


<b>Prüfbericht-Nr.:</b> <i>Test Report No.:</i>	<b>50049367 001</b>	<b>Auftrags-Nr.:</b> <i>Order No.:</i>	164066056	Seite 1 von 38 <i>Page 1 of 38</i>	
<b>Kunden-Referenz-Nr.:</b> <i>Client Reference No.:</i>	429028	<b>Auftragsdatum:</b> <i>Order date:</i>	13.06.2016		
<b>Auftraggeber:</b> <i>Client:</i>	Compupal (Group) Corporation. No.1555 Jiashan Avenue, Jiashan 314113, Zhejiang, China				
<b>Prüfgegenstand:</b> <i>Test item:</i>	Portable Bluetooth Speaker				
<b>Bezeichnung / Typ-Nr.:</b> <i>Identification / Type No.:</i>	NS-CSPBTHOL16				
<b>Auftrags-Inhalt:</b> <i>Order content:</i>	FCC Certification and Verification				
<b>Prüfgrundlage:</b> <i>Test specification:</i>	CFR47 FCC Part 15: Subpart C Section 15.247 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 FCC KDB Publication 447498 v06 CFR47 FCC Part 15: Subpart B Section 15.107 CFR47 FCC Part 15: Subpart B Section 15.109 RSS-247 Issue 1 May 2015 RSS-102 Issue 5 March 2015 RSS-Gen Issue 4 November 2014				
<b>Wareneingangsdatum:</b> <i>Date of receipt:</i>	13.06.2016				
<b>Prüfmuster-Nr.:</b> <i>Test sample No.:</i>	A000375695-001, 002, 004				
<b>Prüfzeitraum:</b> <i>Testing period:</i>	26.06.2016 - 27.06.2016				
<b>Ort der Prüfung:</b> <i>Place of testing:</i>	Shenzhen Accurate Technology Co., Ltd.				
<b>Prüflaboratorium:</b> <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.				
<b>Prüfergebnis*:</b> <i>Test result*:</i>	Pass				
<b>geprüft von / tested by:</b>	<i>Winnie Hou</i>	<b>kontrolliert von / reviewed by:</b>	<i>Owen Tian</i>		
11.07.2016	Winnie Hou / Senior Project Manager	20.07.2016	Owen Tian / Technical Certifier		
<b>Datum</b> <i>Date</i>	<b>Name / Stellung</b> <i>Name / Position</i>	<b>Unterschrift</b> <i>Signature</i>	<b>Datum</b> <i>Date</i>	<b>Name / Stellung</b> <i>Name / Position</i>	<b>Unterschrift</b> <i>Signature</i>
<b>Sonstiges / Other:</b>	FCC ID: Z5Y-CSPBTHOL16, IC: 10828A-CSPBTHOL16				
<b>Zustand des Prüfgegenstandes bei Anlieferung:</b> <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>				
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	4 = ausreichend N/A = nicht anwendbar	5 = mangelhaft N/T = nicht getestet
Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory F(ail) = failed a.m. test specification(s)	4 = sufficient N/A = not applicable	5 = poor N/T = not tested
<p><b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b>  <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i></p>					

v04

## TEST SUMMARY

**5.1.1 ANTENNA REQUIREMENT***RESULT: Passed***5.1.2 PEAK OUTPUT POWER***RESULT: Passed***5.1.3 CONDUCTED POWER SPECTRAL DENSITY***RESULT: Passed***5.1.4 -6DB BANDWIDTH***RESULT: Passed***5.1.5 99% BANDWIDTH***RESULT: Passed***5.1.6 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100KHZ BANDWIDTH***RESULT: Passed***5.1.7 SPURIOUS EMISSION***RESULT: Passed***5.1.8 20DB BANDWIDTH***RESULT: Passed***5.1.9 FREQUENCY SEPARATION***RESULT: Passed***5.1.10 NUMBER OF HOPPING FREQUENCY***RESULT: Passed***5.1.11 TIME OF OCCUPANCY***RESULT: Passed***5.1.12 CONDUCTED EMISSIONS***RESULT: Passed***5.1.13 RADIATED EMISSION***RESULT: Passed*

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## 1. General Remarks

### 1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:  
Appendix 1: Test Result

## 2. Test Sites

### 2.1 Test Facilities

Shenzhen Accurate Technology Co., Ltd.

F1, Bldg. A, Changyuan New Material Port, Keyuan Rd., Science & Industry Park Nanshan District, Shenzhen 518057, P.R. China

FCC Registration No.: 752051

Test site Industry Canada No.: 5077A-2

The tests at the test site have been conducted under the supervision of a TÜV engineer.

## 2.2 List of Test and Measurement Instruments

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

<b>Kind of Equipment</b>	<b>Manufacturer</b>	<b>Type</b>	<b>S/N</b>	<b>Calibrated until</b>
<b>Spurious emission and Radiated emission</b>				
Spectrum Analyzer	Rohde&Schwarz	FSV40	101495	2017-01-01
Test Receiver	Rohde&Schwarz	ESCS30	100307	2017-01-01
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	2017-01-01
Loop Antenna	Schwarzbeck	FMZB1516	1516131	2017-01-01
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	2017-01-01
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	2017-01-01
RF Switching Unit+PreAMP	Compliance Direction	RSU-M2	38322	2017-01-01
Pre-Amplifier	Rohde&Schwarz	CBLU11835 40-01	3791	2017-01-01
<b>Radio Spectrum Test</b>				
Spectrum Analyzer	Rohde & Schwarz	ESPI3	100396/003	2017-01-09
Spectrum Analyzer	Agilent	E7405A	MY45115511	2017-01-09
<b>Conducted Emission</b>				
Test Receiver	Rohde & Schwarz	ESCS30	100307	2017-01-09
L.I.S.N.	Schwarzbeck	NLSK8126	8126431	2017-01-09
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100815	2017-01-09
50 <sup>+</sup> Coaxial Switch	Anritsu Corp	MP59B	6200283933	2017-01-09

## 2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

## 2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

## 2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements are  $\pm 3\text{dB}$ .

## 2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix 1 of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

## 2.7 Status of Facility Used for Testing

The Shenzhen Accurate Technology Co., Ltd. test facility located at F1, Bldg. A, Changyuan New Material Port, Keyuan Rd., Science & Industry Park Nanshan District, Shenzhen 518057, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

### 3. General Product Information

#### 3.1 Product Function and Intended Use

The EUT is Bluetooth Portable Speaker which supports Bluetooth 4.0 dual mode. Sub-models are used for EUT to distinguish different enclosure color. NS-CSPBTHOL16-BK, NS-CSPBTHOL16-BL, NS-CSPBTHOL16-G, NS-CSPBTHOL16-P, NS-CSPBTHOL16-PR, NS-CSPBTHOL16-R are identical in function, circuit design and components except different enclosure color.

For details refer to the User Manual, Technical Description and Circuit Diagram.

#### 3.2 Ratings and System Details

Table 2: Rating of EUT

Kind of Equipment:	Portable Bluetooth Speaker
Type Designation:	NS-CSPBTHOL16
FCC ID	Z5Y-CSPBTHOL16
IC	10828A-CSPBTHOL16

Table 3: Technical Specification of Bluetooth (BDR & EDR)

Technical Specification	Value
Operating Frequency band	2402 – 2480 MHz
Bluetooth Core Version	4.1
Channel Number	79 channels
Channel separation	1MHz
Extreme Temperature Range	-10°C to +50°C
Operation Voltage	DC5V via USB port
Modulation	GFSK, 8DPSK, $\pi/4$ DQPSK
Antenna Type	Internal Antenna, Non-User Replaceable
Antenna Gain	1dBi
RF Output Power	0.00043W (-3.7dBm)

**Table 4: RF channel and frequency of Bluetooth (BDR & EDR mode)**

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
0	2402.00	20	2422.00	40	2442.00	60	2462.00
1	2403.00	21	2423.00	41	2443.00	61	2463.00
2	2404.00	22	2424.00	42	2444.00	62	2464.00
3	2405.00	23	2425.00	43	2445.00	63	2465.00
4	2406.00	24	2426.00	44	2446.00	64	2466.00
5	2407.00	25	2427.00	45	2447.00	65	2467.00
6	2408.00	26	2428.00	46	2448.00	66	2468.00
7	2409.00	27	2429.00	47	2449.00	67	2469.00
8	2410.00	28	2430.00	48	2450.00	68	2470.00
9	2411.00	29	2431.00	49	2451.00	69	2471.00
10	2412.00	30	2432.00	50	2452.00	70	2472.00
11	2413.00	31	2433.00	51	2453.00	71	2473.00
12	2414.00	32	2434.00	52	2454.00	72	2474.00
13	2415.00	33	2435.00	53	2455.00	73	2475.00
14	2416.00	34	2436.00	54	2456.00	74	2476.00
15	2417.00	35	2437.00	55	2457.00	75	2477.00
16	2418.00	36	2438.00	56	2458.00	76	2478.00
17	2419.00	37	2439.00	57	2459.00	77	2479.00
18	2420.00	38	2440.00	58	2460.00	78	2480.00
19	2421.00	39	2441.00	59	2461.00		

**Table 5: Technical Specification of Bluetooth (low energy)**

Technical Specification	Value
Operating Frequency band	2402 – 2480 MHz
Bluetooth Core Version	4.1
Channel Number	40 channels
Channel separation	2MHz
Extreme Temperature Range	-10°C to +50°C
Operation Voltage	DC5V via USB port
Modulation	GFSK
Antenna Type	Internal Antenna, Non-User Replaceable
Antenna Gain	1dBi
RF Output Power	0.00014W (-8.5dBm)



**Table 6: RF channel and frequency of Bluetooth low energy**

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
0	2402.00	10	2422.00	20	2442.00	30	2462.00
1	2404.00	11	2424.00	21	2444.00	31	2464.00
2	2406.00	12	2426.00	22	2446.00	32	2466.00
3	2408.00	13	2428.00	23	2448.00	33	2468.00
4	2410.00	14	2430.00	24	2450.00	34	2470.00
5	2412.00	15	2432.00	25	2452.00	35	2472.00
6	2414.00	16	2434.00	26	2454.00	36	2474.00
7	2416.00	17	2436.00	27	2456.00	37	2476.00
8	2418.00	18	2438.00	28	2458.00	38	2478.00
9	2420.00	19	2440.00	29	2460.00	39	2480.00

### 3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Bluetooth mode (BDR & EDR)
  - 1. Transmitting on low channel
  - 2. Transmitting on middle channel
  - 3. Transmitting on high channel
- B. On, Bluetooth low energy mode
  - 1. Transmitting on low channel
  - 2. Transmitting on middle channel
  - 3. Transmitting on high channel
- C. On, Bluetooth hopping mode
- D. Charging mode
- E. Play with Aux in
- F. Off

### 3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

### 3.5 Submitted Documents

- Bill of Material
- PCB Layout
- Photo Document
- Technical Description
- Circuit Diagram
- Instruction Manual
- Rating Label

## 4. Test Set-up and Operation Modes

### 4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

### 4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.4: 2014 and ANSI C63.10: 2013.

### 4.3 Special Accessories and Auxiliary Equipment

The EUT was tested with following accessories:

Description	Manufacturer	Type	S/N
iPhone6S PLUS	Apple	ML6D2 CH/A	C35QJ76JGRWM
Notebook	LENOVO	ThinkPad X240	N/A
Printer	HP	1015	CNFG030424

### 4.4 Countermeasures to achieve EMC Compliance

The test sample, which has been tested, contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

## 4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

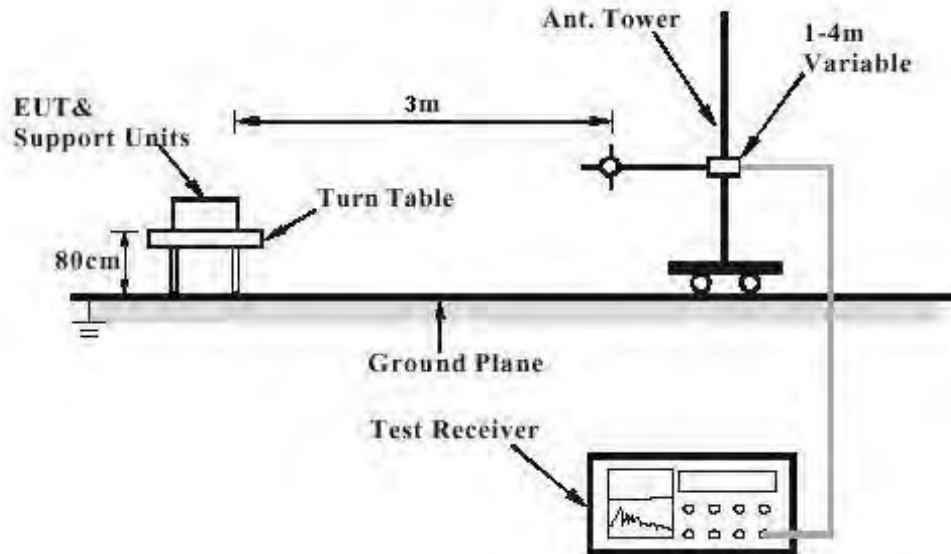
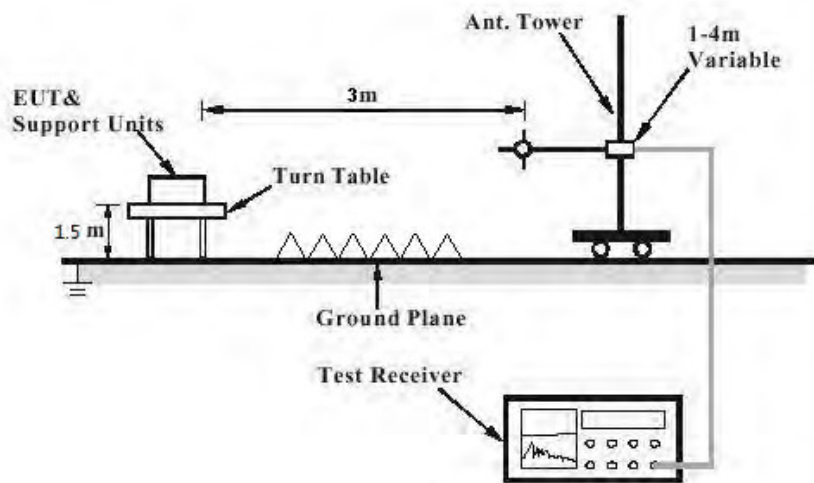
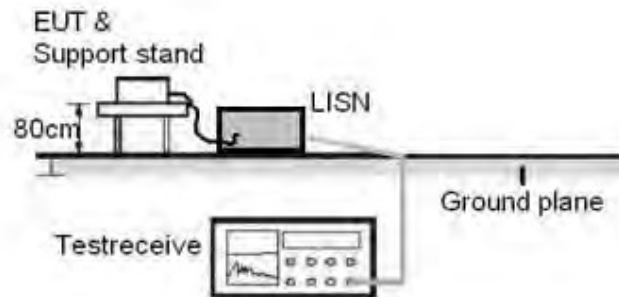


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)



**Diagram of Measurement Equipment Configuration for Mains Conduction Measurement**



**Diagram of Measurement Equipment Configuration for Conducted Transmitter Measurement**



## 5. Test Results

### 5.1 Transmitter Requirement & Test Suites

#### 5.1.1 Antenna Requirement

**RESULT:****Passed**

Test standard	:	FCC Part 15.247(b)(4) and Part 15.203 RSS-Gen 6.7
Limit	:	the use of antennas with directional gains that do not exceed 6 dBi

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is 1dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT photo for details.

## 5.1.2 Peak Output Power

**RESULT:**
**Passed**

Test date : 2016-06-26  
 Test standard : FCC Part 15.247(b)(1)&(3)  
                   : RSS-247 Clause 5.4(2)&(4)  
 Basic standard : ANSI C63.10: 2013  
 Limit : FHSS < 0.125 Watts, DSSS < 1.0 Watts  
 Kind of test site : Shielded room

**Test setup**

Test Channel : Low/ Middle/ High  
 Operation Mode : A, B  
 Ambient temperature : 25°C  
 Relative humidity : 55%  
 Atmospheric pressure : 101 kPa

**Table 7: Test result of Peak Output Power**

Test Mode	Channel Frequency (MHz)	Measured Peak Output Power		Limit (W)
		(dBm)	(W)	
BDR	2402	-4.2	0.00038	< 0.125
	2441	-6.0	0.00025	
	2480	-8.3	0.00015	
EDR	2402	-3.7	0.00043	< 0.125
	2441	-5.2	0.00030	
	2480	-7.0	0.00020	
Low Energy	2402	-8.5	0.00014	< 1.0
	2440	-11.3	0.00007	
	2480	-14.1	0.00004	

Note: The cable loss is taken into account in results.

### 5.1.3 Conducted Power Spectral Density

**RESULT:**
**Passed**

Test date : 2016-06-26  
 Test standard : FCC Part 15.247(e)  
                   : RSS-247 Clause 5.2(2)  
 Basic standard : ANSI C63.10: 2013  
 Limit : 8dBm/3kHz  
 Kind of test site : Shielded room

**Test setup**

Test Channel : Low/ Middle/ High  
 Operation Mode : B  
 Ambient temperature : 25°C  
 Relative humidity : 55%  
 Atmospheric pressure : 101 kPa

**Table 8: Test result of Power Spectral Density, low energy**

Channel	Channel Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)
Low Channel	2402	-25.61	< 8
Middle Channel	2440	-27.84	< 8
High Channel	2480	-30.67	< 8

Note: The cable loss is taken into account in results.

### 5.1.4 -6dB Bandwidth

**RESULT:****Passed**

Date of testing : 2015-01-07  
Test standard : FCC Part 15.247(a)(2)  
RSS-247 Clause 5.2(1)  
Basic standard : ANSI C63.10: 2013  
Kind of test site : Shielded room

**Test setup**

Test Channel : Low/ Middle/ High  
Operation Mode : B  
Ambient temperature : 25°C  
Relative humidity : 55%  
Atmospheric pressure : 101 kPa

**Table 9: Test result of 6dB Bandwidth, low energy**

Channel	Channel Frequency (MHz)	-6dB Bandwidth (kHz)	Limit (kHz)
Low Channel	2402	751	> 500
Mid Channel	2440	755	> 500
High Channel	2480	768	> 500



### 5.1.5 99% Bandwidth

**RESULT:**
**Passed**

Date of testing : 2015-01-07  
 Test standard : RSS-Gen clause 6.6  
 Basic standard : ANSI C63.10: 2013  
 Kind of test site : Shielded room

**Test setup**

Test Channel : Low/ Middle/ High  
 Operation Mode : A, B  
 Ambient temperature : 25°C  
 Relative humidity : 55%  
 Atmospheric pressure : 101 kPa

**Table 10: Test result of 99% Bandwidth**

Test Mode	Channel Frequency (MHz)	99% Bandwidth (kHz)	Limit (kHz)
BDR	2402	1007.24	/
	2441	985.53	
	2480	968.16	
EDR	2402	1523.87	/
	2441	1332.85	
	2480	1536.90	
Low Energy	2402	1072.36	/
	2440	1081.04	
	2480	1085.38	

Note: The cable loss is taken into account in results.

### 5.1.6 Conducted spurious emissions measured in 100kHz Bandwidth

**RESULT:****Passed**

Date of testing	:	2016-06-26
Test standard	:	FCC part 15.247(d) RSS-247 Clause 5.5
Basic standard	:	ANSI C63.10: 2013
Limit	:	20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power); In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a)
Kind of test site	:	Shield room

**Test setup**

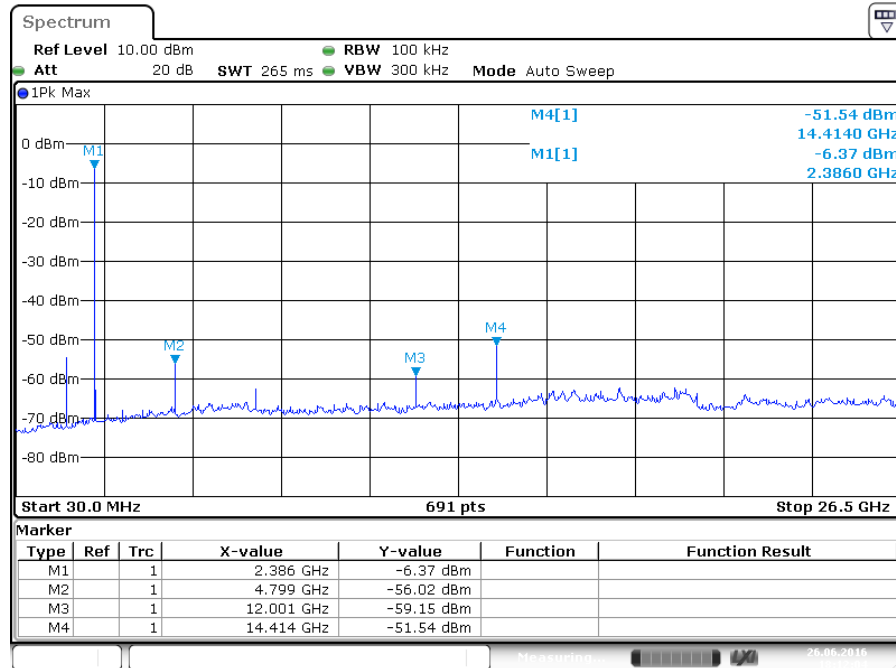
Test Channel	:	Low/ High
Operation mode	:	A, B
Ambient temperature	:	25°C
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

All emissions are more than 20dB below fundamental, details refer to following test plot, and compliance is achieved as well.

## Test Plot of 100kHz Bandwidth of Frequency Band Edge

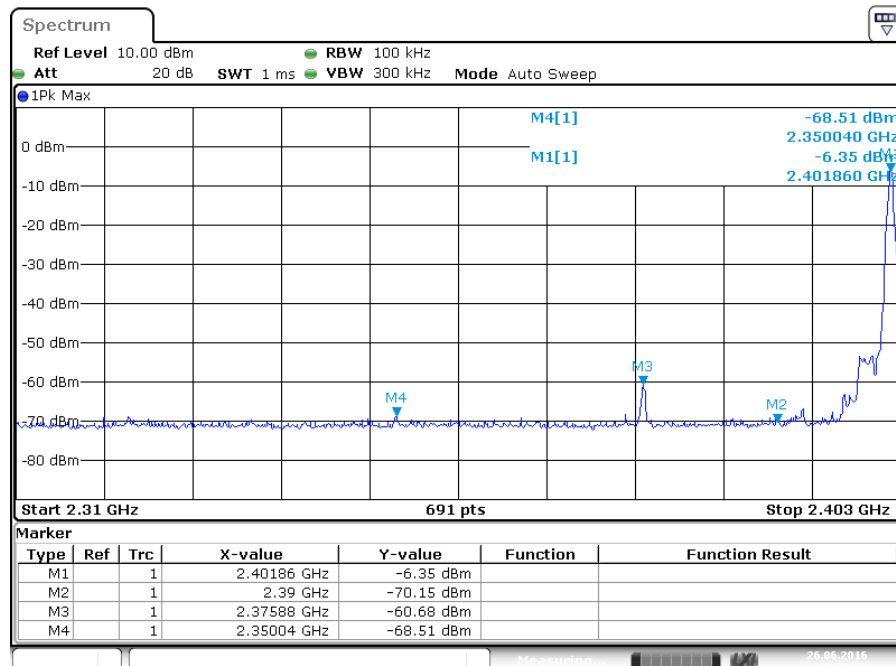
### BDR mode

### Low Channel

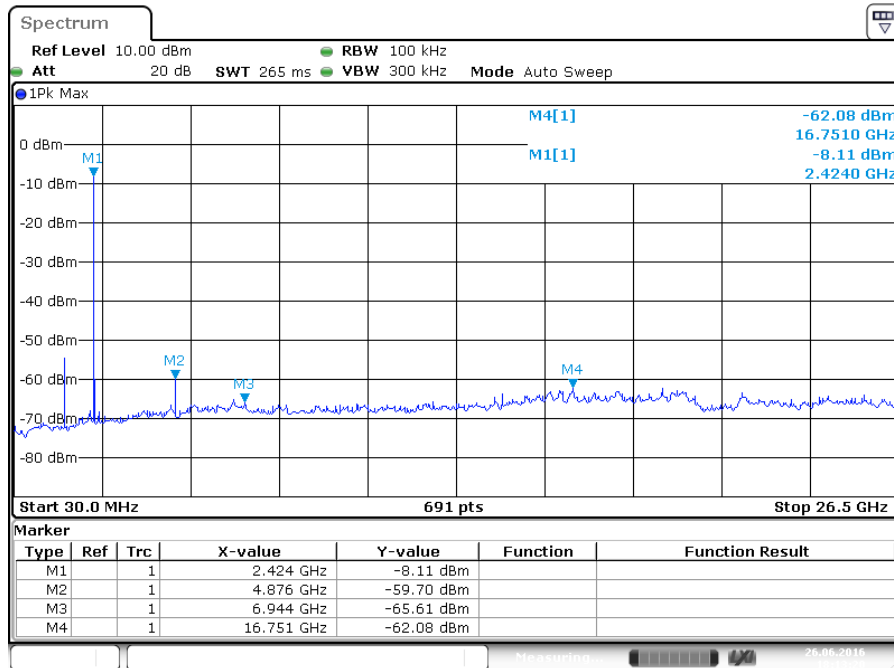


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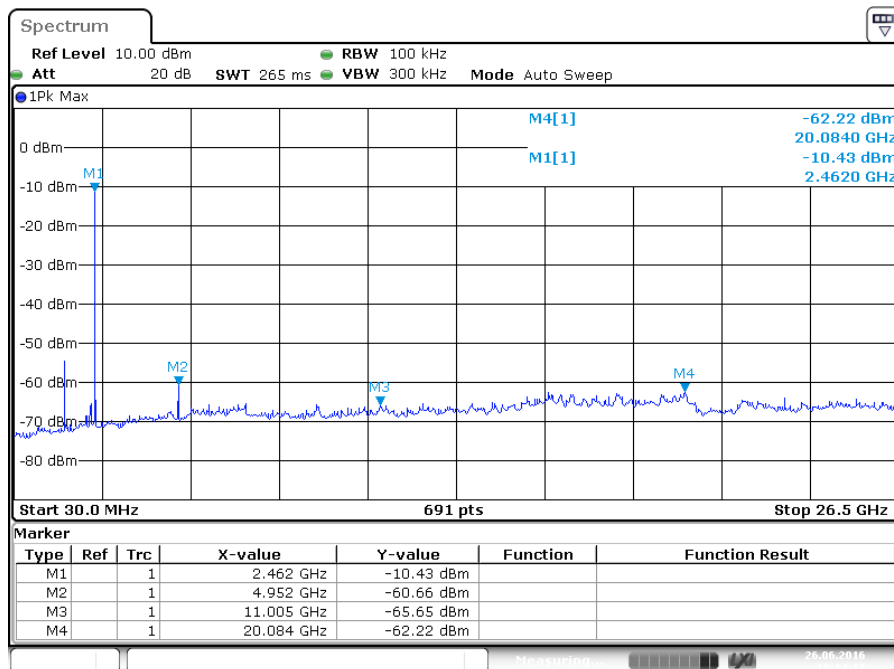
### Low Channel, Band Edge



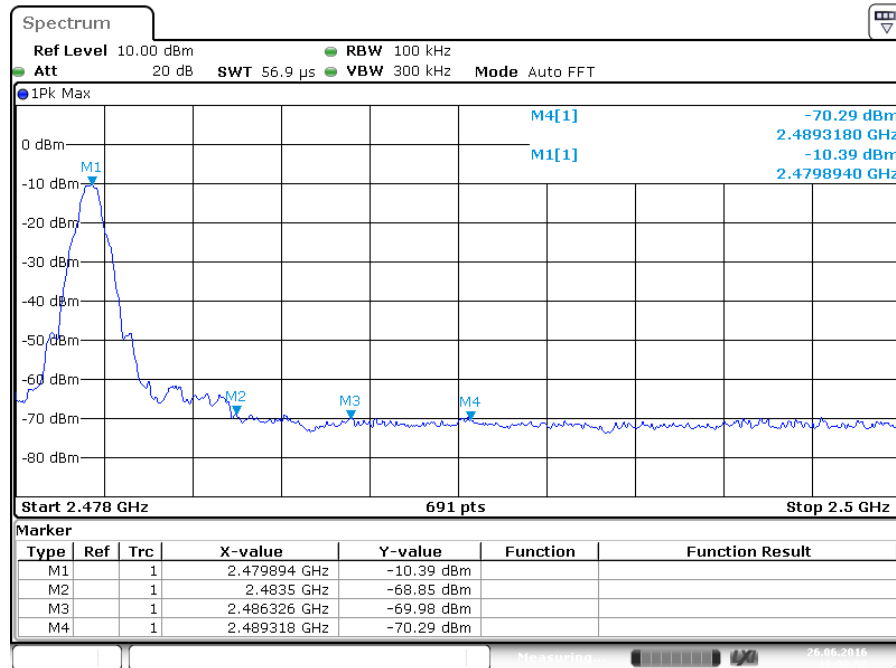
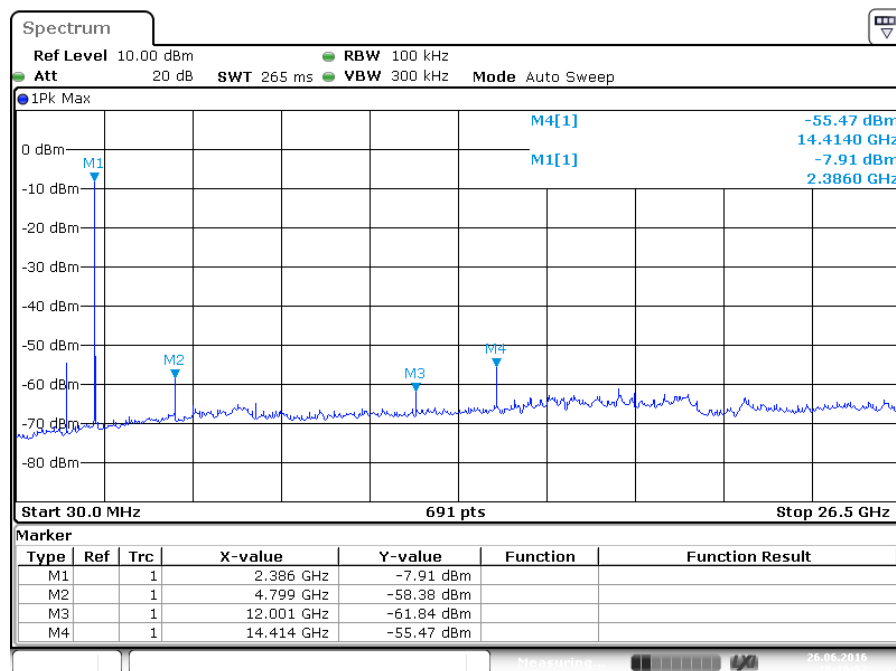
Date: 26.JUN.2016 18:02:32

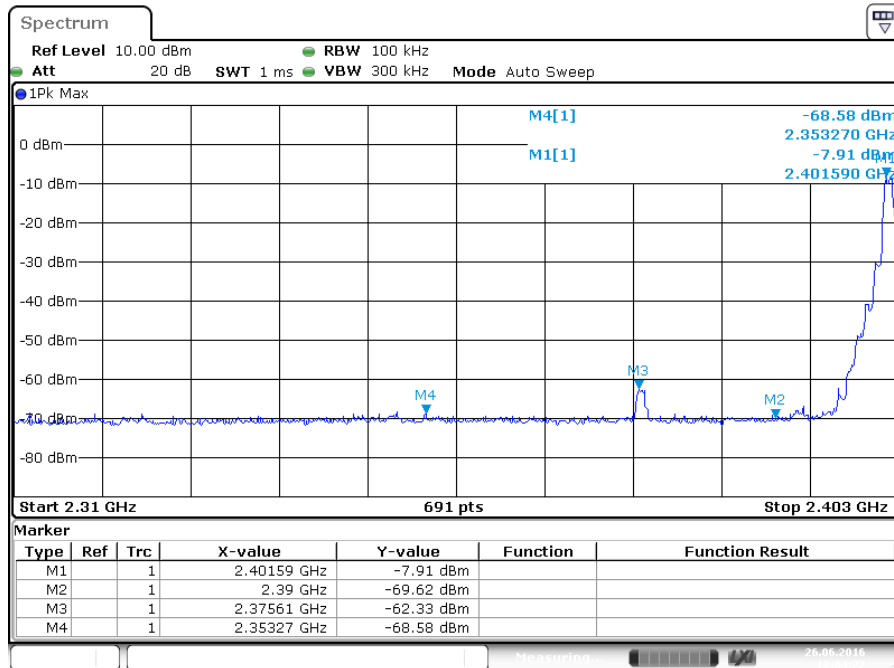
**Middle Channel**


Date: 26.JUN.2016 18:13:20

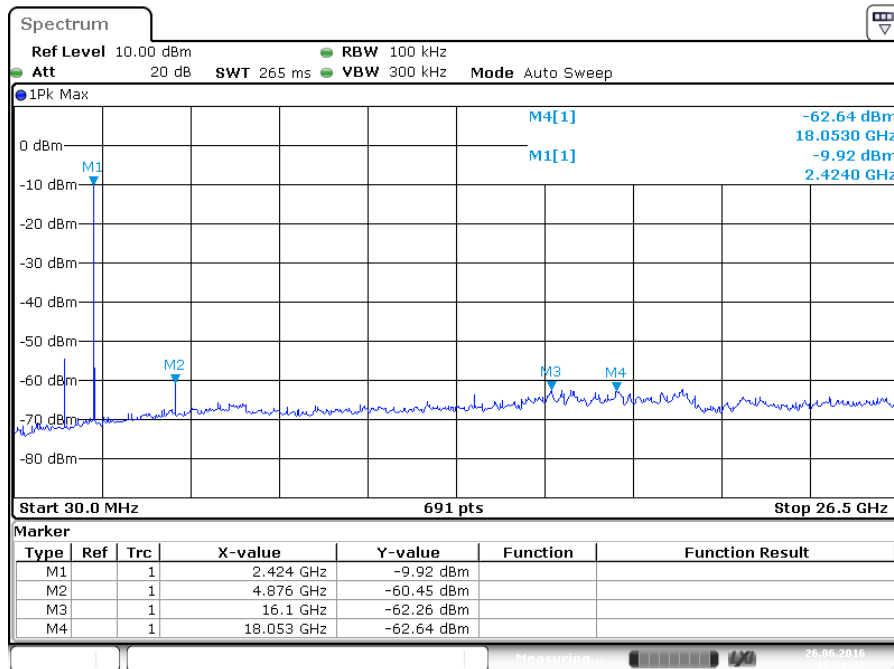
**High Channel**


Date: 26.JUN.2016 18:14:17

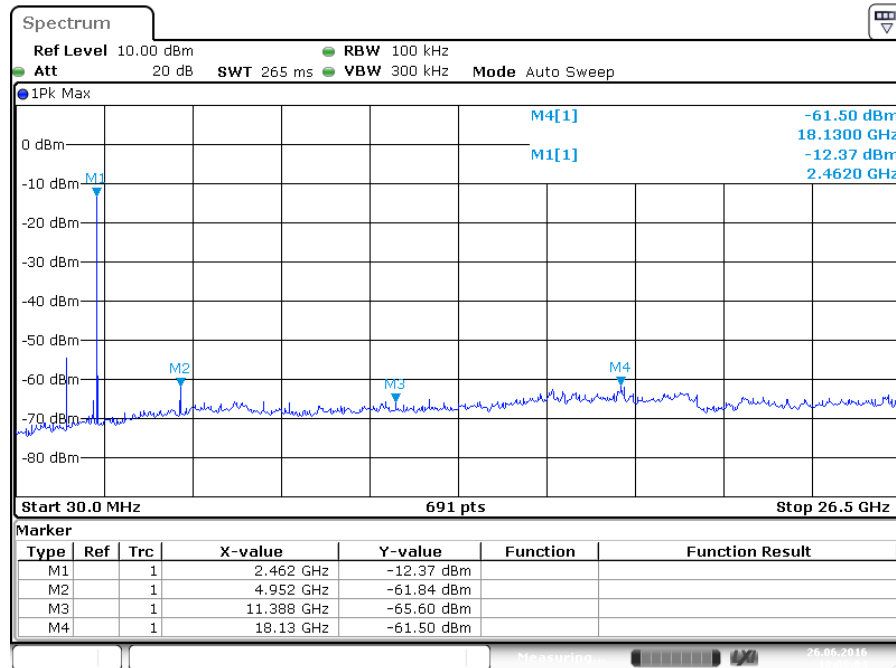
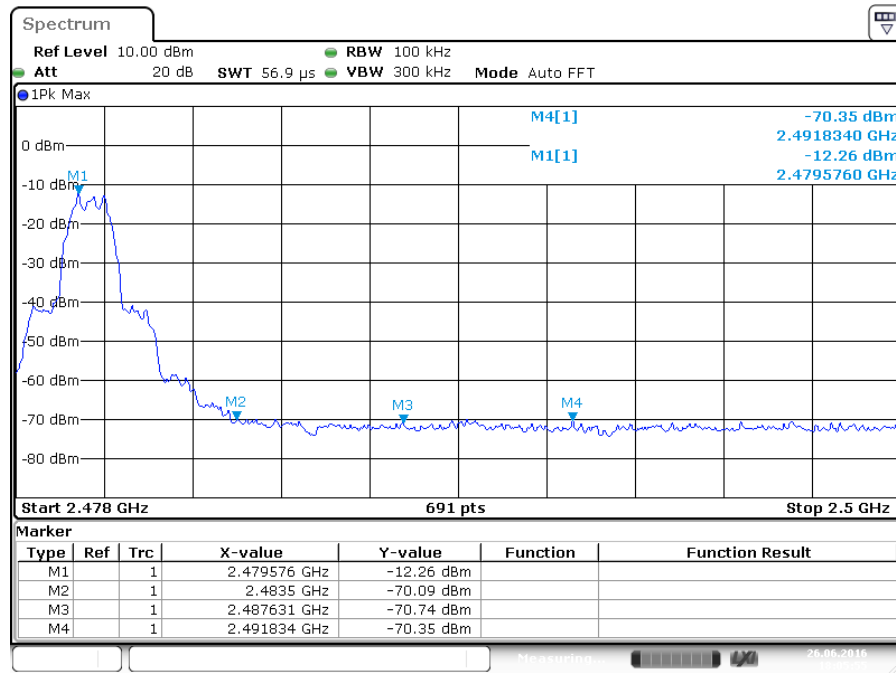
**High Channel, Band Edge**

**EDR mode**  
**Low Channel**


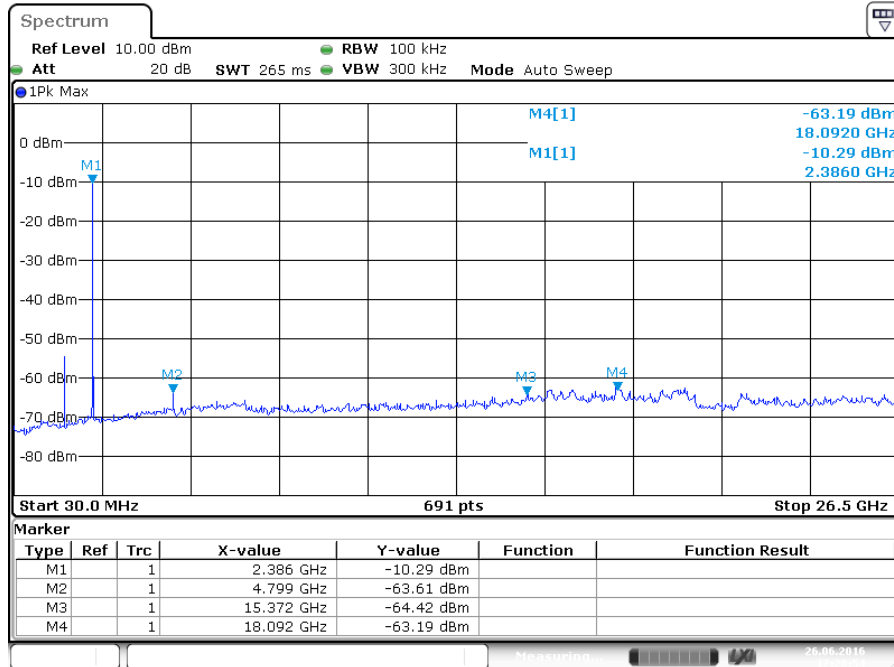
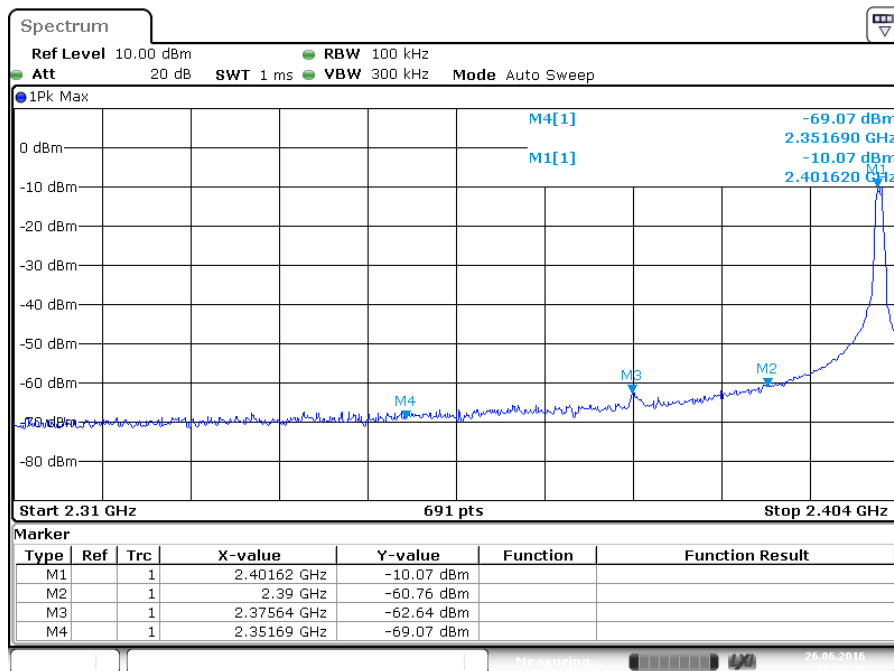
**Low Channel, Band Edge**


Date: 26.JUN.2016 18:04:26

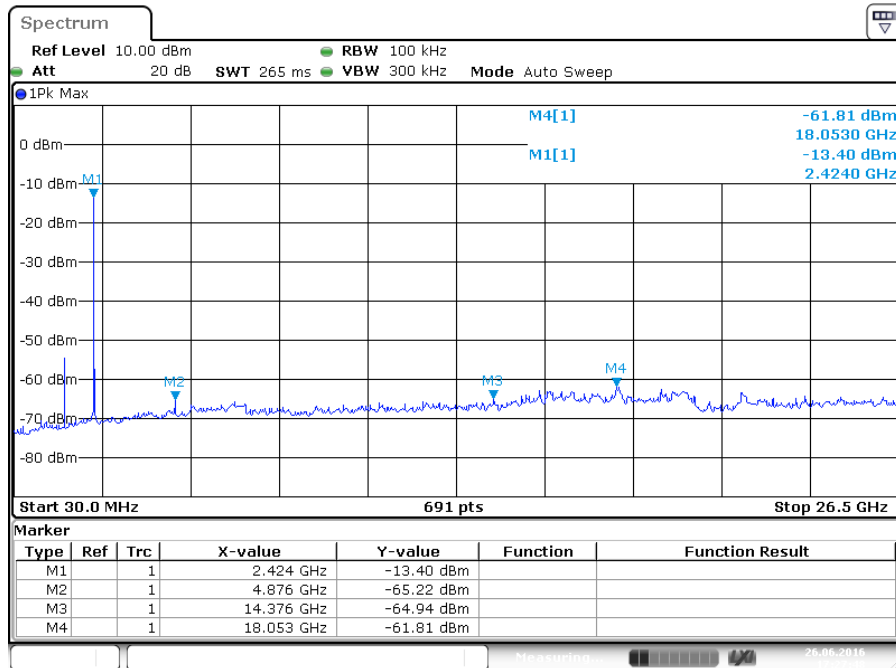
**Middle Channel**


Date: 26.JUN.2016 18:09:32

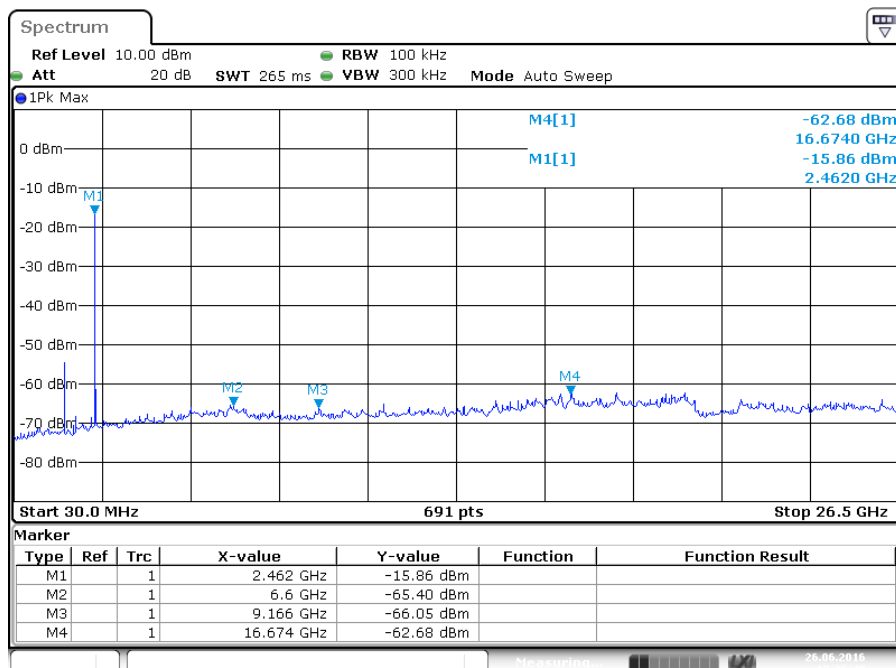
**High Channel**

**High Channel, Band Edge**


**Low energy**  
**Low Channel**

**Low Channel, Band Edge**


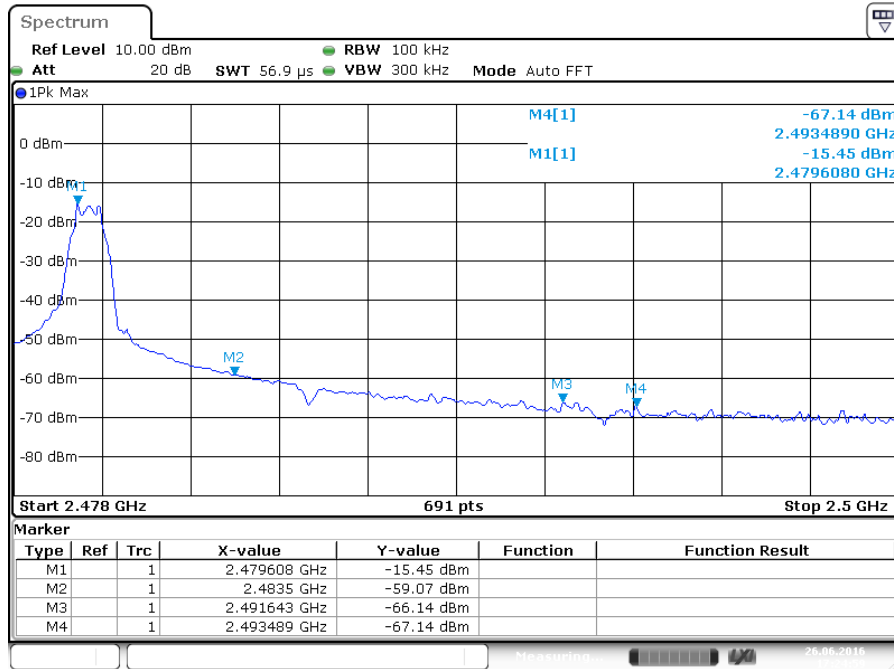


**Middle Channel**


Date: 26.JUN.2016 17:27:48

**High Channel**


Date: 26.JUN.2016 17:26:40

**High Channel, Band Edge**


Date: 26.JUN.2016 17:24:58

### 5.1.7 Spurious Emission

**RESULT:****Passed**

Date of testing : 2016-06-26 to 2016-06-27  
Test standard : FCC part 15.247(d)  
FCC Part 15.205  
RSS-247 Clause 3.3  
Basic standard : ANSI C63.10: 2013  
Limits : Refer to 15.209(a) of FCC part 15.247(d)  
RSS-Gen Table 4 & Table 5  
Kind of test site : 3m Semi-Anechoic Chamber

**Test setup**

Test Channel : Low/ Middle/ High  
Operation mode : A, B  
Ambient temperature : 25°C  
Relative humidity : 55%  
Atmospheric pressure : 101 kPa

**Remark:**

During the pretest the EUT was rotated through three orthogonal axes to determine the attitude that maximizes the emissions. After that the EUT was manually handled to find the orientation that has the maximum emission, which is the orientation shown in the test setup photos.

Testing was carried out within frequency range 9kHz to the tenth harmonics.

For details refer to Appendix 1.

### 5.1.8 20dB Bandwidth

**RESULT:****Passed**

Date of testing : 2016-06-26  
Test standard : FCC Part 15.247(a)(1)  
RSS-247 Clause 5.1(1)  
Basic standard : ANSI C63.10: 2013  
Kind of test site : Shielded room

**Test setup**

Test Channel : Low/ Middle/ High  
Operation Mode : A  
Ambient temperature : 25°C  
Relative humidity : 55%  
Atmospheric pressure : 101 kPa

**Table 11: Test result of 20dB Bandwidth**

Test Mode	Channel Frequency (MHz)	20dB Bandwidth (kHz)	2/3 of 20dB Bandwidth (kHz)	Limit (MHz)
BDR	2402	1033.3	688.867	/
	2441	1029.0	686.000	
	2480	1028.9	685.933	
EDR	2402	1364.7	909.800	/
	2441	1406.7	937.800	
	2480	1411.0	940.667	

### 5.1.9 Frequency Separation

**RESULT:****Passed**

Date of testing : 2016-06-26  
Test standard : FCC part 15.247(a)(1)  
RSS-210 A8.1 (b)  
Basic standard : ANSI C63.4: 2003  
Limit :  $\geq 25\text{kHz}$  or  $2/3$  of 20dB bandwidth, whichever is greater

**Test setup**

Test Channel : Low/ Middle/ High  
Operation Mode : C  
Ambient temperature : 25°C  
Relative humidity : 55%  
Atmospheric pressure : 101 kPa

**Table 12: Test result of Frequency Separation**

Channel	Channel Frequency (MHz)	Measured Channel Separation (MHz)	Limit (kHz)	Result
Low Channel	2402	1	$\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth	Pass
Adjacency Channel	2403			
Mid Channel	2441	1	$\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth	Pass
Adjacency Channel	2442			
High Channel	2480	1	$\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth	Pass
Adjacency Channel	2479			

### 5.1.10 Number of hopping frequency

**RESULT:****Passed**

Date of testing : 2016-06-26  
Test standard : FCC part 15.247(a)(1)(iii)  
RSS-247 Clause 5.1(4)  
Basic standard : ANSI C63.10: 2013  
Limits :  $\geq 15$  non-overlapping channels  
Kind of test site : Shield room

**Test setup**

Test Channel : Low/ Middle/ High  
Operation Mode : C  
Ambient temperature : 25°C  
Relative humidity : 55%  
Atmospheric pressure : 101 kPa

**Table 13: Test result of Number of hopping frequency**

Frequency Range	Measured Quantity of Hopping Channel	Limit	Result
<u>2400</u> to <u>2483.5</u> MHz	79	$\geq 15$	Pass

### 5.1.11 Time of Occupancy

**RESULT:**
**Passed**

Date of testing : 2016-06-27  
 Test standard : FCC part 15.247(a)(1)(iii)  
                   : RSS-247 Clause 5.1(4)  
 Basic standard : ANSI C63.10: 2013  
 Limits : <0.4s  
 Kind of test site : Shield room

**Test setup**

Test Channel : Low/ Middle/ High  
 Operation Mode : A  
 Ambient temperature : 25°C  
 Relative humidity : 55%  
 Atmospheric pressure : 101 kPa

**Table 14: Test result of Time of Occupancy**

Test Mode	Channel	Data Packet	Pulse width (ms)	Measured Dwell time(s)	Limit (s)
BDR mode	2402	DH1	0.420	0.134	< 0.4s
		DH3	1.696	0.271	
		DH5	2.956	0.315	
	2441	DH1	0.413	0.132	
		DH3	1.696	0.271	
		DH5	2.956	0.315	
	2480	DH1	0.420	0.134	
		DH3	1.681	0.269	
		DH5	2.956	0.315	
EDR mode	2402	3DH1	0.427	0.137	
		3DH3	1.703	0.272	
		3DH5	2.949	0.315	
	2441	3DH1	0.427	0.137	
		3DH3	1.688	0.270	
		3DH5	2.949	0.315	
	2480	3DH1	0.420	0.134	
		3DH3	1.688	0.270	
		3DH5	2.971	0.317	

Note:

Dwell time = Pulse width x (Hopping rate / Number of channels) x Period

Period = 0.4 (seconds/ channel) x 79 (channel) = 31.6 seconds

## 5.1.12 Conducted emissions

**RESULT:****Passed**

Date of testing	:	2016-06-27
Test standard	:	FCC Part 15.107(a) & FCC Part 15.207(a) RSS-Gen Clause 8.8
Basic standard	:	ANSI C63.10: 2013 & ANSI C63.4: 2014
Frequency range	:	0.15 – 30MHz
Limits	:	FCC Part 15.207(a) & FCC Part 15.207(a) RSS-Gen Table 3
Kind of test site	:	Shield room

**Test setup**

Input Voltage	:	AC 120V, 60Hz via AC input of PC
Operation Mode	:	C, D
Earthing	:	Not connected
Ambient temperature	:	25°C
Relative humidity	:	55%
Atmospheric pressure	:	101 kPa

For details refer to Appendix 1.



### 5.1.13 Radiated Emission

**RESULT:****Passed**

Date of testing : 2016-06-26  
Test standard : FCC Part 15.109(a) & FCC Part 15.209(a)  
RSS-Gen 8.9  
Basic standard : ANSI C63.4: 2014  
Frequency range : 30 - 6000MHz  
Classification : Class B  
Limit : FCC Part 15.109(a) & FCC Part 15.209(a)  
RSS-Gen Table 4  
Kind of test site : 3m Semi-Anechoic Chamber

**Test setup**

Input Voltage : AC 120V, 60Hz via AC input of PC  
Operation mode : D, E  
Earthing : Not connected  
Ambient temperature : Refer to Appendix 1  
Relative humidity : Refer to Appendix 1  
Atmospheric pressure : Refer to Appendix 1

Test data refer to Appendix 1.

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**Figure 1: Test figure of spurious emissions, mode A.1, Horizontal polarity (9kHz – 30MHz)**

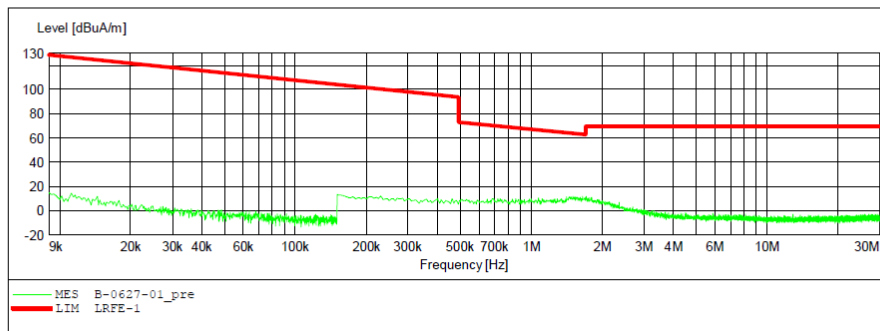
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3M Radiated

EUT: Portable Bluetooth Speaker M/N:NS-CSPBTHOL16  
Manufacturer:  
Operating Condition: TX 2402MHz  
Test Site: 2# Chamber  
Operator: LGWADE  
Test Specification: DC 3.7V  
Comment: X  
Start of Test: 2016-6-27 /

SCAN TABLE: "LFRE Fin"

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



**Figure 2: Test figure of spurious emissions, mode A.1, Vertical polarity (9kHz – 30MHz)**

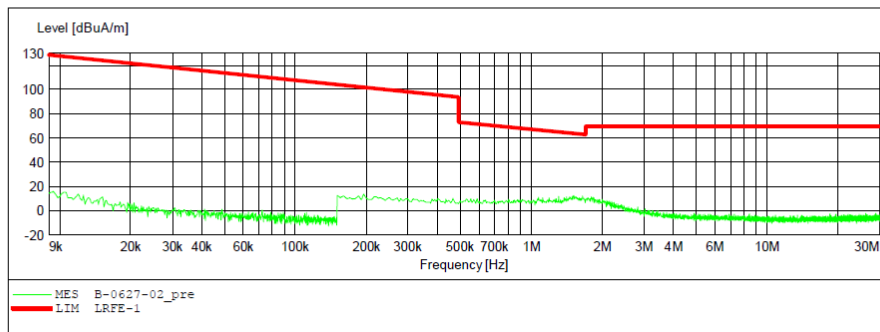
*ACCURATE TECHNOLOGY CO.,LTD*

*FCC Class B 3M Radiated*

EUT: Portable Bluetooth Speaker M/N:NS-CSPBTHOL16  
 Manufacturer:  
 Operating Condition: TX 2402MHz  
 Test Site: 2# Chamber  
 Operator: LGWADE  
 Test Specification: DC 3.7V  
 Comment: Y  
 Start of Test: 2016-6-27 /

**SCAN TABLE: "LFRE Fin"**

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

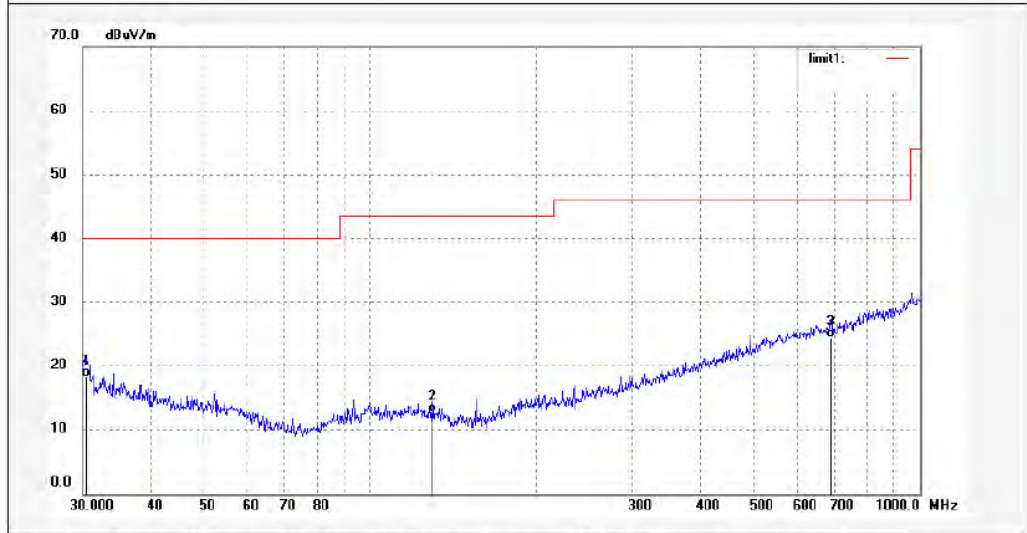


**Figure 3: Test figure of spurious emissions, mode A.1, Horizontal polarity (30MHz – 1GHz)**

	<b>ACCURATE TECHNOLOGY CO., LTD.</b>	Site: 2# Chamber
	F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China	Tel:+86-0755-26503290 Fax:+86-0755-26503396

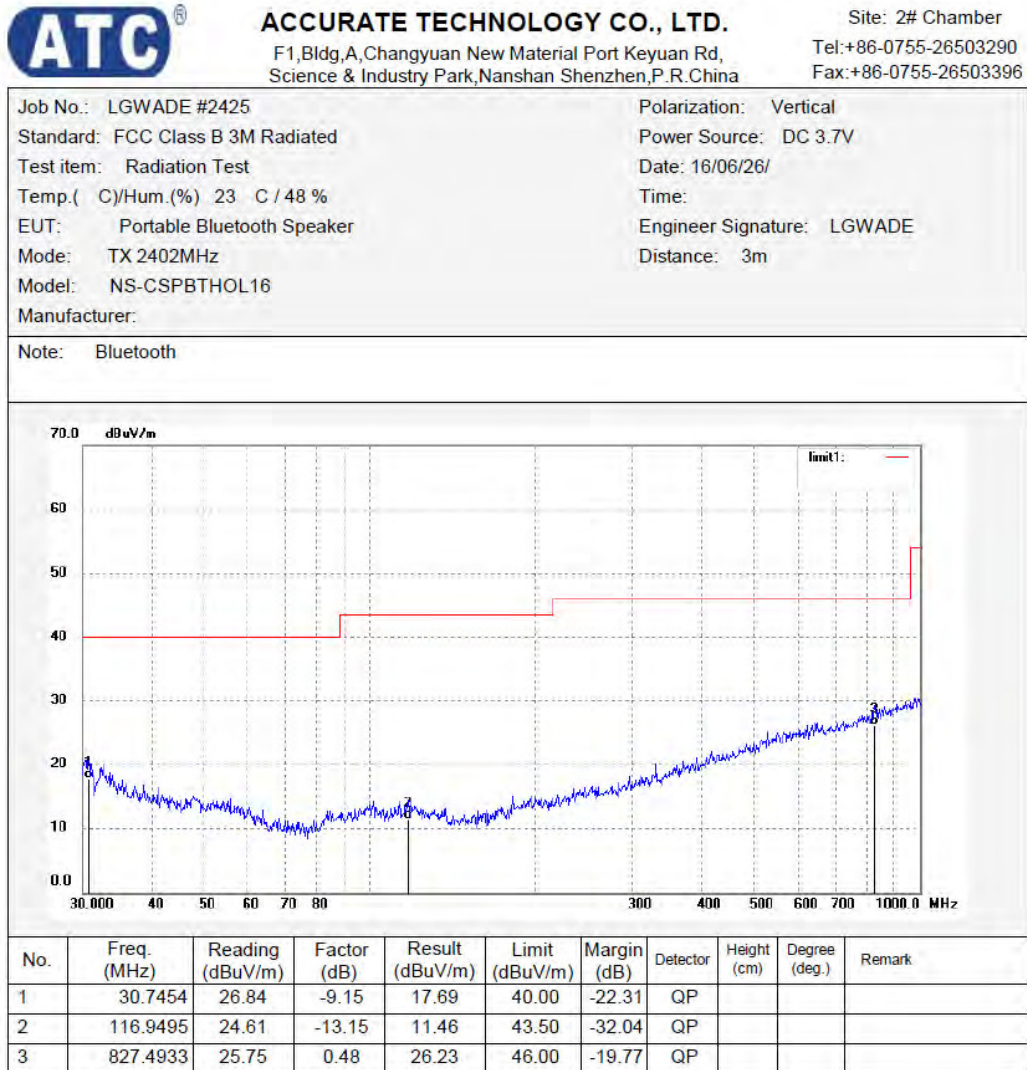
Job No.: LGWADE #2424	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.5305	28.27	-9.97	18.30	40.00	-21.70	QP			
2	129.9225	26.59	-13.86	12.73	43.50	-30.77	QP			
3	689.5643	26.36	-1.92	24.44	46.00	-21.56	QP			

**Figure 4: Test figure of spurious emissions, mode A.1, Vertical polarity (30MHz – 1GHz)**



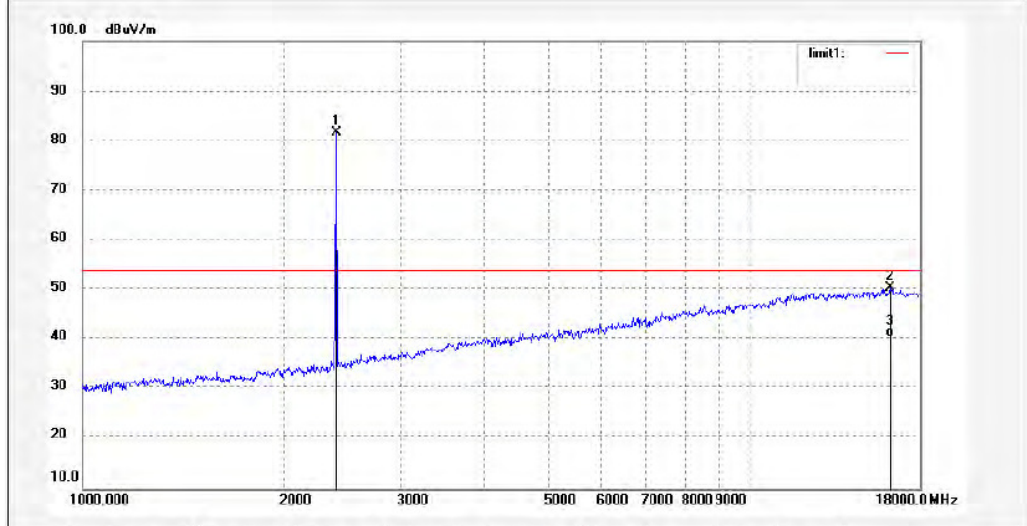


**Figure 5: Test figure of spurious emissions, mode A.1, Horizontal polarity (1GHz –18GHz)**

	<b>ACCURATE TECHNOLOGY CO., LTD.</b>	Site: 2# Chamber
	F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China	Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: LGWADE #2387	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



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	89.10	-7.45	81.65	/	/	peak			
2	16221.189	10.22	40.13	50.35	74.00	-23.65	peak			
3	16221.189	0.46	40.13	40.59	54.00	-13.41	AVG			

**Figure 6: Test figure of spurious emissions, mode A.1, Vertical polarity (1GHz – 18GHz)**

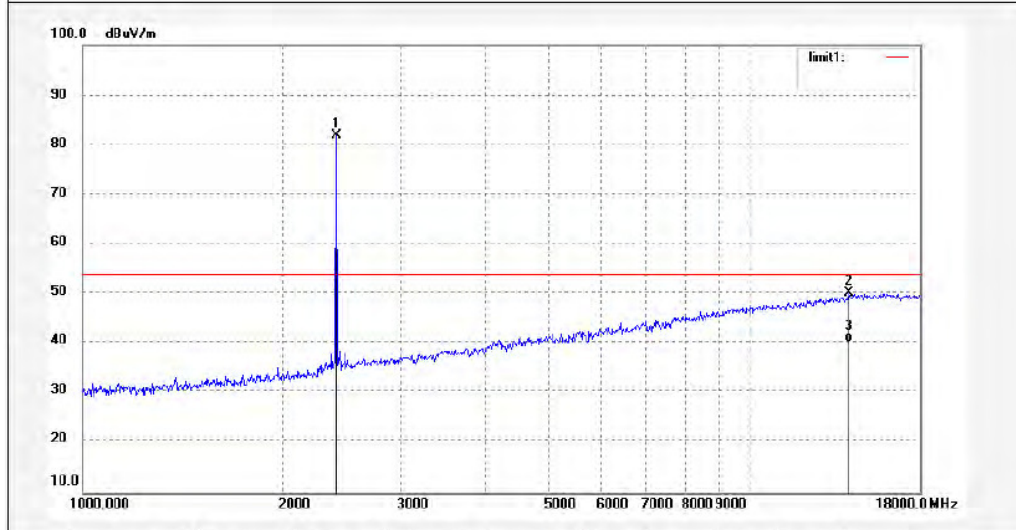


**ACCURATE TECHNOLOGY CO., LTD.**  
 F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
 Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: LGWADE #2386	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



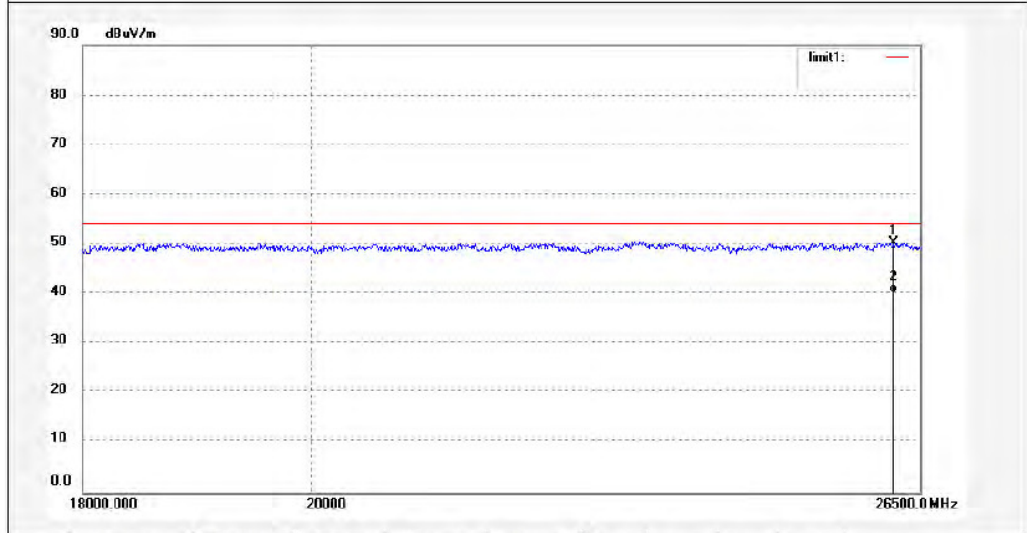
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	89.32	-7.45	81.87	/	/	peak			
2	14079.082	9.38	40.75	50.13	74.00	-23.87	peak			
3	14079.082	-0.50	40.75	40.25	54.00	-13.75	AVG			

**Figure 7: Test figure of spurious emissions, mode A.1, Horizontal polarity (18GHz –25GHz)**

**ATC** ACCURATE TECHNOLOGY CO., LTD. Site: 2# Chamber  
 F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Tel:+86-0755-26503290  
 Science & Industry Park,Nanshan Shenzhen,P.R.China Fax:+86-0755-26503396

Job No.: LGWADE #2396	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26184.163	33.77	16.50	50.27	74.00	-23.73	peak			
2	26184.163	23.71	16.50	40.21	54.00	-13.79	AVG			

**Figure 8: Test figure of spurious emissions, mode A.1, Vertical polarity (18GHz – 25GHz)**

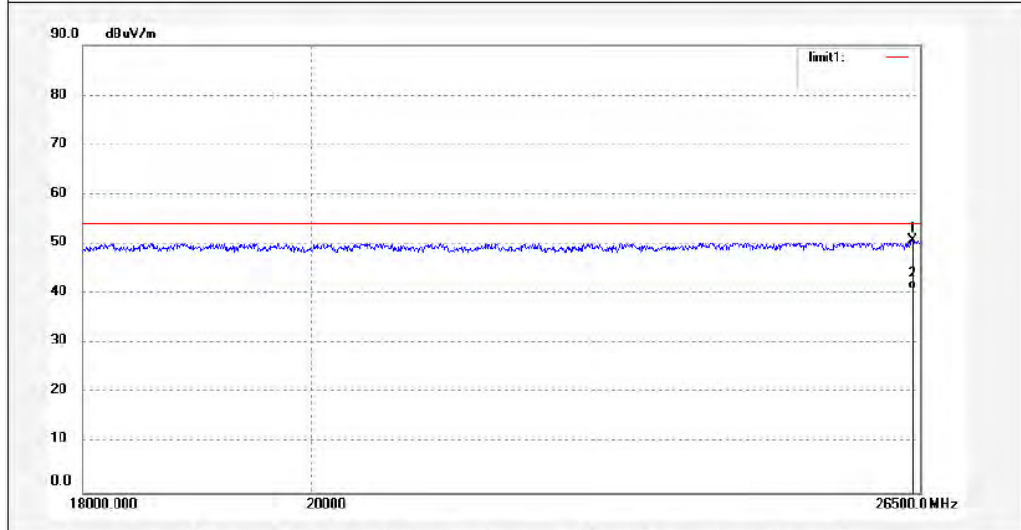


**ACCURATE TECHNOLOGY CO., LTD.**  
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 Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: LGWADE #2397	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26407.915	33.86	16.96	50.82	74.00	-23.18	peak			
2	26407.915	23.98	16.96	40.94	54.00	-13.06	AVG			

**Figure 9: Test figure of spurious emissions, mode A.2, Horizontal polarity (9kHz – 30MHz)**

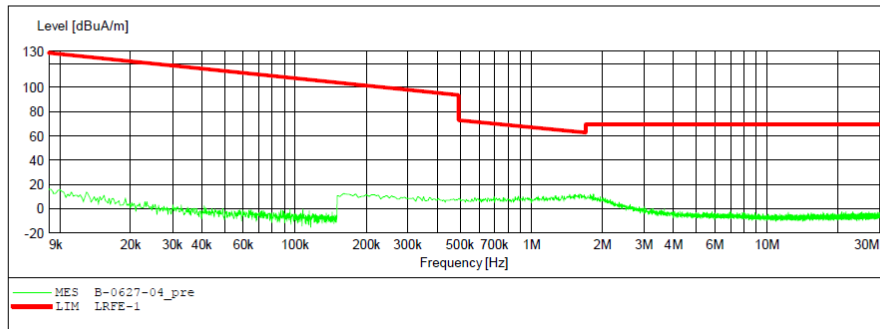
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3M Radiated

EUT: Portable Bluetooth Speaker M/N:NS-CSPBTHOL16  
Manufacturer:  
Operating Condition: TX 2441MHz  
Test Site: 2# Chamber  
Operator: LGWADE  
Test Specification: DC 3.7V  
Comment: X  
Start of Test: 2016-6-27 /

SCAN TABLE: "LFRE Fin"

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



**Figure 10: Test figure of spurious emissions, mode A.2, Vertical polarity (9kHz – 30MHz)**

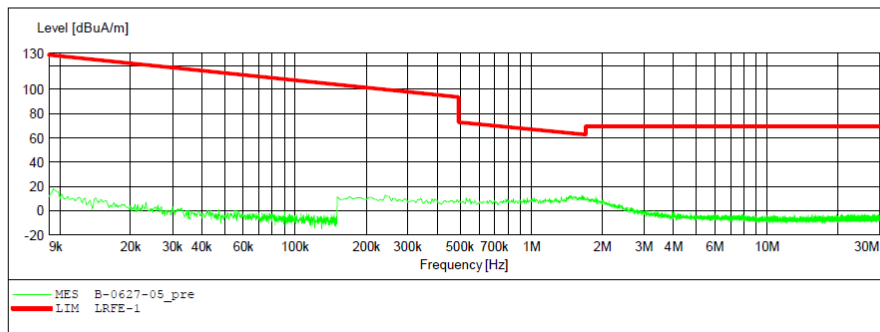
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3M Radiated

EUT: Portable Bluetooth Speaker M/N:NS-CSPBTHOL16  
Manufacturer:  
Operating Condition: TX 2441MHz  
Test Site: 2# Chamber  
Operator: LGWADE  
Test Specification: DC 3.7V  
Comment: Y  
Start of Test: 2016-6-27 /

SCAN TABLE: "LFRE 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	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



**Figure 11: Test figure of spurious emissions, mode A.2, Horizontal polarity (30MHz – 1GHz)**

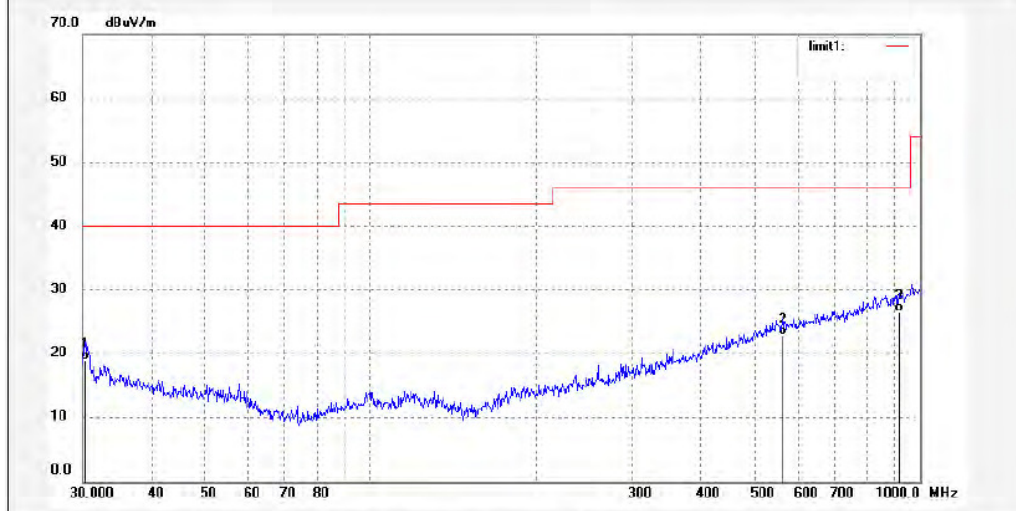


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Site: 2# Chamber  
Tel:+86-0755-26503290  
Fax:+86-0755-26503396

Job No.: LGWADE #2427	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2441MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.3172	28.99	-9.96	19.03	40.00	-20.97	QP			
2	564.6389	26.28	-3.39	22.89	46.00	-23.11	QP			
3	916.0687	24.96	1.49	26.45	46.00	-19.55	QP			

**Figure 12: Test figure of spurious emissions, mode A.2, Vertical polarity (30MHz – 1GHz)**

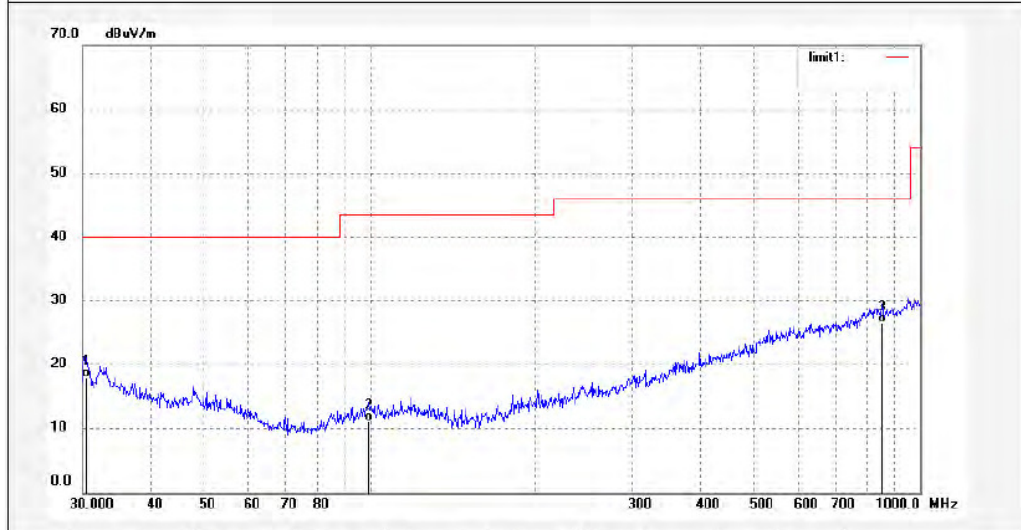


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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: LGWADE #2426	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2441MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.5305	27.10	-9.08	18.02	40.00	-21.98	QP			
2	99.5279	24.43	-13.28	11.15	43.50	-32.35	QP			
3	854.0247	25.80	0.74	26.54	46.00	-19.46	QP			



**Figure 13: Test figure of spurious emissions, mode A.2, Horizontal polarity (1GHz – 18GHz)**



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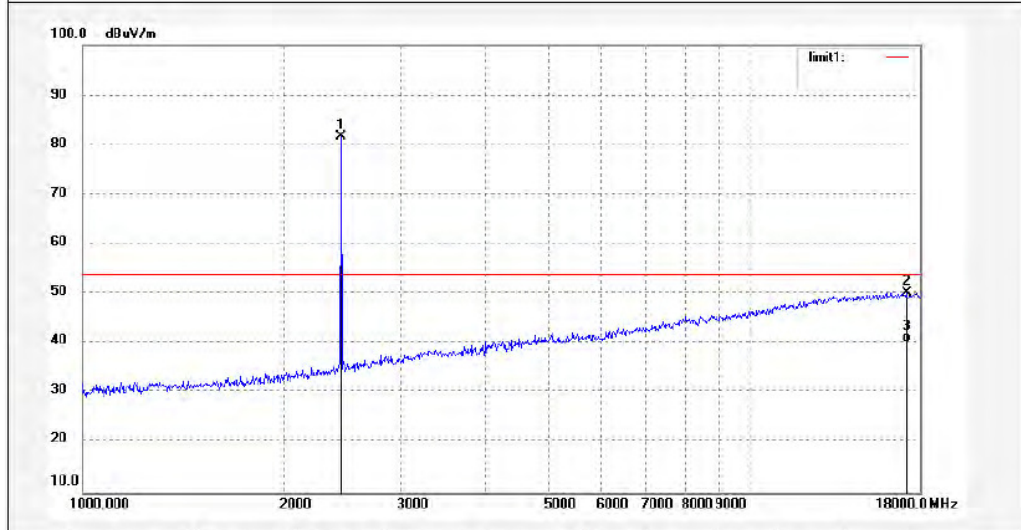
Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGWADE #2391	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2441MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.000	89.12	-7.35	81.77	/	/	peak			
2	17186.528	7.69	42.45	50.14	74.00	-23.86	peak			
3	17186.528	-2.22	42.45	40.23	54.00	-13.77	AVG			

**Figure 14: Test figure of spurious emissions, mode A.2, Vertical polarity (1GHz – 18GHz)**

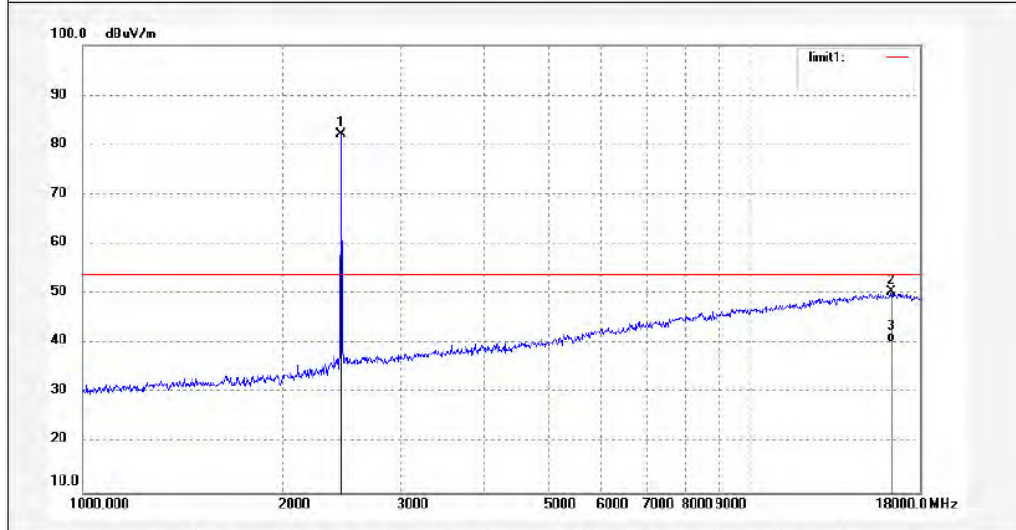


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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: LGWADE #2390	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2441MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.000	89.52	-7.35	82.17	/	/	peak			
2	16315.231	10.15	40.19	50.34	74.00	-23.66	peak			
3	16315.231	0.16	40.19	40.35	54.00	-13.65	AVG			

**Figure 15: Test figure of spurious emissions, mode A.2, Horizontal polarity (18GHz – 25GHz)**

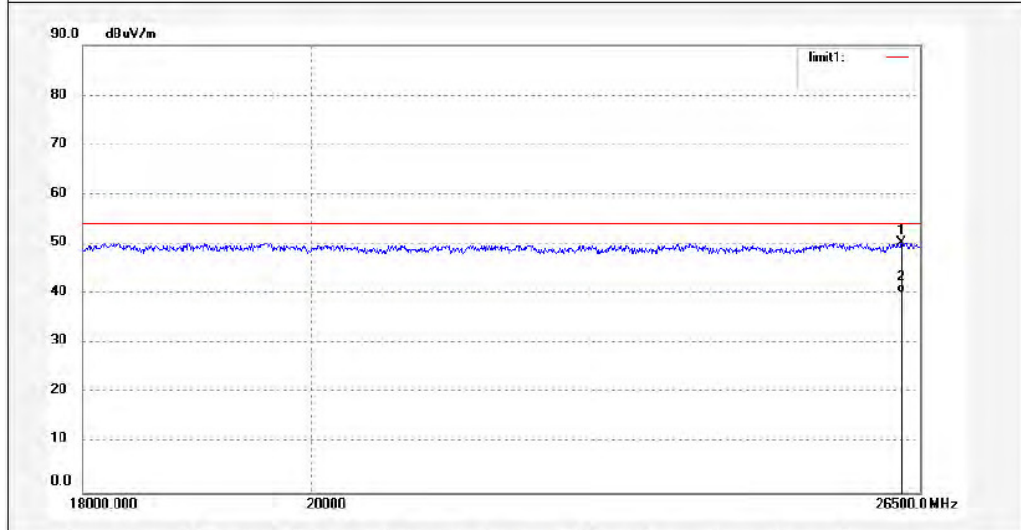


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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: LGWADE #2399	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2441MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26275.468	33.80	16.50	50.30	74.00	-23.70	peak			
2	26275.468	23.75	16.50	40.25	54.00	-13.75	AVG			

**Figure 16: Test figure of spurious emissions, mode A.2, Vertical polarity (18GHz – 25GHz)**

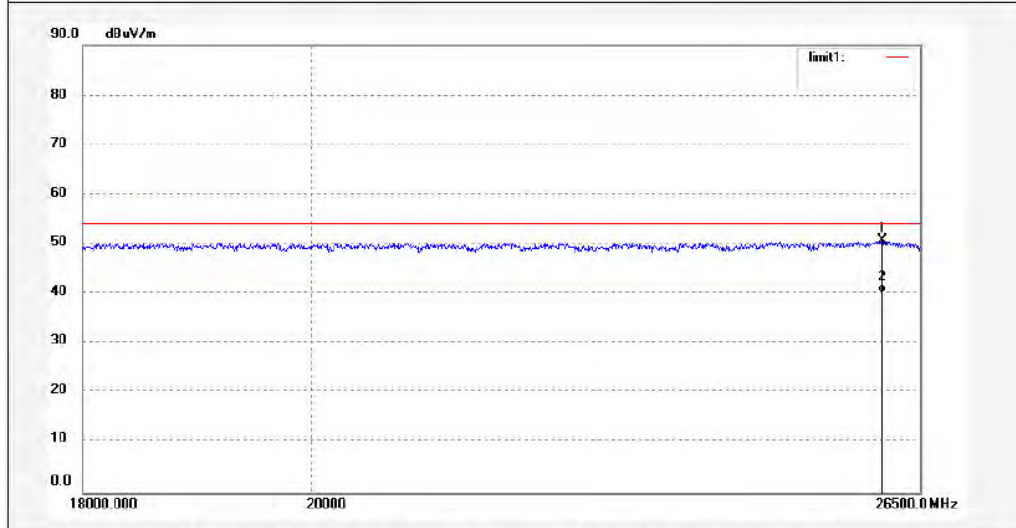


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 Tel:+86-0755-26503290  
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Job No.: LGWADE #2398	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2441MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26042.764	33.44	17.20	50.64	74.00	-23.36	peak			
2	26042.764	22.95	17.20	40.15	54.00	-13.85	AVG			

**Figure 17: Test figure of spurious emissions, mode A.3, Horizontal polarity (9kHz – 30MHz)**

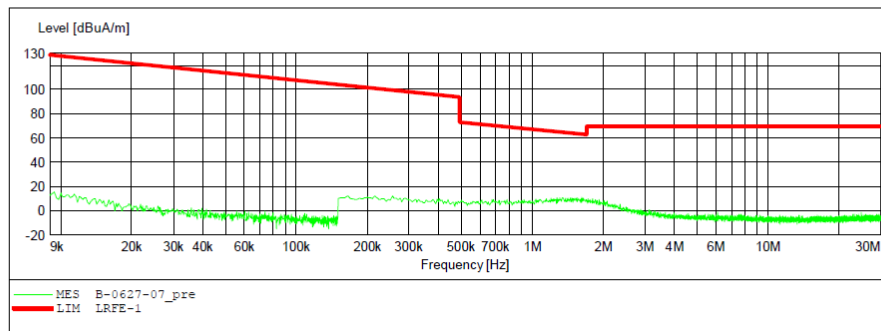
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3M Radiated

EUT: Portable Bluetooth Speaker M/N:NS-CSPBTHOL16  
Manufacturer:  
Operating Condition: TX 2480MHz  
Test Site: 2# Chamber  
Operator: LGWADE  
Test Specification: DC 3.7V  
Comment: X  
Start of Test: 2016-6-27 /

SCAN TABLE: "LFRE 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	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



**Figure 18: Test figure of spurious emissions, mode A.3, Vertical polarity (9kHz – 30MHz)**

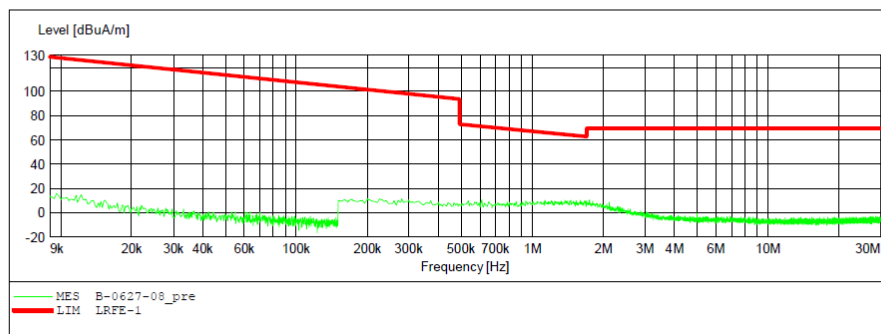
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3M Radiated

EUT: Portable Bluetooth Speaker M/N:NS-CSPBTHOL16  
Manufacturer:  
Operating Condition: TX 2480MHz  
Test Site: 2# Chamber  
Operator: LGWADE  
Test Specification: DC 3.7V  
Comment: Y  
Start of Test: 2016-6-27 /

SCAN TABLE: "LFRE 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	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



**Figure 19: Test figure of spurious emissions, mode A.3, Horizontal polarity (30MHz – 1GHz)**

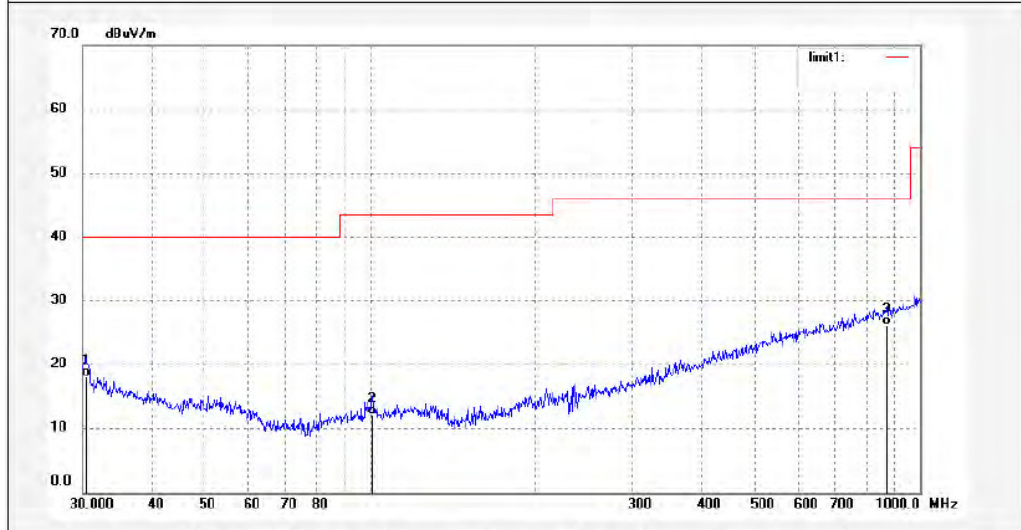


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 Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: LGWADE #2428	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.4237	28.12	-9.96	18.16	40.00	-21.84	QP			
2	100.9339	25.36	-13.28	12.08	43.50	-31.42	QP			
3	872.1832	25.13	1.07	26.20	46.00	-19.80	QP			

**Figure 20: Test figure of spurious emissions, mode A.3, Vertical polarity (30MHz – 1GHz)**

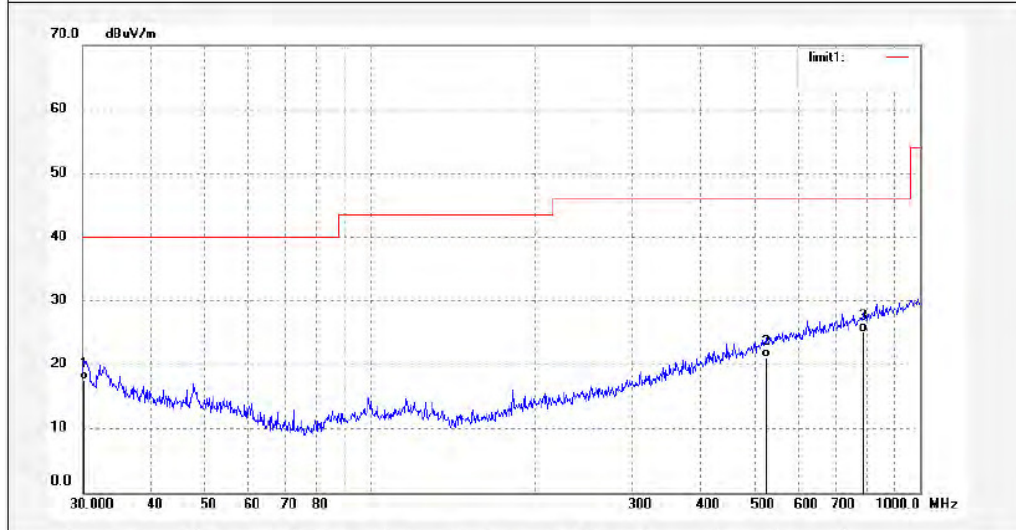


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 Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: LGWADE #2429	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

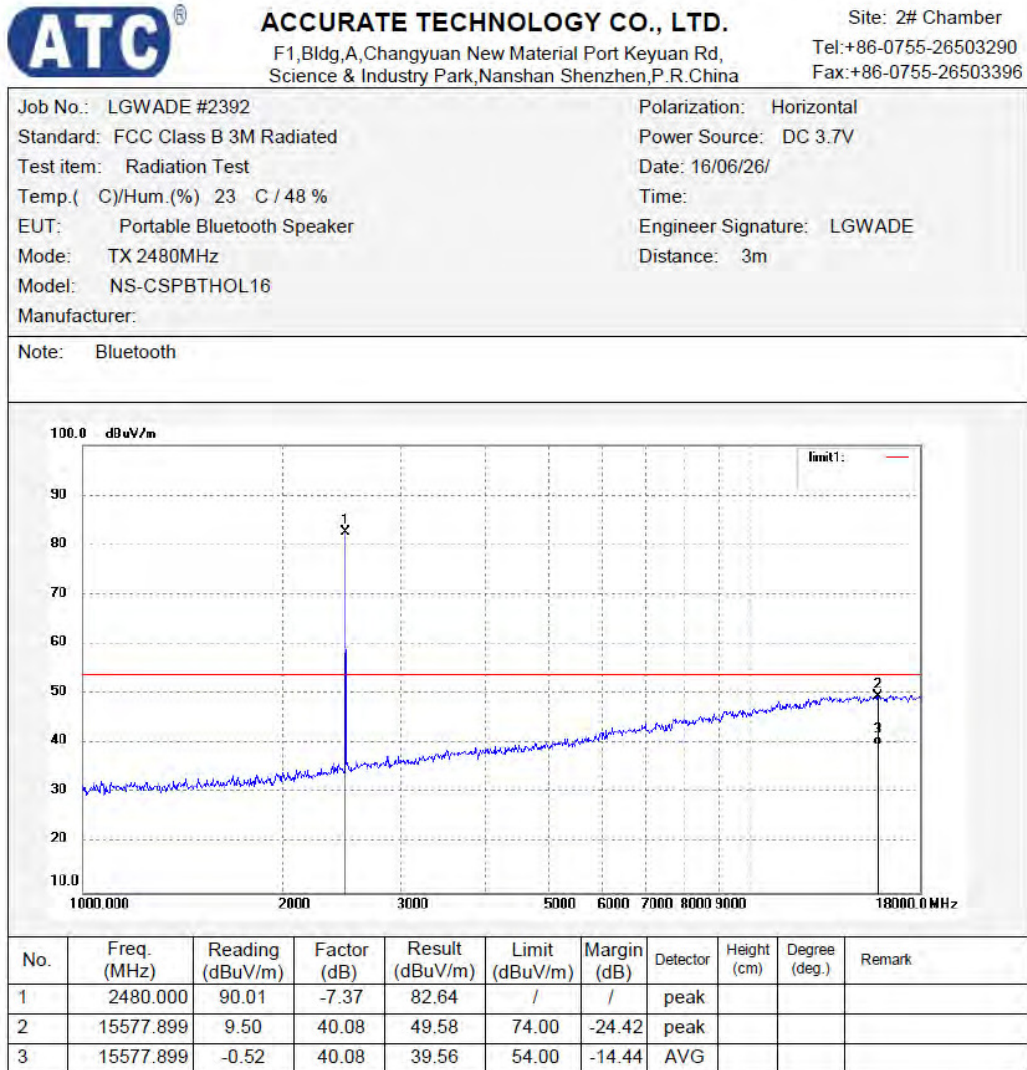
Note: Bluetooth



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.2110	26.61	-8.99	17.62	40.00	-22.38	QP			
2	524.5540	25.43	-4.27	21.16	46.00	-24.84	QP			
3	790.6187	25.24	-0.15	25.09	46.00	-20.91	QP			



**Figure 21: Test figure of spurious emissions, mode A.3, Horizontal polarity (1GHz –18GHz)**



**Figure 22: Test figure of spurious emissions, mode A.3, Vertical polarity (1GHz – 18GHz)**

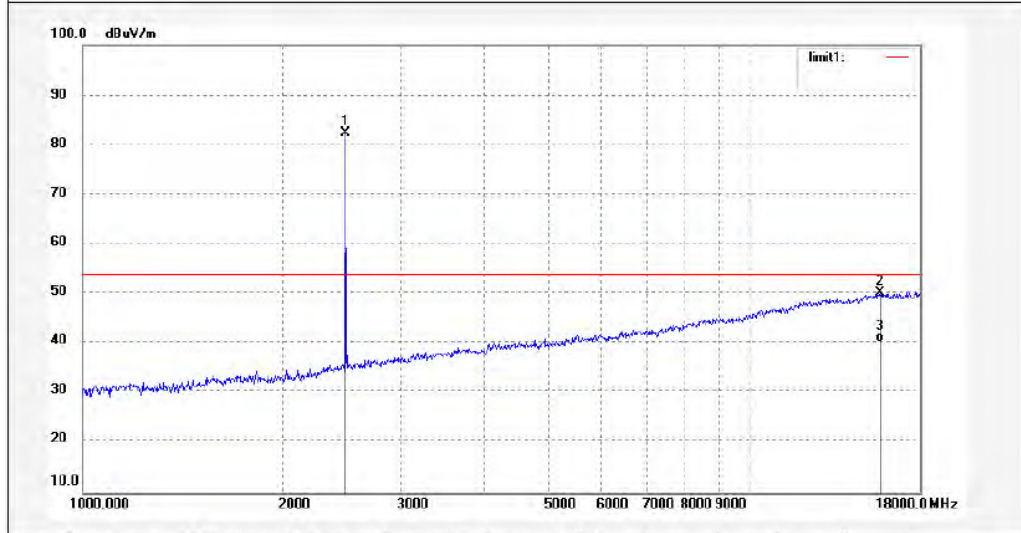


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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: LGWADE #2393	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



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	89.72	-7.37	82.35	/	/	peak			
2	15668.211	10.05	40.07	50.12	74.00	-23.88	peak			
3	15668.211	0.28	40.07	40.35	54.00	-13.65	AVG			

**Figure 23: Test figure of spurious emissions, mode A.3, Horizontal polarity (18GHz –25GHz)**

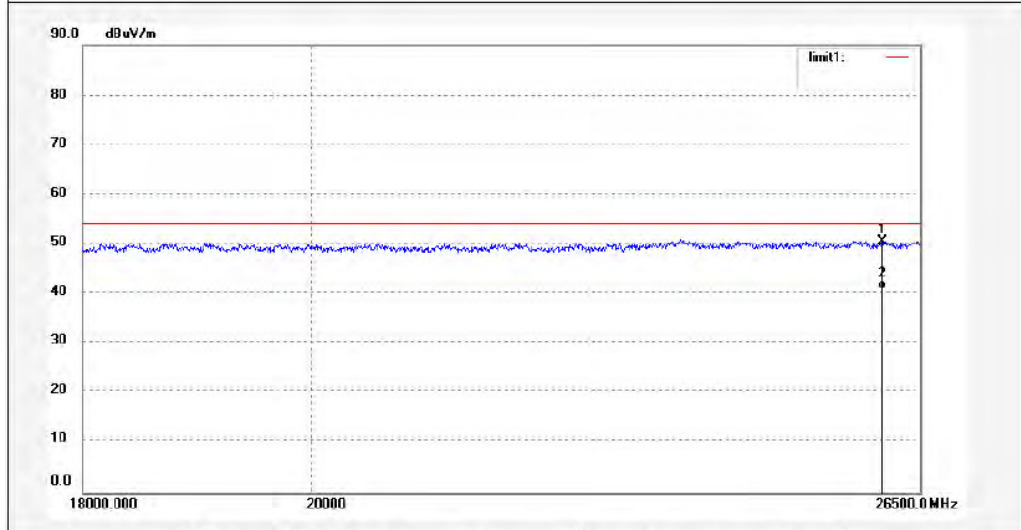


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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: LGWADE #2400	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26042.764	34.06	16.50	50.56	74.00	-23.44	peak			
2	26042.764	24.34	16.50	40.84	54.00	-13.16	AVG			

**Figure 24: Test figure of spurious emissions, mode A.3, Vertical polarity (18GHz – 25GHz)**

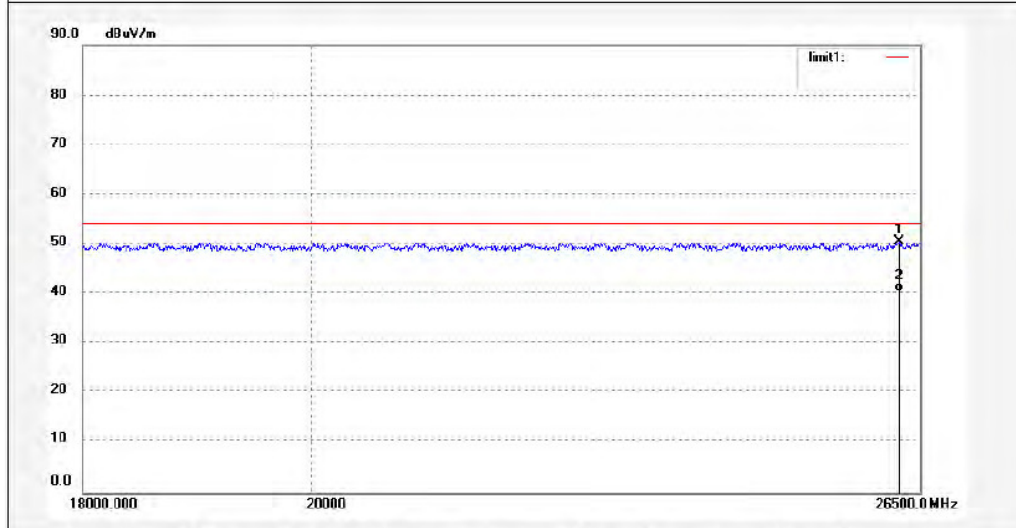


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 Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: LGWADE #2401	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26244.998	33.39	17.07	50.46	74.00	-23.54	peak			
2	26244.998	23.28	17.07	40.35	54.00	-13.65	AVG			

**Figure 25: Test figure of spurious emissions, mode B.1, Horizontal polarity (9kHz – 30MHz)**

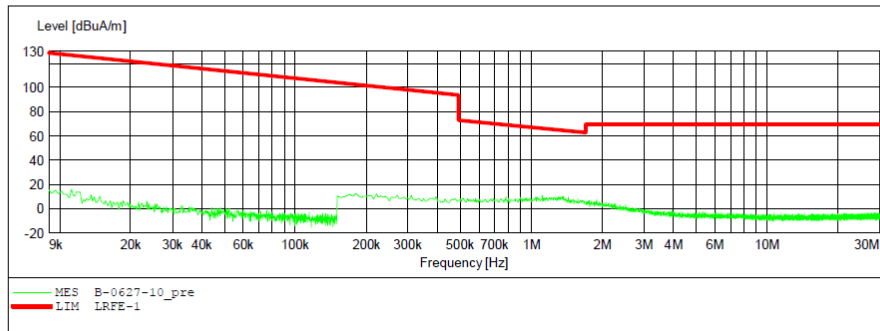
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3M Radiated

EUT: Portable Bluetooth Speaker M/N:NS-CSPBTHOL16  
Manufacturer:  
Operating Condition: TX 2402MHz  
Test Site: 2# Chamber  
Operator: LGWADE  
Test Specification: DC 3.7V  
Comment: X  
Start of Test: 2016-6-27 /

SCAN TABLE: "LFRE 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	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



**Figure 26: Test figure of spurious emissions, mode B.1, Vertical polarity (9kHz – 30MHz)**

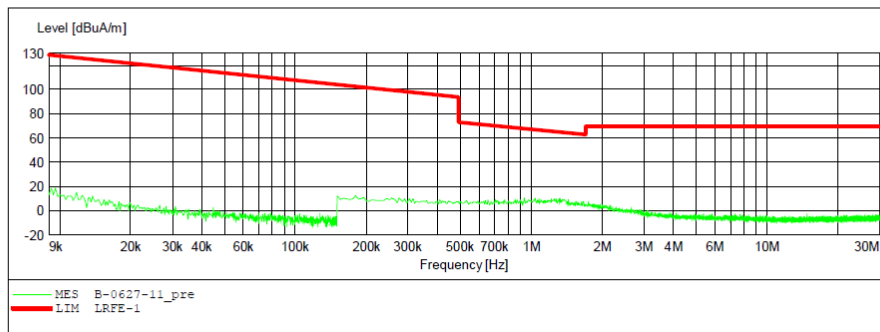
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3M Radiated

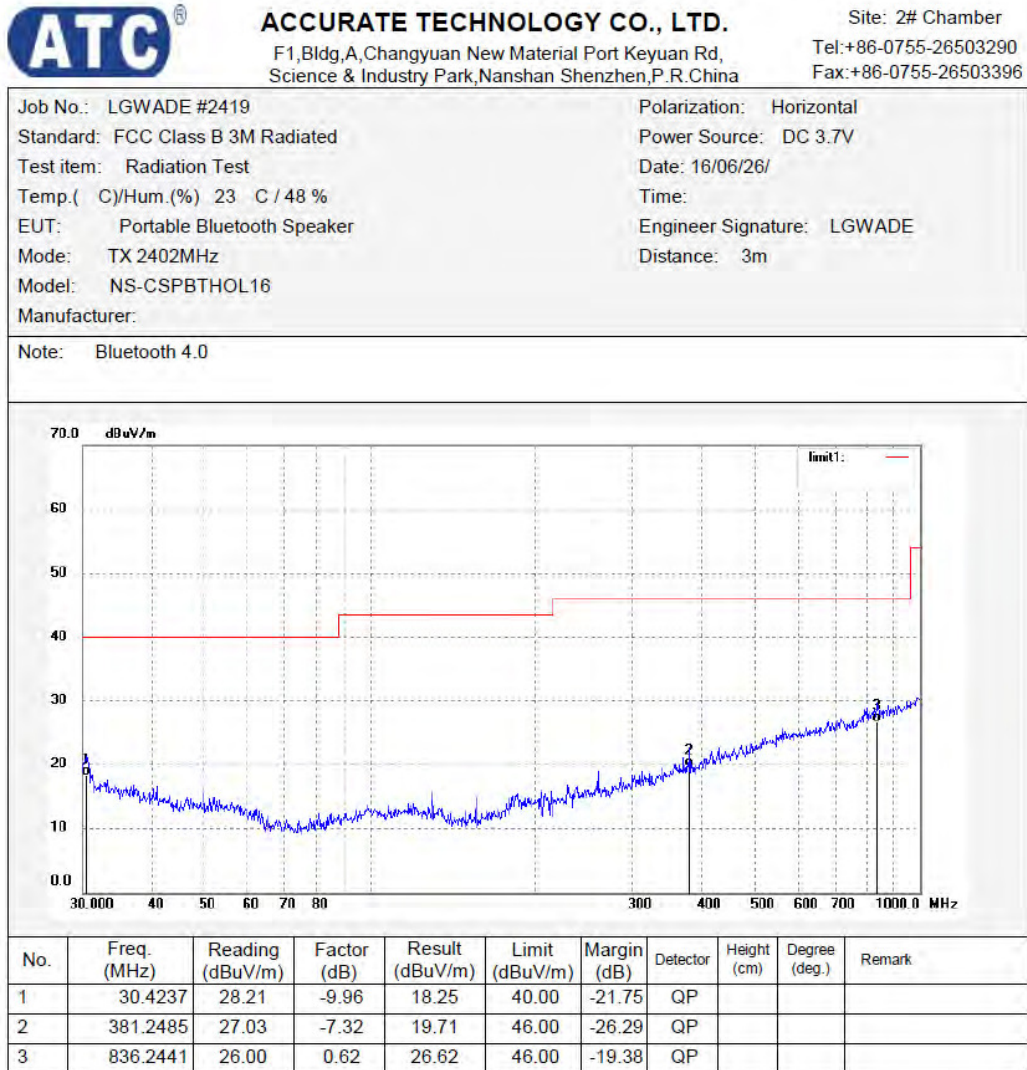
EUT: Portable Bluetooth Speaker M/N:NS-CSPBTHOL16  
Manufacturer:  
Operating Condition: TX 2402MHz  
Test Site: 2# Chamber  
Operator: LGWADE  
Test Specification: DC 3.7V  
Comment: Y  
Start of Test: 2016-6-27 /

SCAN TABLE: "LFRE 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	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



**Figure 27: Test figure of spurious emissions, mode B.1, Horizontal polarity (30MHz – 1GHz)**



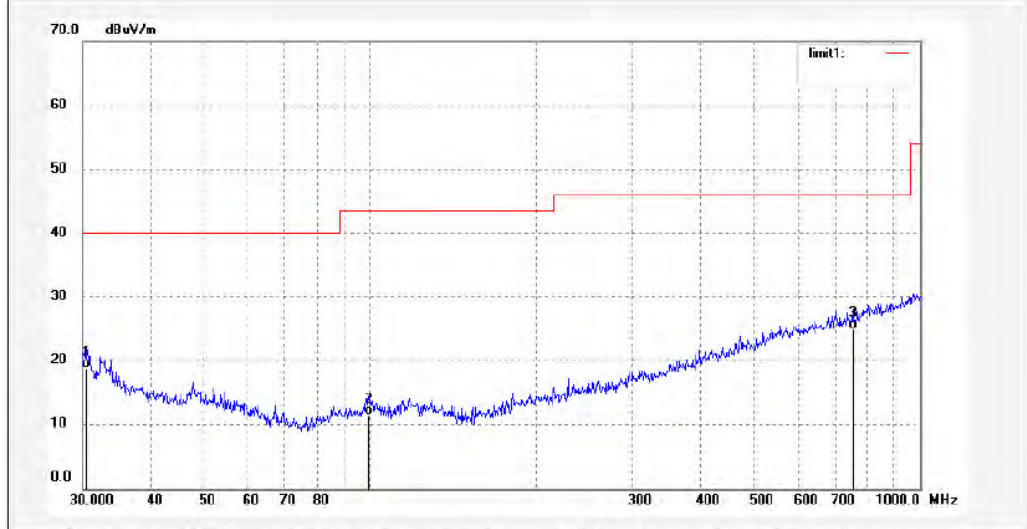
**Figure 28: Test figure of spurious emissions, mode B.1, Vertical polarity (30MHz – 1GHz)**



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 Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: LGWADE #2418	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	
Note: Bluetooth 4.0	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.5305	27.98	-9.08	18.90	40.00	-21.10	QP			
2	99.5279	24.79	-13.28	11.51	43.50	-31.99	QP			
3	755.3872	25.96	-0.96	25.00	46.00	-21.00	QP			



**Figure 29: Test figure of spurious emissions, mode B.1, Horizontal polarity (1GHz –18GHz)**

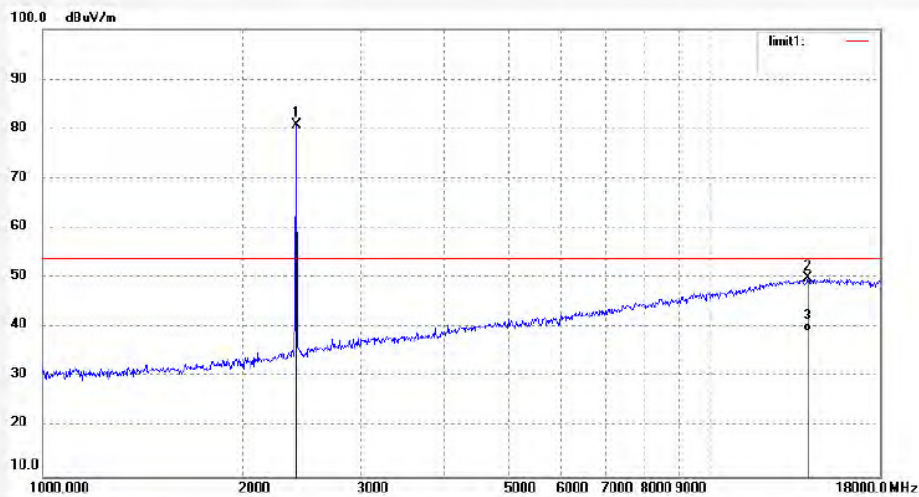


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 Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: LGWADE #2403	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth 4.0



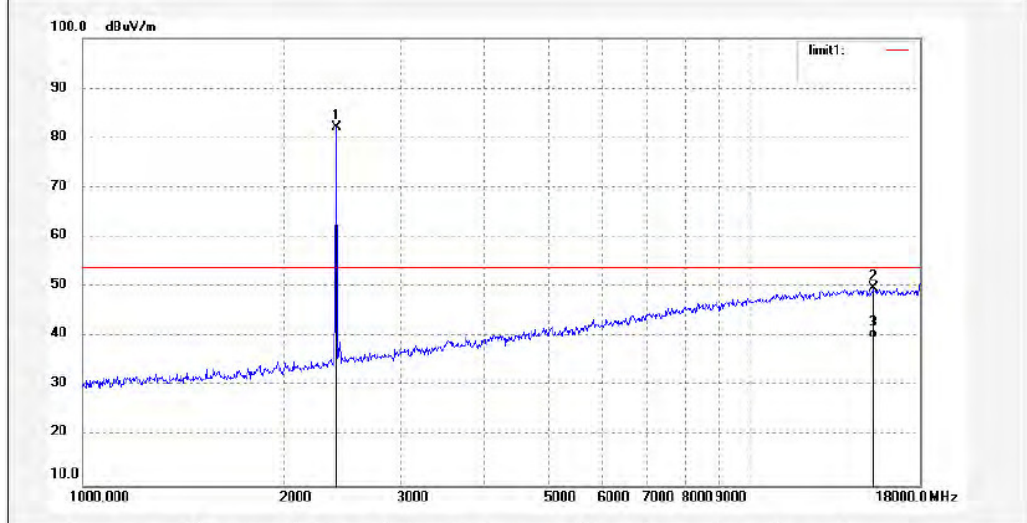
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	88.27	-7.45	80.82	/	/	peak			
2	14038.447	9.41	40.57	49.98	74.00	-24.02	peak			
3	14038.447	-1.42	40.57	39.15	54.00	-14.85	AVG			

**Figure 30: Test figure of spurious emissions, mode B.1, Vertical polarity (1GHz – 18GHz)**

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Job No.: LGWADE #2402	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth 4.0



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	89.47	-7.45	82.02	/	/	peak			
2	15354.388	9.26	40.39	49.65	74.00	-24.35	peak			
3	15354.388	-0.85	40.39	39.54	54.00	-14.46	AVG			

**Figure 31: Test figure of spurious emissions, mode B.1, Horizontal polarity (18GHz –25GHz)**

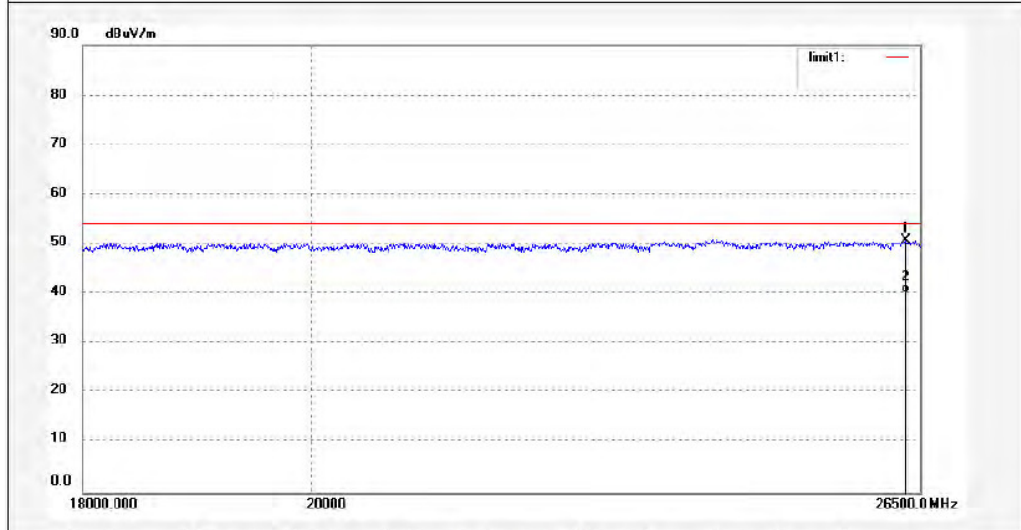


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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: LGWADE #2412	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26326.330	34.14	16.50	50.64	74.00	-23.36	peak			
2	26326.330	23.73	16.50	40.23	54.00	-13.77	AVG			

**Figure 32: Test figure of spurious emissions, mode B.1, Vertical polarity (18GHz – 25GHz)**

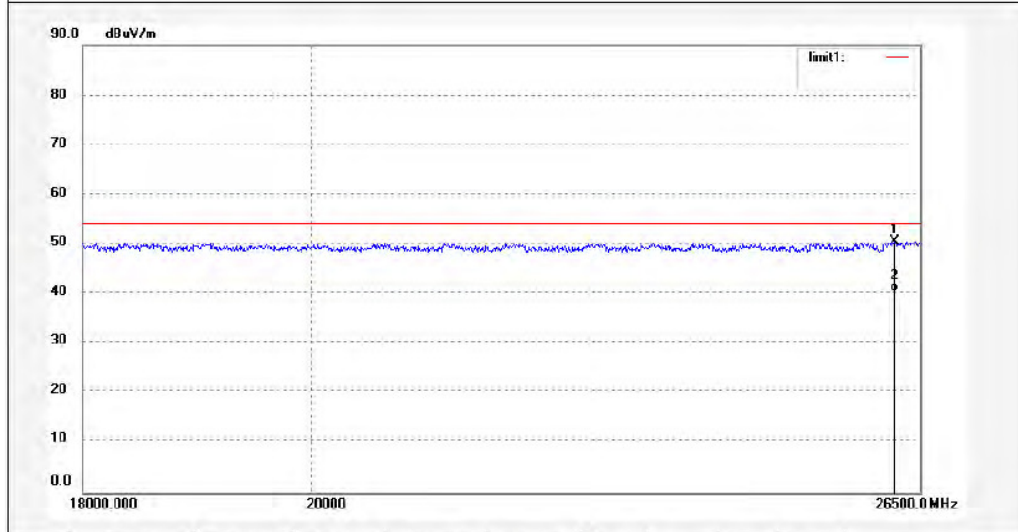


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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: LGWADE #2413	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26194.292	33.48	17.10	50.58	74.00	-23.42	peak			
2	26194.292	23.25	17.10	40.35	54.00	-13.65	AVG			

Figure 33: Test figure of spurious emissions, mode B.2, Horizontal polarity (9kHz – 30MHz)

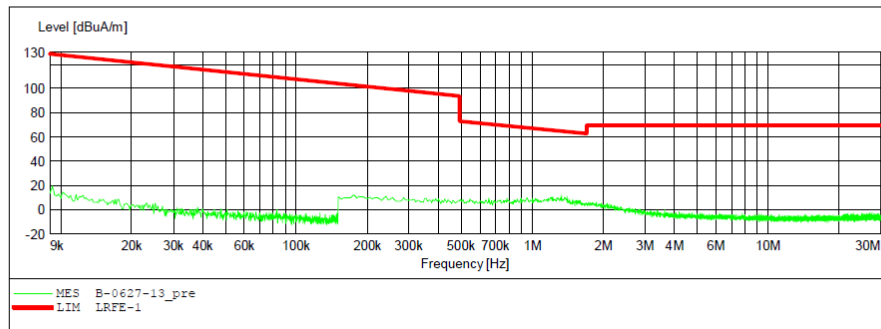
**ACCURATE TECHNOLOGY CO.,LTD**

**FCC Class B 3M Radiated**

EUT: Portable Bluetooth Speaker M/N:NS-CSPBTH0L16  
Manufacturer:  
Operating Condition: TX 2440MHz  
Test Site: 2# Chamber  
Operator: LGWADE  
Test Specification: DC 3.7V  
Comment: X  
Start of Test: 2016-6-27 /

**SCAN TABLE: "LFRE Fin"**

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



**Figure 34: Test figure of spurious emissions, mode B.2, Vertical polarity (9kHz – 30MHz)**

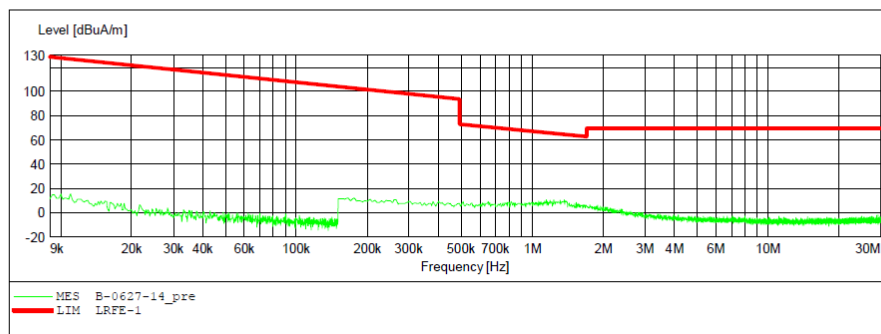
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3M Radiated

EUT: Portable Bluetooth Speaker M/N:NS-CSPBTHOL16  
Manufacturer:  
Operating Condition: TX 2440MHz  
Test Site: 2# Chamber  
Operator: LGWADE  
Test Specification: DC 3.7V  
Comment: Y  
Start of Test: 2016-6-27 /

SCAN TABLE: "LFRE 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	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



**Figure 35: Test figure of spurious emissions, mode B.2, Horizontal polarity (30MHz – 1GHz)**

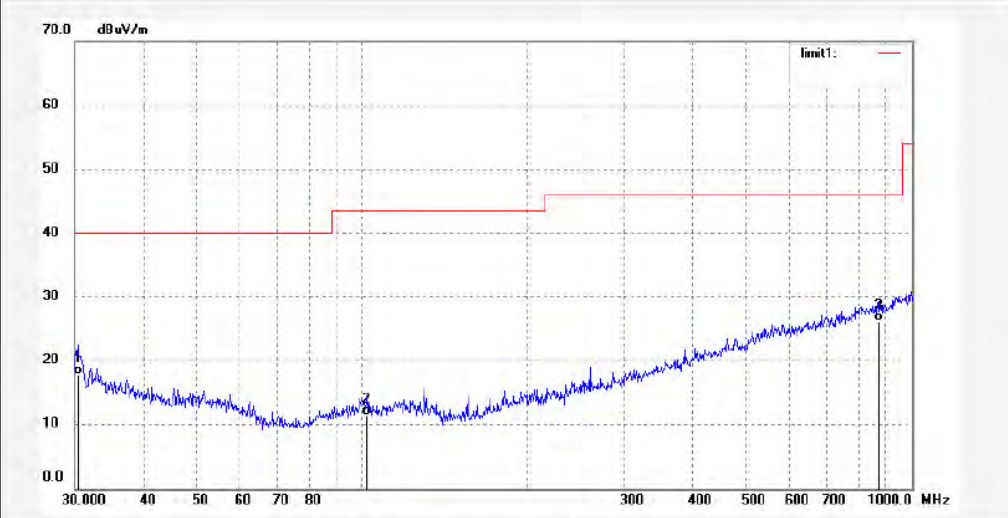


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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: LGWADE #2420	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2440MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.7454	27.74	-10.00	17.74	40.00	-22.26	QP			
2	102.0014	24.90	-13.45	11.45	43.50	-32.05	QP			
3	869.1301	25.21	1.03	26.24	46.00	-19.76	QP			

**Figure 36: Test figure of spurious emissions, mode B.2, Vertical polarity (30MHz – 1GHz)**

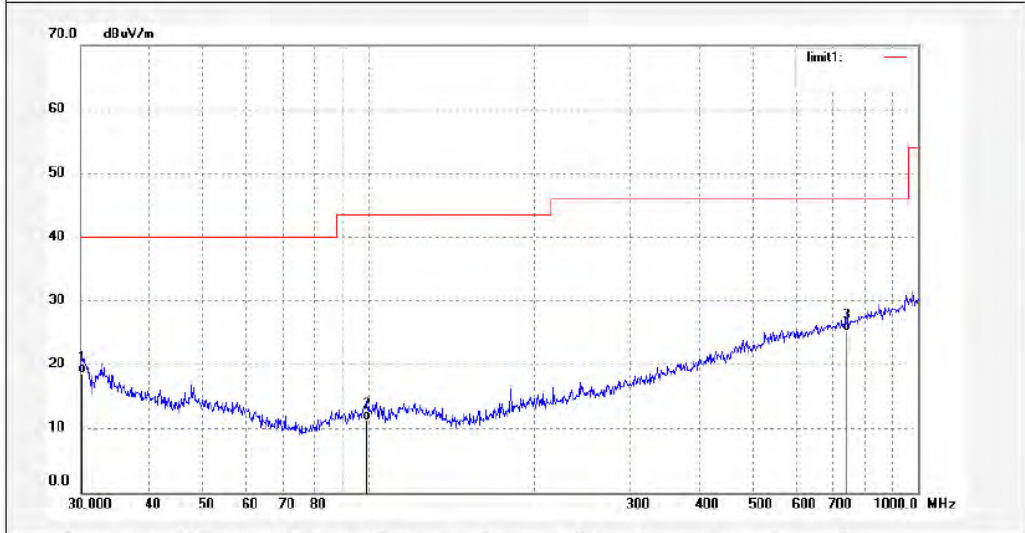


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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: LGWADE #2421	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2440MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.2110	27.55	-8.99	18.56	40.00	-21.44	QP			
2	99.5279	24.54	-13.28	11.26	43.50	-32.24	QP			
3	742.2586	26.39	-1.16	25.23	46.00	-20.77	QP			



**Figure 37: Test figure of spurious emissions, mode B.2, Horizontal polarity (1GHz – 18GHz)**

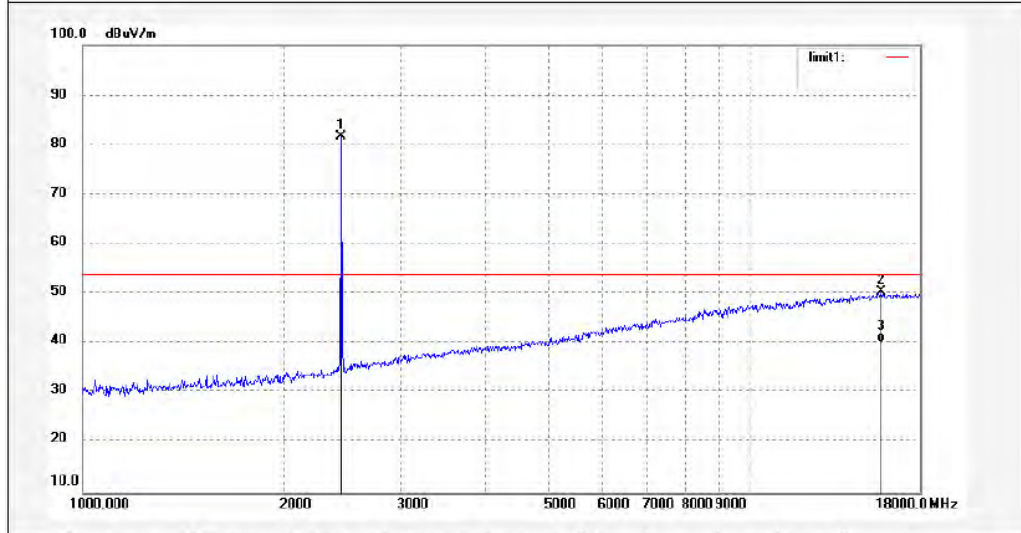


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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: LGWADE #2407	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2440MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth 4.0



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	88.94	-7.36	81.58	/	/	peak			
2	15759.048	10.25	40.05	50.30	74.00	-23.70	peak			
3	15759.048	0.30	40.05	40.35	54.00	-13.65	AVG			

**Figure 38: Test figure of spurious emissions, mode B.2, Vertical polarity (1GHz – 18GHz)**

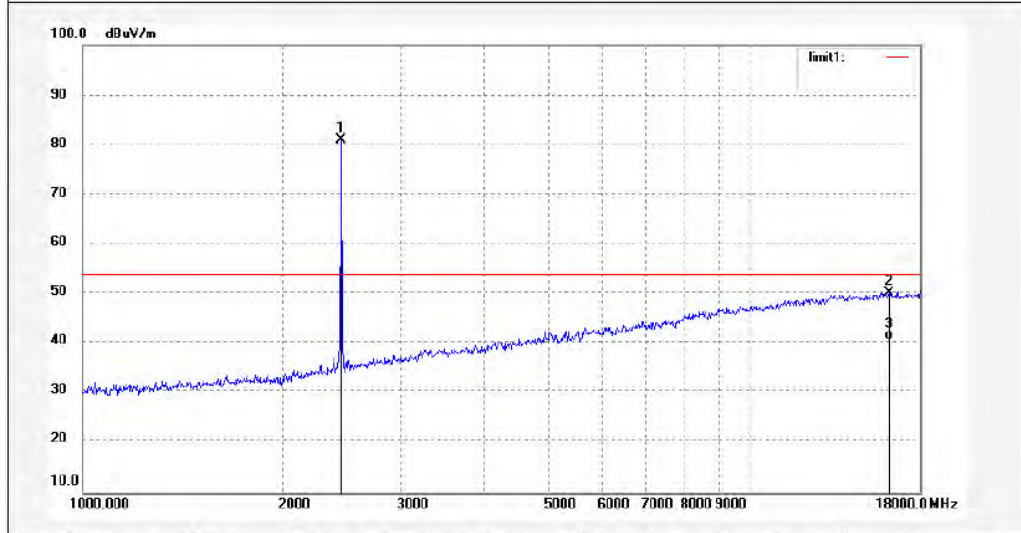


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Site: 2# Chamber  
Tel:+86-0755-26503290  
Fax:+86-0755-26503396

Job No.: LGWADE #2406	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2440MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth 4.0



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	88.29	-7.36	80.93	/	/	peak			
2	16174.372	10.13	40.10	50.23	74.00	-23.77	peak			
3	16174.372	0.55	40.10	40.65	54.00	-13.35	AVG			

**Figure 39: Test figure of spurious emissions, mode B.2, Horizontal polarity (18GHz – 25GHz)**

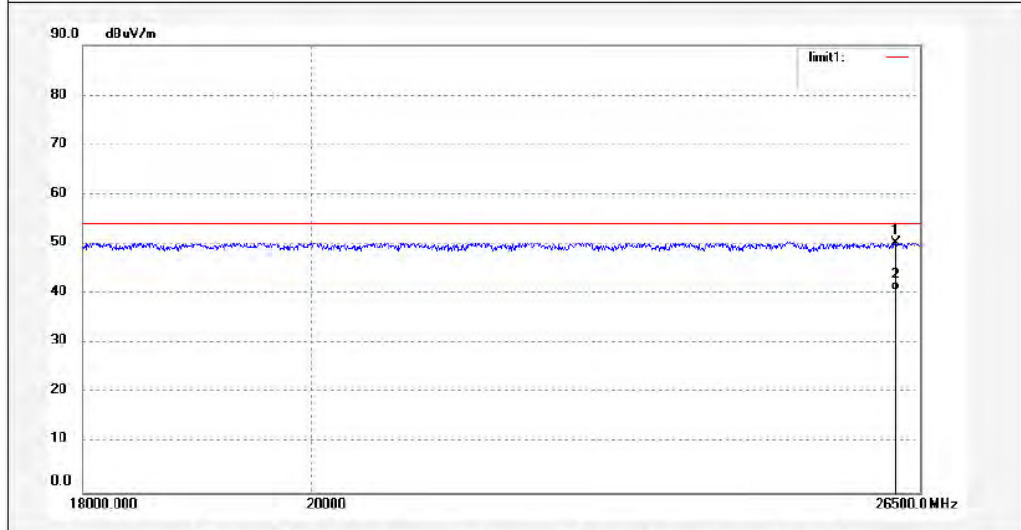


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 Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: LGWADE #2415	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2440MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26204.426	33.85	16.50	50.35	74.00	-23.65	peak			
2	26204.426	24.08	16.50	40.58	54.00	-13.42	AVG			

**Figure 40: Test figure of spurious emissions, mode B.2, Vertical polarity (18GHz – 25GHz)**

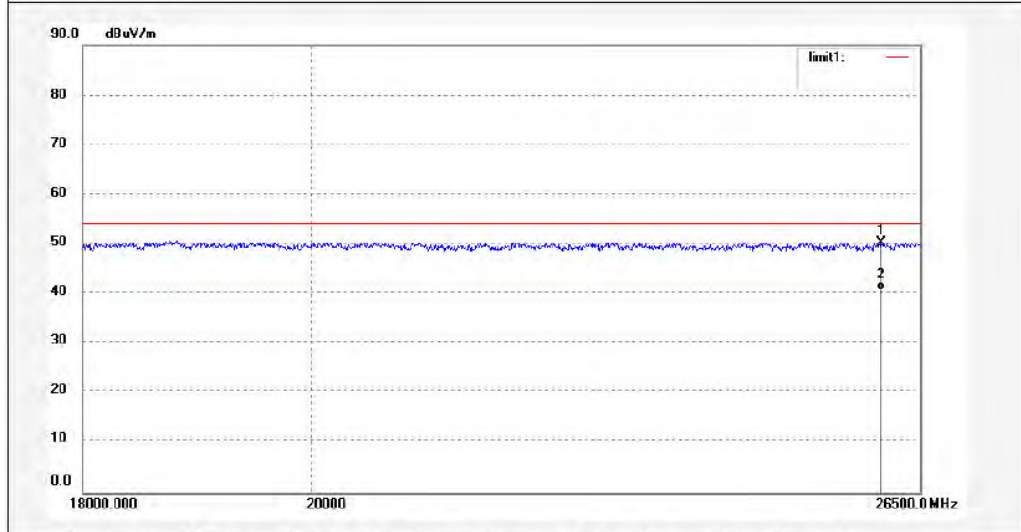


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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: LGWADE #2414	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2440MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26032.693	32.98	17.21	50.19	74.00	-23.81	peak			
2	26032.693	23.47	17.21	40.68	54.00	-13.32	AVG			

**Figure 41: Test figure of spurious emissions, mode B.3, Horizontal polarity (9kHz – 30MHz)**

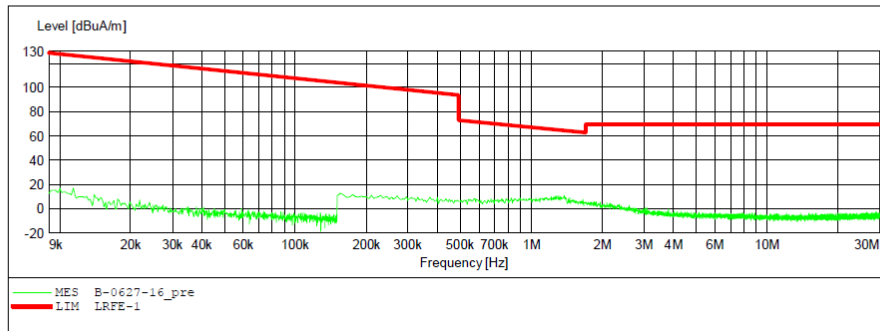
**ACCURATE TECHNOLOGY CO.,LTD**

**FCC Class B 3M Radiated**

EUT: Portable Bluetooth Speaker M/N:NS-CSPBTHOL16  
 Manufacturer:  
 Operating Condition: TX 2480MHz  
 Test Site: 2# Chamber  
 Operator: LGWADE  
 Test Specification: DC 3.7V  
 Comment: X  
 Start of Test: 2016-6-27 /

**SCAN TABLE: "LFRE Fin"**

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



**Figure 42: Test figure of spurious emissions, mode B.3, Vertical polarity (9kHz – 30MHz)**

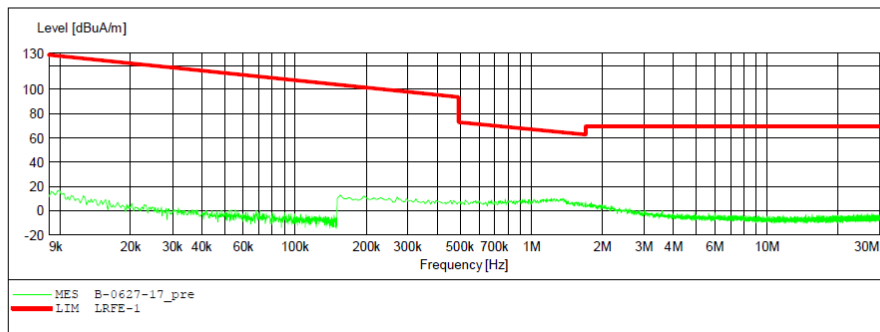
ACCURATE TECHNOLOGY CO.,LTD

FCC Class B 3M Radiated

EUT: Portable Bluetooth Speaker M/N:NS-CSPBTHOL16  
Manufacturer:  
Operating Condition: TX 2480MHz  
Test Site: 2# Chamber  
Operator: LGWADE  
Test Specification: DC 3.7V  
Comment: Y  
Start of Test: 2016-6-27 /

SCAN TABLE: "LFRE 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	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



**Figure 43: Test figure of spurious emissions, mode B.3, Horizontal polarity (30MHz – 1GHz)**

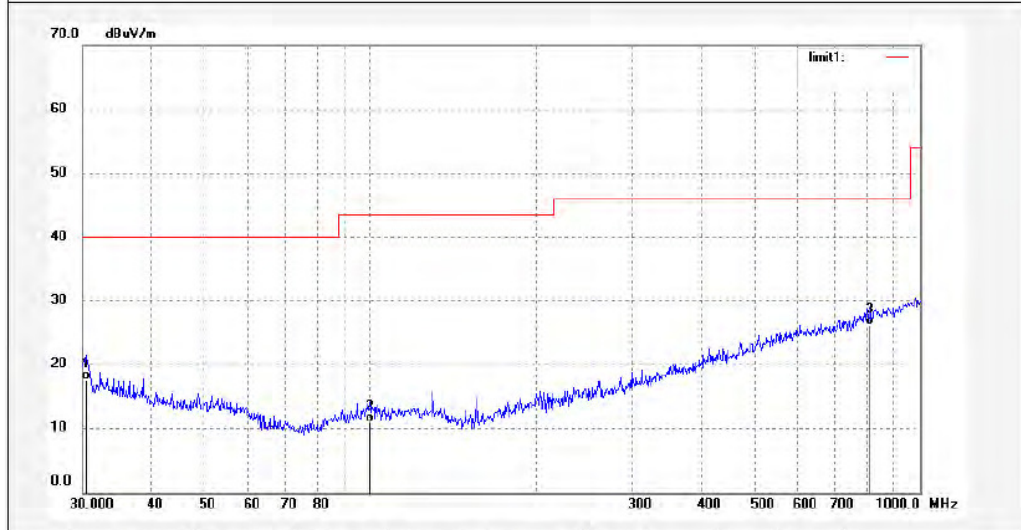


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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: LGWADE #2423	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.6378	27.54	-9.98	17.56	40.00	-22.44	QP			
2	99.8777	24.18	-13.16	11.02	43.50	-32.48	QP			
3	813.1115	25.89	0.23	26.12	46.00	-19.88	QP			

**Figure 44: Test figure of spurious emissions, mode B.3, Vertical polarity (30MHz – 1GHz)**

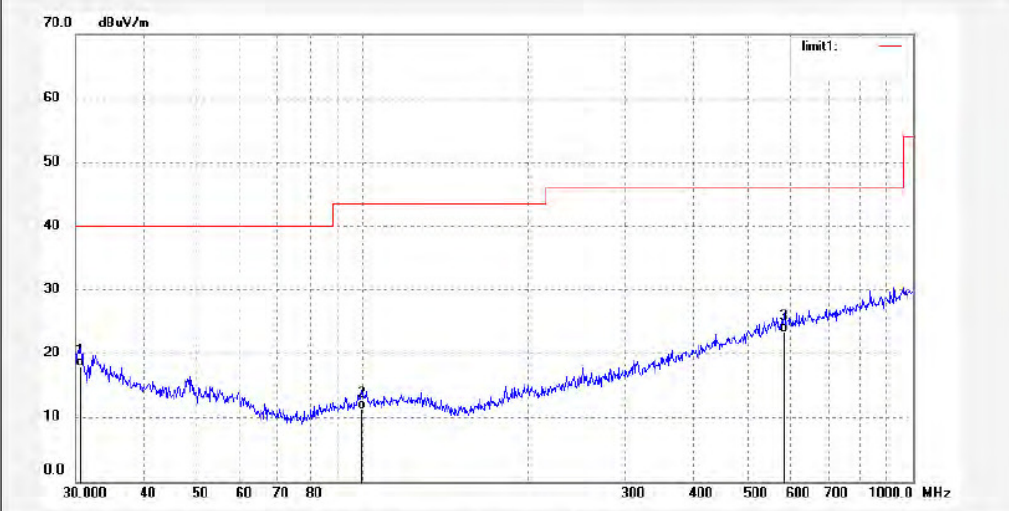


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Site: 2# Chamber  
Tel:+86-0755-26503290  
Fax:+86-0755-26503396

Job No.: LGWADE #2422	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

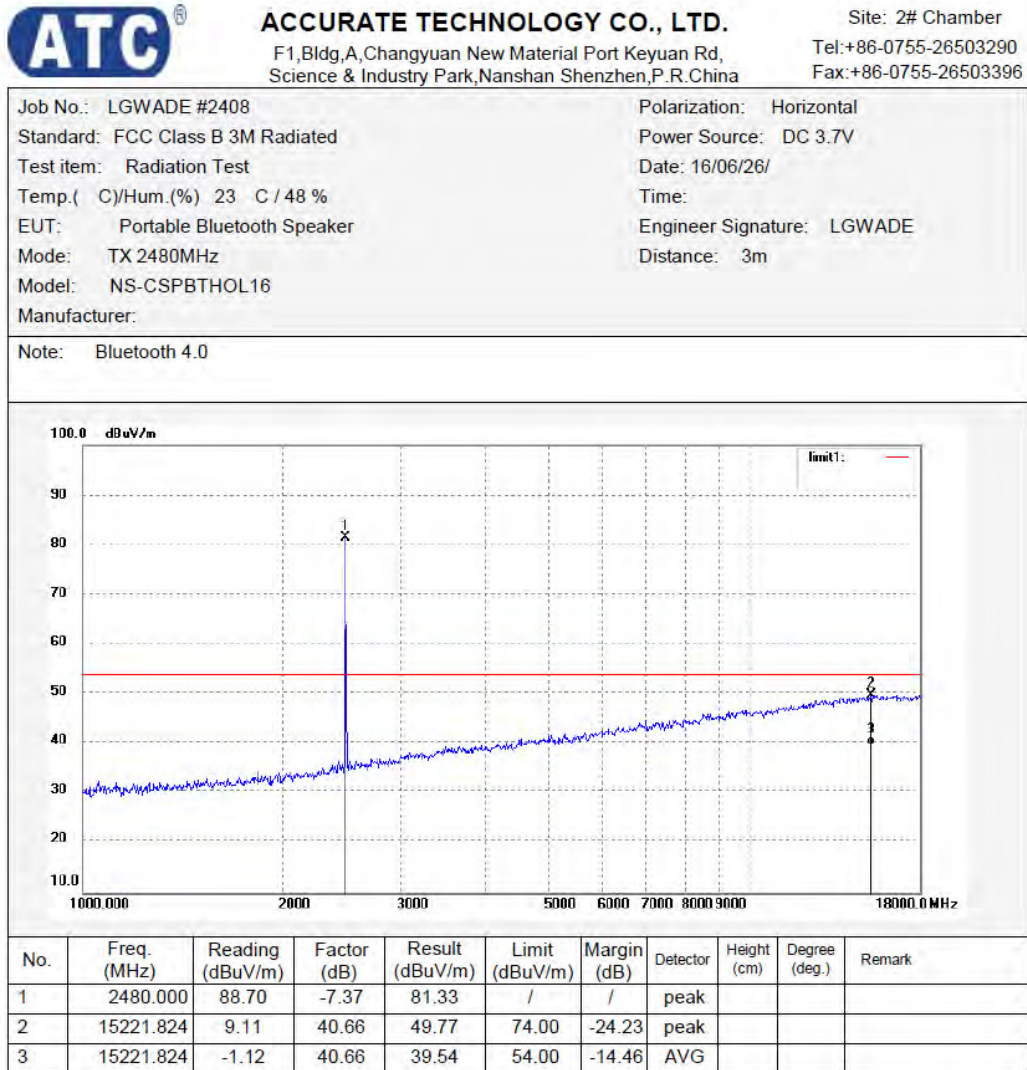
Note: Bluetooth 4.0



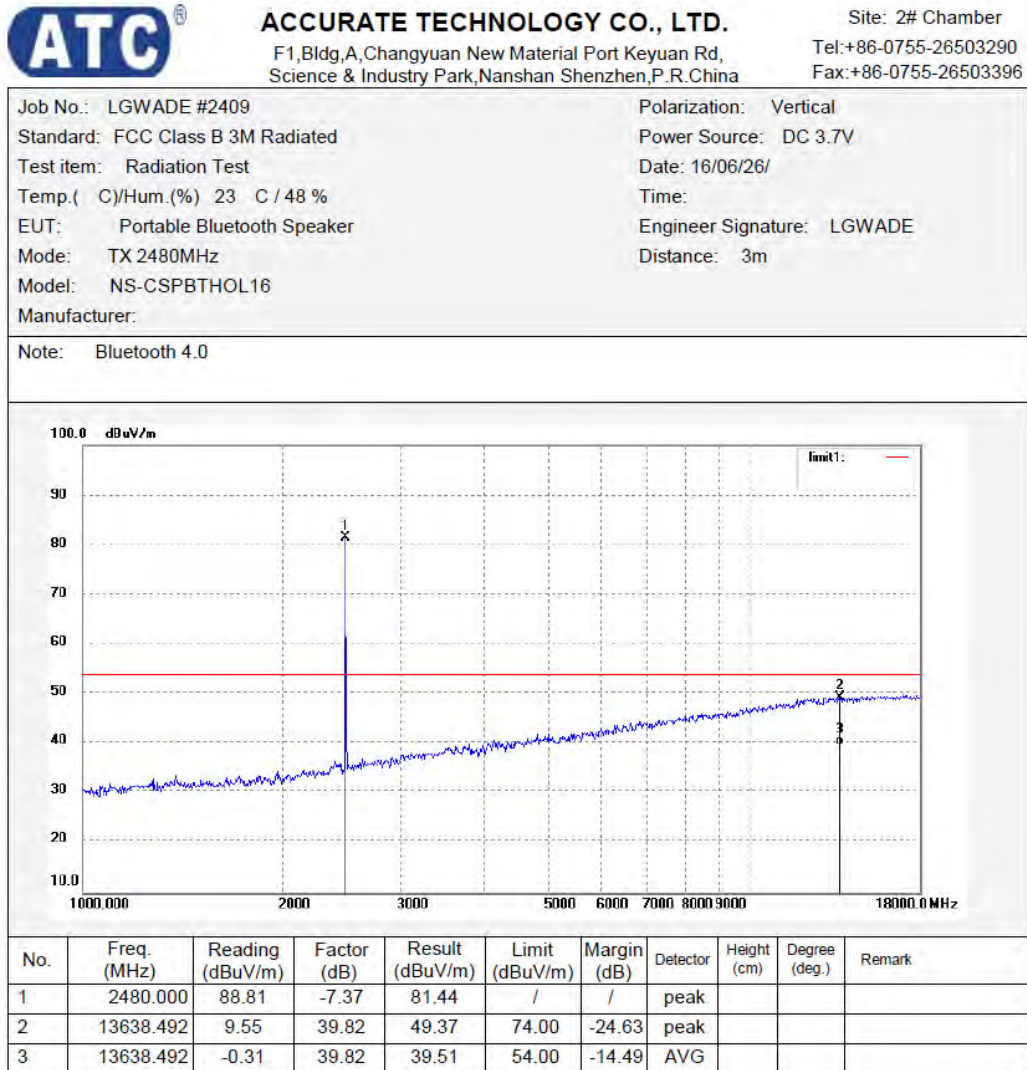
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.6378	27.09	-9.11	17.98	40.00	-22.02	QP			
2	99.5279	24.51	-13.28	11.23	43.50	-32.27	QP			
3	582.7424	26.45	-3.10	23.35	46.00	-22.65	QP			



**Figure 45: Test figure of spurious emissions, mode B.3, Horizontal polarity (1GHz –18GHz)**



**Figure 46: Test figure of spurious emissions, mode B.3, Vertical polarity (1GHz – 18GHz)**



**Figure 47: Test figure of spurious emissions, mode B.3, Horizontal polarity (18GHz –25GHz)**

Produkte  
 Products

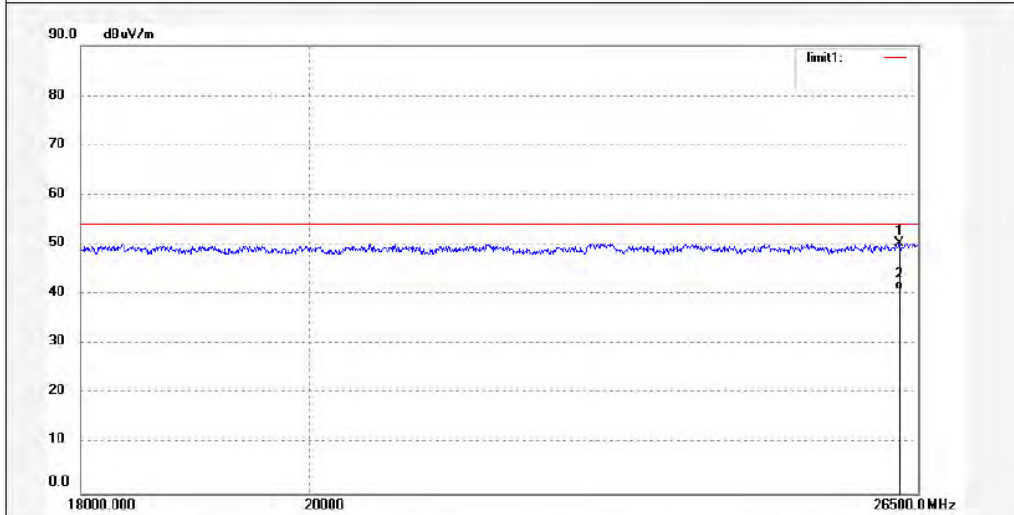


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Site: 2# Chamber  
 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: LGWADE #2416	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26275.468	33.74	16.50	50.24	74.00	-23.76	peak			
2	26275.468	24.35	16.50	40.85	54.00	-13.15	AVG			

**Figure 48: Test figure of spurious emissions, mode B.3, Vertical polarity (18GHz – 25GHz)**

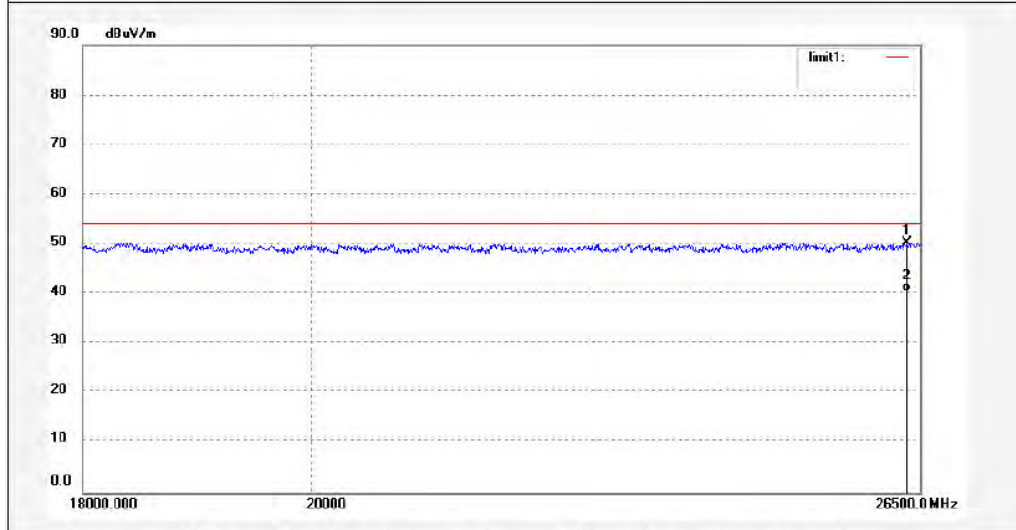


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Job No.: LGWADE #2417	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26346.703	33.25	17.00	50.25	74.00	-23.75	peak			
2	26346.703	23.35	17.00	40.35	54.00	-13.65	AVG			

**Figure 49: Test figure of Radiated emissions in restricted bands, Mode A.1, Horizontal**

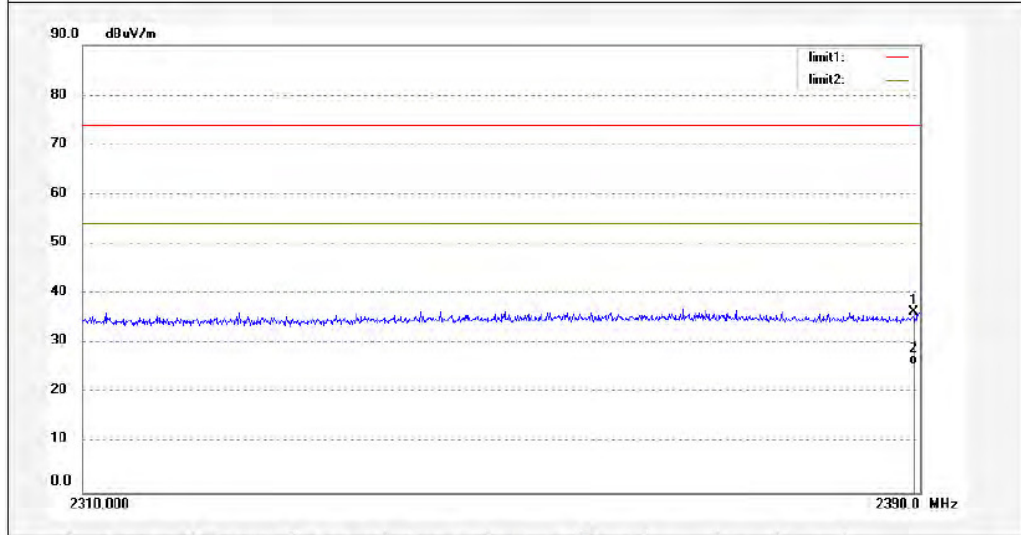


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Job No.: LGWADE #2388	Polarization: Horizontal
Standard: FCC (Band Edge)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2389.440	43.90	-7.53	36.37	74.00	-37.63	peak			
2	2389.440	33.22	-7.53	25.69	54.00	-28.31	AVG			

**Figure 50: Test figure of Radiated emissions in restricted bands, Mode A.1, Vertical**



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Job No.: LGWADE #2389	Polarization: Vertical
Standard: FCC (Band Edge)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



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	47.97	-7.53	40.44	74.00	-33.56	peak			
2	2389.840	36.88	-7.53	29.35	54.00	-24.65	AVG			

**Figure 51: Test figure of Radiated emissions in restricted bands, Mode A.3, Horizontal**

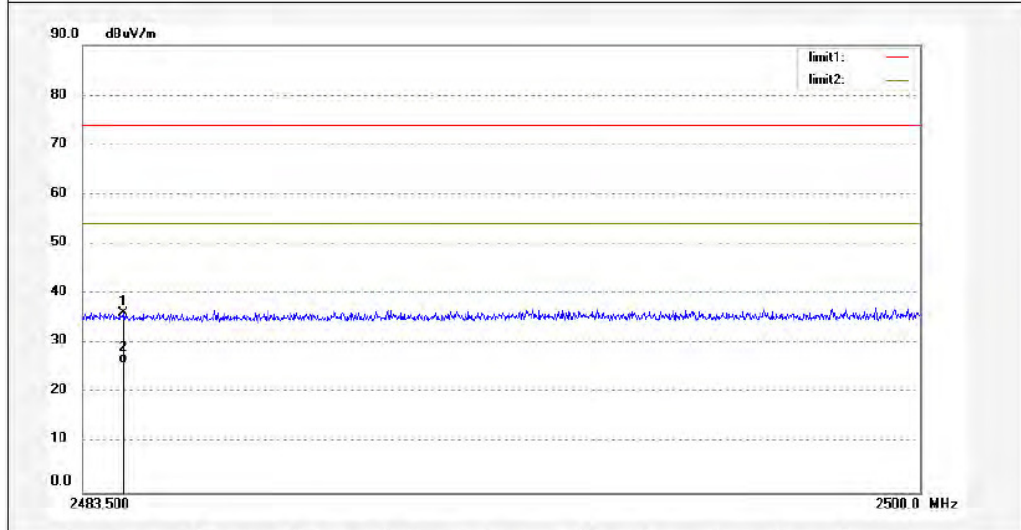


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Job No.: LGWADE #2395	Polarization: Horizontal
Standard: FCC (Band Edge)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2484.309	43.56	-7.38	36.18	74.00	-37.82	peak			
2	2484.309	33.27	-7.38	25.89	54.00	-28.11	AVG			

**Figure 52: Test figure of Radiated emissions in restricted bands, Mode A.3, Vertical**

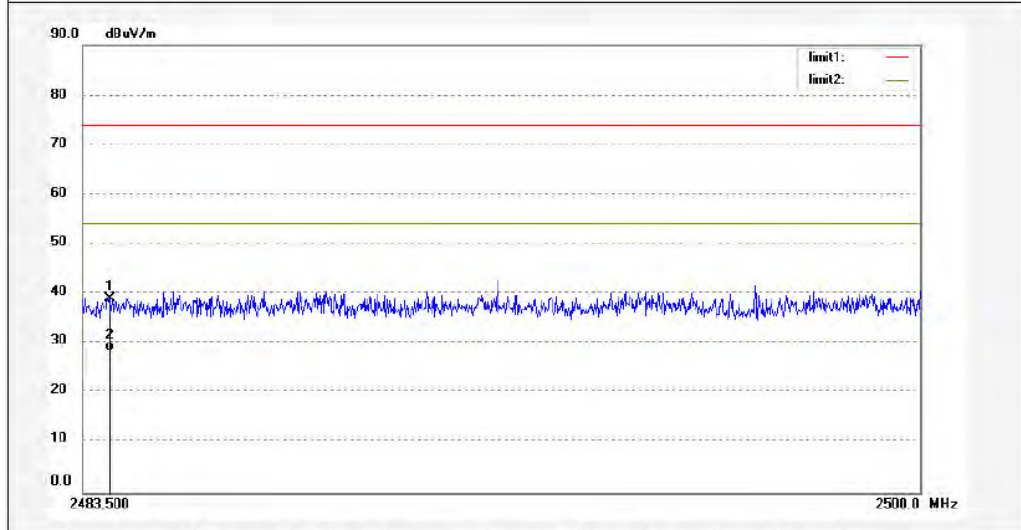


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Job No.: LGWADE #2394	Polarization: Vertical
Standard: FCC (Band Edge)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2484.028	46.53	-7.38	39.15	74.00	-34.85	peak			
2	2484.028	35.73	-7.38	28.35	54.00	-25.65	AVG			



**Figure 53: Test figure of Radiated emissions in restricted bands, Mode B.1, Horizontal**

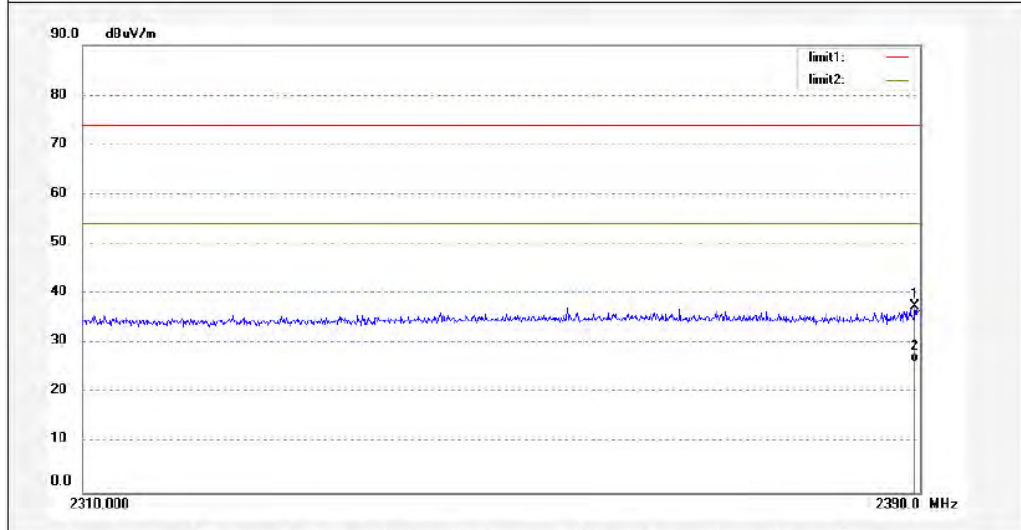


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Job No.: LGWADE #2404	Polarization: Horizontal
Standard: FCC (Band Edge)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2389.520	45.05	-7.53	37.52	74.00	-36.48	peak			
2	2389.520	33.80	-7.53	26.27	54.00	-27.73	AVG			

**Figure 54: Test figure of Radiated emissions in restricted bands, Mode B.1, Vertical**

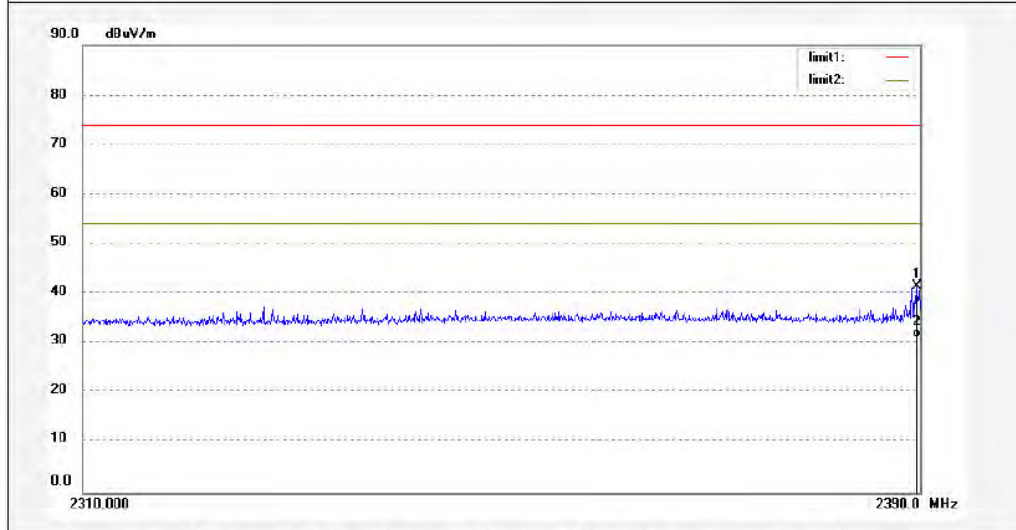


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Job No.: LGWADE #2405	Polarization: Vertical
Standard: FCC (Band Edge)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2402MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2389.680	49.14	-7.53	41.61	74.00	-32.39	peak			
2	2389.680	38.78	-7.53	31.25	54.00	-22.75	AVG			

**Figure 55: Test figure of Radiated emissions in restricted bands, Mode B.3, Horizontal**

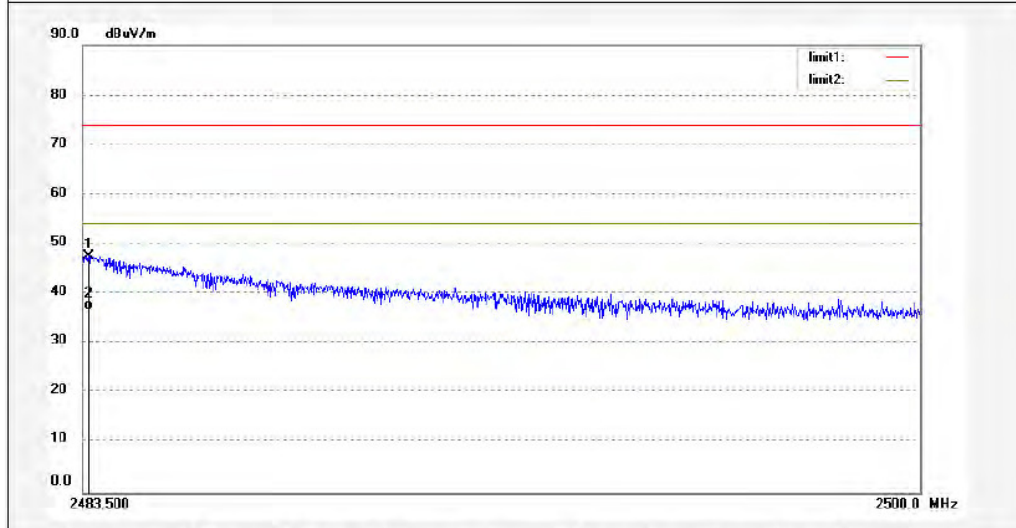


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Job No.: LGWADE #2411	Polarization: Horizontal
Standard: FCC (Band Edge)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth 4.0



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.615	55.00	-7.37	47.63	74.00	-26.37	peak			
2	2483.615	44.21	-7.37	36.84	54.00	-17.16	AVG			

**Figure 56: Test figure of Radiated emissions in restricted bands, Mode B.3, Vertical**

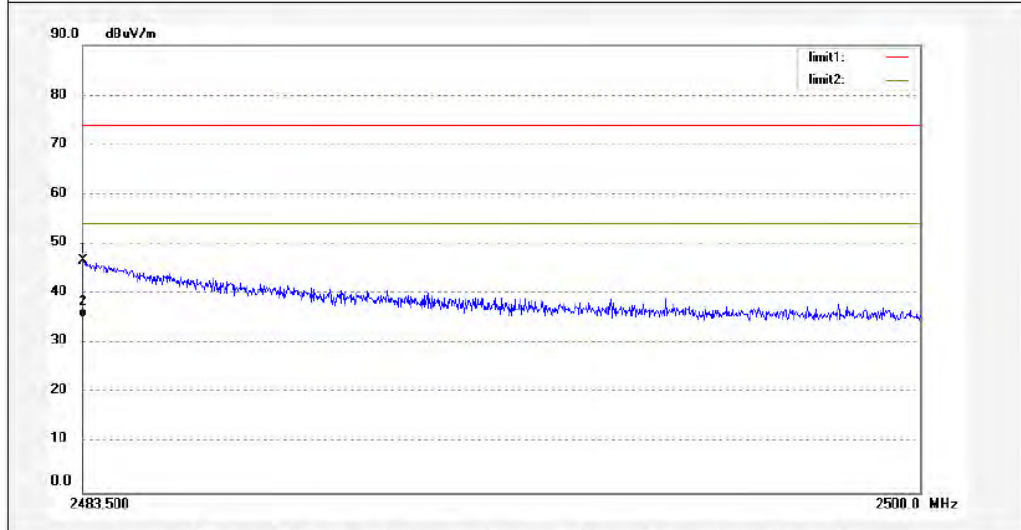


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Job No.: LGWADE #2410	Polarization: Vertical
Standard: FCC (Band Edge)	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: TX 2480MHz	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note: Bluetooth 4.0



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	54.07	-7.37	46.70	74.00	-27.30	peak			
2	2483.500	42.60	-7.37	35.23	54.00	-18.77	AVG			

**Figure 57: Test figure of Conducted emissions, Mode C, line live**

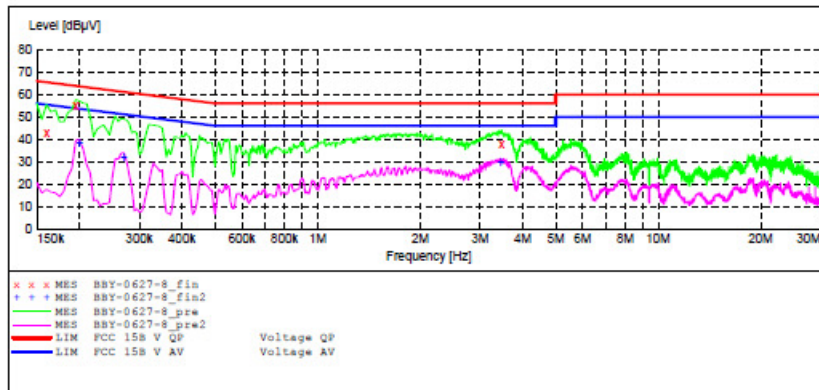
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Portable Bluetooth Speaker M/N:NS-CSPBTHOL16  
 Manufacturer:  
 Operating Condition: TX  
 Test Site: 1#Shielding Room  
 Operator: LGNADE  
 Test Specification: L 120V/60Hz  
 Comment: Mains Port  
 Start of Test: 6/27/2016 /

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: "BBY-0627-8\_fin"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.160000	42.90	10.5	66	22.6	QP	L1	GND
0.195000	55.00	10.5	64	8.8	QP	L1	GND
3.470000	38.10	11.1	56	17.9	QP	L1	GND

MEASUREMENT RESULT: "BBY-0627-8\_fin2"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.200000	38.60	10.5	54	15.0	AV	L1	GND
0.270000	32.30	10.6	51	18.8	AV	L1	GND
3.440000	29.90	11.1	46	16.1	AV	L1	GND

**Figure 58: Test figure of Conducted emissions, Mode C, line neutral**

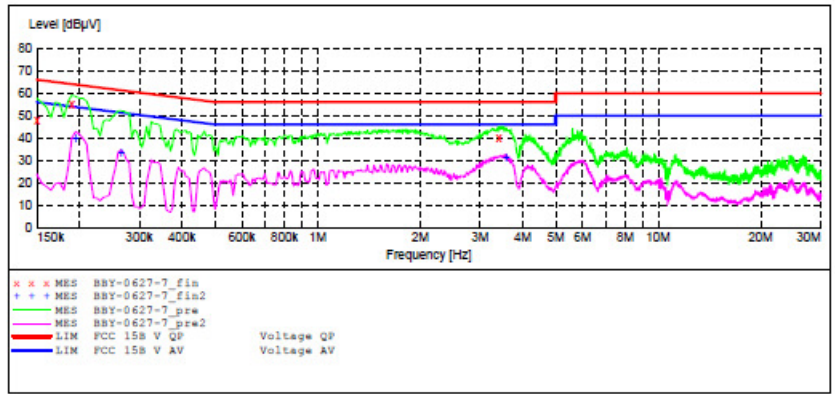
**ACCURATE TECHNOLOGY CO., LTD**

**CONDUCTED EMISSION STANDARD FCC PART 15 B**

EUT: Portable Bluetooth Speaker M/N:NS-CSPBTH016  
 Manufacturer:  
 Operating Condition: TX  
 Test Site: 1#Shielding Room  
 Operator: LGNADE  
 Test Specification: N 120V/60Hz  
 Comment: Mains Port  
 Start of Test: 6/27/2016 /

**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	9.0 kHz	Average			
			QuasiPeak	1.0 s	9 kHz	NSLK8126 2008
			Average			



**MEASUREMENT RESULT: "BBY-0627-7\_fin"**

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	47.60	10.5	66	18.4	QP	N	GND
0.190000	54.90	10.5	64	9.1	QP	N	GND
3.410000	39.70	11.1	56	16.3	QP	N	GND

**MEASUREMENT RESULT: "BBY-0627-7\_fin2"**

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.195000	39.90	10.5	54	13.9	AV	N	GND
0.265000	33.10	10.6	51	18.2	AV	N	GND
3.570000	31.00	11.1	46	15.0	AV	N	GND

**Figure 59: Test figure of Conducted emissions, Mode D, line live**

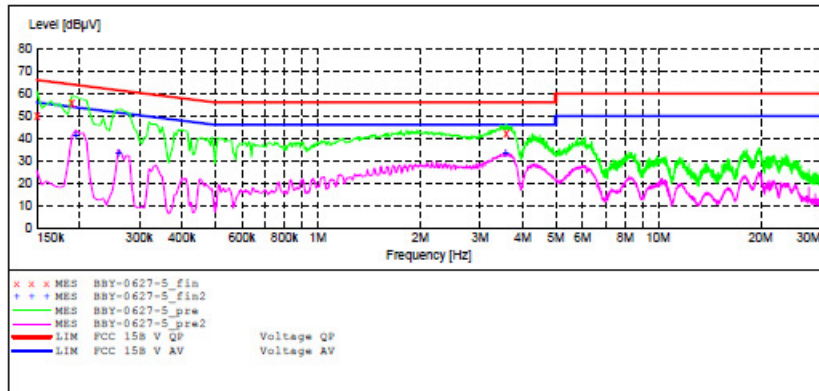
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Portable Bluetooth Speaker M/N:NS-CSPBTHOL16  
 Manufacturer:  
 Operating Condition: Charging  
 Test Site: 1#Shielding Room  
 Operator: LGNADE  
 Test Specification: L 120V/60Hz  
 Comment: Mains Port  
 Start of Test: 6/27/2016 /

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	QuasiPeak	1.0 s	9 kHz	NSLK8126 2008
			Average			



**MEASUREMENT RESULT: "BBY-0627-5\_fin"**

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	49.70	10.5	66	16.3	QP	L1	GND
0.190000	55.50	10.5	64	8.5	QP	L1	GND
3.580000	42.10	11.1	56	13.9	QP	L1	GND

**MEASUREMENT RESULT: "BBY-0627-5\_fin2"**

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.195000	41.70	10.5	54	12.1	AV	L1	GND
0.260000	33.10	10.6	51	18.3	AV	L1	GND
3.560000	33.40	11.1	46	12.6	AV	L1	GND

**Figure 60: Test figure of Conducted emissions, Mode D, line neutral**

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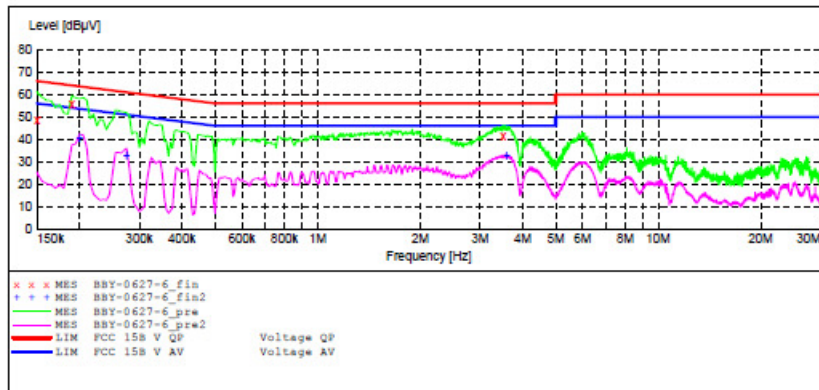
CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Portable Bluetooth Speaker M/N:NS-CSPBTHOL16  
 Manufacturer:  
 Operating Condition: Charging  
 Test Site: 1#Shielding Room  
 Operator: LGNADE  
 Test Specification: N 120V/60Hz  
 Comment: Mains Port  
 Start of Test: 6/27/2016 /

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

Short Description: \_SUB STD\_VTERM2 1.70  

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: "BBY-0627-6\_fin"

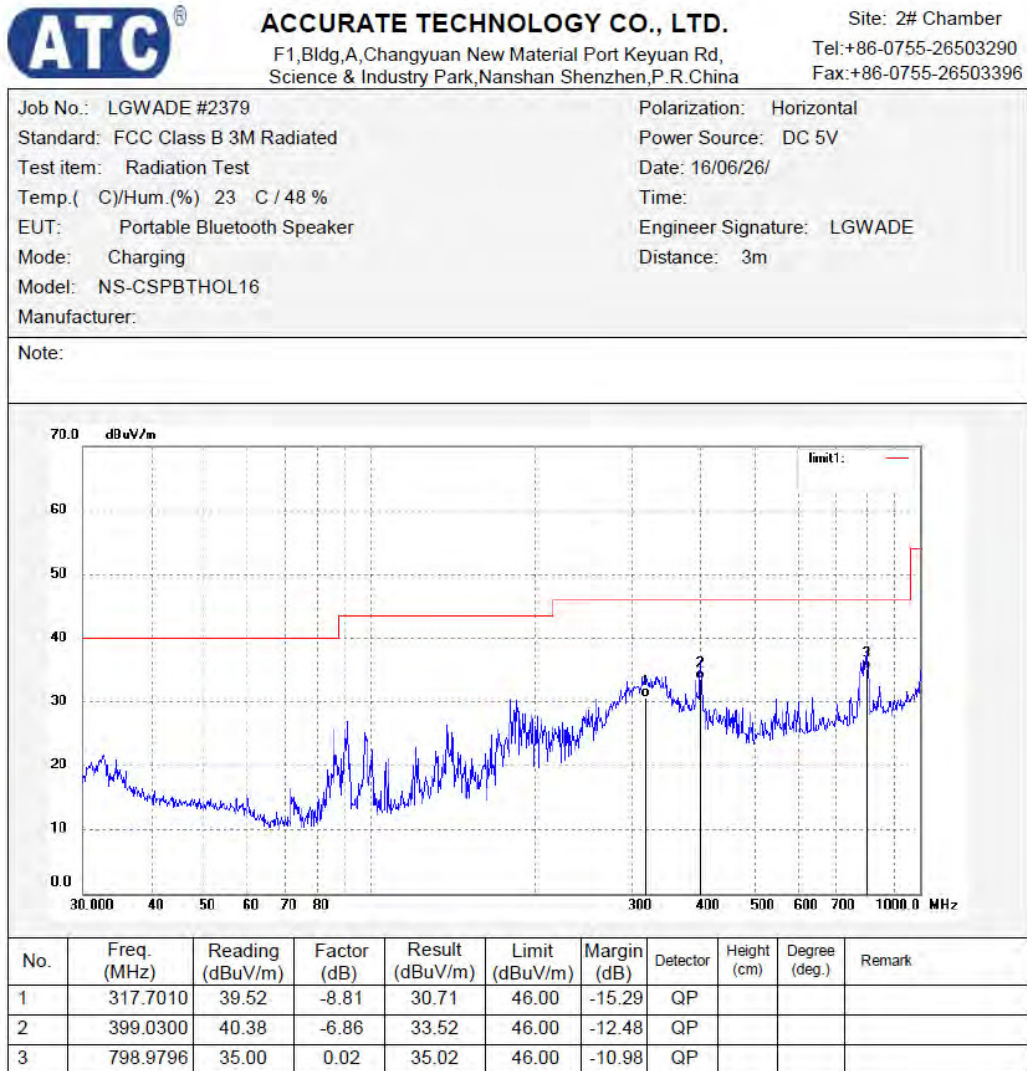
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	48.60	10.5	66	17.4	QP	N	GND
0.190000	55.40	10.5	64	8.6	QP	N	GND
3.500000	41.40	11.1	56	14.6	QP	N	GND

MEASUREMENT RESULT: "BBY-0627-6\_fin2"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.200000	41.00	10.5	54	12.6	AV	N	GND
0.275000	32.80	10.6	51	18.2	AV	N	GND
3.580000	32.70	11.1	46	13.3	AV	N	GND



Figure 61: Test figure of Radiated emissions, Mode D, Below 1GHz, Horizontal



**Figure 62: Test figure of Radiated emissions, Mode D, Below 1GHz, Vertical**

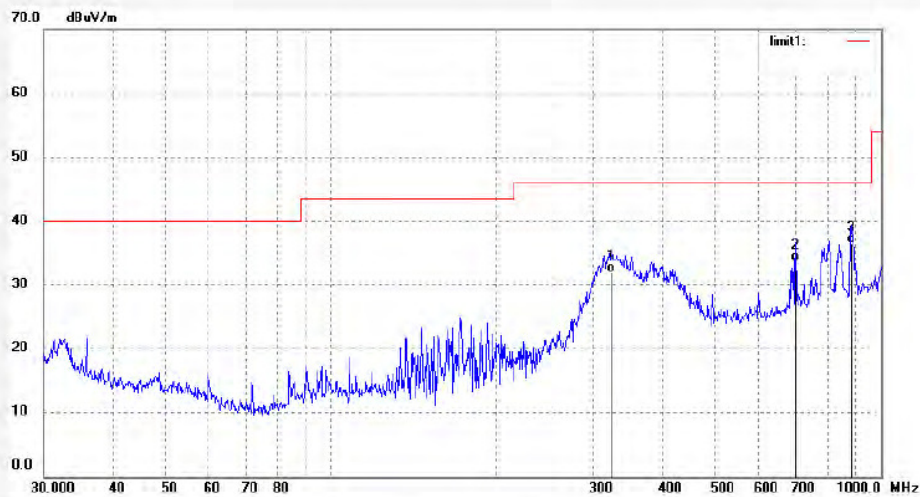


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Job No.: LGWADE #2378	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: Charging	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	323.3204	40.52	-8.61	31.91	46.00	-14.09	QP			
2	699.3046	35.43	-1.77	33.66	46.00	-12.34	QP			
3	881.4067	35.30	1.16	36.46	46.00	-9.54	QP			

**Figure 63: Test figure of Radiated emissions, Mode D, Above 1GHz, Horizontal**

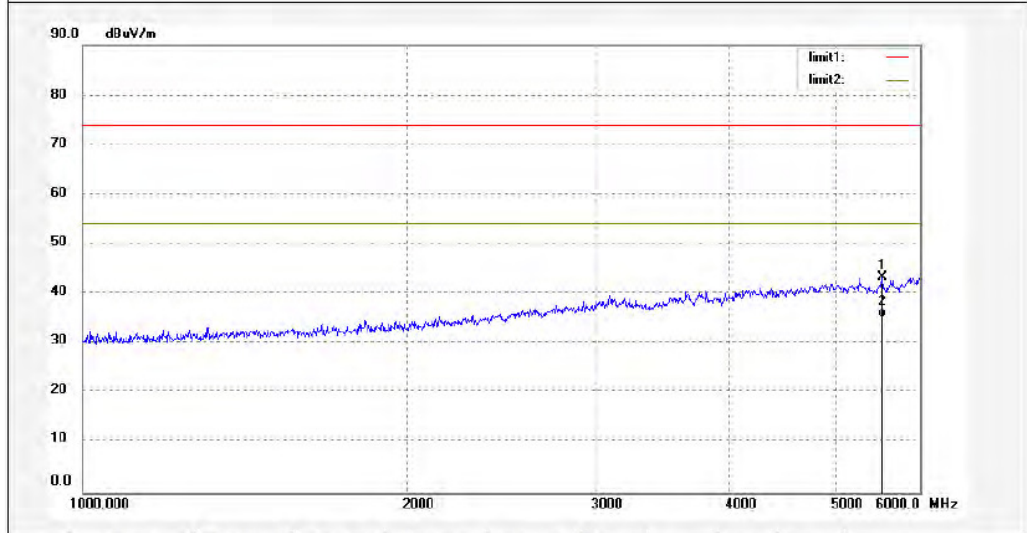


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Site: 2# Chamber  
 Tel:+86-0755-26503290  
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Job No.: LGWADE #2384	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: Charging	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5535.214	41.97	1.30	43.27	74.00	-30.73	peak			
2	5535.214	33.93	1.30	35.23	54.00	-18.77	AVG			

**Figure 64: Test figure of Radiated emissions, Mode D, Above 1GHz, Vertical**

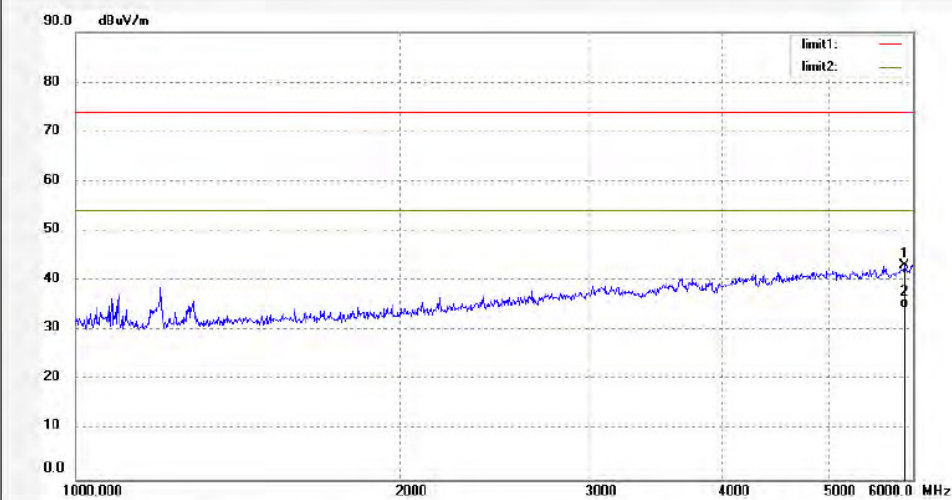


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Site: 2# Chamber  
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Job No.: LGWADE #2385	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: Charging	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5893.452	41.05	1.94	42.99	74.00	-31.01	peak			
2	5893.452	32.60	1.94	34.54	54.00	-19.46	AVG			

**Figure 65: Test figure of Radiated emissions, Mode E, Below 1GHz, Horizontal**

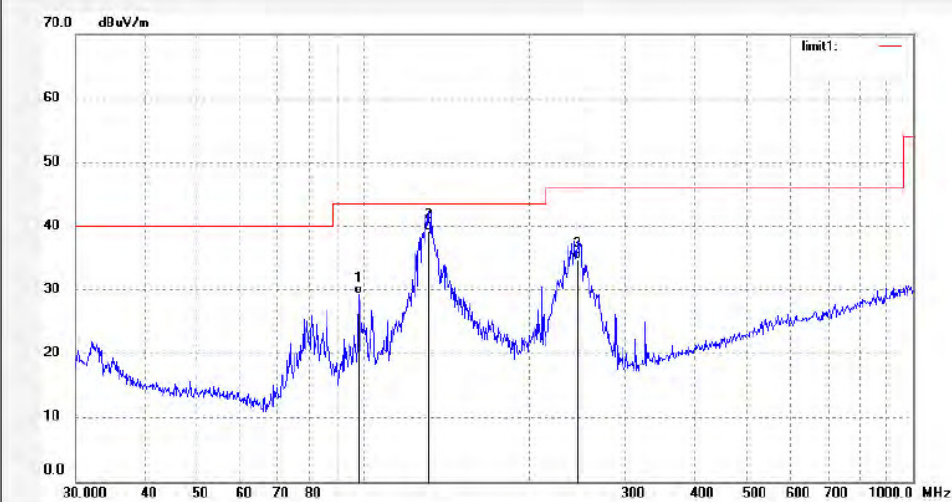


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Job No.: LGWADE #2380	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: Aux in	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	98.1419	43.13	-13.75	29.38	43.50	-14.12	QP			
2	131.7575	53.16	-13.94	39.22	43.50	-4.28	QP			
3	245.0900	45.48	-10.80	34.68	46.00	-11.32	QP			

**Figure 66: Test figure of Radiated emissions, Mode E, Below 1GHz, Vertical**

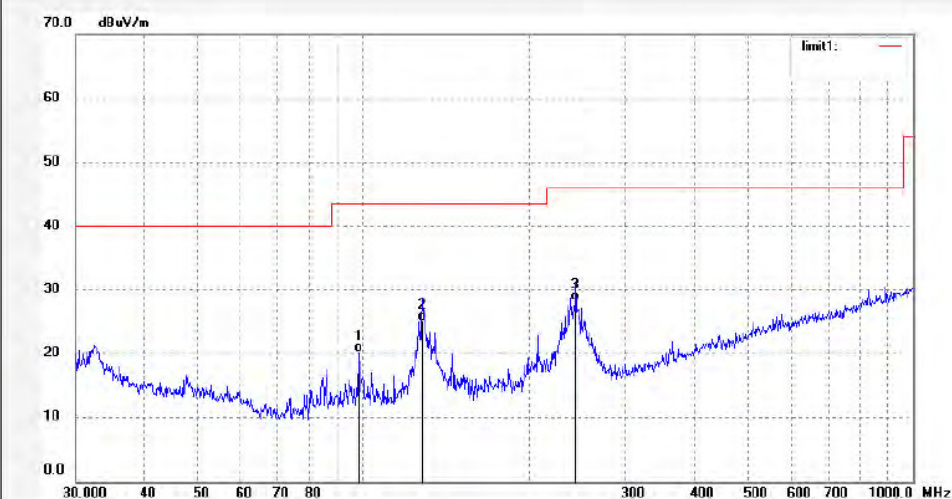


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Job No.: LGWADE #2381	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: Aux in	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	98.1419	33.91	-13.75	20.16	43.50	-23.34	QP			
2	128.1129	39.00	-13.81	25.19	43.50	-18.31	QP			
3	243.3771	39.02	-10.82	28.20	46.00	-17.80	QP			

**Figure 67: Test figure of Radiated emissions, Mode E, Above 1GHz, Horizontal**

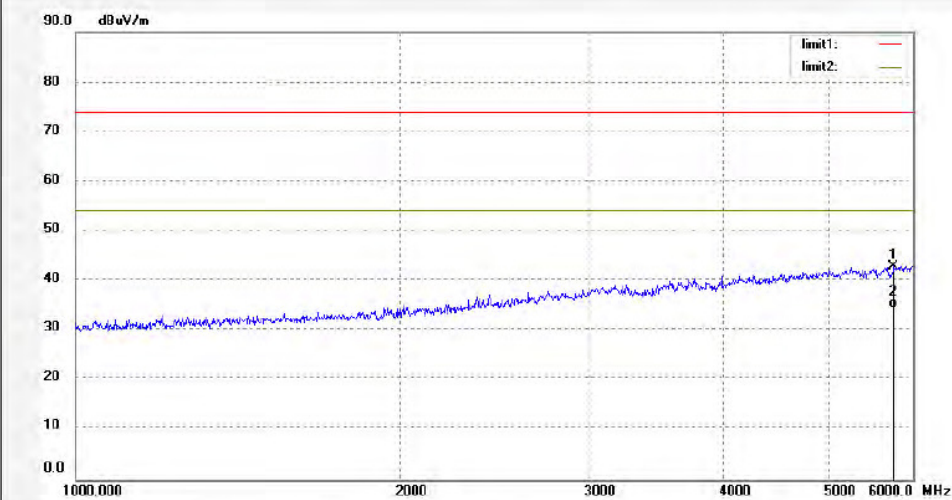


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Job No.: LGWADE #2383	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: Aux in	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5757.763	41.25	1.61	42.86	74.00	-31.14	peak			
2	5757.763	32.91	1.61	34.52	54.00	-19.48	AVG			

**Figure 68: Test figure of Radiated emissions, Mode E, Above 1GHz, Vertical**

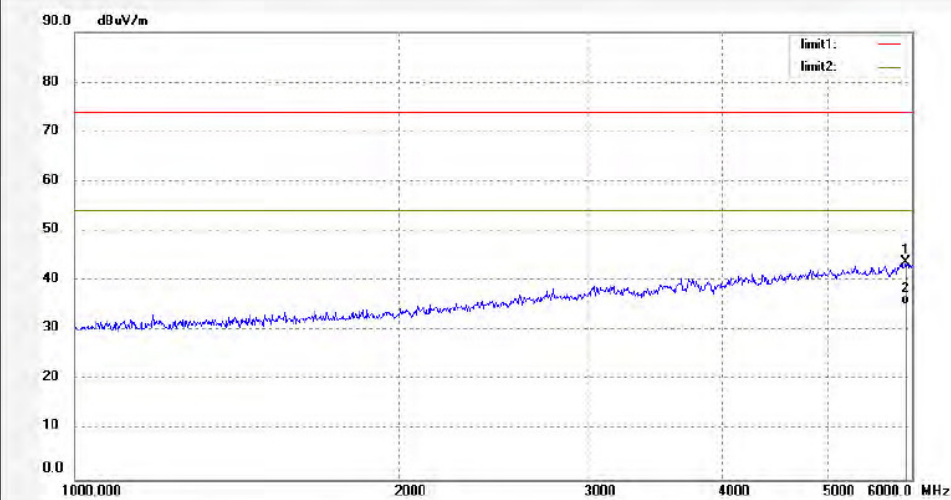


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Job No.: LGWADE #2382	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 16/06/26/
Temp.( C)/Hum.(%) 23 C / 48 %	Time:
EUT: Portable Bluetooth Speaker	Engineer Signature: LGWADE
Mode: Aux in	Distance: 3m
Model: NS-CSPBTHOL16	
Manufacturer:	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5914.609	41.80	1.99	43.79	74.00	-30.21	peak			
2	5914.609	33.24	1.99	35.23	54.00	-18.77	AVG			