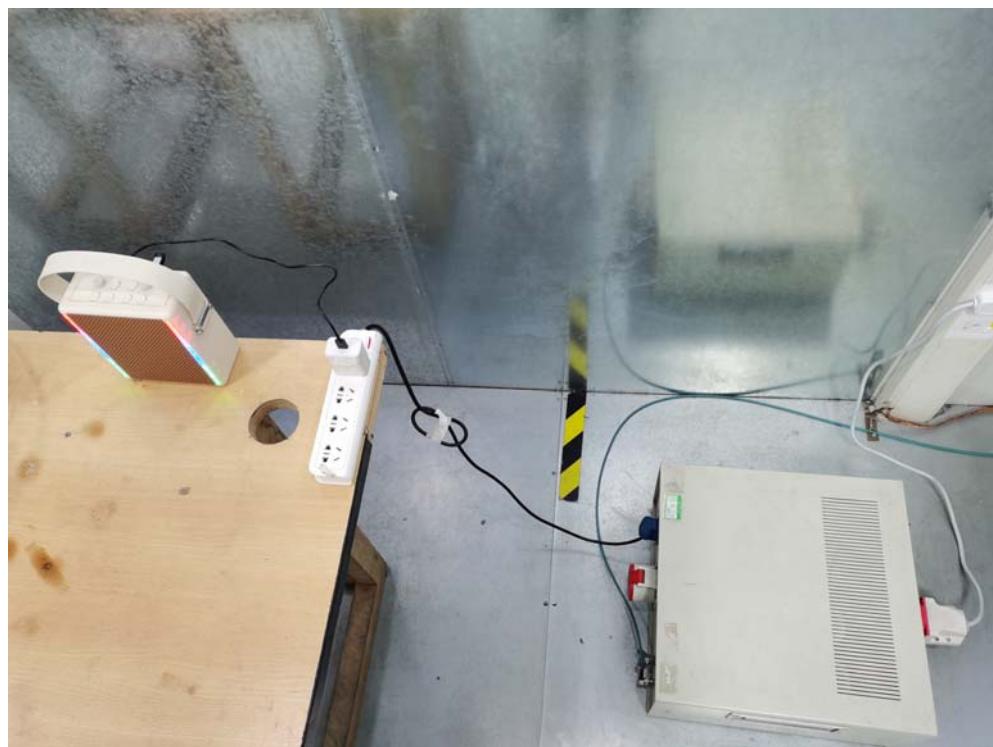
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**11.0** Photo of testing

**11.1** Conducted test View



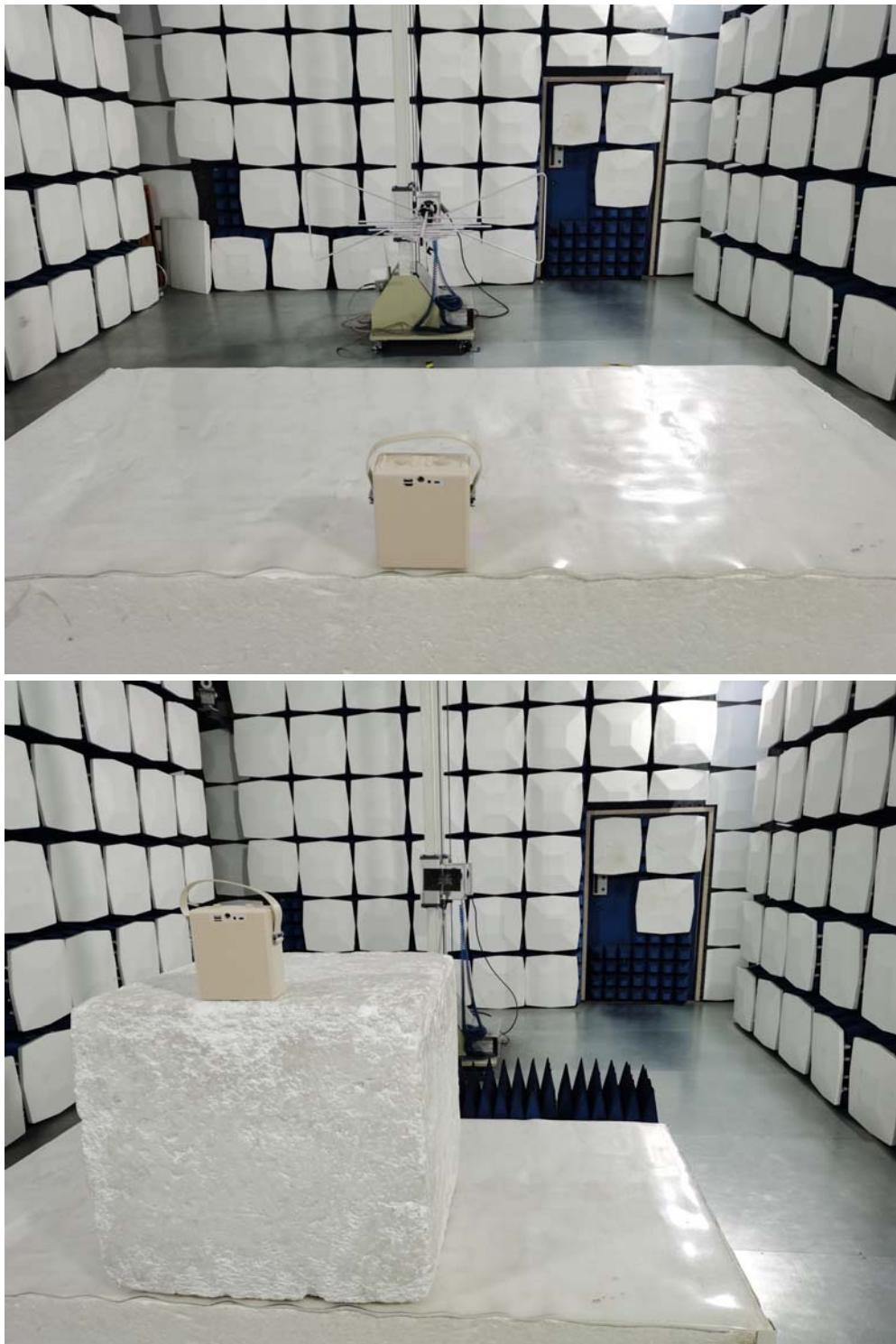
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Radiated emission test view



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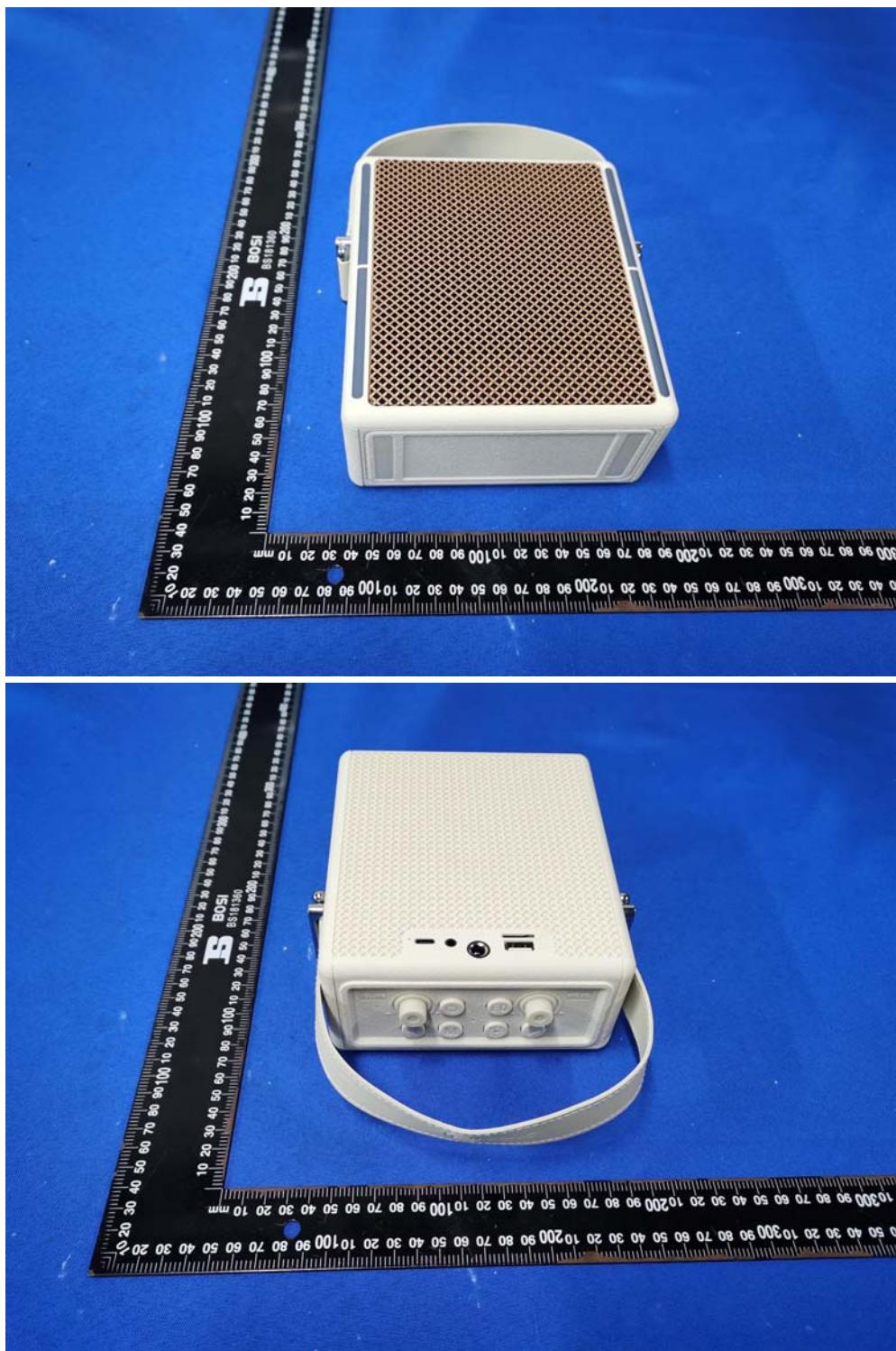
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## 11.2 Photographs – EUT

Outside View



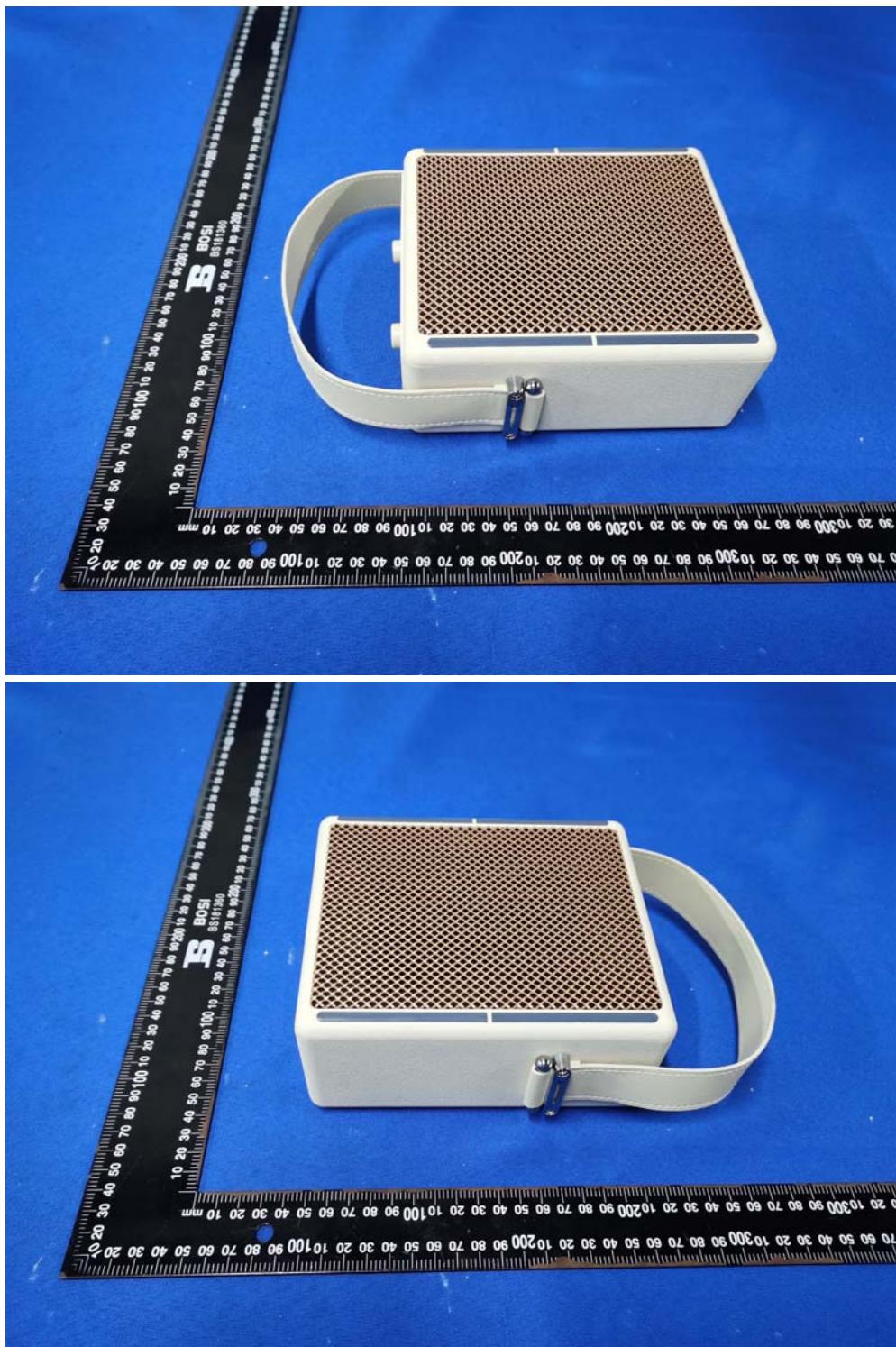
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Outside View



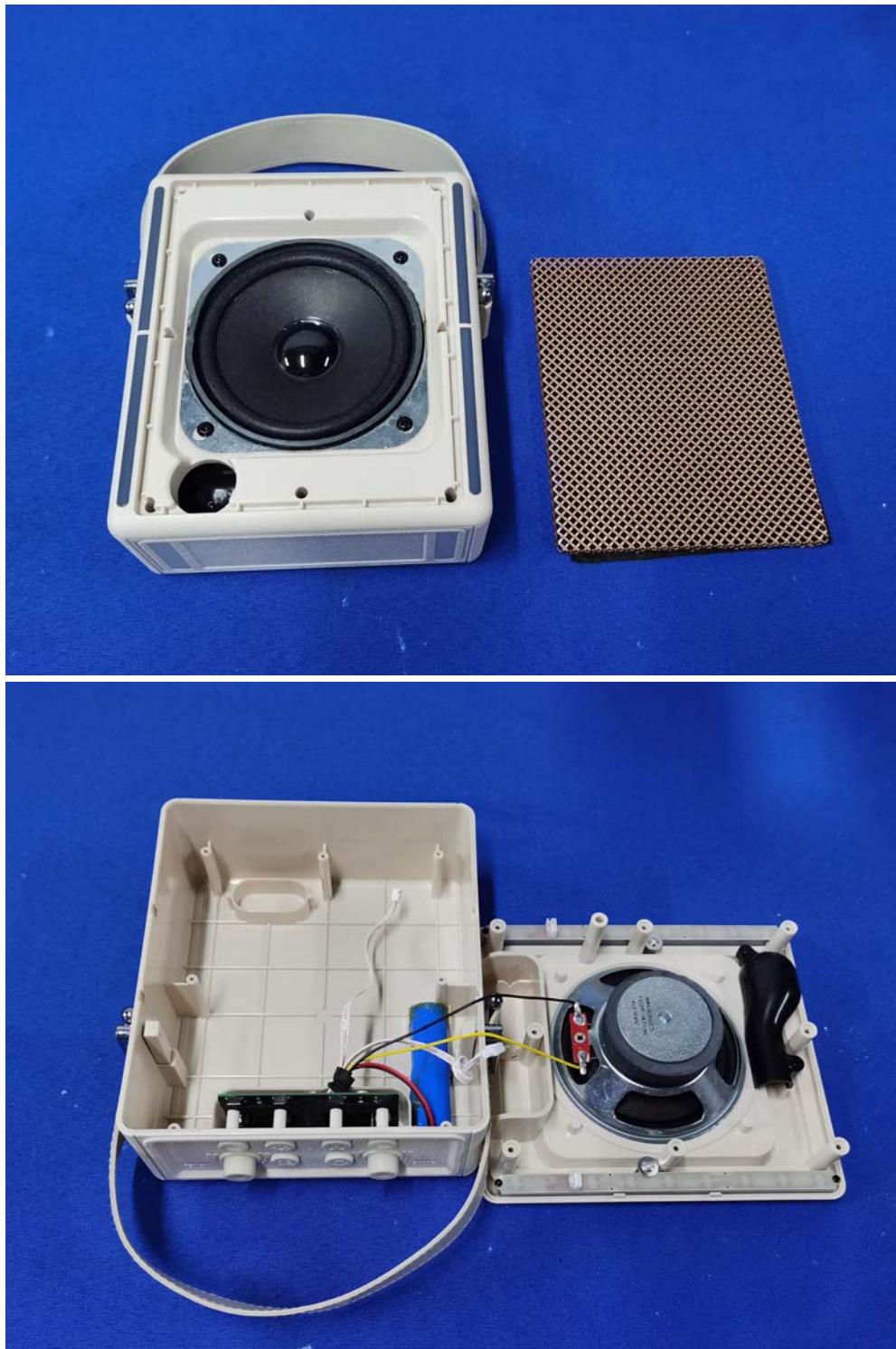
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Inside View



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Inside View



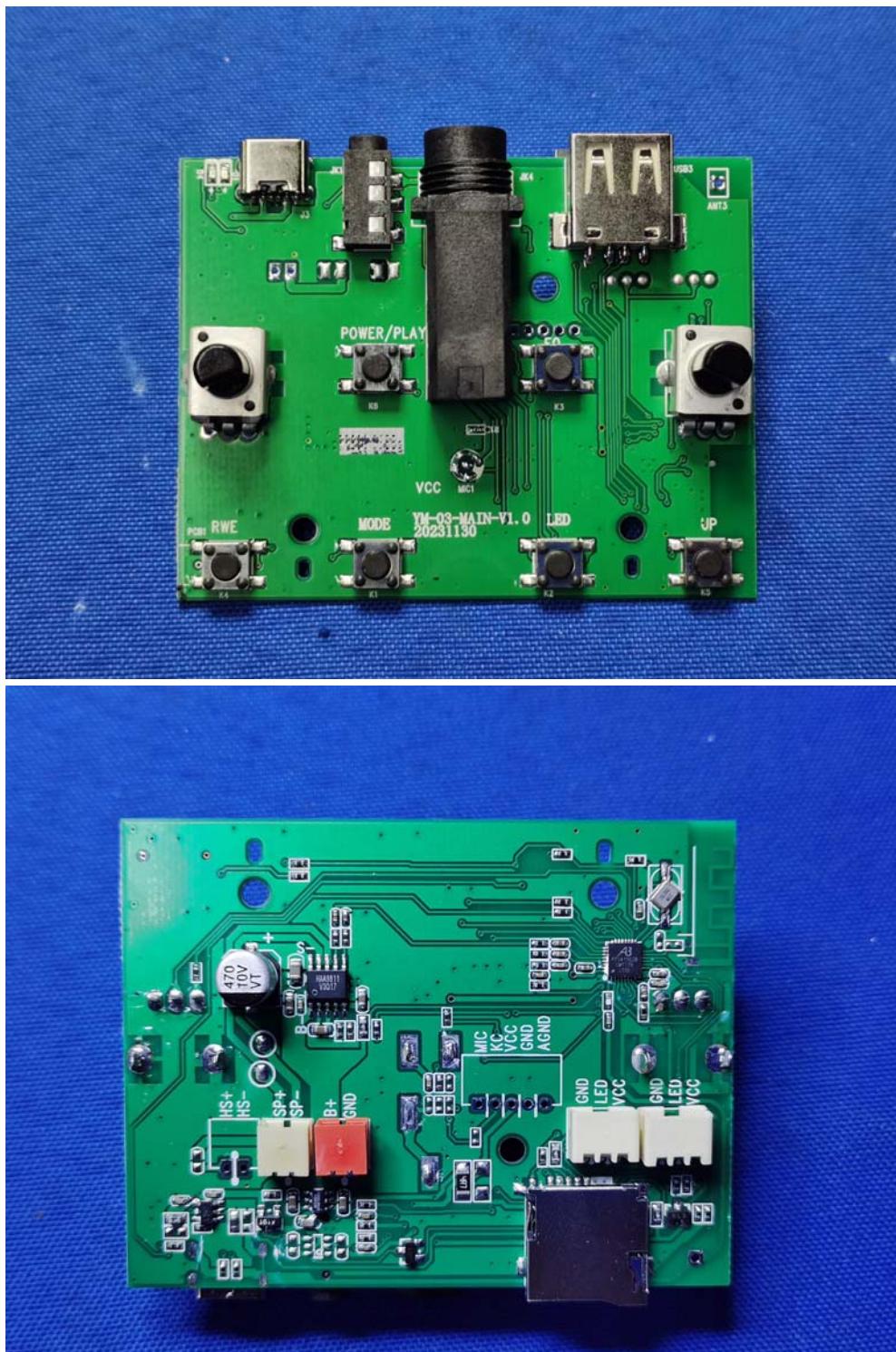
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Inside View



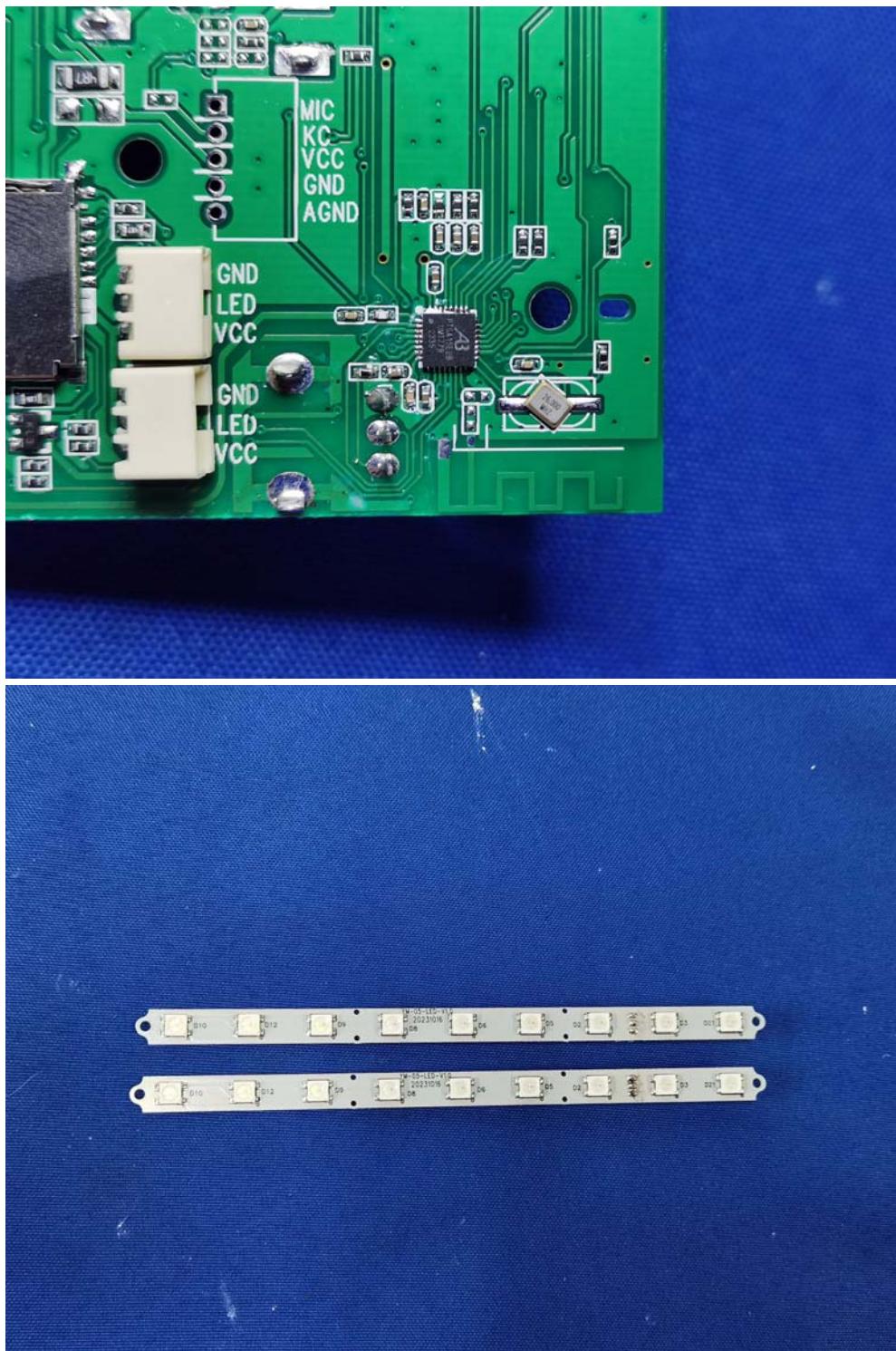
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Inside View



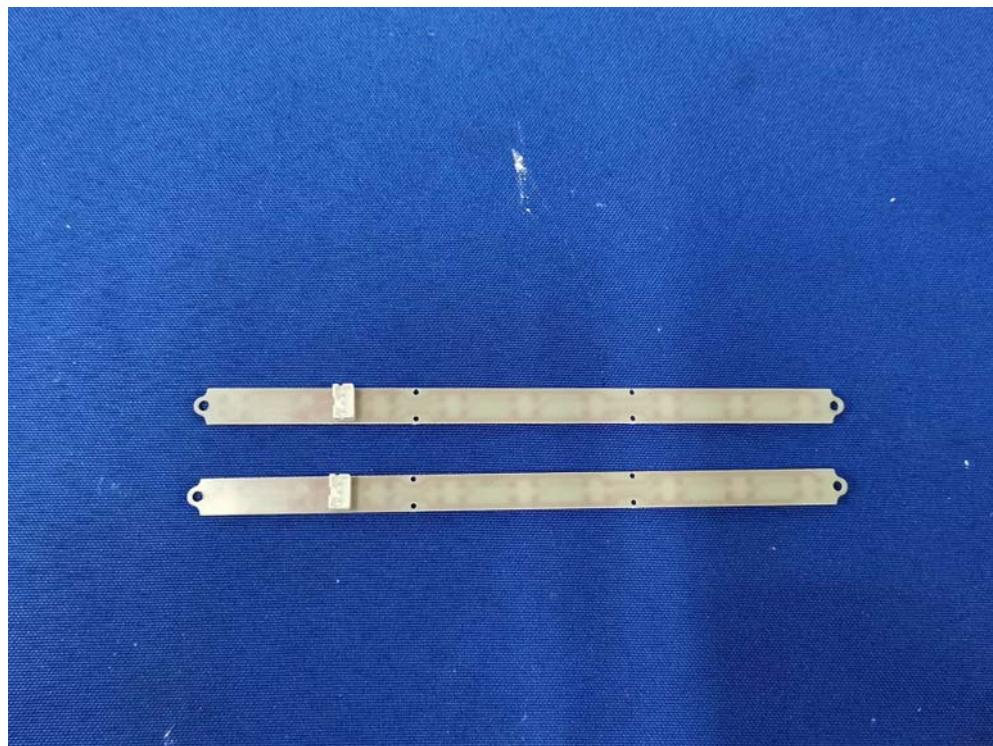
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Inside View



**--End of the report--**

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