

## APPLICATION CERTIFICATION FCC Part 15C

On Behalf of

Lightcomm Technology Co., Ltd.

Bluetooth Speaker with Powerbank

Model No.: BTD16-E, NS-SPBTBRICK2,

NS-SPBTBRICK2-XX (XX=A-Z, a-z, 0-9, or blank) XX represents different color

FCC ID: XMF-SPBTBRICK2

Prepared for : Lightcomm Technology Co., Ltd.  
Address : RM 1808 18/F FO TAN INDUSTRIAL CENTRE NOS. 26-28 AU  
PUI WAN STREET FO TAN SHATIN NEW TERRITORIES

Prepared by : Shenzhen Accurate Technology Co., Ltd.  
Address : 1/F., Building A, Changyuan New Material Port, Science & Industry  
Park, Nanshan District, Shenzhen, Guangdong, P.R. China.

Tel: (0755) 26503290  
Fax: (0755) 26503396

Report No. : ATE20180324  
Date of Test : Feb. 7--Mar. 1, 2018  
Date of Report : Mar. 8, 2018

## TABLE OF CONTENTS

Description	Page
Test Report Certification	
<b>1. GENERAL INFORMATION .....</b>	<b>5</b>
1.1. Description of Device (EUT).....	5
1.2. Carrier Frequency of Channels.....	6
1.3. Special Accessory and Auxiliary Equipment .....	6
1.4. Description of Test Facility .....	7
1.5. Measurement Uncertainty.....	7
<b>2. MEASURING DEVICE AND TEST EQUIPMENT .....</b>	<b>8</b>
<b>3. OPERATION OF EUT DURING TESTING .....</b>	<b>9</b>
3.1. Operating Mode.....	9
3.2. Configuration and peripherals .....	9
<b>4. TEST PROCEDURES AND RESULTS .....</b>	<b>10</b>
<b>5. POWER LINE CONDUCTED MEASUREMENT .....</b>	<b>11</b>
5.1. Block Diagram of Test Setup.....	11
5.2. Test System Setup.....	11
5.3. Power Line Conducted Emission Measurement Limits.....	12
5.4. Configuration of EUT on Measurement .....	12
5.5. Operating Condition of EUT .....	12
5.6. Test Procedure .....	12
5.7. Data Sample.....	13
5.8. Power Line Conducted Emission Measurement Results .....	13
<b>6. 6DB BANDWIDTH MEASUREMENT.....</b>	<b>17</b>
6.1. Block Diagram of Test Setup.....	17
6.2. The Requirement For Section 15.247(a)(2).....	17
6.3. EUT Configuration on Measurement .....	17
6.4. Operating Condition of EUT .....	17
6.5. Test Procedure .....	17
6.6. Test Result .....	18
<b>7. MAXIMUM PEAK OUTPUT POWER .....</b>	<b>20</b>
7.1. Block Diagram of Test Setup.....	20
7.2. The Requirement For Section 15.247(b)(3).....	20
7.3. EUT Configuration on Measurement .....	20
7.4. Operating Condition of EUT .....	20
7.5. Test Procedure .....	20
7.6. Test Result .....	21
<b>8. POWER SPECTRAL DENSITY MEASUREMENT.....</b>	<b>23</b>
8.1. Block Diagram of Test Setup.....	23
8.2. The Requirement For Section 15.247(e).....	23
8.3. EUT Configuration on Measurement .....	23
8.4. Operating Condition of EUT .....	23
8.5. Test Procedure .....	24
8.6. Test Result .....	24
<b>9. BAND EDGE COMPLIANCE TEST .....</b>	<b>27</b>

9.1.	Block Diagram of Test Setup.....	27
9.2.	The Requirement For Section 15.247(d) .....	27
9.3.	EUT Configuration on Measurement .....	27
9.4.	Operating Condition of EUT .....	27
9.5.	Test Procedure .....	28
9.6.	Test Result .....	28
<b>10.</b>	<b>RADIATED SPURIOUS EMISSION TEST .....</b>	<b>34</b>
10.1.	Block Diagram of Test Setup.....	34
10.2.	The Limit For Section 15.247(d) .....	35
10.3.	Restricted bands of operation .....	36
10.4.	Configuration of EUT on Measurement .....	36
10.5.	Operating Condition of EUT .....	37
10.6.	Test Procedure .....	37
10.7.	Data Sample.....	38
10.8.	The Field Strength of Radiation Emission Measurement Results .....	38
<b>11.</b>	<b>CONDUCTED SPURIOUS EMISSION COMPLIANCE TEST .....</b>	<b>66</b>
11.1.	Block Diagram of Test Setup.....	66
11.2.	The Requirement For Section 15.247(d) .....	66
11.3.	EUT Configuration on Measurement .....	66
11.4.	Operating Condition of EUT .....	66
11.5.	Test Procedure .....	67
11.6.	Test Result .....	67
<b>12.</b>	<b>ANTENNA REQUIREMENT.....</b>	<b>69</b>
12.1.	The Requirement .....	69
12.2.	Antenna Construction .....	69

## Test Report Certification

Applicant : Lightcomm Technology Co., Ltd.  
Address : RM 1808 18/F FO TAN INDUSTRIAL CENTRE NOS. 26-28 AU PUI WAN STREET FO TAN SHATIN NEW TERRITORIES  
Manufacturer : Lightcomm Technology Co., Ltd.  
Address : RM 1808 18/F FO TAN INDUSTRIAL CENTRE NOS. 26-28 AU PUI WAN STREET FO TAN SHATIN NEW TERRITORIES  
Product : Bluetooth Speaker with Powerbank  
Model No. : BTD16-E, NS-SPBTBRICK2,  
NS-SPBTBRICK2-XX (XX=A-Z, a-z, 0-9, or blank) XX represents different color

Measurement Procedure Used:

**FCC Rules and Regulations Part 15 Subpart C Section 15.247**  
**ANSI C63.10: 2013**

The EUT was tested according to DTS test procedure of Apr 05, 2017 KDB558074 D01 DTS Meas Guidance v04 for compliance to FCC 47CFR 15.247 requirements.

The device described above is tested by Shenzhen Accurate Technology Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.247. The measurement results are contained in this test report and Shenzhen Accurate Technology Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Shenzhen Accurate Technology Co., Ltd.

Date of Test : Feb. 7--Mar. 1, 2018  
Date of Report: Mar. 8, 2018

Prepared by : \_\_\_\_\_  
(Star Yang, Engineer)

Approved &  
Authorized Signer : \_\_\_\_\_  
(Sean Liu, Manager)



**Shenzhen Accurate Technology Co., Ltd.**

Address: 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

Tel: +86-755-26503290

Fax: +86-755-26503396

E-mail: webmaster@atc-lab.com

Http://www.atc-lab.com

## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

EUT	:	Bluetooth Speaker with Powerbank
Model Number	:	BTD16-E, NS-SPBTBRICK2, NS-SPBTBRICK2-XX (XX=A-Z, a-z, 0-9, or blank) XX represents different color (Note: Above models are identical in schematic, structure and critical components except for model name, So we prepare NS-SPBTBRICK2-BK for test.)
Bluetooth version	:	BT V4.1 LE
Frequency Range	:	2402MHz-2480MHz
Number of Channels	:	40
Antenna Gain	:	0dBi
Antenna type	:	PCB Antenna
Modulation mode	:	GFSK
Power Supply	:	DC 3.7V (Powered by Lithium battery) or DC 5V (Powered by USB port)
Trade Name	:	n.a
Applicant Address	:	Lightcomm Technology Co., Ltd. RM 1808 18/F FO TAN INDUSTRIAL CENTRE NOS. 26-28 AU PUI WAN STREET FO TAN SHATIN NEW TERRITORIES
Manufacturer Address	:	Lightcomm Technology Co., Ltd. RM 1808 18/F FO TAN INDUSTRIAL CENTRE NOS. 26-28 AU PUI WAN STREET FO TAN SHATIN NEW TERRITORIES
Date of sample received	:	Feb. 24, 2018
Date of Test	:	Feb. 7--Mar. 1, 2018

## 1.2. Carrier Frequency of Channels

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

## 1.3. Special Accessory and Auxiliary Equipment

Notebook PC:

Manufacturer: Lenovo

M/N: ThinkPad X240

S/N:n.a

#### 1.4. Description of Test Facility

- EMC Lab : Recognition of accreditation by Federal Communications Commission (FCC)  
The Designation Number is CN1189  
The Registration Number is 708358
- Listed by Innovation, Science and Economic Development Canada (ISED)  
The Registration Number is 5077A-2
- Accredited by China National Accreditation Service for Conformity Assessment (CNAS)  
The Registration Number is CNAS L3193
- Accredited by American Association for Laboratory Accreditation (A2LA)  
The Certificate Number is 4297.01
- Name of Firm : Shenzhen Accurate Technology Co., Ltd.  
Site Location : 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

#### 1.5. Measurement Uncertainty

- Conducted Emission Expanded Uncertainty = 2.23dB, k=2
- Radiated emission expanded uncertainty (9kHz-30MHz) = 3.08dB, k=2
- Radiated emission expanded uncertainty (30MHz-1000MHz) = 4.42dB, k=2
- Radiated emission expanded uncertainty (Above 1GHz) = 4.06dB, k=2

## 2. MEASURING DEVICE AND TEST EQUIPMENT

**Table 1: List of Test and Measurement Equipment**

Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 06, 2018	Jan. 05, 2019
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 06, 2018	Jan. 05, 2019
Spectrum Analyzer	Rohde&Schwarz	FSV-40	101495	Jan. 06, 2018	Jan. 05, 2019
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 06, 2018	Jan. 05, 2019
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	Jan. 06, 2018	Jan. 05, 2019
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 12, 2018	Jan. 11, 2019
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 12, 2018	Jan. 11, 2019
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 12, 2018	Jan. 11, 2019
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 12, 2018	Jan. 11, 2019
Open Switch and Control Unit	Rohde&Schwarz	OSP120 + OSP-B157	101244 + 100866	Jan. 06, 2018	Jan. 05, 2019
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 06, 2018	Jan. 05, 2019
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 06, 2018	Jan. 05, 2019
Highpass Filter	Wainwright Instruments	WHKX3.6/18 G-10SS	N/A	Jan. 06, 2018	Jan. 05, 2019
Band Reject Filter	Wainwright Instruments	WRCG2400/2 485-2375/2510 -60/11SS	N/A	Jan. 06, 2018	Jan. 05, 2019



### 3. OPERATION OF EUT DURING TESTING

#### 3.1. Operating Mode

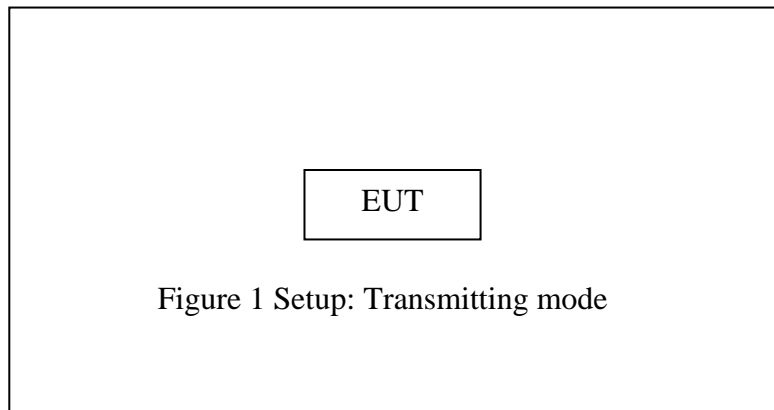
The mode is used: **BLE Transmitting mode**

Low Channel: 2402MHz

Middle Channel: 2440MHz

High Channel: 2480MHz

#### 3.2. Configuration and peripherals

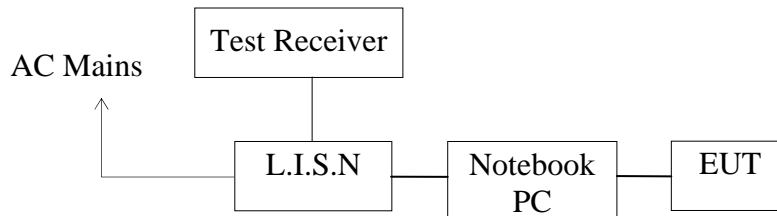


#### 4. TEST PROCEDURES AND RESULTS

<b>FCC&amp;IC Rules</b>	<b>Description of Test</b>	<b>Result</b>
Section 15.247(a)(2)	6dB Bandwidth Test	Compliant
Section 15.247(e)	Power Spectral Density Test	Compliant
Section 15.247(b)(3)	Maximum Peak Output Power Test	Compliant
Section 15.247(d)	Band Edge Compliance Test	Compliant
Section 15.247(d) Section 15.209	Radiated Spurious Emission Test	Compliant
Section 15.247(d)	Conducted Spurious Emission Test	Compliant
Section 15.207	AC Power Line Conducted Emission Test	Compliant
Section 15.203	Antenna Requirement	Compliant

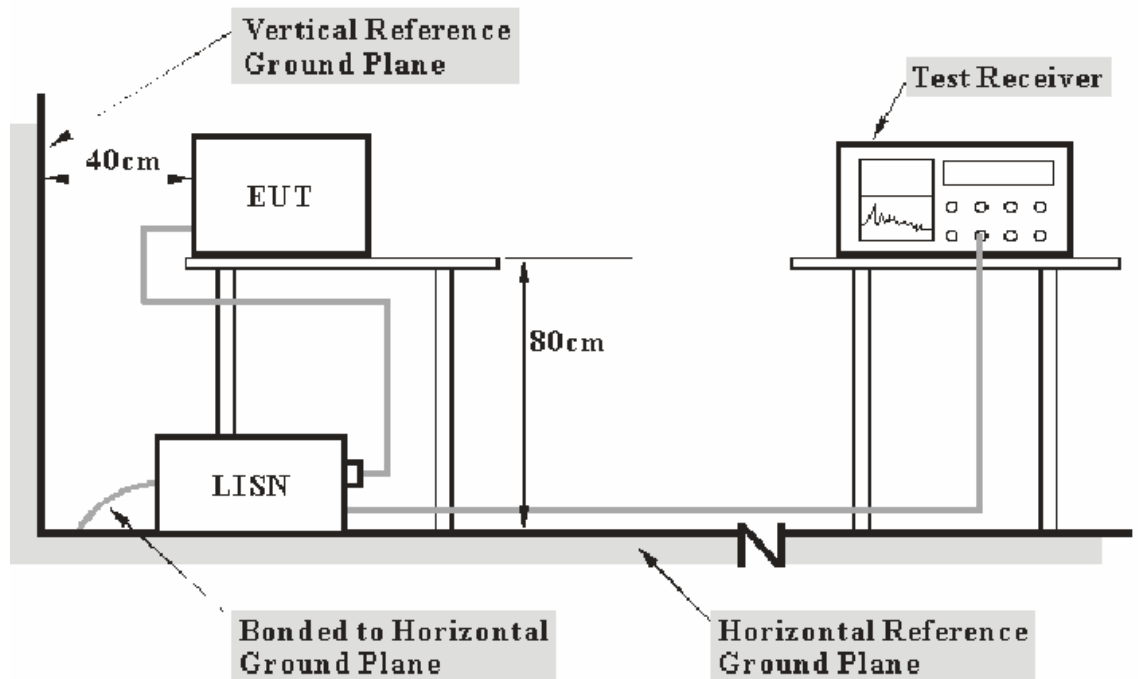
## 5. POWER LINE CONDUCTED MEASUREMENT

### 5.1. Block Diagram of Test Setup



(EUT: Bluetooth Speaker with Powerbank)

### 5.2. Test System Setup



- Note: 1. Support units were connected to second LISN.  
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

### 5.3. Power Line Conducted Emission Measurement Limits

Frequency (MHz)	Limit 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

NOTE1: The lower limit shall apply at the transition frequencies.  
 NOTE2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

### 5.4. Configuration of EUT on Measurement

The equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

### 5.5. Operating Condition of EUT

5.5.1. Setup the EUT and simulator as shown as Section 5.1.

5.5.2. Turn on the power of all equipment.

5.5.3. Let the EUT work in test mode and measure it.

### 5.6. Test Procedure

The EUT is put on the plane 0.8 m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Measurement.

The bandwidth of test receiver (R & S ESCS30) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

### 5.7.Data Sample

Frequency (MHz)	QuasiPeak Level (dB $\mu$ v)	Average Level (dB $\mu$ v)	Transducer value (dB)	QuasiPeak Result (dB $\mu$ v)	Average Result (dB $\mu$ v)	QuasiPeak Limit (dB $\mu$ v)	Average Limit (dB $\mu$ v)	QuasiPeak Margin (dB)	Average Margin (dB)	Remark (Pass/Fail)
X.XX	29.4	18.3	11.1	40.5	29.4	56.0	56.0	15.5	16.6	Pass

Transducer value = Insertion loss of LISN + Cable Loss  
 Result = Quasi-peak Level/Average Level + Transducer value  
 Limit = Limit stated in standard

Calculation Formula:

Margin = Limit – Reading level value – Transducer value

### 5.8.Power Line Conducted Emission Measurement Results

**PASS.**

The frequency range from 150kHz to 30MHz is checked.

Test mode : BT Communication								
Test Voltage: 120V/60Hz								
<b>MEASUREMENT RESULT: "TUV-0227-05_fin"</b>								
2/27/2018								
Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE	
0.175000	47.50	10.5	65	17.2	QP	N	GND	
0.495000	40.60	10.7	56	15.5	QP	N	GND	
3.740000	31.10	11.1	56	24.9	QP	N	GND	
<b>MEASUREMENT RESULT: "TUV-0227-05_fin2"</b>								
2/27/2018								
Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE	
0.490000	36.70	10.7	46	9.5	AV	N	GND	
1.880000	27.00	11.0	46	19.0	AV	N	GND	
24.175000	14.70	11.5	50	35.3	AV	N	GND	

**MEASUREMENT RESULT: "TUV-0227-06\_fin"**

2/27/2018

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.195000	45.50	10.5	64	18.3	QP	L1	GND
0.475000	38.50	10.7	56	17.9	QP	L1	GND
4.360000	29.00	11.1	56	27.0	QP	L1	GND

**MEASUREMENT RESULT: "TUV-0227-06\_fin2"**

2/27/2018

Frequency MHz	Level dB $\mu$ V	Transd dB	Limit dB $\mu$ V	Margin dB	Detector	Line	PE
0.495000	37.30	10.7	46	8.8	AV	L1	GND
1.895000	27.10	11.0	46	18.9	AV	L1	GND
26.215000	16.70	11.5	50	33.3	AV	L1	GND

Emissions attenuated more than 20 dB below the permissible value are not reported.  
The spectral diagrams are attached as below.

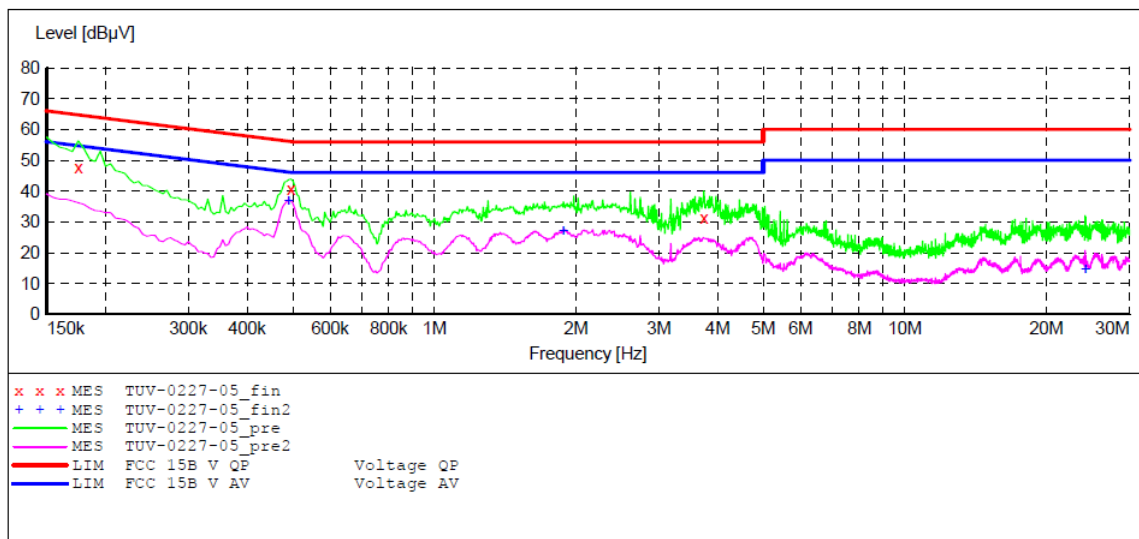
**ACCURATE TECHNOLOGY CO., LTD**

**CONDUCTED EMISSION STANDARD FCC PART 15 C**

EUT: Bluetooth Speaker with Powerbank M/N:NS-SPBTBRICK2-BK  
 Manufacturer: Lightcomm Technology Co., Ltd.  
 Operating Condition: BT Communication  
 Test Site: 1#Shielding Room  
 Operator: WADE  
 Test Specification: N 120V/60Hz  
 Comment: Mains port  
 Start of Test: 2/27/2018 /

**SCAN TABLE: "V 9K-30MHz fin"**

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	NSLK8126 2008
150.0 kHz	30.0 MHz	5.0 kHz	Average	1.0 s	9 kHz	NSLK8126 2008



**MEASUREMENT RESULT: "TUV-0227-05\_fin"**

2/27/2018

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.175000	47.50	10.5	65	17.2	QP	N	GND
0.495000	40.60	10.7	56	15.5	QP	N	GND
3.740000	31.10	11.1	56	24.9	QP	N	GND

**MEASUREMENT RESULT: "TUV-0227-05\_fin2"**

2/27/2018

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.490000	36.70	10.7	46	9.5	AV	N	GND
1.880000	27.00	11.0	46	19.0	AV	N	GND
24.175000	14.70	11.5	50	35.3	AV	N	GND

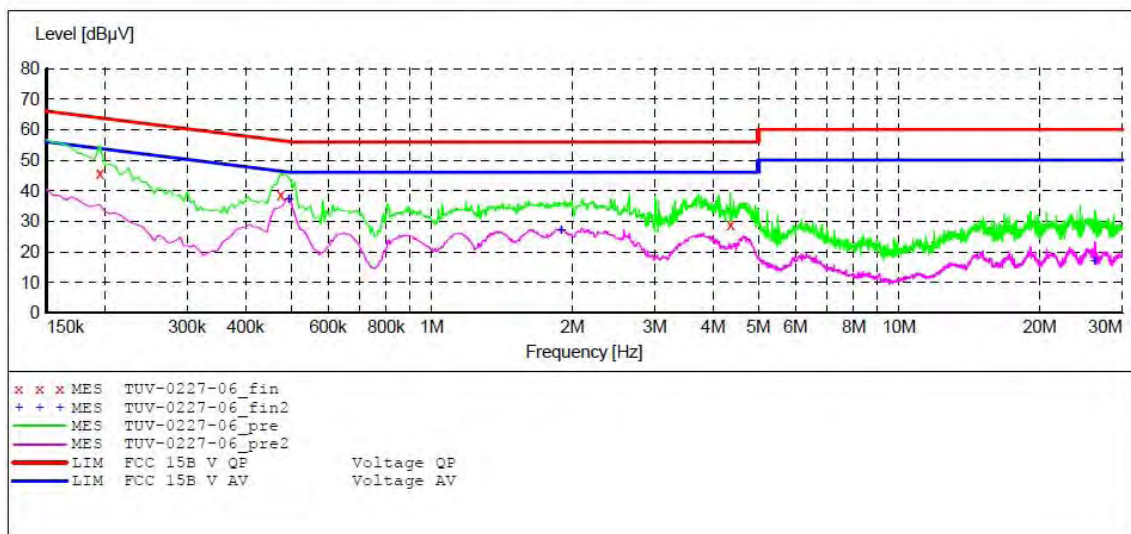
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 C

EUT: Bluetooth Speaker with Powerbank M/N:NS-SPBTBRICK2-BK  
 Manufacturer: Lightcomm Technology Co., Ltd.  
 Operating Condition: BT Communication  
 Test Site: 1#Shielding Room  
 Operator: WADE  
 Test Specification: L 120V/60Hz  
 Comment: Mains port  
 Start of Test: 2/27/2018 /

SCAN TABLE: "V 9K-30MHz fin"

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	NSLK8126 2008
150.0 kHz	30.0 MHz	5.0 kHz	Average			
			QuasiPeak	1.0 s	9 kHz	NSLK8126 2008
			Average			



MEASUREMENT RESULT: "TUV-0227-06\_fin"

2/27/2018

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.195000	45.50	10.5	64	18.3	QP	L1	GND
0.475000	38.50	10.7	56	17.9	QP	L1	GND
4.360000	29.00	11.1	56	27.0	QP	L1	GND

MEASUREMENT RESULT: "TUV-0227-06\_fin2"

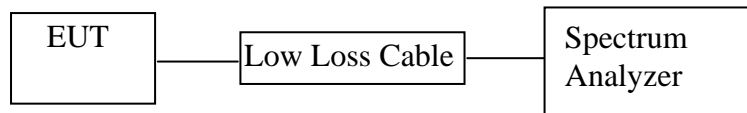
2/27/2018

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.495000	37.30	10.7	46	8.8	AV	L1	GND
1.895000	27.10	11.0	46	18.9	AV	L1	GND
26.215000	16.70	11.5	50	33.3	AV	L1	GND



## 6. 6DB BANDWIDTH MEASUREMENT

### 6.1. Block Diagram of Test Setup



(EUT: Bluetooth Speaker with Powerbank)

### 6.2. The Requirement For Section 15.247(a)(2)

Section 15.247(a)(2): Systems using digital modulation techniques may operate in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

### 6.3. EUT Configuration on Measurement

The equipment is installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

### 6.4. Operating Condition of EUT

6.4.1. Setup the EUT and simulator as shown as Section 6.1.

6.4.2. Turn on the power of all equipment.

6.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

### 6.5. Test Procedure

6.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.

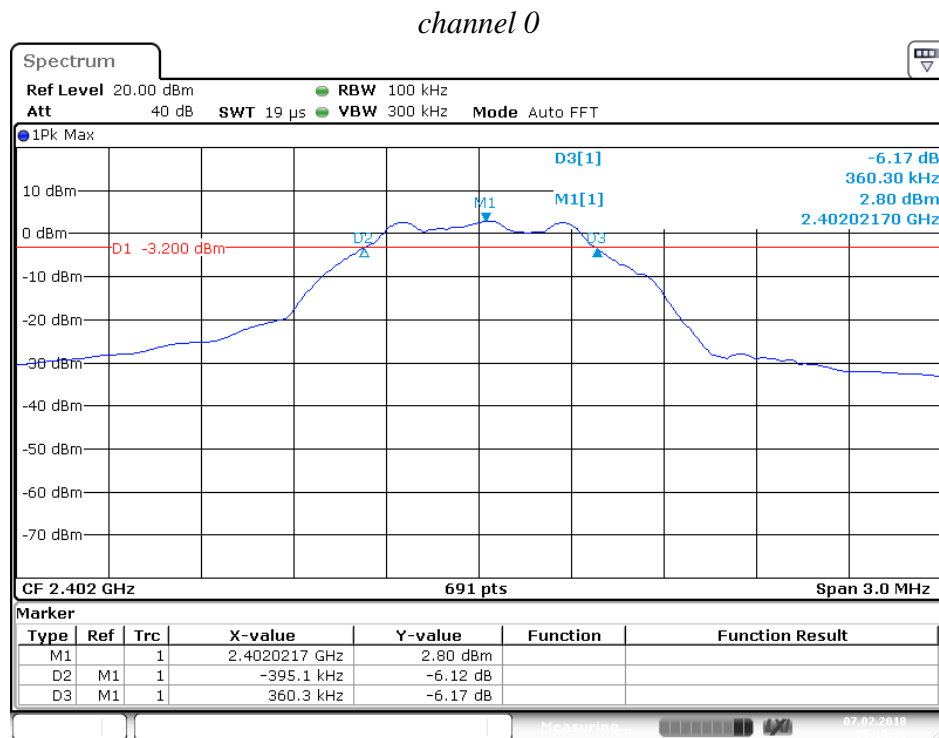
6.5.2. Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz.

6.5.3. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

### 6.6. Test Result

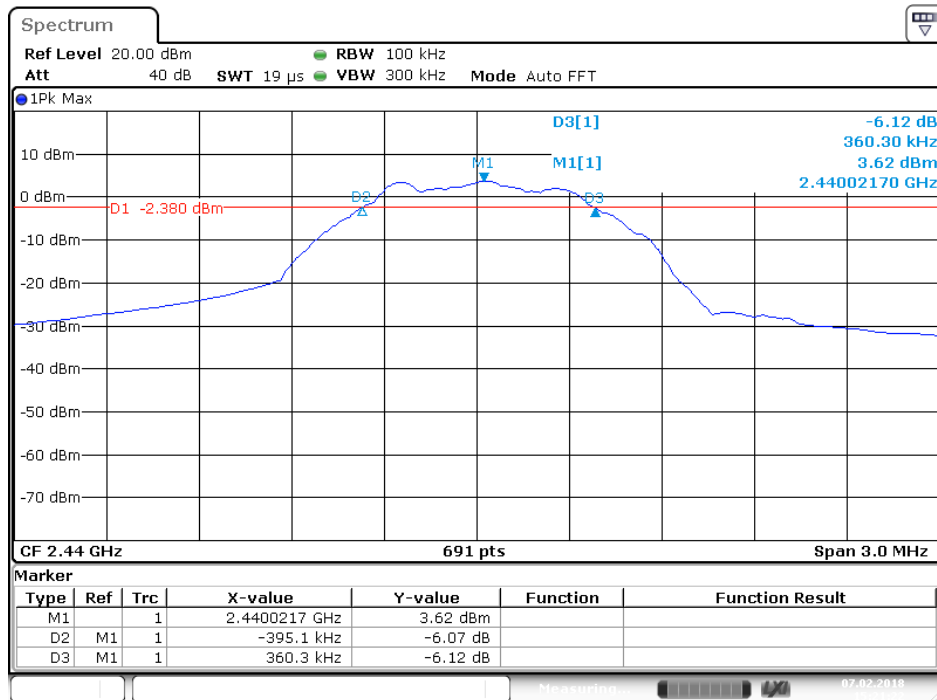
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit(MHz)	PASS/FAIL
0	2402	0.755	0.5	PASS
19	2440	0.755	0.5	PASS
39	2480	0.760	0.5	PASS

The spectrum analyzer plots are attached as below.



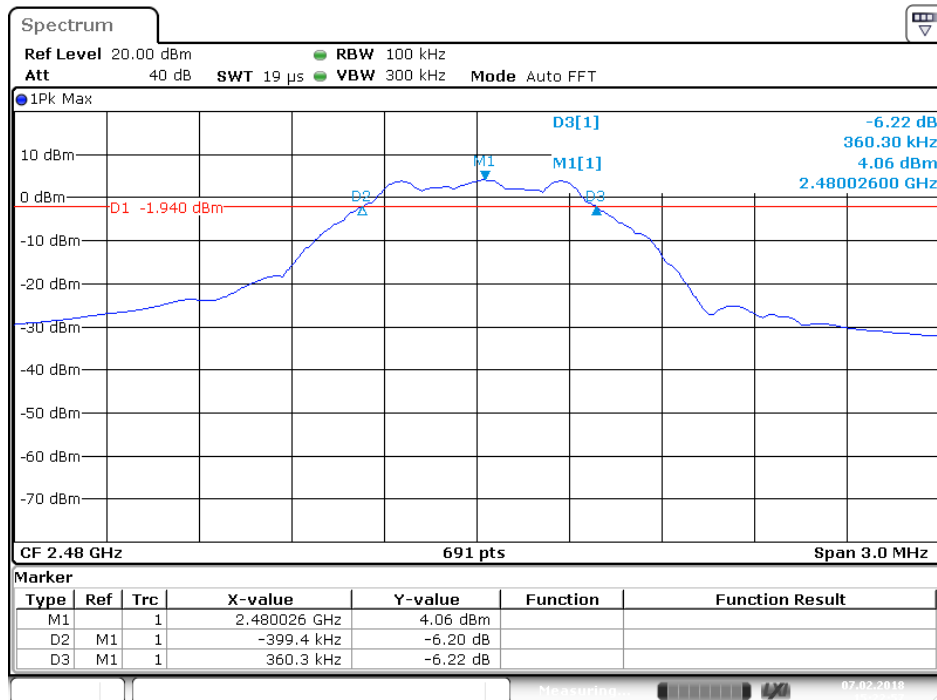
Date: 7.FEB.2018 15:19:35

channel 19



Date: 7.FEB.2018 15:21:22

channel 39



Date: 7.FEB.2018 15:22:57

**Shenzhen Accurate Technology Co., Ltd.**

Address: 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

Tel: +86-755-26503290

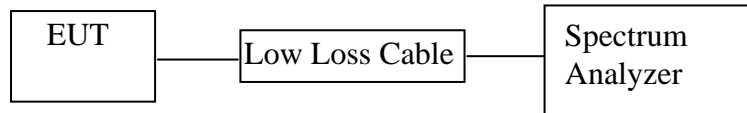
Fax: +86-755-26503396

E-mail: webmaster@atc-lab.com

Http://www.atc-lab.com

## 7. MAXIMUM PEAK OUTPUT POWER

### 7.1. Block Diagram of Test Setup



(EUT:Bluetooth Speaker with Powerbank)

### 7.2. The Requirement For Section 15.247(b)(3)

Section 15.247(b)(3): For systems using digital modulation in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands: 1 Watt.

### 7.3. EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

### 7.4. Operating Condition of EUT

7.4.1. Setup the EUT and simulator as shown as Section 7.1.

7.4.2. Turn on the power of all equipment.

7.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

### 7.5. Test Procedure

7.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.

7.5.2. Set RBW of spectrum analyzer to 1 MHz and VBW to 3MHz.

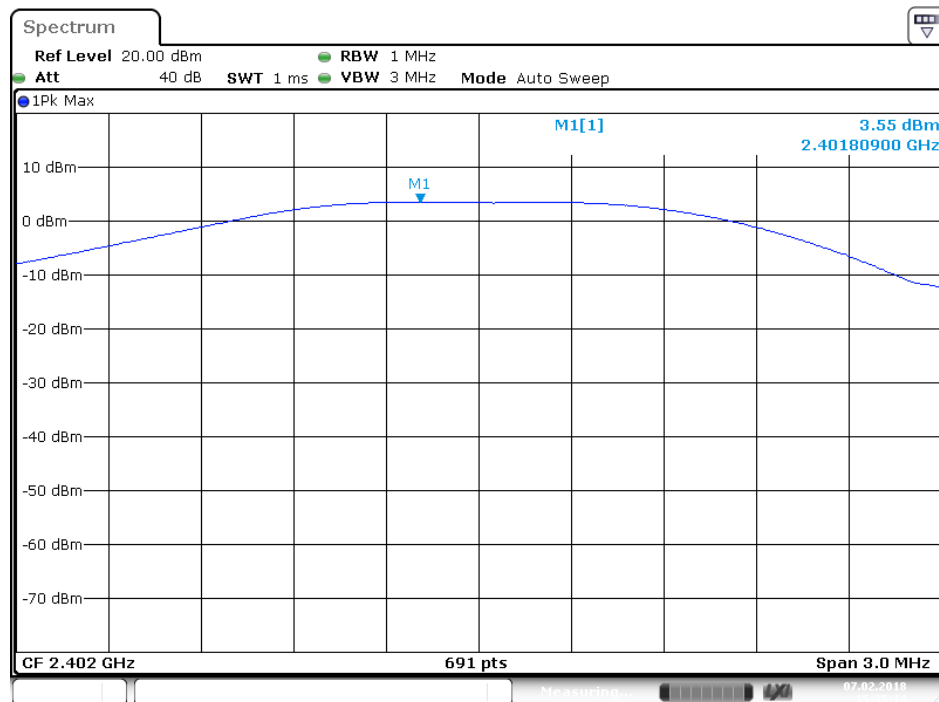
7.5.3. Measurement the maximum peak output power.

### 7.6. Test Result

Channel	Frequency (MHz)	Peak Power Output (dBm)	Antenna gain (dBi)	E.I.P.R. (dBm)	Peak Power Limit (dBm)	Pass / Fail
0	2402	3.55	0	3.55	30	PASS
19	2440	4.34	0	4.34	30	PASS
39	2480	4.80	0	4.80	30	PASS

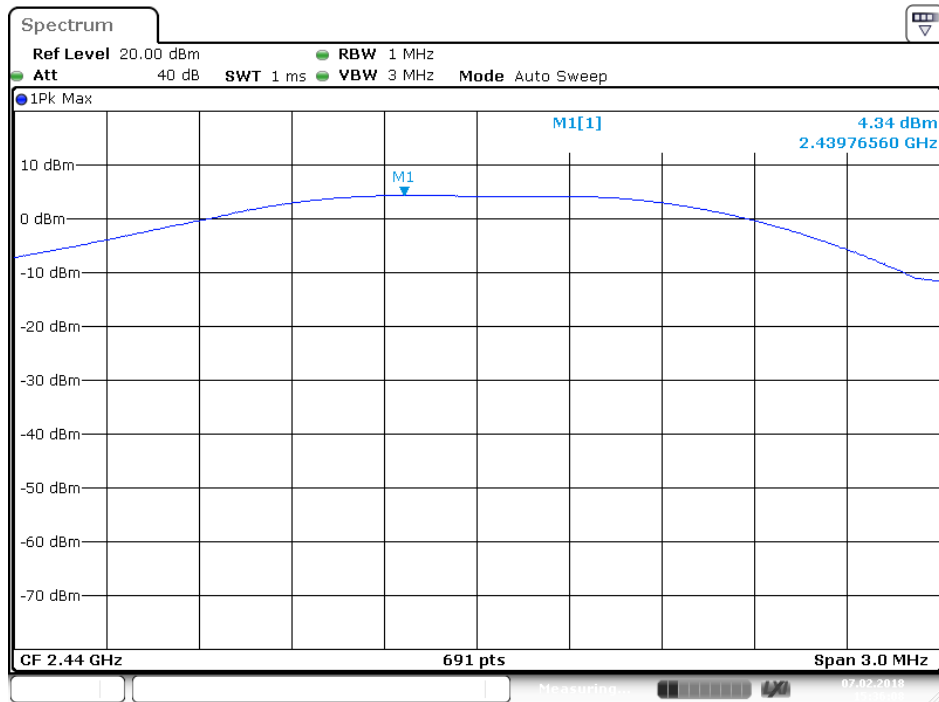
The spectrum analyzer plots are attached as below.

channel 0



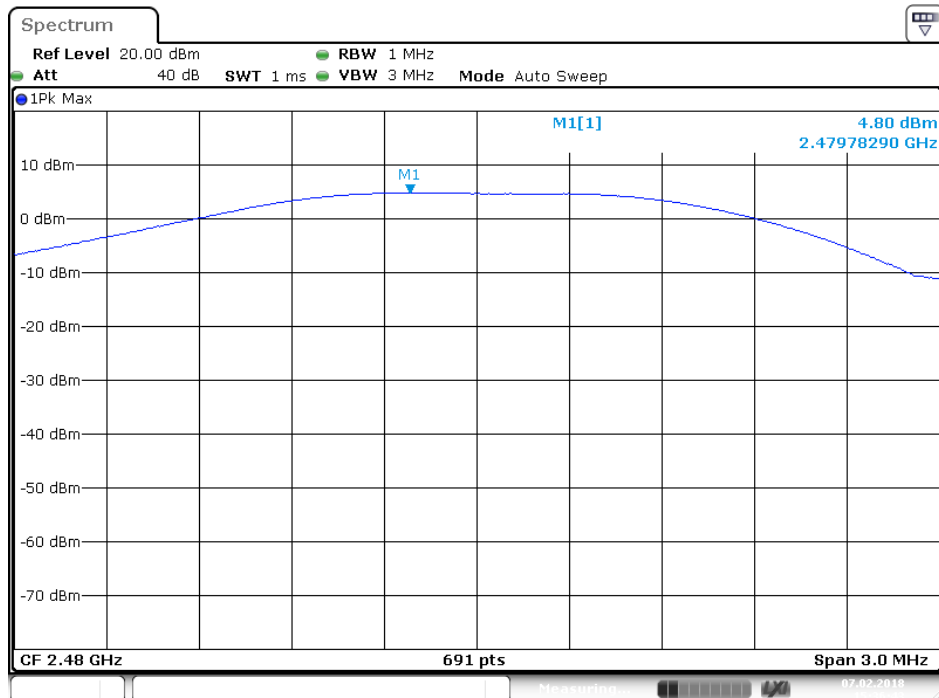
Date: 7.FEB.2018 15:35:15

*channel 19*



Date: 7.FEB.2018 15:36:08

*channel 39*



Date: 7.FEB.2018 15:36:43

**Shenzhen Accurate Technology Co., Ltd.**

Address: 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

Tel: +86-755-26503290

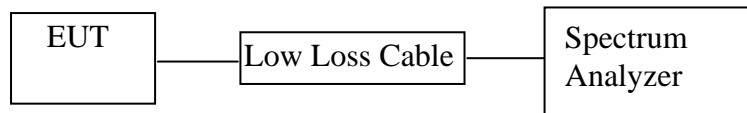
Fax: +86-755-26503396

E-mail: webmaster@atc-lab.com

Http://www.atc-lab.com

## 8. POWER SPECTRAL DENSITY MEASUREMENT

### 8.1. Block Diagram of Test Setup



(EUT:Bluetooth Speaker with Powerbank)

### 8.2. The Requirement For Section 15.247(e)

Section 15.247(e): For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

### 8.3. EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

### 8.4. Operating Condition of EUT

8.4.1. Setup the EUT and simulator as shown as Section 8.1.

8.4.2. Turn on the power of all equipment.

8.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

## 8.5. Test Procedure

8.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.

8.5.2. Measurement Procedure PKPSD:

8.5.3. This procedure must be used if maximum peak conducted output power was used to demonstrate compliance to the fundamental output power limit, and is optional if the maximum (average) conducted output power was used to demonstrate compliance.

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. Set the RBW to:  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ .
4. Set the VBW  $\geq 3 \times \text{RBW}$ .
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3kHz) and repeat.

8.5.4. Measurement the maximum power spectral density.

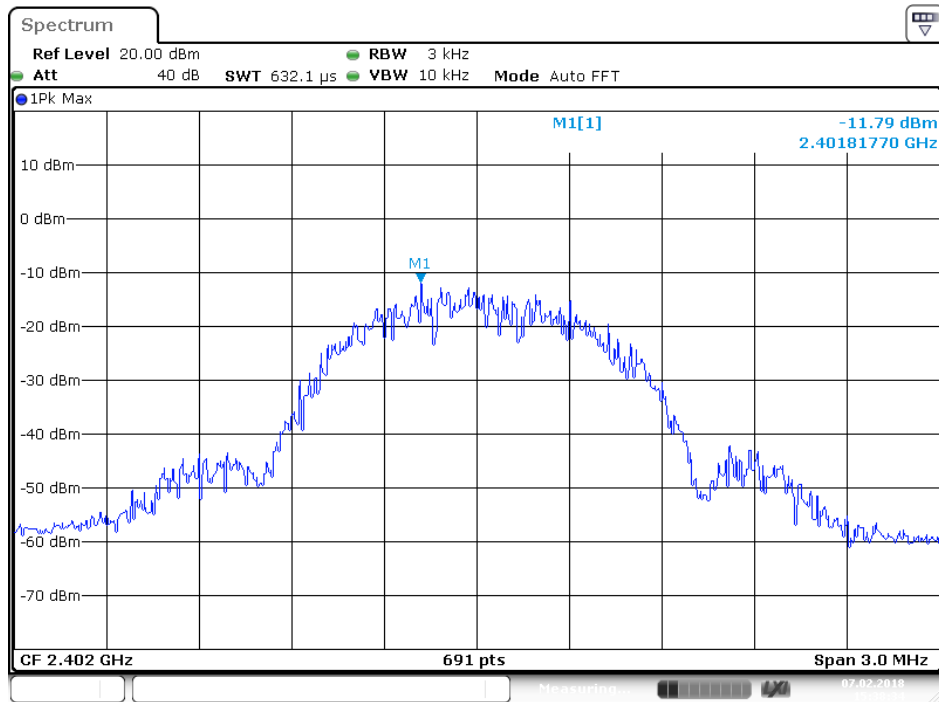
## 8.6. Test Result

CHANNEL NUMBER	FREQUENCY (MHz )	PSD (dBm/3kHz)	LIMIT (dBm/3kHz)	PASS/FAIL
0	2402	-11.79	8	PASS
19	2440	-11.69	8	PASS
39	2480	-10.33	8	PASS

The spectrum analyzer plots are attached as below.

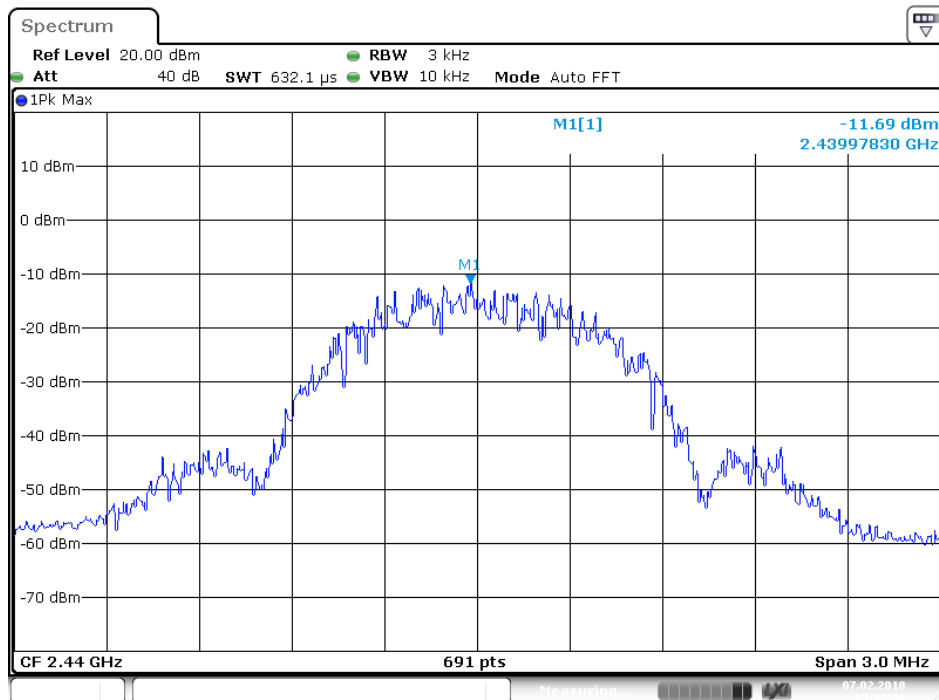


*channel 0*



Date: 7.FEB.2018 15:38:35

*channel 19*



Date: 7.FEB.2018 15:38:08

**Shenzhen Accurate Technology Co., Ltd.**

Address: 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

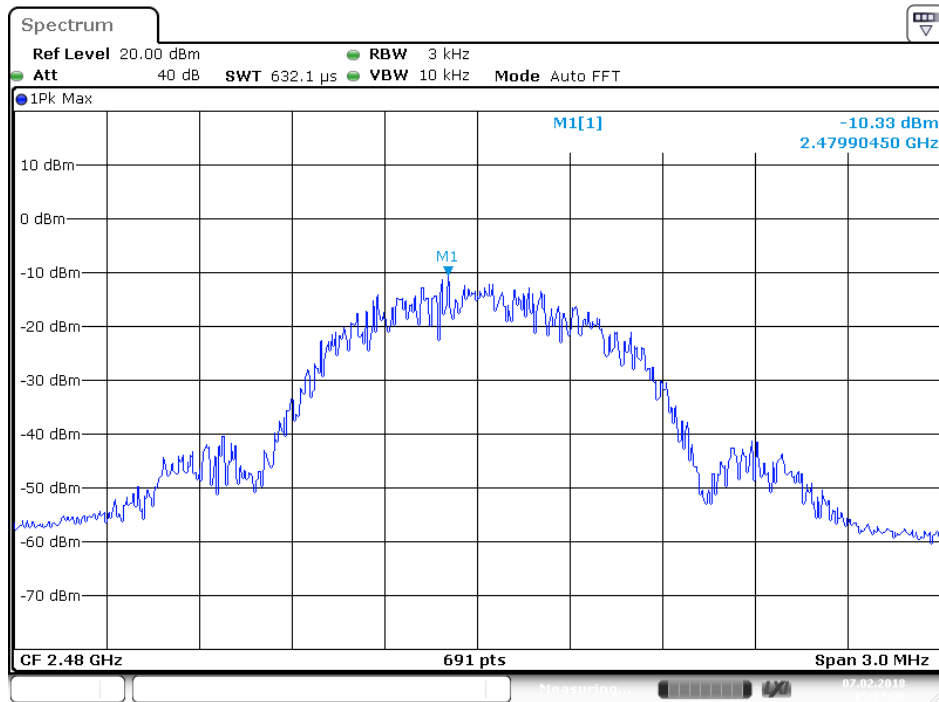
Tel: +86-755-26503290

Fax: +86-755-26503396

E-mail: webmaster@atc-lab.com

Http://www.atc-lab.com

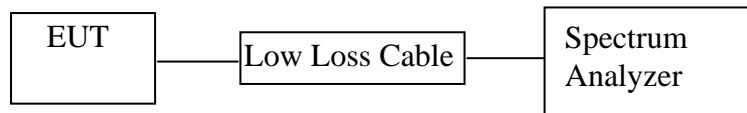
channel 39



Date: 7.FEB.2018 15:37:31

## 9. BAND EDGE COMPLIANCE TEST

### 9.1. Block Diagram of Test Setup



(EUT:Bluetooth Speaker with Powerbank)

### 9.2. The Requirement For Section 15.247(d)

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

### 9.3. EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

### 9.4. Operating Condition of EUT

9.4.1. Setup the EUT and simulator as shown as Section 9.1.

9.4.2. Turn on the power of all equipment.

9.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2480MHz TX frequency to transmit.

### 9.5. Test Procedure

Conducted Band Edge:

9.5.1.The transmitter output was connected to the spectrum analyzer via a low loss cable.

9.5.2.Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz.

9.5.3. Radiate Band Edge:

9.5.4.The EUT is placed on a turntable, which is 0.1m above the ground plane and worked at highest radiated power.

9.5.5.The turntable was rotated for 360 degrees to determine the position of maximum emission level.

9.5.6.EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

9.5.7.Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

9.5.8.RBW=1MHz, VBW=1MHz

9.5.9.The band edges was measured and recorded.

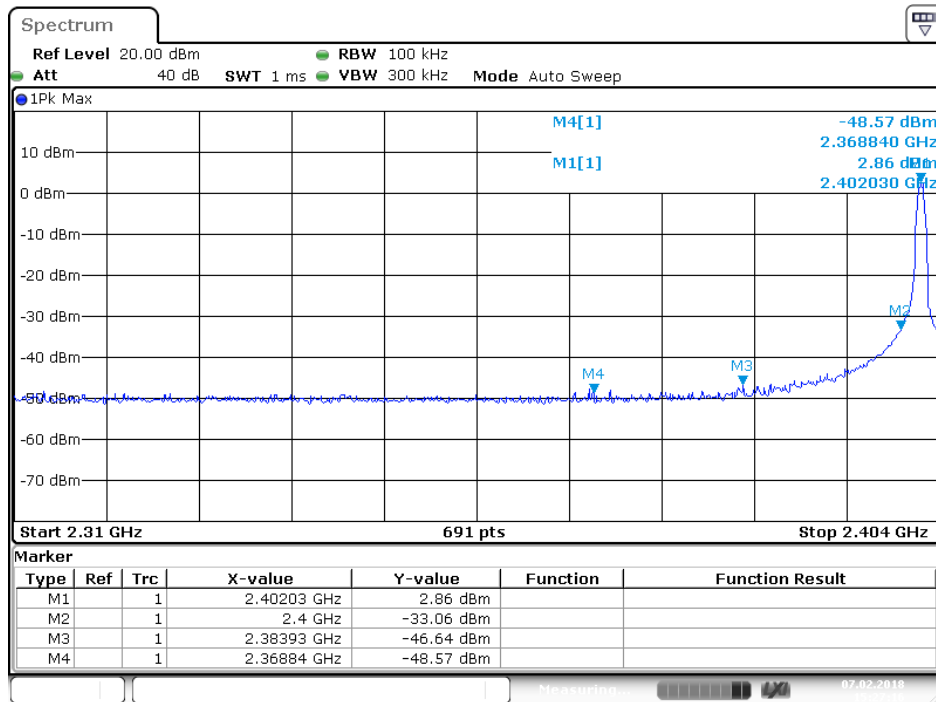
## 9.6.Test Result

### Pass

Channel	Frequency	Delta peak to band emission	Limit(dBc)
0	2.4GHz	35.92	20
39	2.4835GHz	42.51	20

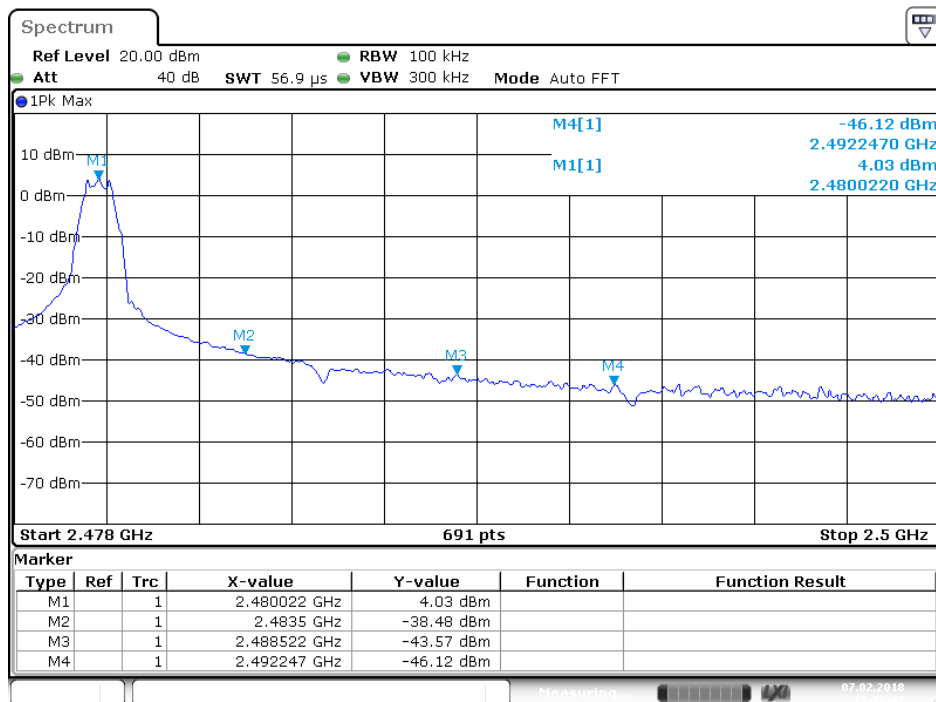
The spectrum analyzer plots are attached as below.

## channel 0



Date: 7.FEB.2018 15:27:16

## channel 39



Date: 7.FEB.2018 15:28:47

### Radiated Band Edge Result



#### ACCURATE TECHNOLOGY CO., LTD.

 F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
 Science & Industry Park,Nanshan Shenzhen,P.R.China

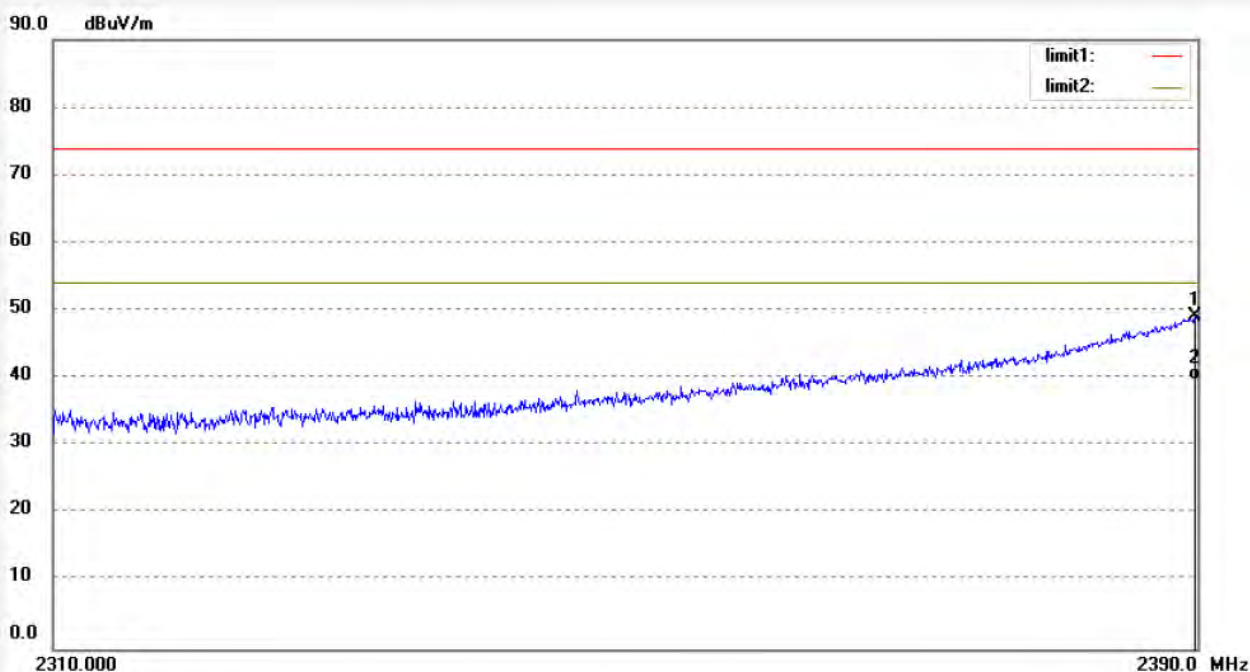
Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGW2018 #421	Polarization: Horizontal
Standard: FCC (Bnad Edge)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 18/02/08/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Bluetooth Speaker with Powerbank	Engineer Signature: WADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-SPBTBRICK2-BK	
Manufacturer: Lightcomm Technology Co., Ltd.	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2389.840	48.29	0.79	49.08	74.00	-24.92	peak			
2	2389.840	38.85	0.79	39.64	54.00	-14.36	AVG			

#### Shenzhen Accurate Technology Co., Ltd.

Address: 1/F., Building A, Changyuan New Material Port, Science &amp; Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

Tel: +86-755-26503290

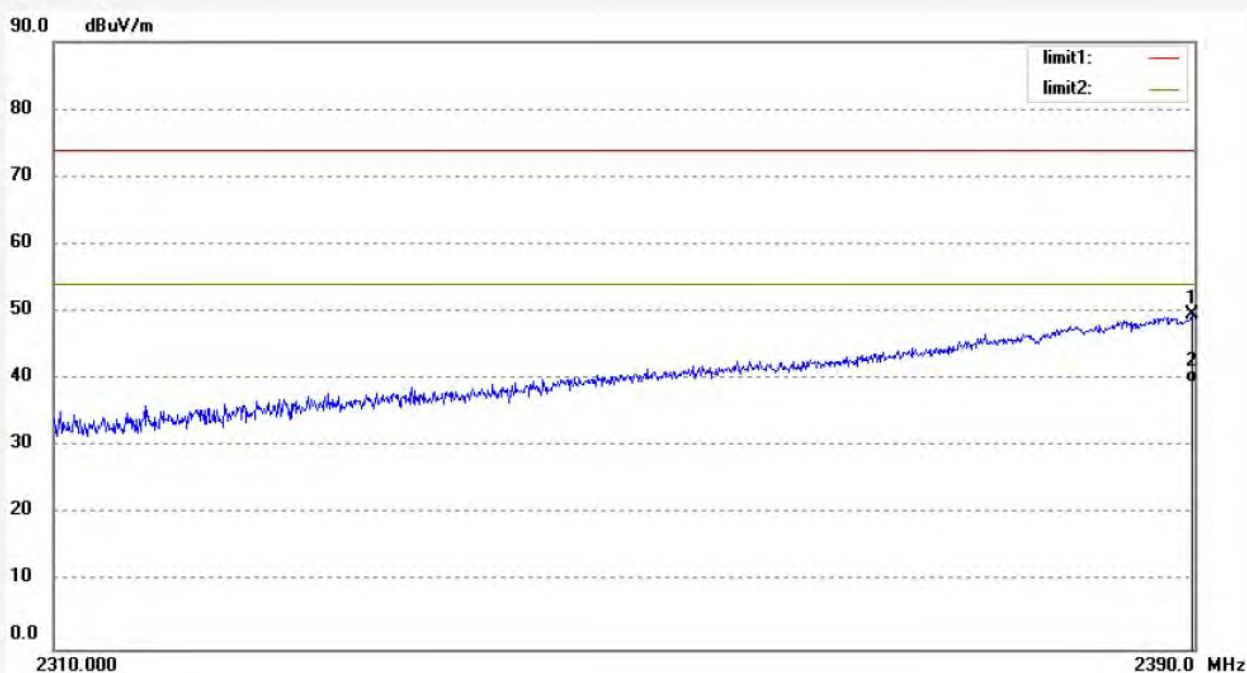
Fax: +86-755-26503396

E-mail: webmaster@atc-lab.com

Http://www.atc-lab.com

Job No.: LGW2018 #422	Polarization: Vertical
Standard: FCC (Bnad Edge)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 18/02/08/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Bluetooth Speaker with Powerbank	Engineer Signature: WADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-SPBTBRICK2-BK	
Manufacturer: Lightcomm Technology Co., Ltd.	

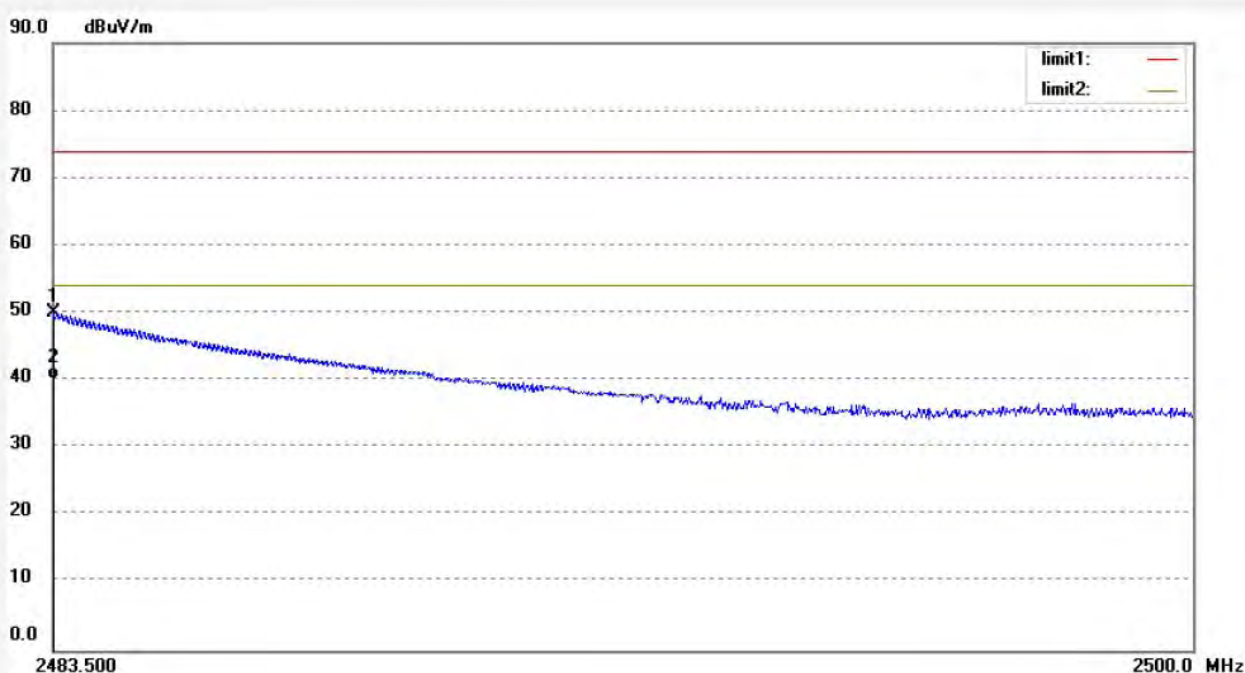
Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2389.840	48.91	0.79	49.70	74.00	-24.30	peak			
2	2389.840	38.72	0.79	39.51	54.00	-14.49	AVG			

Job No.: LGW2018 #428	Polarization: Horizontal
Standard: FCC (Bnad Edge)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 18/02/08/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Bluetooth Speaker with Powerbank	Engineer Signature: WADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-SPBTBRICK2-BK	
Manufacturer: Lightcomm Technology Co., Ltd.	

Note:

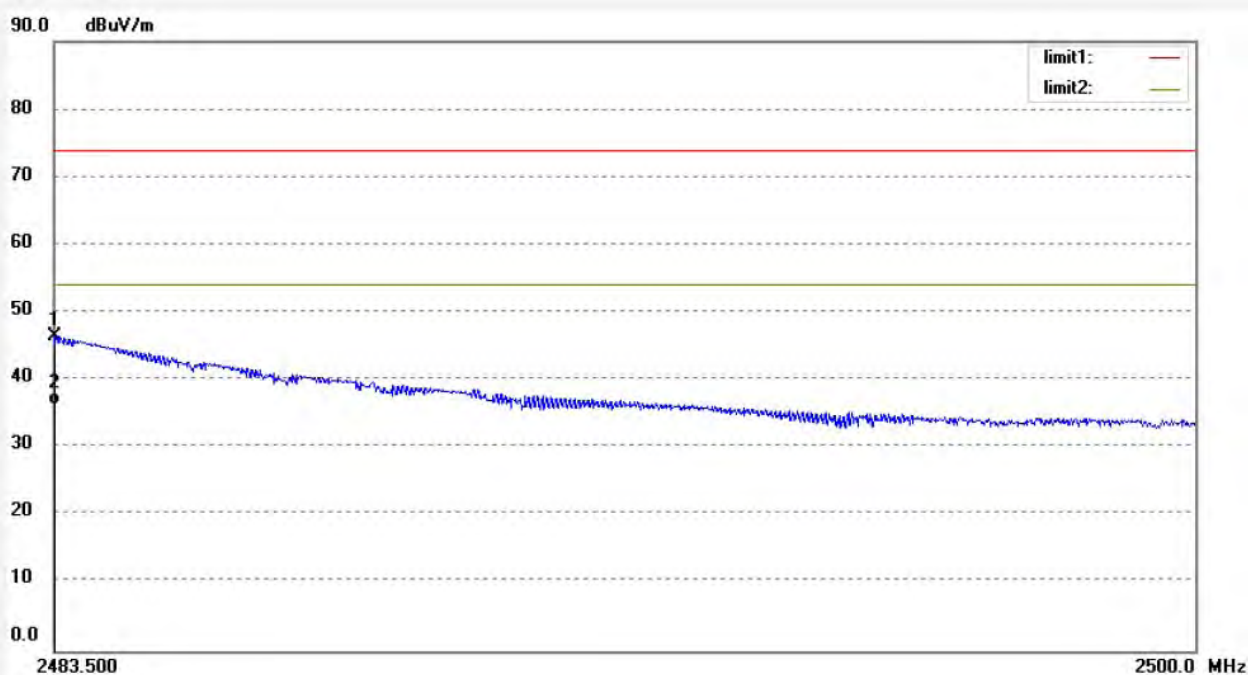


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.517	48.96	1.10	50.06	74.00	-23.94	peak			
2	2483.517	39.11	1.10	40.21	54.00	-13.79	AVG			



Job No.: LGW2018 #427	Polarization: Vertical
Standard: FCC (Bnad Edge)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 18/02/08/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Bluetooth Speaker with Powerbank	Engineer Signature: WADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-SPBTBRICK2-BK	
Manufacturer: Lightcomm Technology Co., Ltd.	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	45.42	1.10	46.52	74.00	-27.48	peak			
2	2483.500	35.14	1.10	36.24	54.00	-17.76	AVG			

Note:

1. Emissions attenuated more than 20 dB below the permissible value are not reported.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

**Shenzhen Accurate Technology Co., Ltd.**

Address: 1/F., Building A, Changyuan New Material Port, Science &amp; Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

Tel: +86-755-26503290

Fax: +86-755-26503396

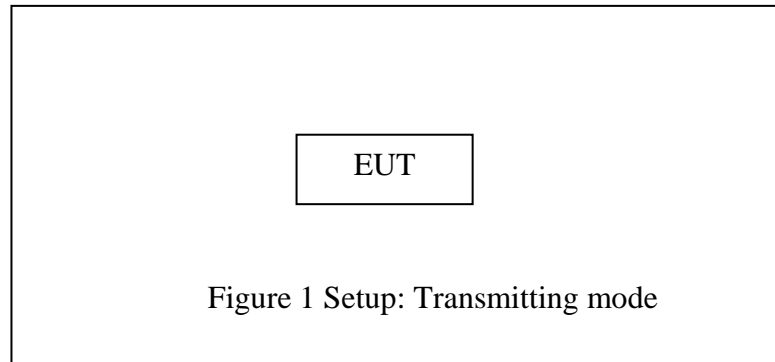
E-mail: webmaster@atc-lab.com

Http://www.atc-lab.com

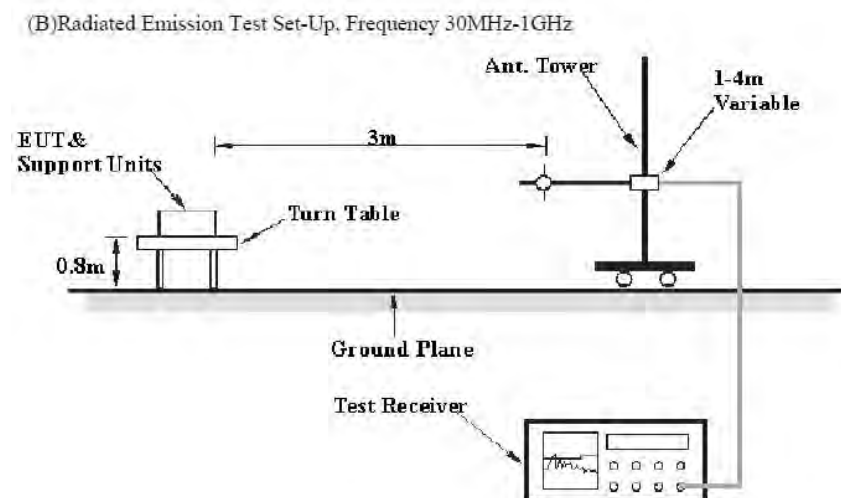
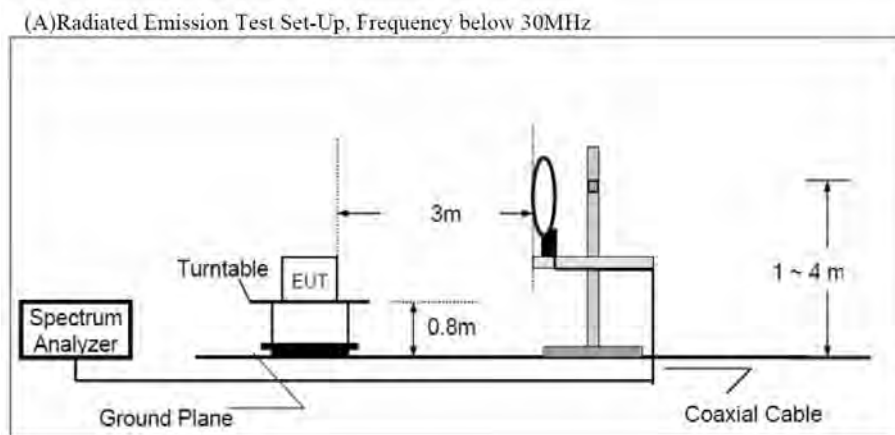
## 10. RADIATED SPURIOUS EMISSION TEST

### 10.1. Block Diagram of Test Setup

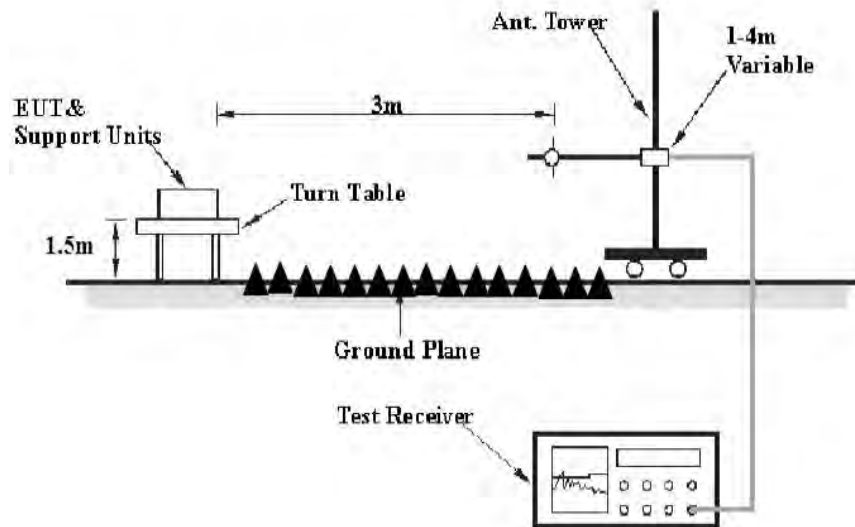
#### 10.1.1. Block diagram of connection between the EUT and peripherals



#### 10.1.2. Semi-Anechoic Chamber Test Setup Diagram



(C) Radiated Emission Test Set-Up. Frequency above 1GHz



## 10.2. The Limit For Section 15.247(d)

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

### 10.3. Restricted bands of operation

#### 10.3.1. FCC Part 15.205 Restricted bands of operation

(a) Except as shown in paragraph (d) of this section, Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	( <sup>2</sup> )
13.36-13.41			

<sup>1</sup>Until February 1, 1999, this restricted band shall be 0.490-0.510

<sup>2</sup>Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

### 10.4. Configuration of EUT on Measurement

The equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

## 10.5. Operating Condition of EUT

10.5.1. Setup the EUT and simulator as shown as Section 10.1.

10.5.2. Turn on the power of all equipment.

10.5.3. Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

## 10.6. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground (Below 1GHz). The EUT and its simulators are placed on a turntable, which is 1.5 meter high above ground (Above 1GHz). The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bi-log antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the EUT location must be manipulated according to ANSI C63.10:2013 on radiated emission measurement. This EUT was tested in 3 orthogonal positions and the worst case position data was reported.

The bandwidth of test receiver is set at 9 kHz in below 30MHz. and set at 120 kHz in 30-1000MHz, and 1MHz in above 1000MHz.

The frequency range from 9 kHz to 26.5GHz is checked.

The final measurement in band 9-90 kHz, 110-490 kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector. The field strength is calculated by adding the antenna factor, and cable loss, and subtracting the amplifier gain from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor

Where Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

### 10.7.Data Sample

Frequency (MHz)	Reading (dB $\mu$ v)	Factor (dB/m)	Result (dB $\mu$ v/m)	Limit (dB $\mu$ v/m)	Margin (dB)	Remark
X.XX	48.69	-13.35	35.34	46	-10.66	QP

Frequency(MHz) = Emission frequency in MHz

Reading(dB $\mu$ v) = Uncorrected Analyzer/Receiver reading

Factor (dB/m) = Antenna factor + Cable Loss – Amplifier gain

Result(dB $\mu$ v/m) = Reading(dB $\mu$ v) + Factor(dB/m)

Limit (dB $\mu$ v/m) = Limit stated in standard

Margin (dB) = Result(dB $\mu$ v/m) - Limit (dB $\mu$ v/m)

QP = Quasi-peak Reading

Calculation Formula:

Margin(dB) = Result (dB $\mu$ V/m)–Limit(dB $\mu$ V/m)

Result(dB $\mu$ V/m)= Reading(dB $\mu$ V)+ Factor(dB/m)

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit.

### 10.8.The Field Strength of Radiation Emission Measurement Results

PASS.

**Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.**

**2. \*: Denotes restricted band of operation.**

The spectrum analyzer plots are attached as below.

## FCC PART15C(9K-30MHz)

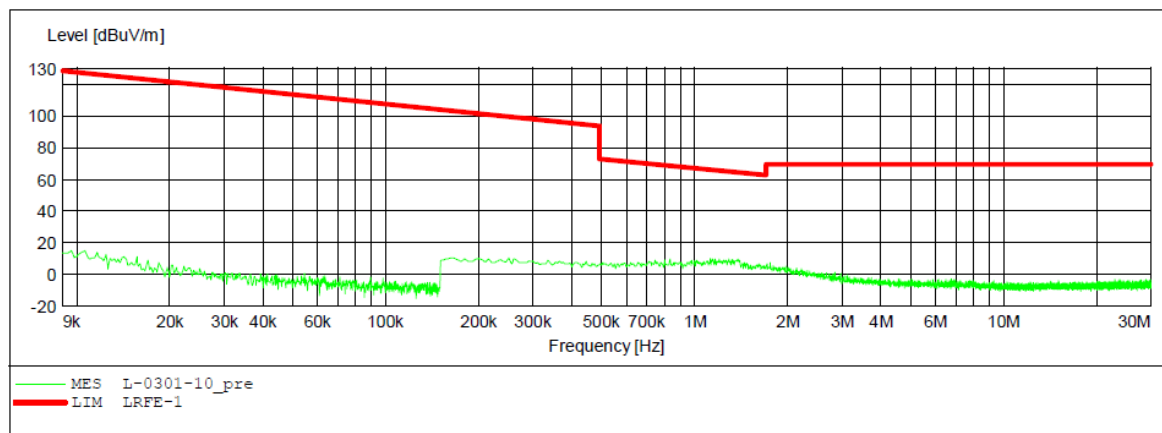
ACCURATE TECHNOLOGY CO.,LTD

## FCC Class B 3M Radiated

EUT: Bluetooth Speaker with Powerbank M/N:NS-SPBTBRICK2-BK  
Manufacturer: Lightcomm Technology Co., Ltd.  
Operating Condition: TX 2402MHz  
Test Site: 2# Chamber  
Operator: WADE  
Test Specification: DC 3.7V  
Comment: X  
Start of Test: 2018-3-1 /

## SCAN TABLE: "LFRE Fin"

Start	Stop	Step	_SUB_STD_VTERM2	1.70	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M		
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M		

**Shenzhen Accurate Technology Co., Ltd.**

Address: 1/F., Building A, Changyuan New Material Port, Science &amp; Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

Tel: +86-755-26503290

Fax: +86-755-26503396

E-mail: webmaster@atc-lab.com

Http://www.atc-lab.com

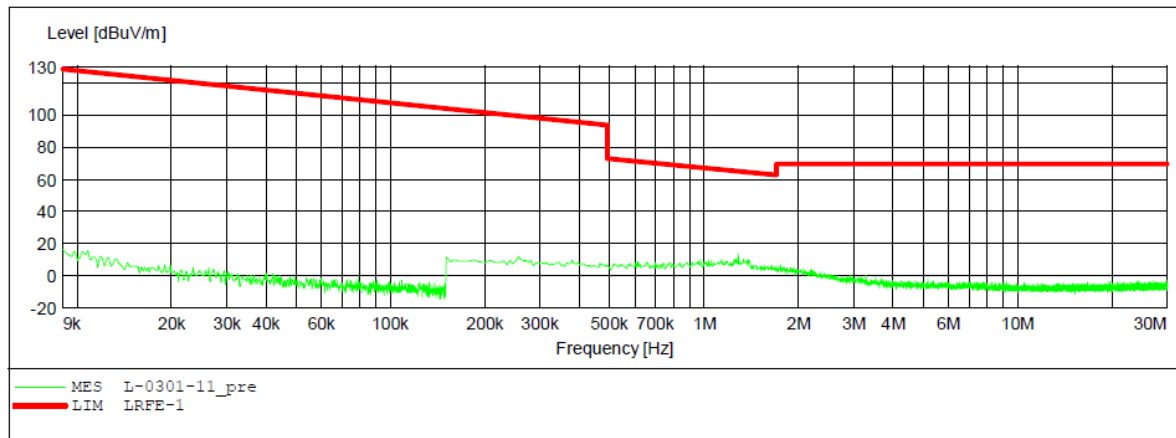
**ACCURATE TECHNOLOGY CO., LTD**

**FCC Class B 3M Radiated**

EUT: Bluetooth Speaker with Powerbank M/N:NS-SPBTBRICK2-BK  
 Manufacturer: Lightcomm Technology Co., Ltd.  
 Operating Condition: TX 2402MHz  
 Test Site: 2# Chamber  
 Operator: WADE  
 Test Specification: DC 3.7V  
 Comment: Y  
 Start of Test: 2018-3-1 /

**SCAN TABLE: "LFRE Fin"**

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M





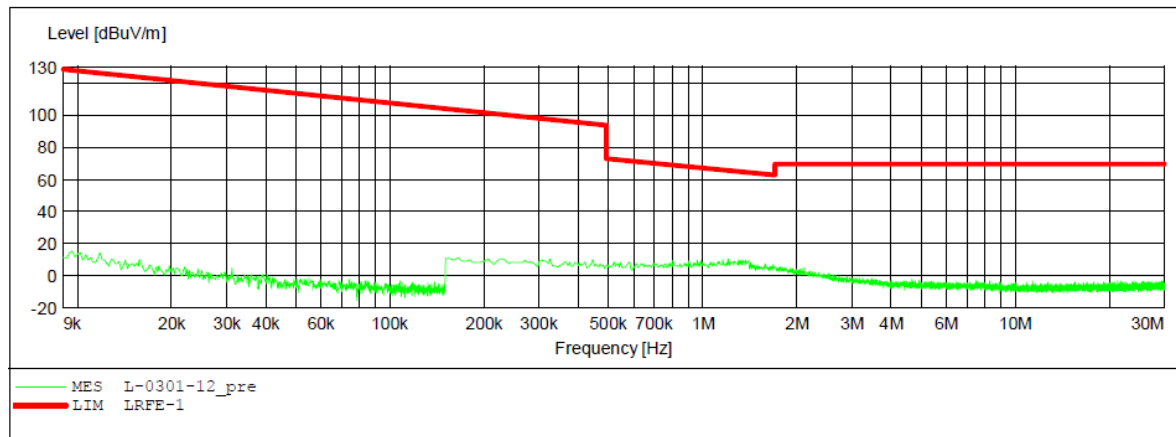
**ACCURATE TECHNOLOGY CO., LTD**

**FCC Class B 3M Radiated**

EUT: Bluetooth Speaker with Powerbank M/N:NS-SPBTBRICK2-BK  
 Manufacturer: Lightcomm Technology Co., Ltd.  
 Operating Condition: TX 2402MHz  
 Test Site: 2# Chamber  
 Operator: WADE  
 Test Specification: DC 3.7V  
 Comment: Z  
 Start of Test: 2018-3-1 /

**SCAN TABLE: "LFRE Fin"**

Short Description:		_SUB_STD_VTERM2 1.70					
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M	
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M	



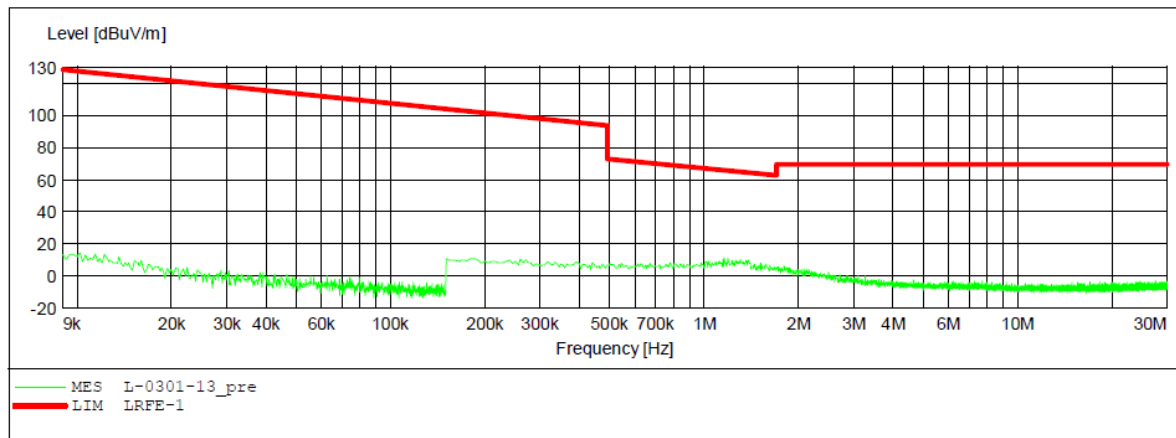
**ACCURATE TECHNOLOGY CO., LTD**

**FCC Class B 3M Radiated**

EUT: Bluetooth Speaker with Powerbank M/N:NS-SPBTBRICK2-BK  
 Manufacturer: Lightcomm Technology Co., Ltd.  
 Operating Condition: TX 2440MHz  
 Test Site: 2# Chamber  
 Operator: WADE  
 Test Specification: DC 3.7V  
 Comment: X  
 Start of Test: 2018-3-1 /

**SCAN TABLE: "LFRE Fin"**

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



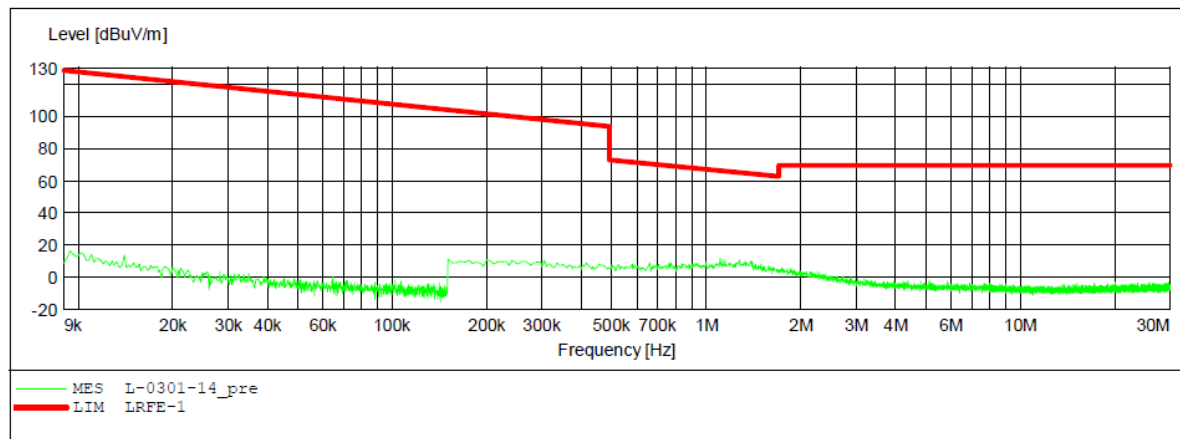
**ACCURATE TECHNOLOGY CO.,LTD**

**FCC Class B 3M Radiated**

EUT: Bluetooth Speaker with Powerbank M/N:NS-SPBTBRICK2-BK  
 Manufacturer: Lightcomm Technology Co., Ltd.  
 Operating Condition: TX 2440MHz  
 Test Site: 2# Chamber  
 Operator: WADE  
 Test Specification: DC 3.7V  
 Comment: Y  
 Start of Test: 2018-3-1 /

**SCAN TABLE: "LFRE Fin"**

Start	Stop	Step	_SUB_STD_VTERM2 1.70 Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



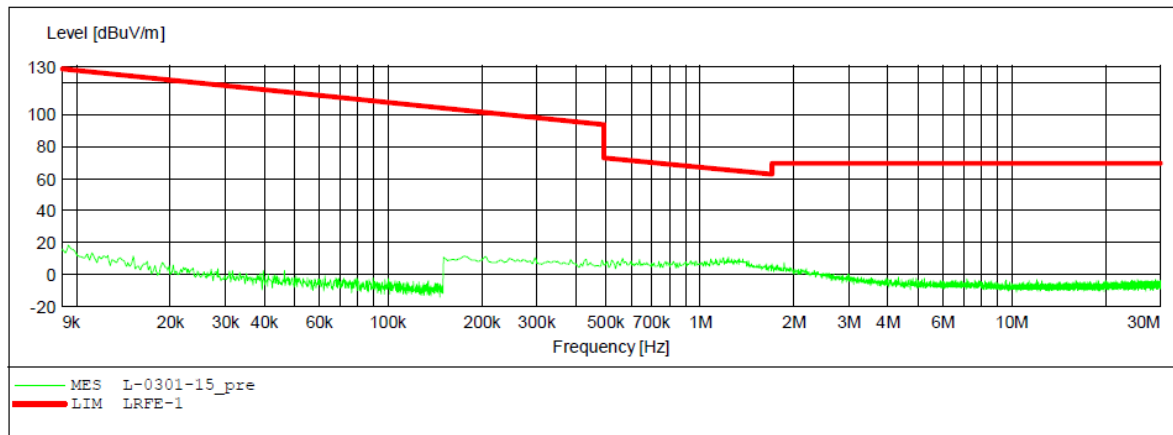
**ACCURATE TECHNOLOGY CO., LTD**

**FCC Class B 3M Radiated**

EUT: Bluetooth Speaker with Powerbank M/N:NS-SPBTBRICK2-BK  
 Manufacturer: Lightcomm Technology Co., Ltd.  
 Operating Condition: TX 2440MHz  
 Test Site: 2# Chamber  
 Operator: WADE  
 Test Specification: DC 3.7V  
 Comment: Z  
 Start of Test: 2018-3-1 /

**SCAN TABLE: "LFRE Fin"**

Short Description:			_SUB_STD_VTERM2 1.70				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M	
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M	



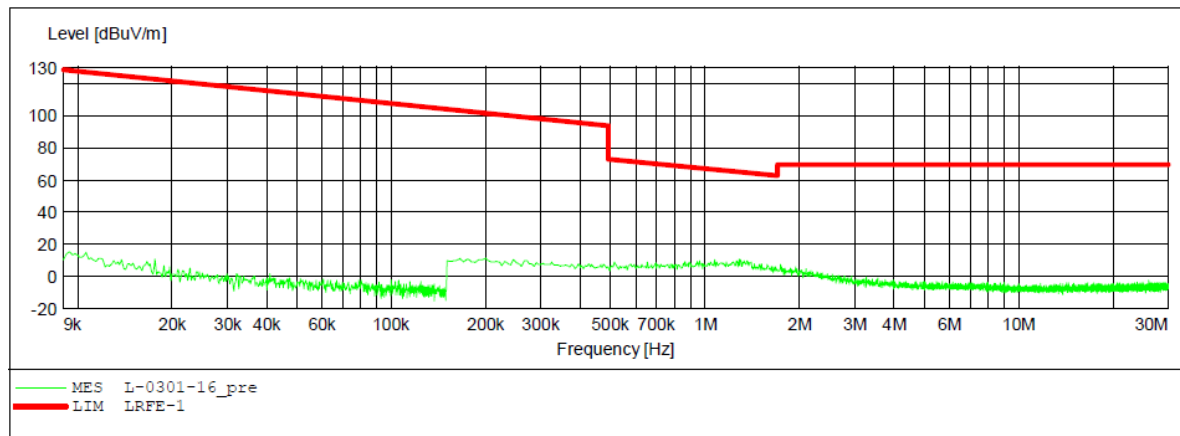
**ACCURATE TECHNOLOGY CO., LTD**

**FCC Class B 3M Radiated**

EUT: Bluetooth Speaker with Powerbank M/N:NS-SPBTBRICK2-BK  
 Manufacturer: Lightcomm Technology Co., Ltd.  
 Operating Condition: TX 2480MHz  
 Test Site: 2# Chamber  
 Operator: WADE  
 Test Specification: DC 3.7V  
 Comment: X  
 Start of Test: 2018-3-1 /

**SCAN TABLE: "LFRE Fin"**

Short Description:		_SUB_STD_VTERM2 1.70					
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M	
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M	



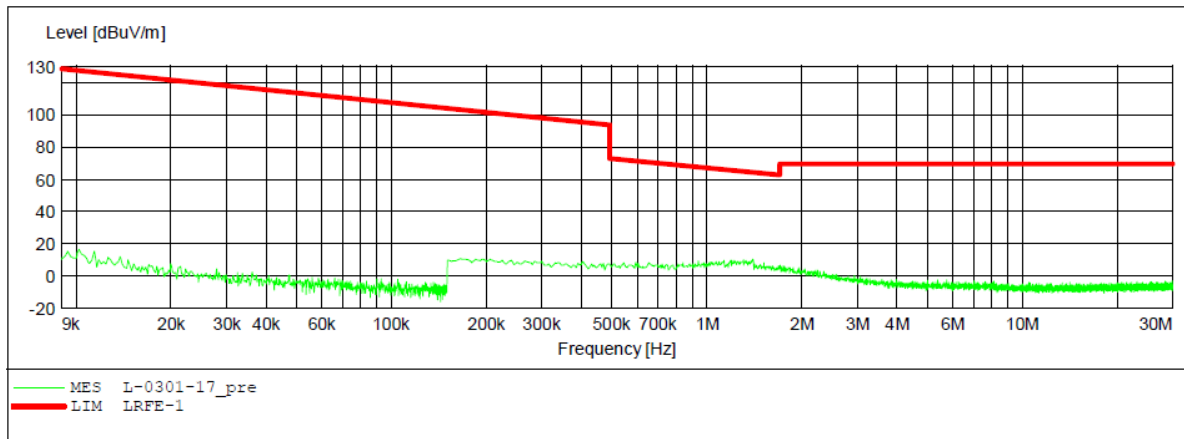
**ACCURATE TECHNOLOGY CO., LTD**

**FCC Class B 3M Radiated**

EUT: Bluetooth Speaker with Powerbank M/N:NS-SPBTBRICK2-BK  
 Manufacturer: Lightcomm Technology Co., Ltd.  
 Operating Condition: TX 2480MHz  
 Test Site: 2# Chamber  
 Operator: WADE  
 Test Specification: DC 3.7V  
 Comment: Y  
 Start of Test: 2018-3-1 /

**SCAN TABLE: "LFRE Fin"**

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



**Shenzhen Accurate Technology Co., Ltd.**

Address: 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

Tel: +86-755-26503290

Fax: +86-755-26503396

E-mail: webmaster@atc-lab.com

Http://www.atc-lab.com

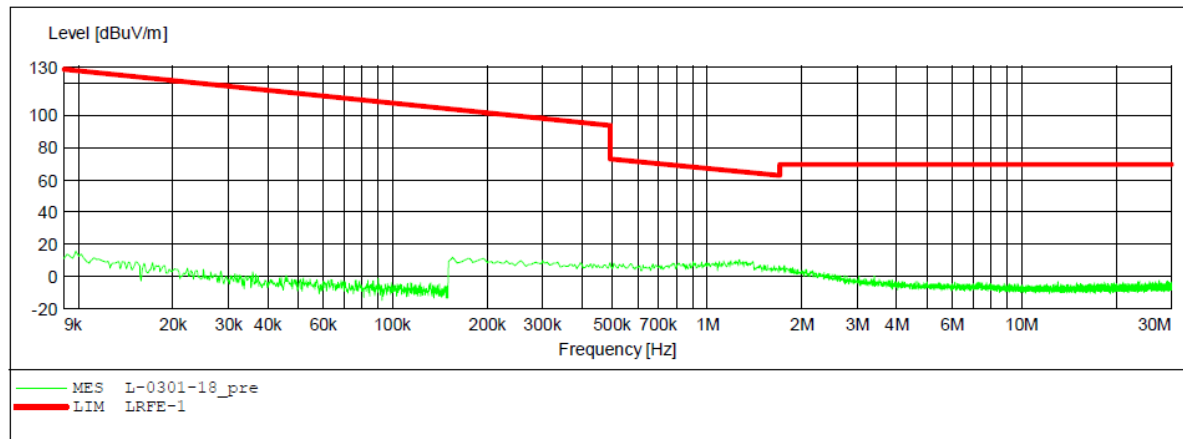
**ACCURATE TECHNOLOGY CO., LTD**

**FCC Class B 3M Radiated**

EUT: Bluetooth Speaker with Powerbank M/N:NS-SPBTBRICK2-BK  
 Manufacturer: Lightcomm Technology Co., Ltd.  
 Operating Condition: TX 2480MHz  
 Test Site: 2# Chamber  
 Operator: WADE  
 Test Specification: DC 3.7V  
 Comment: Z  
 Start of Test: 2018-3-1 /

**SCAN TABLE: "LFRE Fin"**

Short Description:		_SUB_STD_VTERM2 1.70					
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M	
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M	



## FCC PART15C(30MHz-1000MHz)

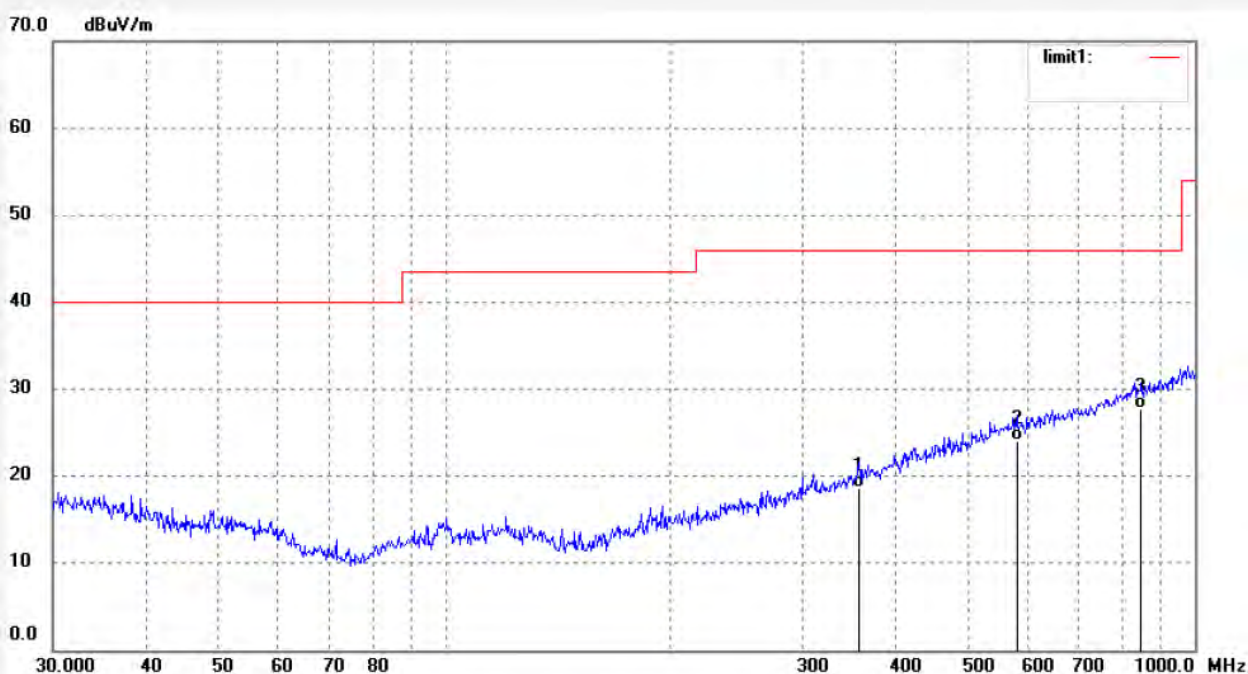

**ACCURATE TECHNOLOGY CO., LTD.**

 F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
 Science & Industry Park,Nanshan Shenzhen,P.R.China

 Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: LGW2018 #435 Standard: FCC Class B 3M Radiated Test item: Radiation Test Temp.( C)/Hum.(%) 23 C / 48 % EUT: Bluetooth Speaker with Powerbank Mode: TX 2402MHz Model: NS-SPBTBRICK2-BK Manufacturer: Lightcomm Technology Co., Ltd.	Polarization: Horizontal Power Source: DC 3.7V Date: 18/02/08/ Time: Engineer Signature: WADE Distance: 3m
--	---

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	356.6757	26.01	-7.33	18.68	46.00	-27.32	QP			
2	578.6698	26.66	-2.56	24.10	46.00	-21.90	QP			
3	848.0562	26.24	1.54	27.78	46.00	-18.22	QP			

**Shenzhen Accurate Technology Co., Ltd.**

Address: 1/F., Building A, Changyuan New Material Port, Science &amp; Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

Tel: +86-755-26503290

Fax: +86-755-26503396

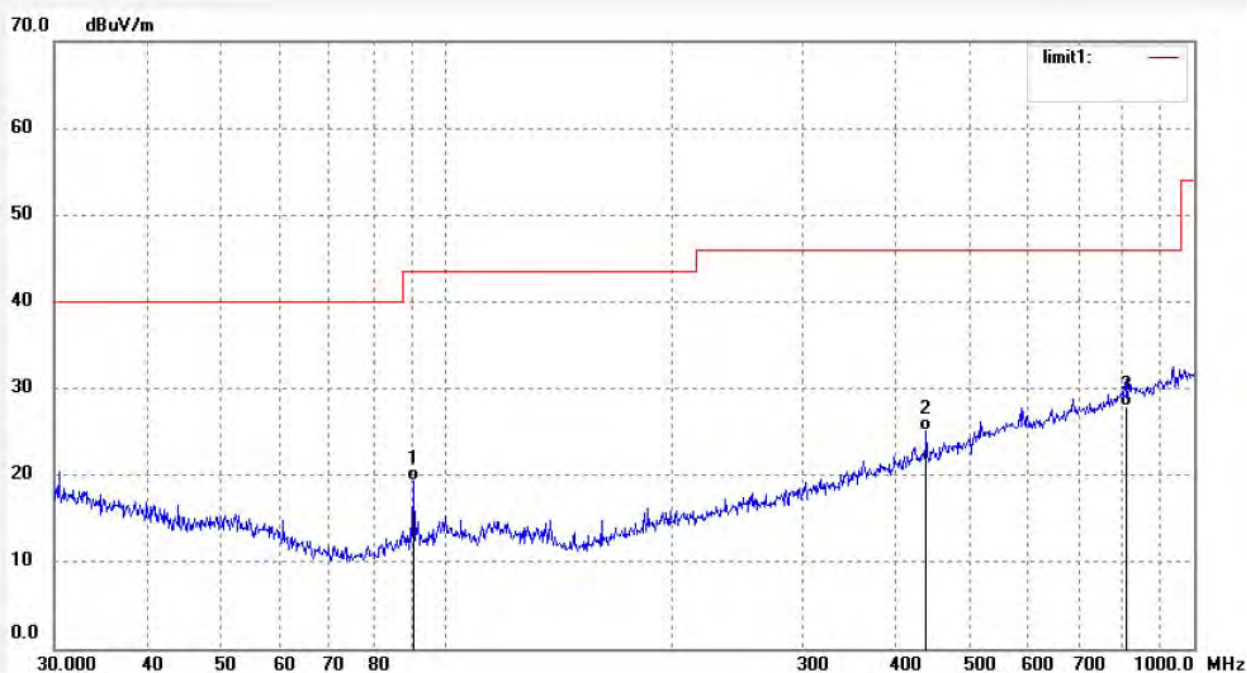
E-mail: webmaster@atc-lab.com

Http://www.atc-lab.com



Job No.: LGW2018 #436	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 18/02/08/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Bluetooth Speaker with Powerbank	Engineer Signature: WADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-SPBTBRICK2-BK	
Manufacturer: Lightcomm Technology Co., Ltd.	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	90.5374	34.36	-14.98	19.38	43.50	-24.12	QP			
2	438.6553	30.70	-5.50	25.20	46.00	-20.80	QP			
3	810.2653	27.00	0.99	27.99	46.00	-18.01	QP			

Job No.: LGW2018 #438

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 23 C / 48 %

EUT: Bluetooth Speaker with Powerbank

Mode: TX 2440MHz

Model: NS-SPBTBRICK2-BK

Manufacturer: Lightcomm Technology Co., Ltd.

Polarization: Horizontal

Power Source: DC 3.7V

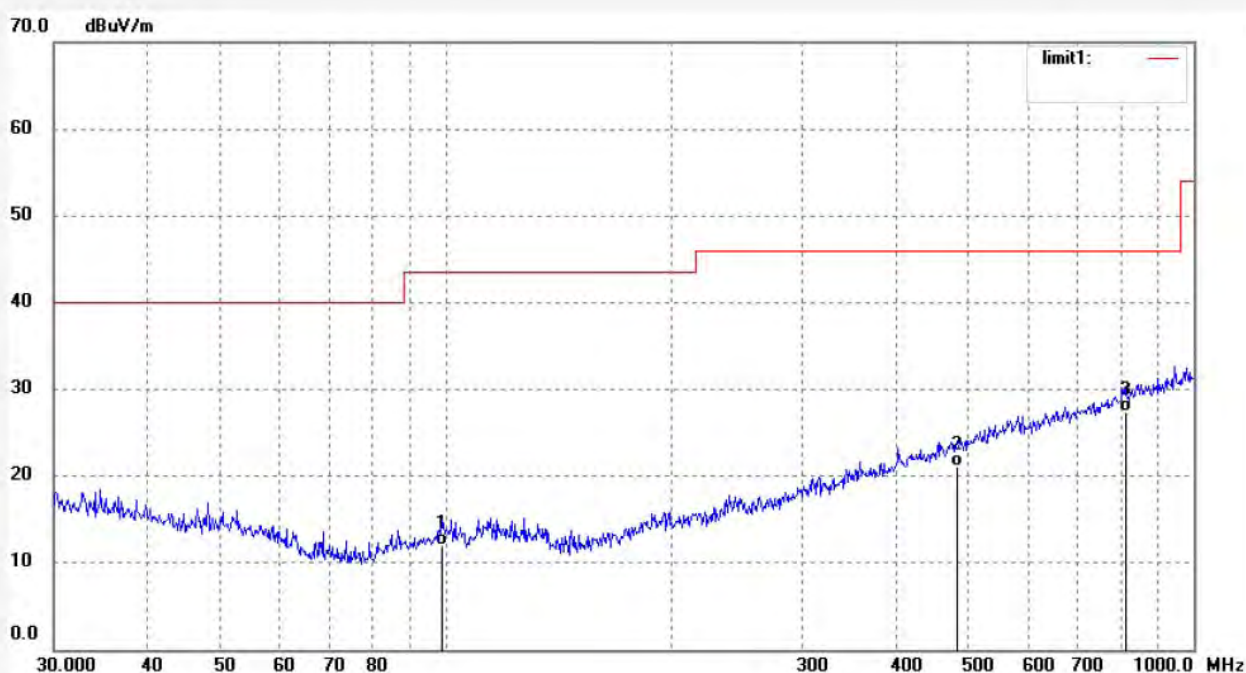
Date: 18/02/08/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	99.1796	25.38	-13.33	12.05	43.50	-31.45	QP			
2	483.9094	25.82	-4.81	21.01	46.00	-24.99	QP			
3	810.2653	26.41	0.99	27.40	46.00	-18.60	QP			

Job No.: LGW2018 #437

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 23 C / 48 %

EUT: Bluetooth Speaker with Powerbank

Mode: TX 2440MHz

Model: NS-SPBTBRICK2-BK

Manufacturer: Lightcomm Technology Co., Ltd.

Polarization: Vertical

Power Source: DC 3.7V

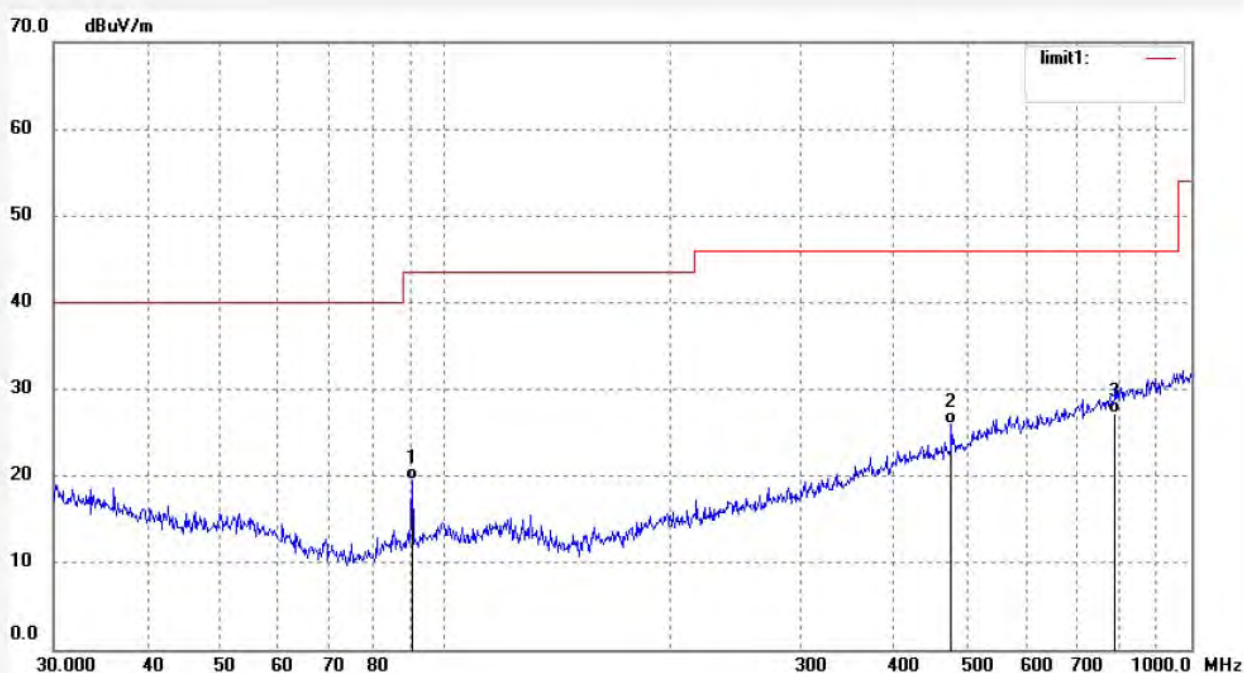
Date: 18/02/08/

Time:

Engineer Signature: WADE

Distance: 3m

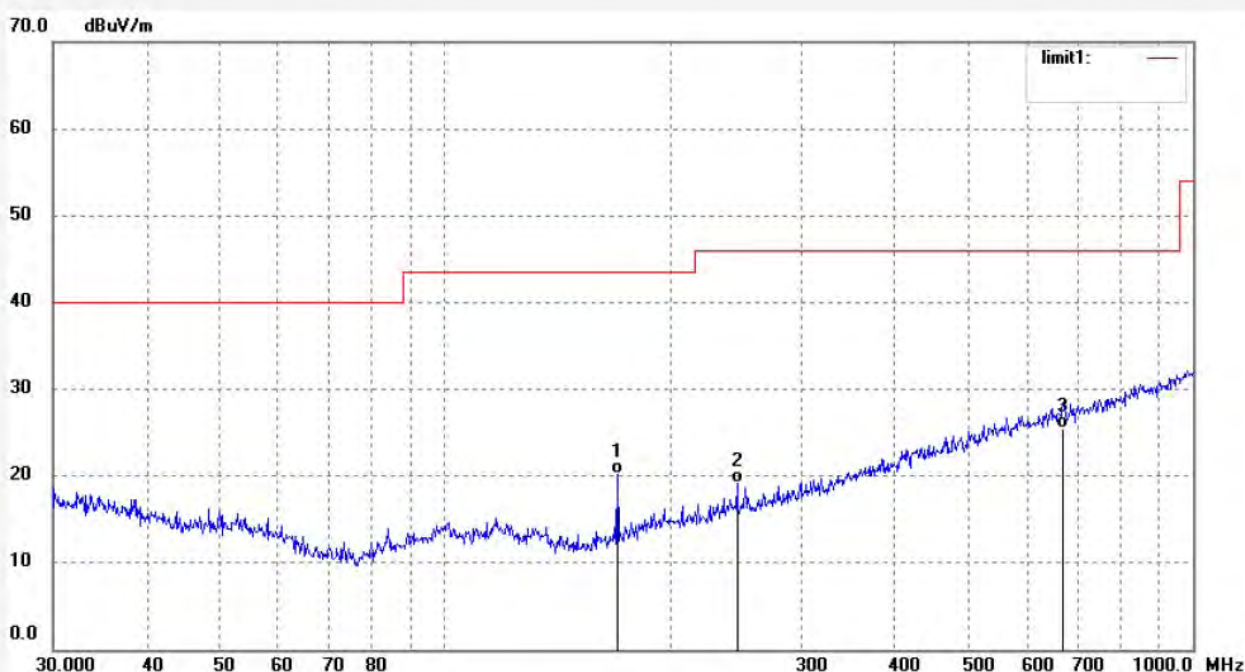
Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	90.5374	34.41	-14.98	19.43	43.50	-24.07	QP			
2	477.1693	30.84	-4.92	25.92	46.00	-20.08	QP			
3	790.6187	26.51	0.63	27.14	46.00	-18.86	QP			

Job No.: LGW2018 #439	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 18/02/08/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Bluetooth Speaker with Powerbank	Engineer Signature: WADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-SPBTBRICK2-BK	
Manufacturer: Lightcomm Technology Co., Ltd.	

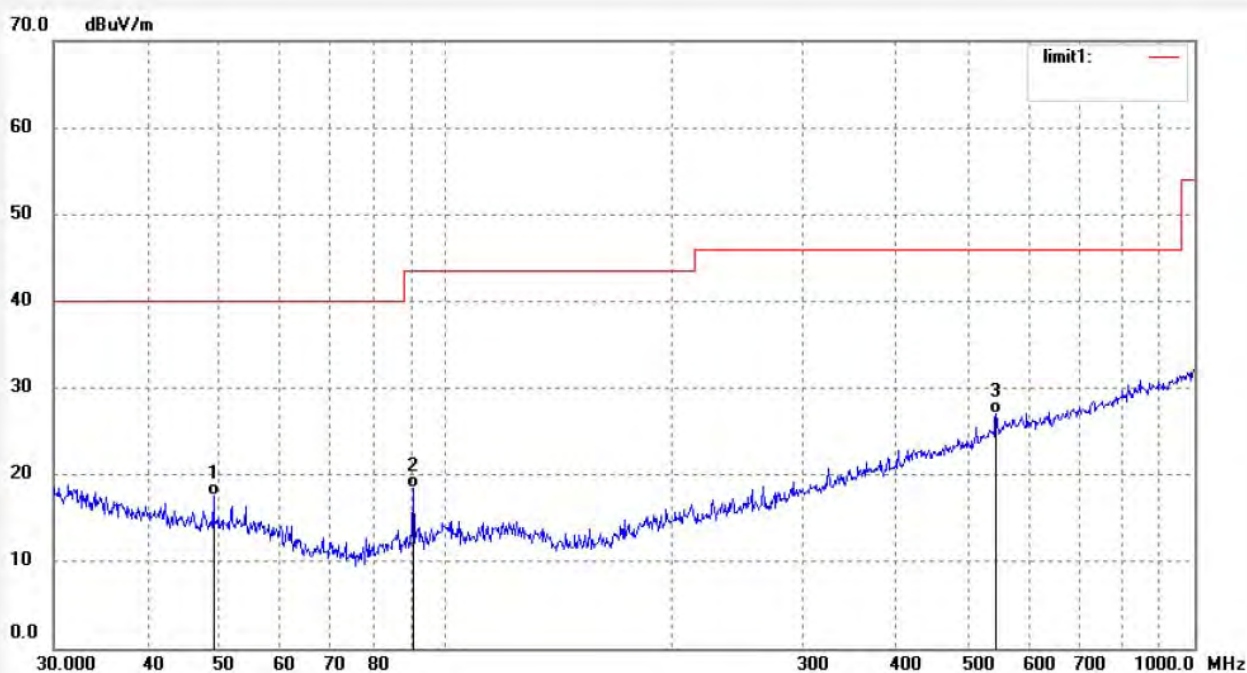
Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	170.1947	33.71	-13.54	20.17	43.50	-23.33	QP			
2	245.9508	29.69	-10.58	19.11	46.00	-26.89	QP			
3	670.4892	26.85	-1.47	25.38	46.00	-20.62	QP			

Job No.: LGW2018 #440	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 18/02/08/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Bluetooth Speaker with Powerbank	Engineer Signature: WADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-SPBTBRICK2-BK	
Manufacturer: Lightcomm Technology Co., Ltd.	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	49.0144	30.19	-12.59	17.60	40.00	-22.40	QP			
2	90.5374	33.42	-14.98	18.44	43.50	-25.06	QP			
3	543.2741	30.26	-3.27	26.99	46.00	-19.01	QP			

## FCC PART15C(1GHz-18GHz)


**ACCURATE TECHNOLOGY CO., LTD.**

 F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGW2018 #420

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 23 C / 48 %

EUT: Bluetooth Speaker with Powerbank

Mode: TX 2402MHz

Model: NS-SPBTBRICK2-BK

Manufacturer: Lightcomm Technology Co., Ltd.

Polarization: Horizontal

Power Source: DC 3.7V

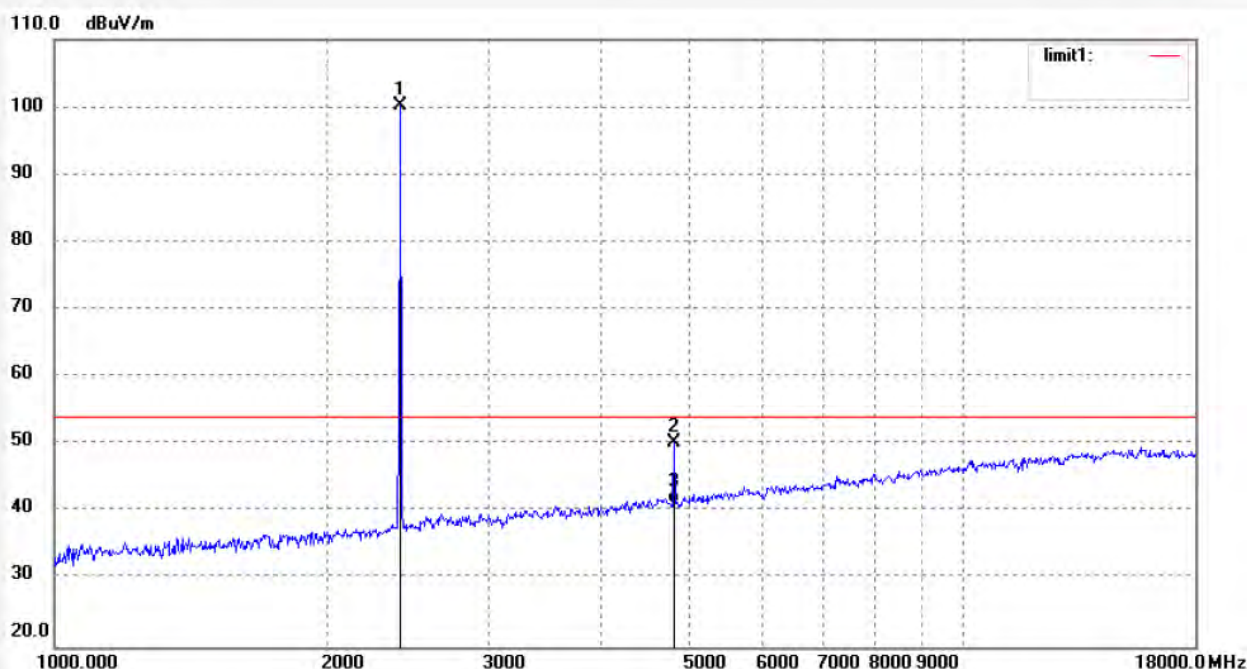
Date: 18/02/08/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	99.24	0.89	100.13	/	/	peak			
2	4804.025	42.78	7.40	50.18	74.00	23.82	peak			
3	4804.025	33.85	7.40	41.25	54.00	-12.75	AVG			

**Shenzhen Accurate Technology Co., Ltd.**

Address: 1/F., Building A, Changyuan New Material Port, Science &amp; Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

Tel: +86-755-26503290

Fax: +86-755-26503396

E-mail: webmaster@atc-lab.com

Http://www.atc-lab.com

Job No.: LGW2018 #419

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 23 C / 48 %

EUT: Bluetooth Speaker with Powerbank

Mode: TX 2402MHz

Model: NS-SPBTBRICK2-BK

Manufacturer: Lightcomm Technology Co., Ltd.

Polarization: Vertical

Power Source: DC 3.7V

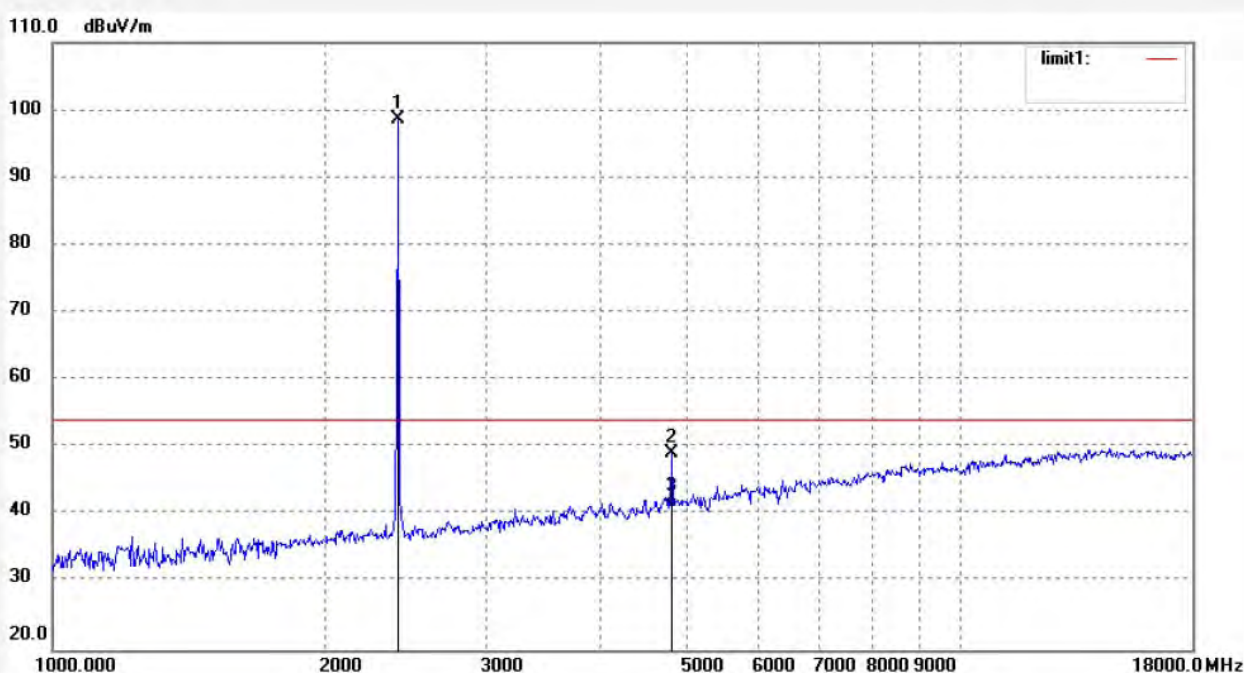
Date: 18/02/08/

Time:

Engineer Signature: WADE

Distance: 3m

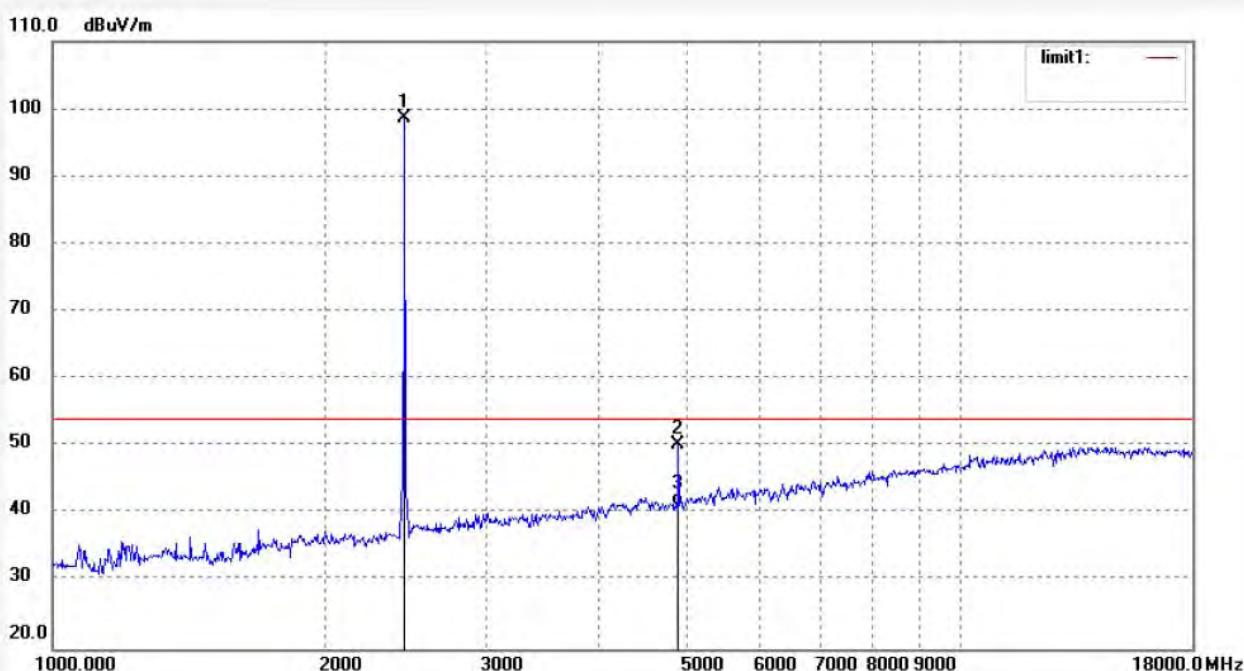
Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	97.64	0.89	98.53	/	/	peak			
2	4804.023	41.73	7.40	49.13	74.00	-24.87	peak			
3	4804.023	33.60	7.40	41.00	54.00	-13.00	AVG			

Job No.: LGW2018 #424	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 18/02/08/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Bluetooth Speaker with Powerbank	Engineer Signature: WADE
Mode: TX 2440MHz	Distance: 3m
Model: NS-SPBTBRICK2-BK	
Manufacturer: Lightcomm Technology Co., Ltd.	

Note:

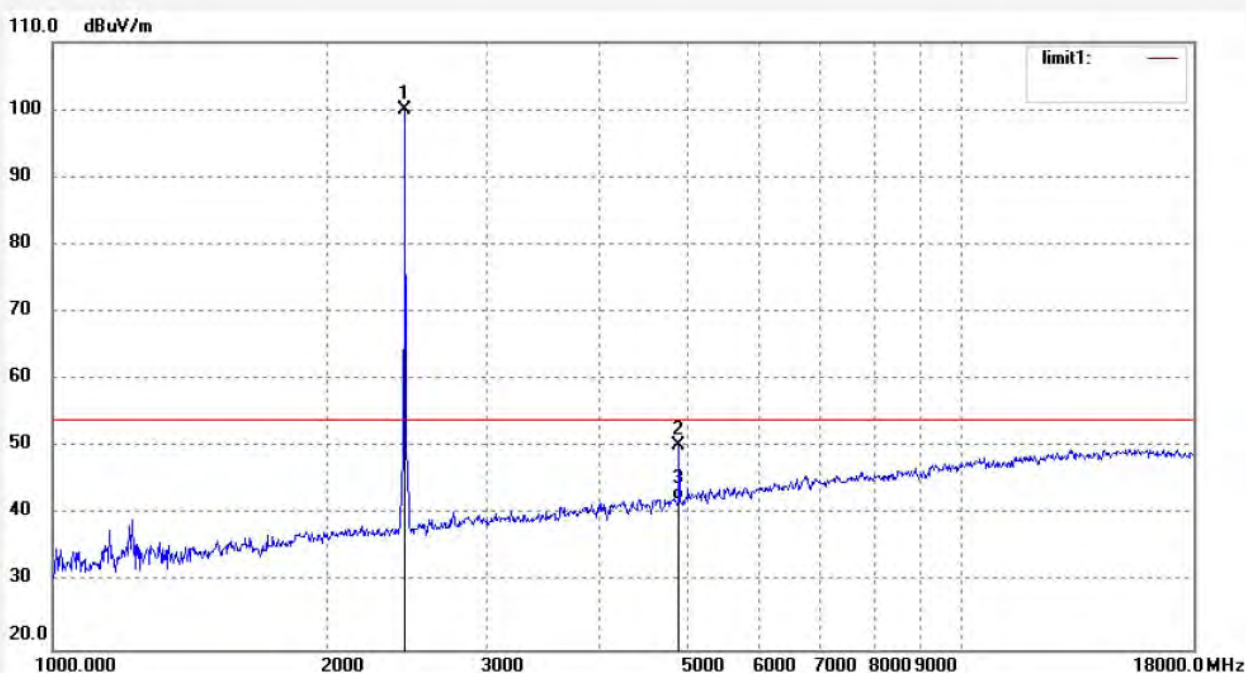


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.000	97.53	1.04	98.57	/	/	peak			
2	4880.025	42.14	8.10	50.24	74.00	-23.76	peak			
3	4880.025	33.16	8.10	41.26	54.00	-12.74	AVG			



Job No.: LGW2018 #423	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 18/02/08/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Bluetooth Speaker with Powerbank	Engineer Signature: WADE
Mode: TX 2440MHz	Distance: 3m
Model: NS-SPBTBRICK2-BK	
Manufacturer: Lightcomm Technology Co., Ltd.	

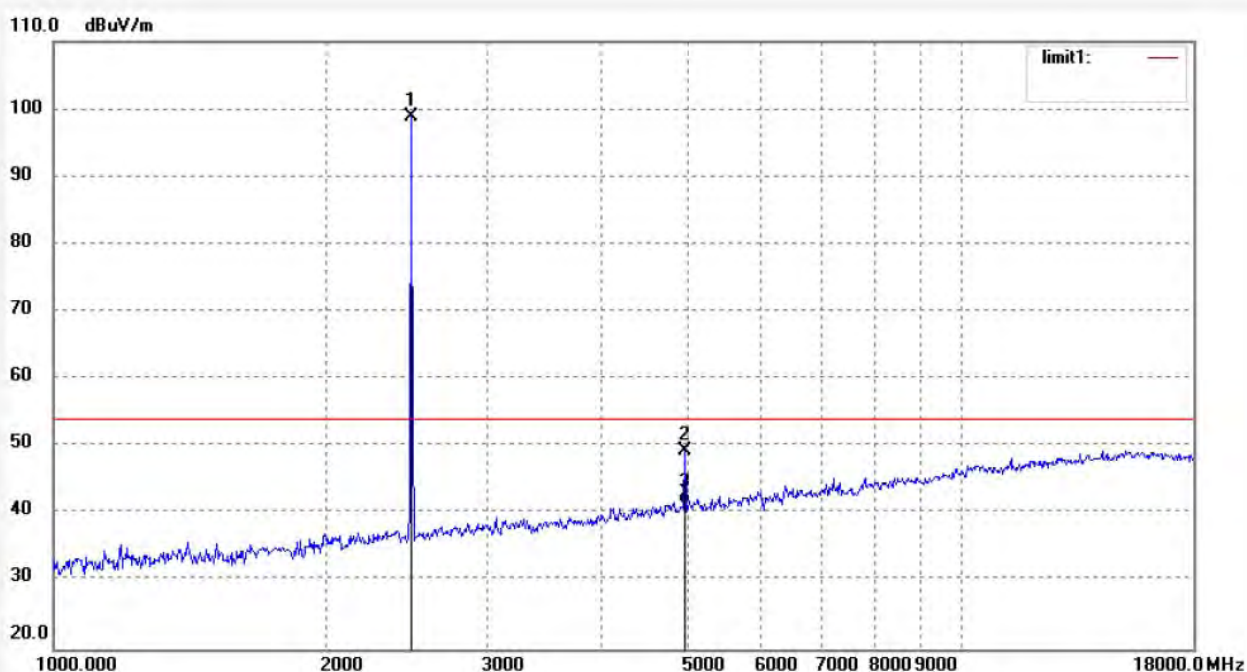
Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.000	98.90	1.04	99.94	/	/	peak			
2	4880.026	42.06	8.10	50.16	74.00	-23.84	peak			
3	4880.026	34.02	8.10	42.12	54.00	-11.88	AVG			

Job No.: LGW2018 #425	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 18/02/08/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Bluetooth Speaker with Powerbank	Engineer Signature: WADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-SPBTBRICK2-BK	
Manufacturer: Lightcomm Technology Co., Ltd.	

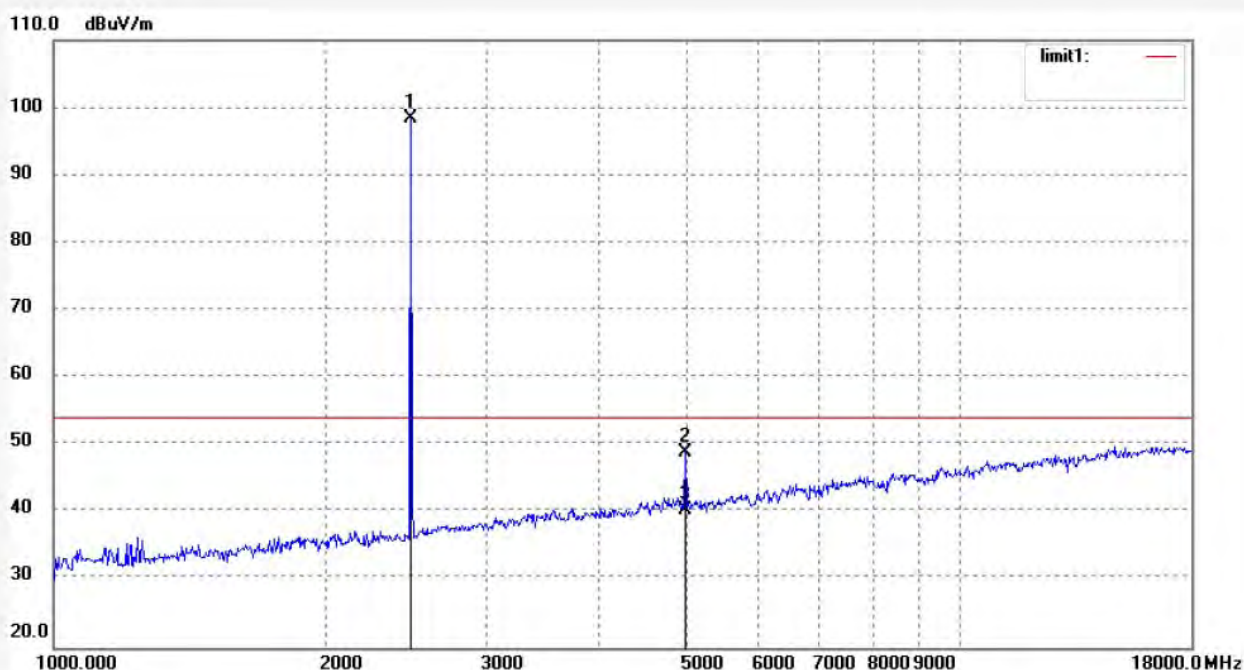
Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	97.85	1.10	98.95	/	/	peak			
2	4960.028	40.87	8.60	49.47	74.00	-22.53	peak			
3	4960.028	32.80	8.60	41.40	54.00	-12.60	AVG			

Job No.: LGW2018 #426	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 18/02/08/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Bluetooth Speaker with Powerbank	Engineer Signature: WADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-SPBTBRICK2-BK	
Manufacturer: Lightcomm Technology Co., Ltd.	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	97.24	1.10	98.34	/	/	peak			
2	4960.030	40.33	8.60	48.93	74.00	-25.07	peak			
3	4960.030	31.72	8.60	40.32	54.00	-13.68	peak			

## FCC PART15C(18GHz-26.5GHz)


**ACCURATE TECHNOLOGY CO., LTD.**

 F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGW2018 #429

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 23 C / 48 %

EUT: Bluetooth Speaker with Powerbank

Mode: TX 2402MHz

Model: NS-SPBTBRICK2-BK

Manufacturer: Lightcomm Technology Co., Ltd.

Polarization: Horizontal

Power Source: DC 3.7V

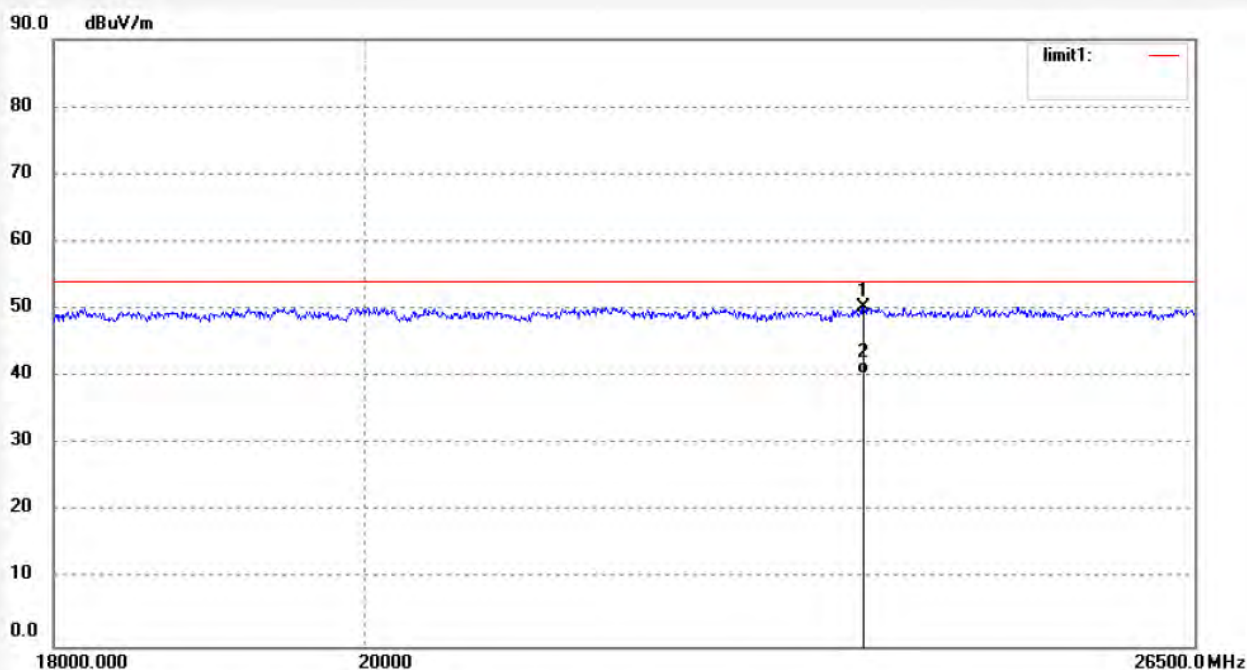
Date: 18/02/08/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	23688.284	10.05	40.19	50.24	74.00	-23.76	peak			
2	23688.284	0.15	40.19	40.34	54.00	-13.66	AVG			

**Shenzhen Accurate Technology Co., Ltd.**

Address: 1/F., Building A, Changyuan New Material Port, Science &amp; Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

Tel: +86-755-26503290

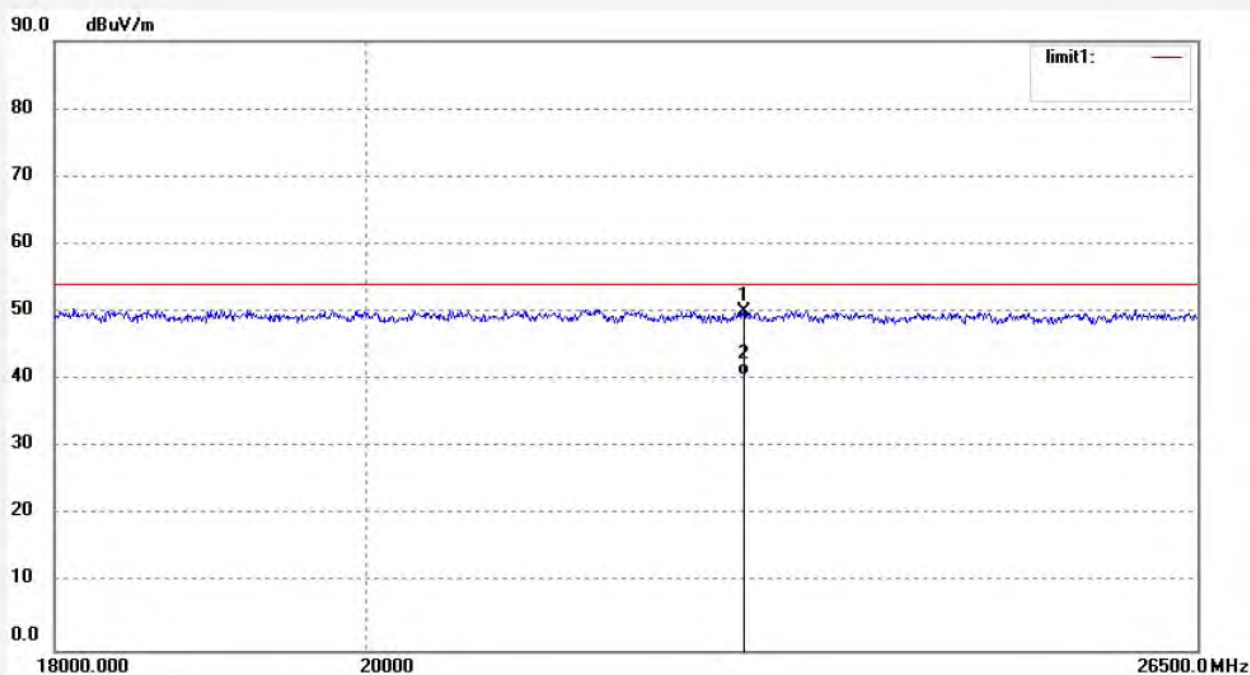
Fax: +86-755-26503396

E-mail: webmaster@atc-lab.com

Http://www.atc-lab.com

Job No.: LGW2018 #430	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 18/02/08/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Bluetooth Speaker with Powerbank	Engineer Signature: WADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-SPBTBRICK2-BK	
Manufacturer: Lightcomm Technology Co., Ltd.	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	22727.960	10.45	39.58	50.03	74.00	-23.97	peak			
2	22727.960	0.96	39.58	40.54	54.00	-13.46	AVG			

Job No.: LGW2018 #432

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 23 C / 48 %

EUT: Bluetooth Speaker with Powerbank

Mode: TX 2440MHz

Model: NS-SPBTBRICK2-BK

Manufacturer: Lightcomm Technology Co., Ltd.

Polarization: Horizontal

Power Source: DC 3.7V

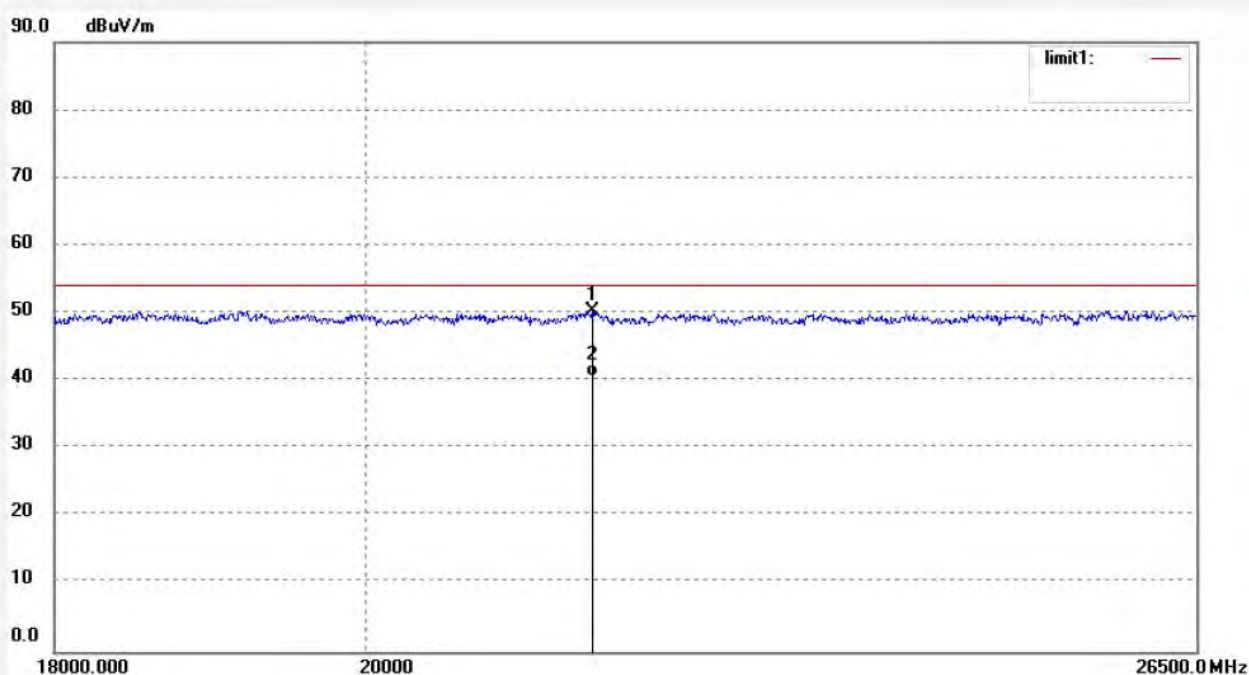
Date: 18/02/08/

Time:

Engineer Signature: WADE

Distance: 3m

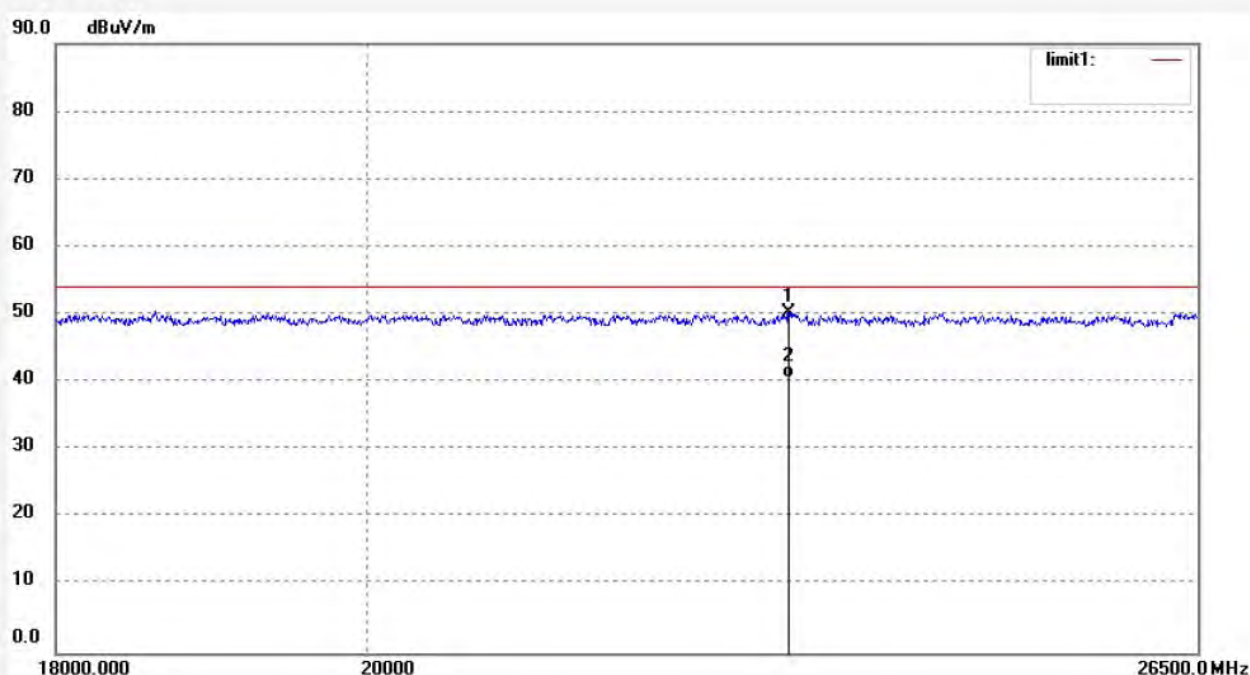
Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	21596.728	11.61	38.69	50.30	74.00	23.70	peak			
2	21596.728	1.88	38.69	40.57	54.00	-13.43	AVG			

Job No.: LGW2018 #431	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 18/02/08/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Bluetooth Speaker with Powerbank	Engineer Signature: WADE
Mode: TX 2440MHz	Distance: 3m
Model: NS-SPBTBRICK2-BK	
Manufacturer: Lightcomm Technology Co., Ltd.	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	23073.390	10.46	39.80	50.26	74.00	-23.74	peak			
2	23073.390	0.77	39.80	40.57	54.00	-13.43	AVG			

Job No.: LGW2018 #433

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.( C)/Hum.(%) 23 C / 48 %

EUT: Bluetooth Speaker with Powerbank

Mode: TX 2480MHz

Model: NS-SPBTBRICK2-BK

Manufacturer: Lightcomm Technology Co., Ltd.

Polarization: Horizontal

Power Source: DC 3.7V

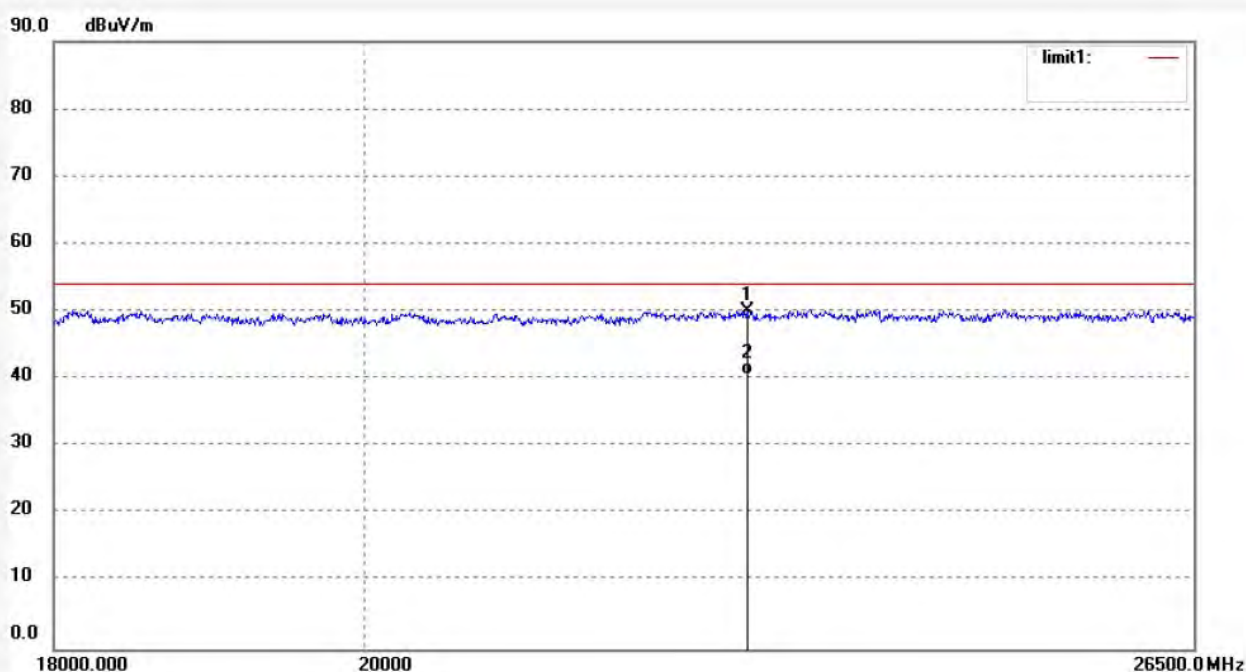
Date: 18/02/08/

Time:

Engineer Signature: WADE

Distance: 3m

Note:

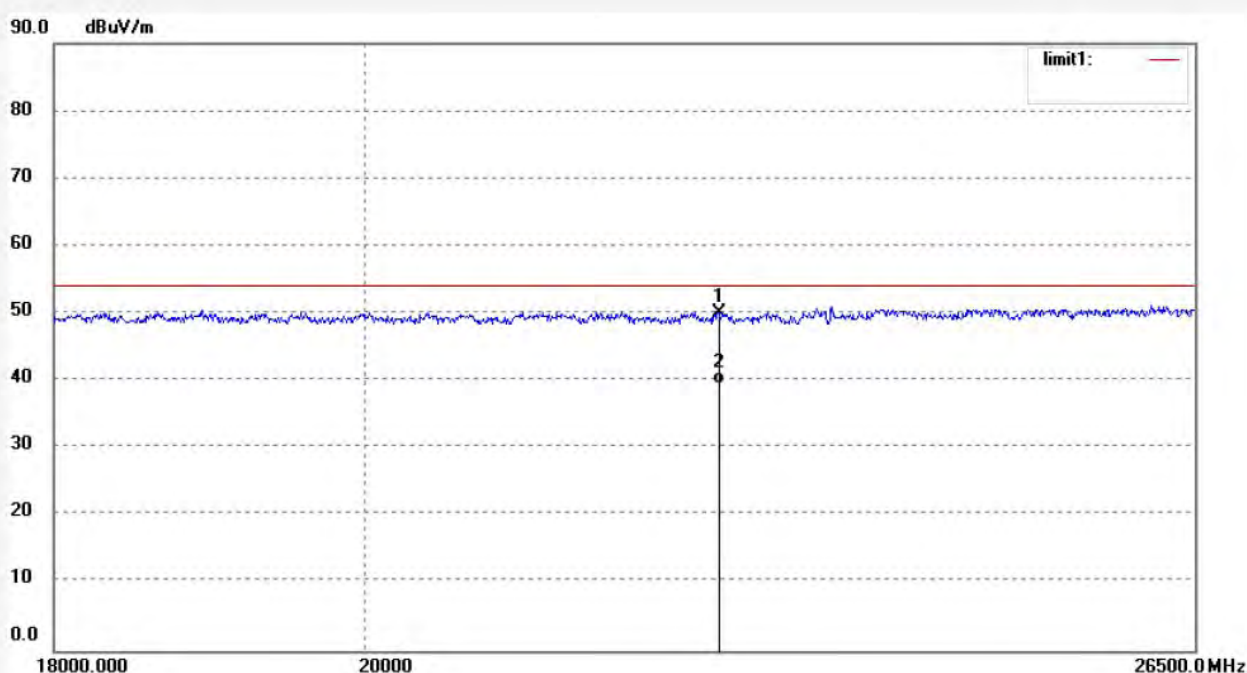


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	22771.955	10.35	39.69	50.04	74.00	-23.96	peak			
2	22771.955	0.99	39.69	40.68	54.00	-13.32	AVG			



Job No.: LGW2018 #434	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 18/02/08/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Bluetooth Speaker with Powerbank	Engineer Signature: WADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-SPBTBRICK2-BK	
Manufacturer: Lightcomm Technology Co., Ltd.	

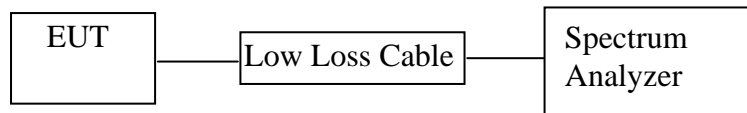
Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	22552.826	10.56	39.42	49.98	74.00	-24.02	peak			
2	22552.826	-0.01	39.42	39.41	54.00	-14.59	AVG			

## 11. CONDUCTED SPURIOUS EMISSION COMPLIANCE TEST

### 11.1. Block Diagram of Test Setup



(EUT: Bluetooth Speaker with Powerbank)

### 11.2. The Requirement For Section 15.247(d)

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

### 11.3. EUT Configuration on Measurement

The equipment is installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

### 11.4. Operating Condition of EUT

11.4.1. Setup the EUT and simulator as shown as Section 12.1.

11.4.2. Turn on the power of all equipment.

11.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480 MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

### 11.5. Test Procedure

11.5.1. The transmitter output was connected to the spectrum analyzer via a low loss cable.

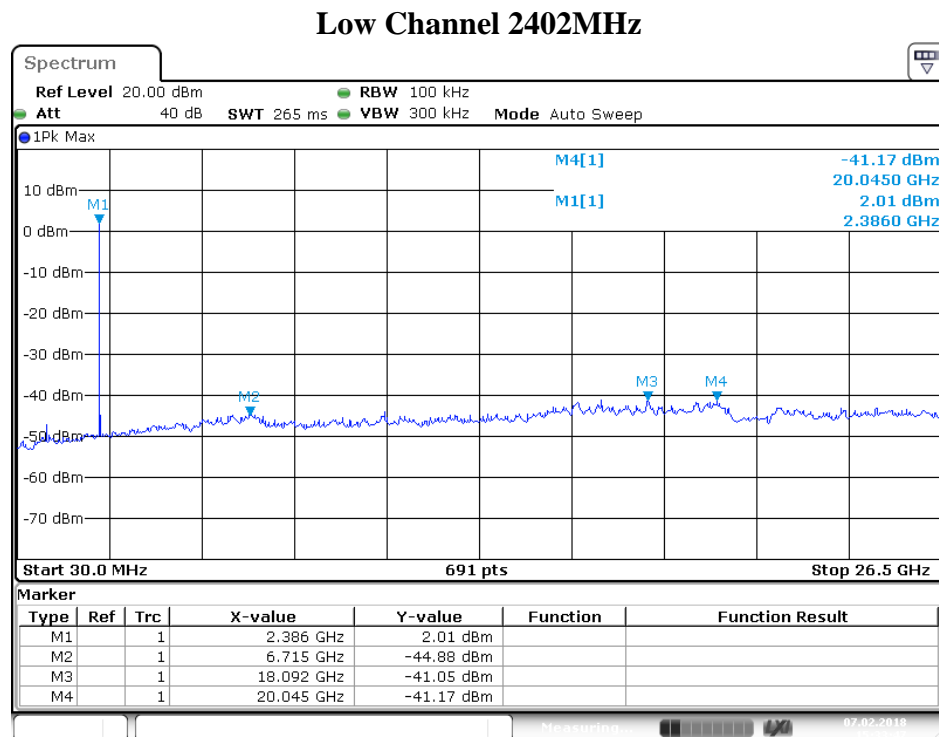
11.5.2. Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz

11.5.3. The Conducted Spurious Emission was measured and recorded.

### 11.6. Test Result

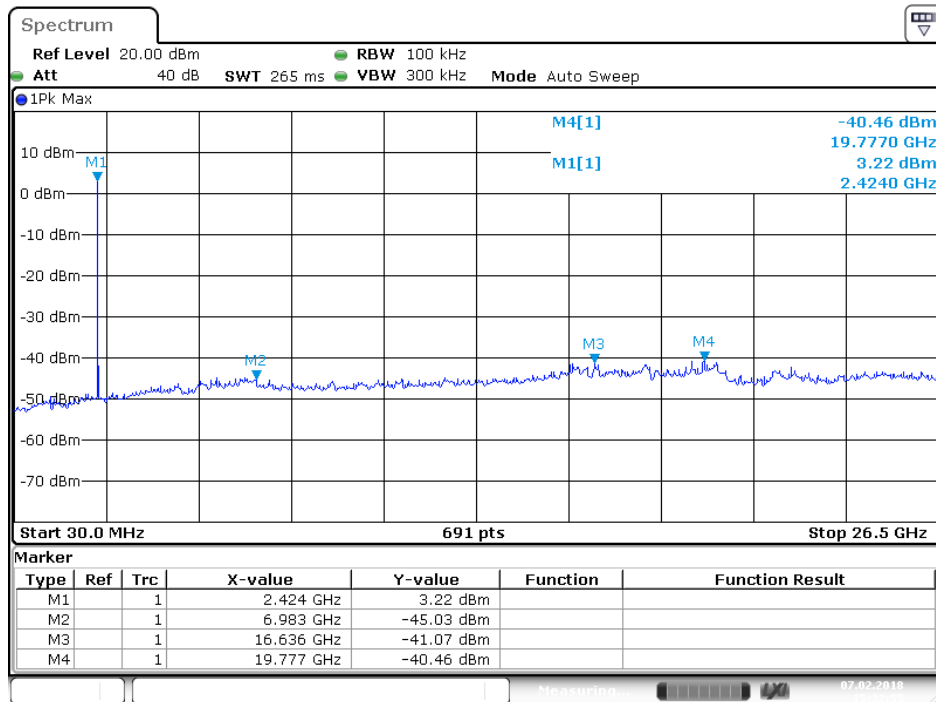
**Pass.**

The spectrum analyzer plots are attached as below.



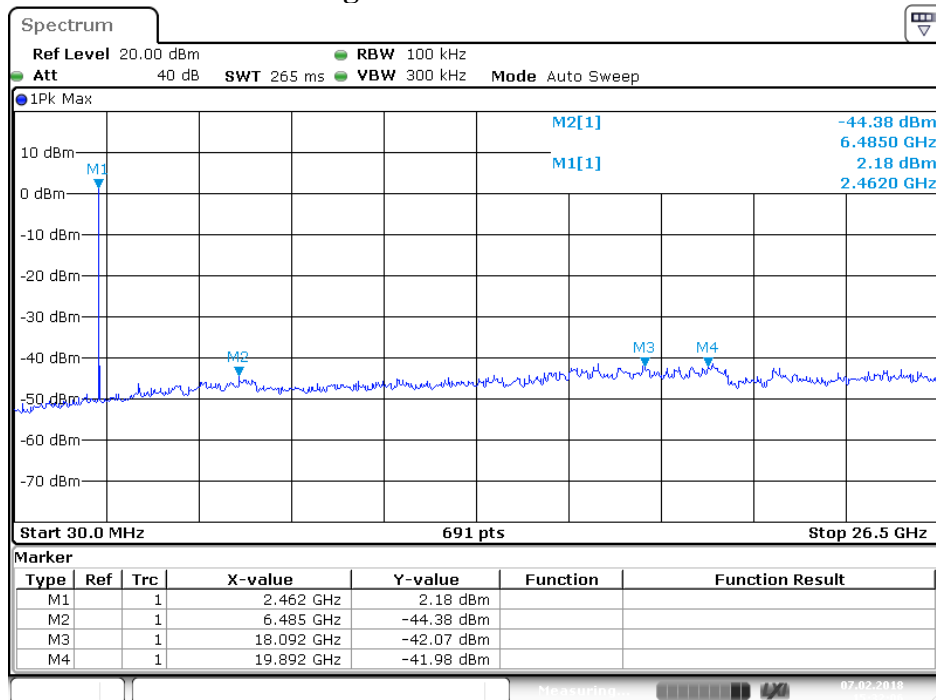
Date: 7.FEB.2018 15:33:48

### Middle Channel 2440MHz



Date: 7.FEB.2018 15:32:56

### High Channel 2480MHz



Date: 7.FEB.2018 15:32:06

#### Shenzhen Accurate Technology Co., Ltd.

Address: 1/F., Building A, Changyuan New Material Port, Science &amp; Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

Tel: +86-755-26503290

Fax: +86-755-26503396

E-mail: webmaster@atc-lab.com

Http://www.atc-lab.com

## 12. ANTENNA REQUIREMENT

### 12.1. The Requirement

According to Section 15.203, 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.

### 12.2. Antenna Construction

Device is equipped with permanent attached antenna, which isn't displaced by other antenna. The Antenna gain of EUT is 0dBi. Therefore, the equipment complies with the antenna requirement of FCC part 15C Section 15.203.

**\*\*\*\*\* End of Test Report \*\*\*\*\***