

<b>Prüfbericht-Nr.:</b> <i>Test Report No.:</i>	<b>16066048 001</b>	<b>Auftrags-Nr.:</b> <i>Order No.:</i>	174031589	<b>Seite 1 von 31</b> <i>Page 1 of 31</i>	
<b>Kunden-Referenz-Nr.:</b> <i>Client Reference No.:</i>	441404	<b>Auftragsdatum:</b> <i>Order date.:</i>	03 Feb, 2015		
<b>Auftraggeber:</b> <i>Client:</i>	Bang & Olufsen a/s Peter Bangs Vej 15 7600 Struer Denmark				
<b>Prüfgegenstand:</b> <i>Test item:</i>	Bluetooth Speaker	<b>FCC ID:</b> <i>FCC ID:</i>	TTUBEOPPLAYS3		
<b>Bezeichnung / Typ-Nr.:</b> <i>Identification / Type No.:</i>	BeoPlay S3				
<b>Auftrags-Inhalt:</b> <i>Order content:</i>	TUV Rheinland - EMC service				
<b>Prüfgrundlage:</b> <i>Test specification:</i>	FCC Part 15: 2013-10 Subpart C section 15.207, 15.209 and 15.247 ANSI C63.4: 2003				
<b>Wareneingangsdatum:</b> <i>Date of receipt:</i>	16 Apr, 2015	<b>Vertrauliche Informationen</b>  <b>Confidential Information</b>			
<b>Prüfmuster-Nr.:</b> <i>Test sample No.:</i>	Engineering samples				
<b>Prüfzeitraum:</b> <i>Testing period:</i>	Refer to test report				
<b>Ort der Prüfung:</b> <i>Place of testing:</i>	Refer to section 2.1				
<b>Prüflaboratorium:</b> <i>Testing laboratory:</i>	TÜV Rheinland (Guangdong) Ltd.				
<b>Prüfergebnis*:</b> <i>Test result*:</i>	Pass				
<b>geprüft von / tested by:</b>	<b>kontrolliert von / reviewed by:</b>				
18 May, 2015	<i>Amy Wang</i> Amy Wang / Project Engineer	22, May 2015	<i>Max Y. C. Yao</i> Max Y. C. Yao / Department Manager		
<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>					
<b>Zustand des Prüfgegenstandes bei Anlieferung:</b> <i>Condition of the test item at delivery:</i>			<b>Prüfmuster vollständig und unbeschädigt</b> <i>Test item complete and undamaged:</i>		
* Legende: 1 = sehr gut      2 = gut      3 = befriedigend      4 = ausreichend      5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n)      F(ail) = entspricht nicht o.g. Prüfgrundlage(n)      N/A = nicht anwendbar      N/T = nicht getestet			Legend: 1 = very good      2 = good      3 = satisfactory      4 = sufficient      5 = poor P(ass) = passed a.m. test specifications(s)      F(all) = failed a.m. test specifications(s)      N/A = not applicable      N/T = not tested		
<b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines</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>					

## **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 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHz BANDWIDTH**

*RESULT: Passed*

**5.1.6 SPURIOUS EMISSION**

*RESULT: Passed*

**5.1.7 20dB BANDWIDTH**

*RESULT: Passed*

**5.1.8 FREQUENCY SEPARATION**

*RESULT: Passed*

**5.1.9 NUMBER OF HOPPING FREQUENCY**

*RESULT: Passed*

**5.1.10 TIME OF OCCUPANCY**

*RESULT: Passed*

**5.1.11 CONDUCTED EMISSIONS**

*RESULT: Passed*

**6.1.1 ELECTROMAGNETIC FIELDS**

*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**

**1) EST Technology Co., Ltd.**

Santun(guantai Road), Houjie Town, DongGuan City, GuangDong, China.

Test item: others

FCC Registration No. 989591

**2) Compliance Certification Services (Shenzhen) Inc.**

No. 10-1 Mingkeda Logistics Park, No.18 Huanguan South RD. Guan lan Town, Baoan Distr, Shenzhen, China

Test item: Spurious Emission (9KHz – 30MHz)

FCC Registration No. 441872

The tests at these test sites have been conducted under the supervision of a TÜV Rheinland engineer.

## 2.2 List of Test and Measurement Instruments

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

**EST Technology Co., Ltd.**

<b>Conducted Emission</b>				
<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Cal Until</b>
EMI Test Receiver	R&S	ESHS30	832354	29 May, 2015
Artificial Mains Network	R&S	ENV216	101260	29 May, 2015
Pulse Limiter	R&S	ESH3-Z2	101100	29 May, 2015
<b>Radiated Emission (30MHz – 1000MHz)</b>				
<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Cal Until</b>
EMI Test Receiver	R&S	ESVS10	100004	29 May, 2015
Spectrum Analyzer	Agilent	E4411B	MY50140697	29 May, 2015
Bilog Antenna	Teseq	CBL 6111D	25872	29 May, 2015
Signal Amplifier	Agilent	310N	187037	29 May, 2015
<b>Radiated Emission (Above 1GHz)</b>				
<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Cal Until</b>
Horn Antenna	Schwarzbeck	BBHA 9120 D	BBHA9120D1002	27 June, 2015
Signal Amplifier	Schwarzbeck	BBV9718	9718-212	27 June, 2015
Spectrum Analyzer	Agilent	E4408B	MY44211139	27 June, 2015
<b>Radio Test Suite</b>				
<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Cal Until</b>
Spectrum Analyzer	Agilent	E4408B	MY44211139	27 June, 2015
Signal and Spectrum Analyzer	R&S	FSV	103173	05 Oct, 2015

**Compliance Certification Services (Shenzhen) Inc.**

**Radiated Emission (9KHz – 30MHz)**

<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Cal Until</b>
PSA Series Spectrum Analyzer	Agilent	E4446A	US44300399	03 Jan, 2016
EMI TEST RECEIVER	R&S	ESCI	100783	03 Jan, 2016
Loop Antenna	Com-power	AL-130	121044	03 Jan, 2016
Turn Table	N/A	N/A	N/A	N.C.R
Controller	Sunol Sciences	SC104V	022310-1	N.C.R
Controller	CT	N/A	N/A	N.C.R
Temp. / Humidity Meter	Anymetre	JR913	N/A	03 Jan, 2016
Antenna Tower	SUNOL	TLT2	N/A	N.C.R
Test S/W	FARAD	LZ-RF / CCS-SZ-3A2		



## 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

Uncertainty for conducted emissions measurements is 2.54dB.

Uncertainty for radiated emissions measurements is 1.8194dB (9KHz-30MHz), 3.62dB (30M-1GHz) and 4.11dB (> 1GHz)

The reported expanded uncertainty is based on a standard uncertainty multiply by a coverage factor  $k=2$ , providing a level of confidence of approximately 95%.

## 2.6 Location of original data

The original copies of 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 (Guangdong) file for certification follow-up purposes.

## 2.7 Status of facility used for testing

1) EST Technology Co., Ltd.

Santun(guantai Road), Houjie Town, DongGuan City, GuangDong, China. is listed on the US Federal Communications Commission list of facilities approved to perform measurements, the register No. 989591.

2) Compliance Certification Services (Shenzhen) Inc.

No. 10-1 Mingkeda Logistics Park, No.18 Huanguan South RD. Guan lan Town, Baoan Distr, Shenzhen, China is listed on the US Federal Communications Commission list of facilities approved to perform measurements, the register No. 441872.



## 3 General Product Information

### 3.1 Product Function and Intended Use

The EUT is a “Bluetooth Speaker” with Bluetooth 4.0 dual mode, which is intended to enable Bluetooth connectivity with Notebook or smart phone, and play the music from Bluetooth device.

For more details refer to the Technical Documentation or User manual.

### 3.2 Ratings and System Details

**Table 2: Rating of EUT**

Kind of Equipment	Bluetooth Speaker
Type Designation	BeoPlay S3
FCC ID	TTUBEOPLAYS3

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

Technical Specification	Value
Operating Frequency band	2402 – 2480 MHz
Bluetooth Core Version	4.0 Dual mode
Channel separation	1MHz
Extreme Temperature Range	-10°C to +55°C
Operation Voltage	100~240Vac, 50/60Hz;
Modulation	GFSK, 8DPSK, $\pi/4$ DQPSK
Antenna Type	Internal Antenna, Non-User Replaceable
Antenna Gain	3.14 dBi
RF Output Power	0.00163W (2.131dBm)

**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	4.0 Dual mode
Channel separation	2MHz
Extreme Temperature Range	-10°C to +55°C
Operation Voltage	100~240Vac, 50/60Hz;
Modulation	GFSK
Antenna Type	Internal Antenna, Non-User Replaceable
Antenna Gain	3.14 dBi
RF Output Power	0.00313W (4.96 dBm)

**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, Traditional Bluetooth
  - 1. Transmitting on low channel
  - 2. Transmitting on middle channel
  - 3. Transmitting on high channel
- B. On, Bluetooth low energy
  - 1. Transmitting on low channel
  - 2. Transmitting on middle channel
  - 3. Transmitting on high channel
- C. On, Traditional Bluetooth on Hopping channel
- D. On, Bluetooth connecting mode
- E. Off

### **3.4 Noise Generating and Noise Suppressing Parts**

Refer to the Circuit Diagram.

### **3.5 Submitted Documents**

- 1. Block Diagram
- 2. Circuit Diagram
- 3. Operation Description
- 4. PCB Layout
- 5. BOM
- 6. FCC label and location
- 7. User Manual
- 8. Internal Photos
- 9. External Photos
- 10. Application form

## **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: 2003.

### **4.3 Special Accessories and Auxiliary Equipment**

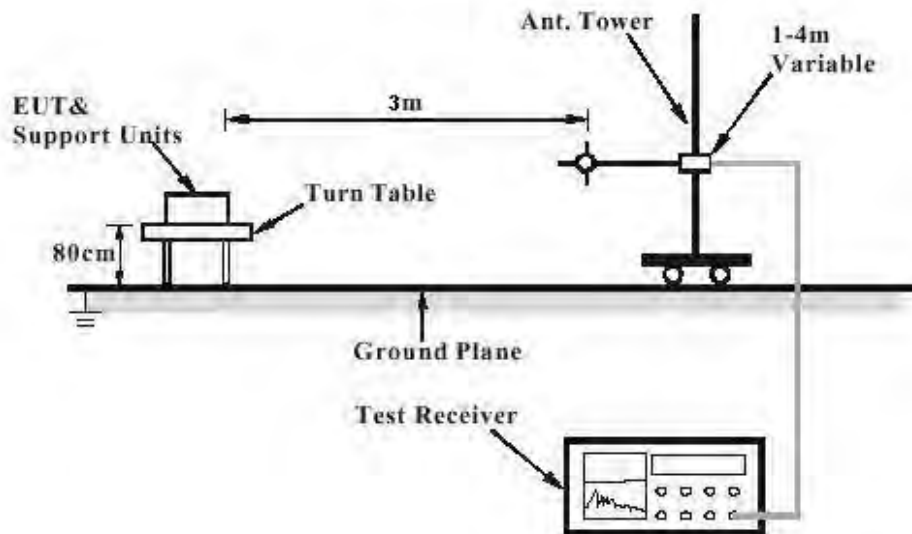
None.

### **4.4 Countermeasures to achieve EMC Compliance**

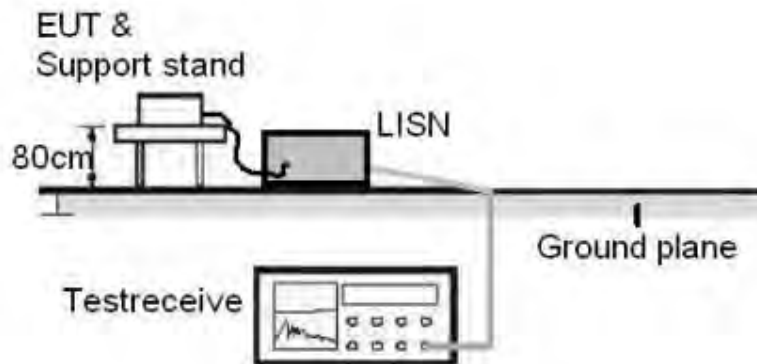
The test sample, which has been tested, contained the noise suppression parts as described in the technical document. No additional measures were employed to achieve compliance.

## 4.5 Test set-up

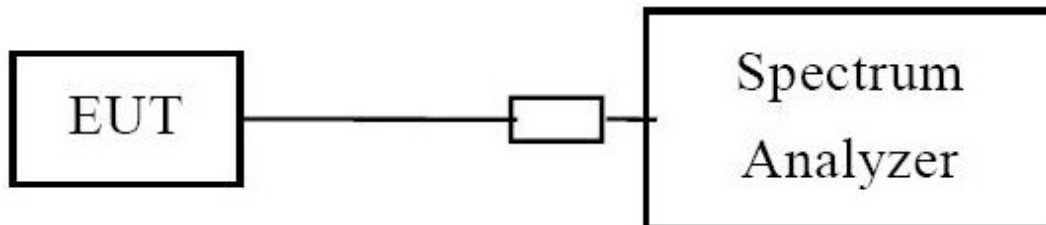
### Diagram of Measurement Configuration for Radiation Test



### Diagram of Measurement Configuration for Mains Conduction Measurement



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





## 5 Test Results

### 5.1 Transmitter Requirement & Test Suites

#### 5.1.1 Antenna Requirement

**RESULT:** **Passed**

##### Test Specification

Test standard	:	FCC Part 15.247(b)(4) and Part 15.203
Limits	:	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 3.14 dBi, 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.

For more details, refer to EUT photo.

## 5.1.2 Peak Output Power

**RESULT:**

**Passed**

**Test Specification**

Test standard : FCC Part 15.247(b)(1) & (b)(3)  
Basic standard : ANSI C63.4: 2003  
Limits : BDR/ EDR: 0.125 Watts  
BLE: 1 Watt  
Kind of test site : Shielded Room

**Test Setup**

Date of testing : 26 Feb, 2015 & 30 Mar, 2015  
Power supply : 120Vac, 60Hz  
Operation mode : A, B (See 3.3)  
Test channel : Low / Middle / High  
Ambient temperature : 25 °C  
Relative Humidity : 60 %  
Atmospheric pressure : 101 kPa

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

Channel	Channel Frequency (MHz)	Peak Output Power		Limit (W)
		(dBm)	(W)	
Low Channel	2402	-1.944	0.00064	0.125
Middle Channel	2441	0.775	0.00120	0.125
High Channel	2480	2.057	0.00161	0.125

**Table 8: Test result of Peak Output Power, EDR**

Channel	Channel Frequency (MHz)	Peak Output Power		Limit (W)
		(dBm)	(W)	
Low Channel	2402	-1.990	0.00063	0.125
Middle Channel	2441	0.569	0.00114	0.125
High Channel	2480	2.131	0.00163	0.125

**Table 9: Test result of Peak Output Power, low energy**

Channel	Channel Frequency (MHz)	Peak Output Power		Limit (W)
		(dBm)	(W)	
Low Channel	2402	3.750	0.00237	1
Middle Channel	2440	4.460	0.00279	1
High Channel	2480	4.960	0.00313	1

### 5.1.3 Conducted Power Spectral Density

**RESULT:** **Passed**

#### Test Specification

Test standard : FCC Part 15.247(e)  
Basic standard : ANSI C63.4: 2003  
Limits : 8 dBm/3kHz  
Kind of test site : Shielded Room

#### Test Setup

Date of testing : 30 Mar, 2015  
Power supply : 120Vac, 60Hz  
Operation mode : B (See 3.3)  
Test channel : Low / Middle / High  
Ambient temperature : 25 °C  
Relative Humidity : 60 %  
Atmospheric pressure : 101 kPa

**Table 10: Test result of Power Spectral Density, low energy**

Channel	Channel Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)
Low Channel	2402	-8.953	8
Middle Channel	2440	-7.725	8
High Channel	2480	-6.619	8

### 5.1.4 6dB Bandwidth

**RESULT:**

**Passed**

#### Test Specification

Test standard : FCC Part 15.247(a)(2)  
Basic standard : ANSI C63.4: 2003  
Limits : More than 500 KHz  
Kind of test site : Shielded Room

#### Test Setup

Date of testing : 30 Mar, 2015  
Power supply : 120Vac, 60Hz  
Operation mode : B (See 3.3)  
Test channel : Low / Middle / High  
Ambient temperature : 25 °C  
Relative Humidity : 60 %  
Atmospheric pressure : 101 kPa

**Table 11: Test result of 6dB Bandwidth, low energy**

Channel	Channel Frequency (MHz)	-6dB Bandwidth (kHz)	Limit (kHz)	Result
Low Channel	2402	763	500	Pass
Mid Channel	2440	765	500	Pass
High Channel	2480	755	500	Pass

### 5.1.5 Conducted Spurious Emissions Measured in 100 kHz Bandwidth

**RESULT:** **Passed**

#### Test Specification

Test standard : FCC Part 15.247(d)  
Basic standard : ANSI C63.4: 2003  
Limits : 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 : Shielded Room

#### Test Setup

Date of testing : 30 Mar, 2015 & 09 Apr, 2015  
Power supply : 120Vac, 60Hz  
Operation mode : A, B, C (See 3.3)  
Test channel : Low / Middle / High  
Ambient temperature : 23.6 °C  
Relative Humidity : 56 %  
Atmospheric pressure : 101 kPa

All emissions are more than 20dB below fundamental, compliance is achieved as well.

For the measurement records, refer to the appendix 1.

## 5.1.6 Spurious Emission

**RESULT:**

**Passed**

**Test Specification**

Test standard	: FCC Part 15.247(d), FCC Part 15.205
Basic standard	: ANSI C63.4: 2003
Limits	: Refer to 15.209(a) of FCC part 15.247(d)
Kind of test site	: 3m Semi-anechoic chamber

**Test Setup**

Date of testing	: Refer to the appendix 1.
Power supply	: 120Vac, 60Hz
Operation mode	: A, B (See 3.3)
Test channel	: Low / Middle / High
Ambient temperature	: Refer to the appendix 1.
Relative Humidity	: Refer to the appendix 1.
Atmospheric pressure	: Refer to the appendix 1.

**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 the measurement records, refer to the appendix 1.



### 5.1.7 20dB Bandwidth

**RESULT:**

**Passed**

#### Test Specification

Test standard : FCC Part 15.247(a)(1)  
Basic standard : ANSI C63.4: 2003  
Kind of test site : Shielded Room

#### Test Setup

Date of testing : 30 Mar, 2015  
Power supply : 120Vac, 60Hz  
Operation mode : A (See 3.3)  
Test channel : Low / Middle / High  
Ambient temperature : 25 °C  
Relative Humidity : 60 %  
Atmospheric pressure : 101 kPa

**Table 12: Test result of 20dB Bandwidth, BDR mode**

Channel	Channel Frequency (MHz)	20dB Bandwidth (kHz)	Limit (MHz)	Result
Low Channel	2402	943	/	Pass
Mid Channel	2441	942	/	Pass
High Channel	2480	939	/	Pass

**Table 13: Test result of 20dB Bandwidth, EDR mode**

Channel	Channel Frequency (MHz)	20dB Bandwidth (kHz)	Limit (MHz)	Result
Low Channel	2402	1263	/	Pass
Mid Channel	2441	1261	/	Pass
High Channel	2480	1262	/	Pass

### 5.1.8 Frequency Separation

**RESULT:** **Passed**

**Test Specification**

Test standard : FCC Part 15.247(a)(1)  
 Basic standard : ANSI C63.4: 2003  
 Limits :  $\geq 25\text{kHz}$  or  $2/3$  of 20dB bandwidth, whichever is greater  
 Kind of test site : Shielded Room

**Test Setup**

Date of testing : 30 Mar, 2015  
 Power supply : 120Vac, 60Hz  
 Operation mode : A (See 3.3)  
 Test channel : Low / Middle / High  
 Ambient temperature : 25 °C  
 Relative Humidity : 60 %  
 Atmospheric pressure : 101 kPa

**Table 14: Test result of Frequency Separation**

Channel	Channel Frequency (MHz)	Measured Channel Separation (MHz)	Limit (kHz)	Result
Low Channel	2402	1.0	$\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth	Pass
Adjacency Channel	2403			
Mid Channel	2441	1.0		Pass
Adjacency Channel	2442			
High Channel	2480	1.0		Pass
Adjacency Channel	2479			

### 5.1.9 Number of Hopping Frequency

**RESULT:**

**Passed**

#### Test Specification

Test standard : FCC part 15.247(a)(1)(iii)  
Basic standard : ANSI C63.4: 2003  
Limits :  $\geq 15$  non-overlapping channels  
Kind of test site : Shielded Room

#### Test Setup

Date of testing : 30 Mar, 2015  
Power supply : 120Vac, 60Hz  
Operation mode : C (See 3.3)  
Ambient temperature : 25 °C  
Relative Humidity : 60 %  
Atmospheric pressure : 101 kPa

**Table 15: 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

### 5.1.10 Time of Occupancy

**RESULT:**

**Passed**

**Test Specification**

Test standard : FCC part 15.247(a)(1)(iii)  
 Basic standard : ANSI C63.4: 2003  
 Limits : 0.4s  
 Kind of test site : Shielded Room

**Test Setup**

Date of testing : 30 Mar, 2015  
 Power supply : 120Vac, 60Hz  
 Operation mode : A (See 3.3)  
 Test channel : Low / Middle / High  
 Ambient temperature : 25 °C  
 Relative Humidity : 60 %  
 Atmospheric pressure : 101 kPa

**Table 16: Test result of Time of Occupancy, BDR mode**

Channel	Data Mode	Pulse width (ms)	Measured Dwell time (s)	Limit (s)	Result
Low Channel	DH1	0.44	0.141	0.4	Pass
	DH3	1.73	0.277	0.4	Pass
	DH5	2.95	0.315	0.4	Pass
Mid Channel	DH1	0.45	0.144	0.4	Pass
	DH3	1.69	0.270	0.4	Pass
	DH5	2.98	0.318	0.4	Pass
High Channel	DH1	0.47	0.150	0.4	Pass
	DH3	1.72	0.275	0.4	Pass
	DH5	3.03	0.323	0.4	Pass

**Table 17: Test result of Time of Occupancy, EDR mode**

Channel	Data Mode	Pulse width (ms)	Measured Dwell time (s)	Limit (s)	Result
Low Channel	DH1	0.49	0.157	0.4	Pass
	DH3	1.71	0.274	0.4	Pass
	DH5	2.97	0.317	0.4	Pass
Mid Channel	DH1	0.46	0.147	0.4	Pass
	DH3	1.72	0.275	0.4	Pass
	DH5	3.03	0.323	0.4	Pass
High Channel	DH1	0.46	0.147	0.4	Pass
	DH3	1.73	0.277	0.4	Pass
	DH5	3.00	0.320	0.4	Pass

Note:

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

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

### 5.1.11 Conducted Emissions

**RESULT:**

**Passed**

#### Test Specification

Test standard	: FCC part 15.207
Basic standard	: ANSI C63.4: 2003
Frequency range	: 0.15 – 30MHz
Limits	: FCC Part 15.207(a)
Kind of test site	: Shielded Room

#### Test Setup

Date of testing	: 11 Apr, 2015
Power supply	: 120Vac, 60Hz
Operation mode	: D (See 3.3)
Earthing	: Not connected
Ambient temperature	: 24 °C
Relative Humidity	: 58 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix 1.

## **6 Safety Human exposure**

### **6.1 Radio Frequency Exposure Compliance**

#### **6.1.1 Electromagnetic Fields**

**RESULT:** **Passed**

**Test Specification**

Test standard : FCC KDB Publication 447498 v05r02

The maximum peak output power of the transmitter is 3.13 mW, only, which less than 20mW.

The minimum distance for the EUT is 5mm, since maximum peak output power of the transmitter is 3.13 mW <10 mW, hence the EUT is excluded from SAR evaluation according to FCC KDB Publication 447498 D01 General RF Exposure Guidance v05r02.



## **7 Photographs of the Test Set-Up**

### **Photograph 1: Set-up for Spurious Emissions (9kHz - 30MHz)**

Refer to set-up photo documents for details.

### **Photograph 2: Set-up for Spurious Emissions (30MHz-1GHz)**

Refer to set-up photo documents for details.

### **Photograph 3: Set-up for Spurious Emissions (above 1GHz)**

Refer to set-up photo documents for details.

### **Photograph 4: Set-up for Conducted Emissions**

Refer to set-up photo documents for details.

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## 9 List of Photographs

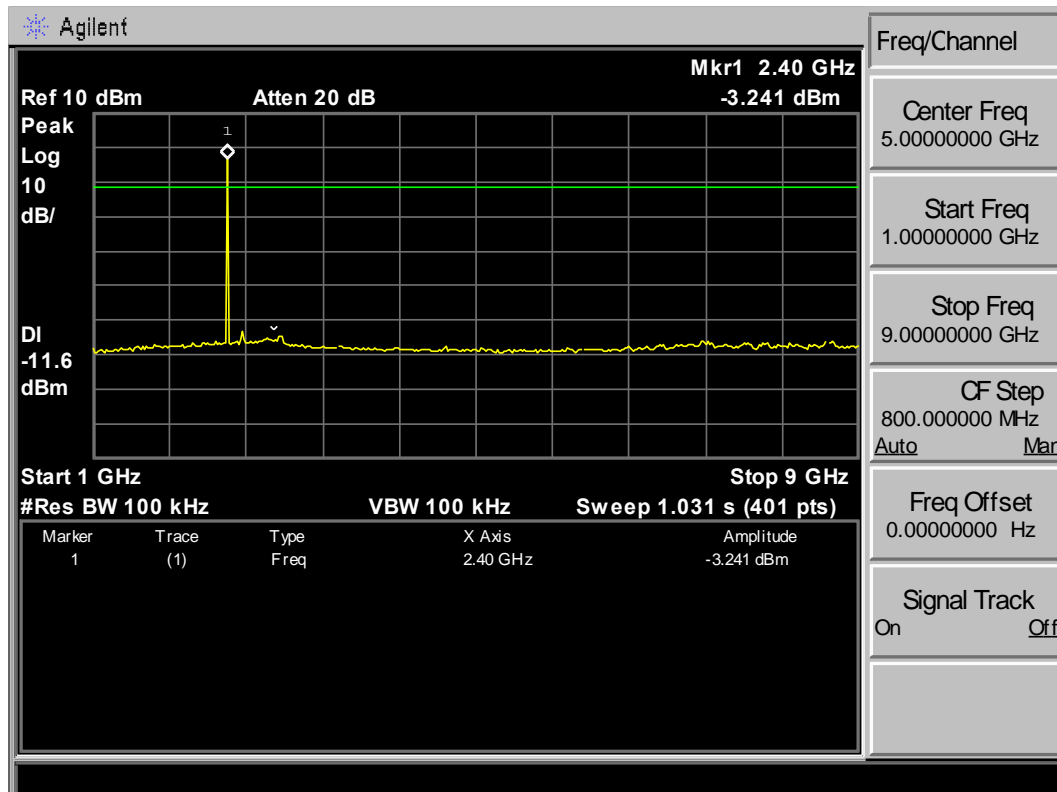
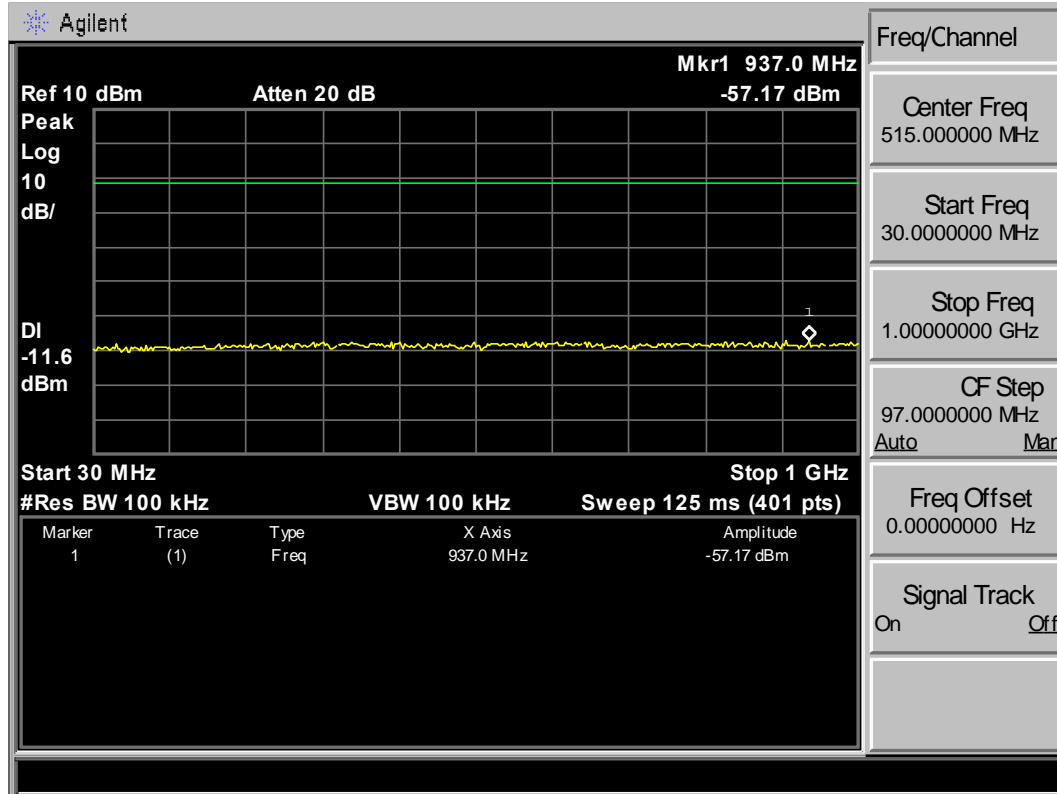
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Figure 1: Test figure of Conducted Spurious Emissions, BDR (Low)



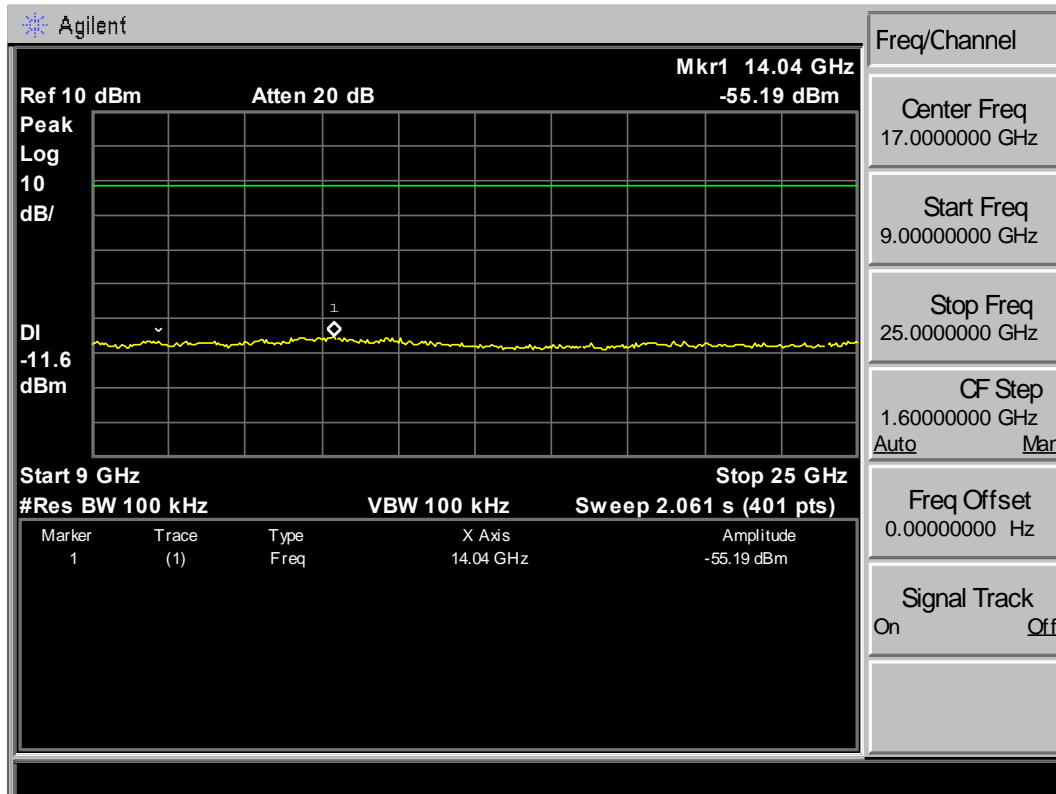
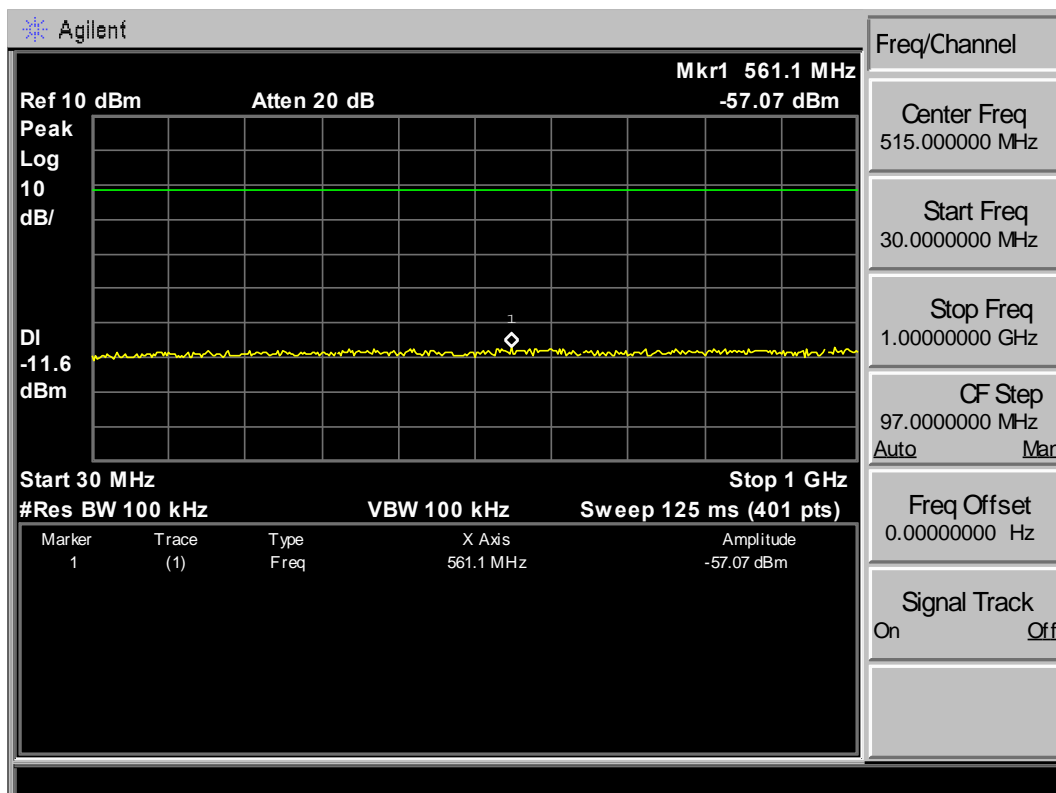


Figure 2: Test figure of Conducted Spurious Emissions, BDR (Mid)



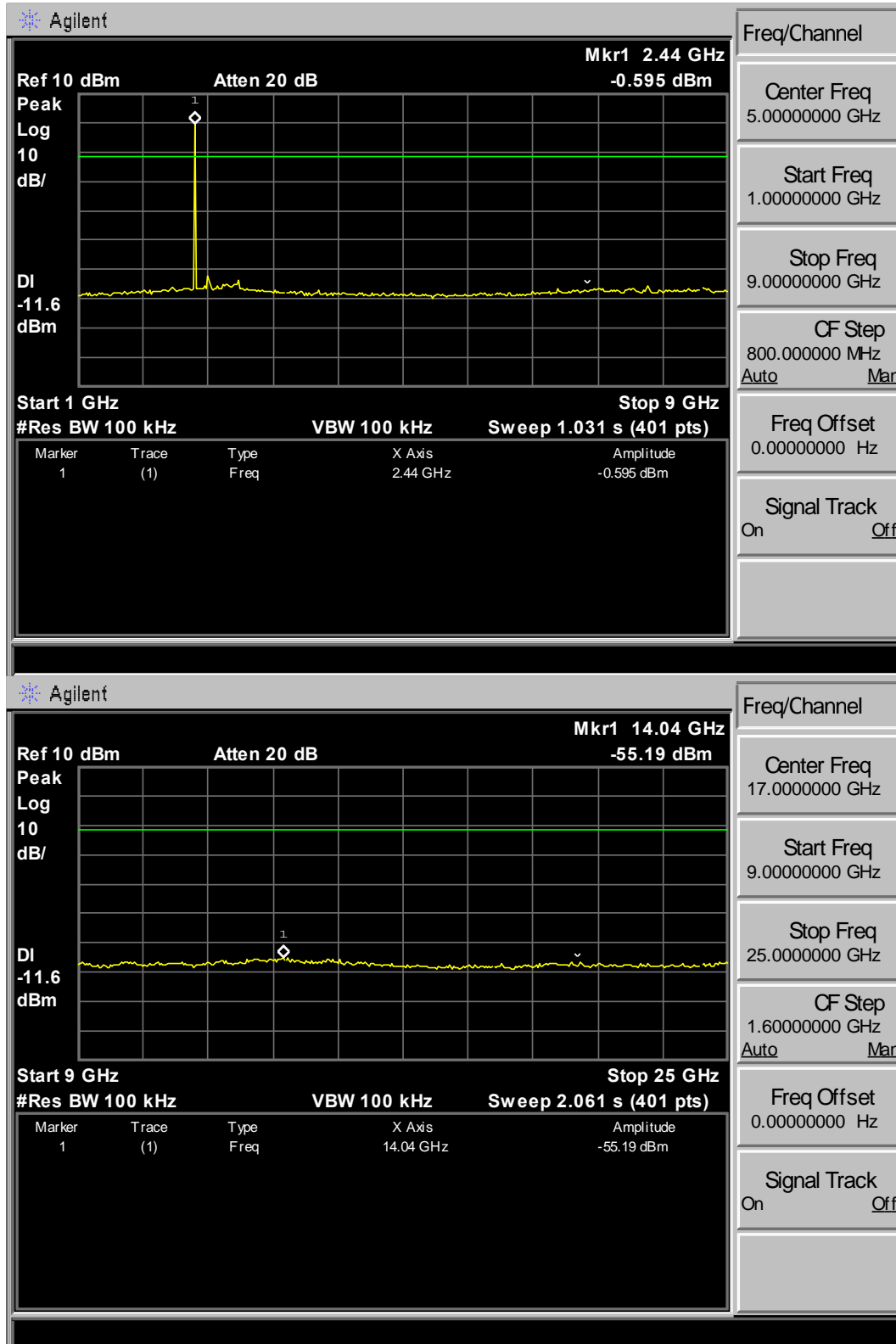
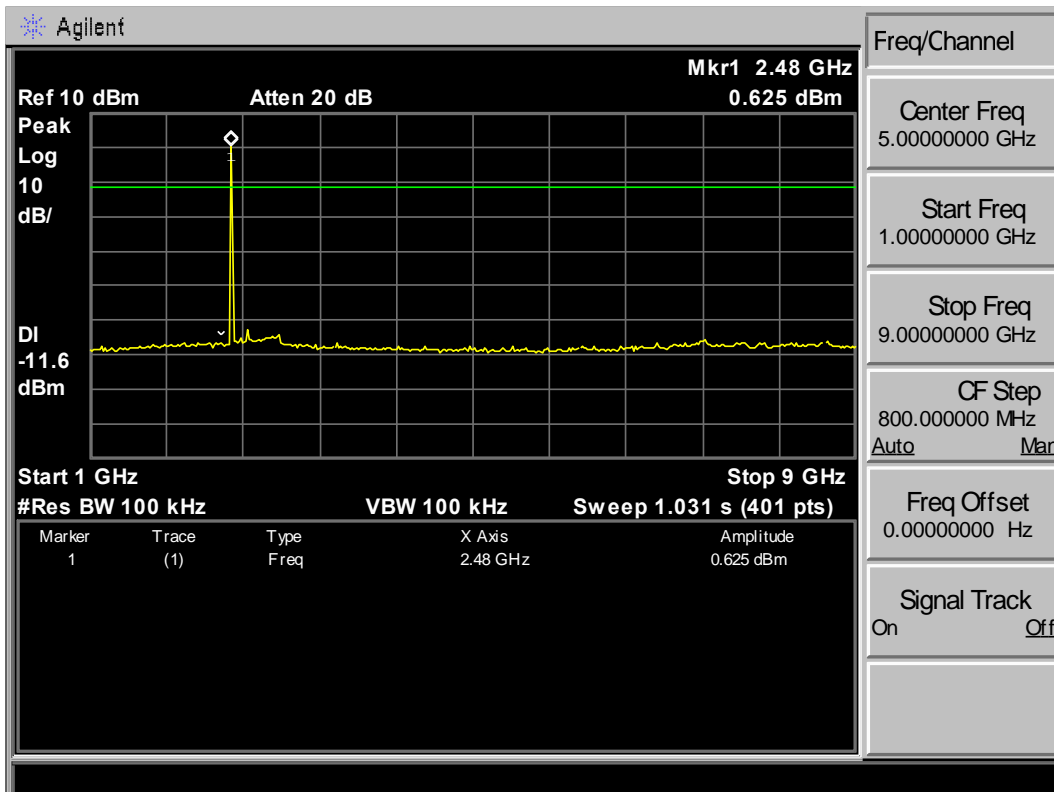
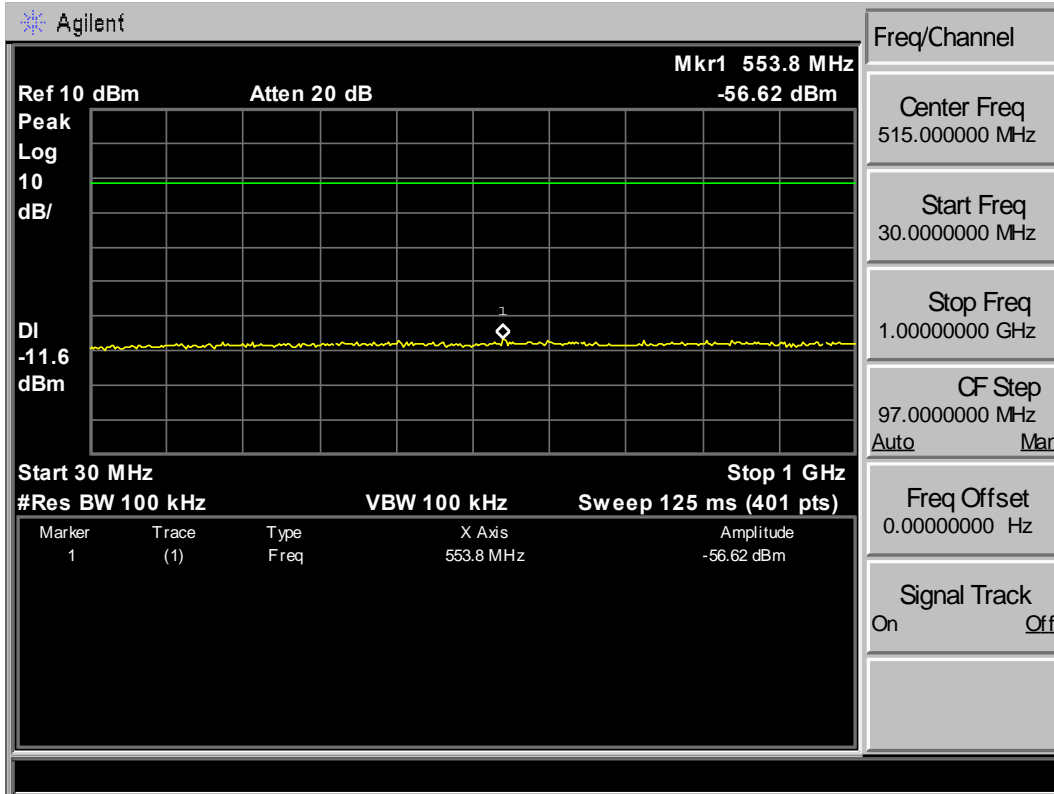




Figure 3: Test figure of Conducted Spurious Emissions, BDR (High)



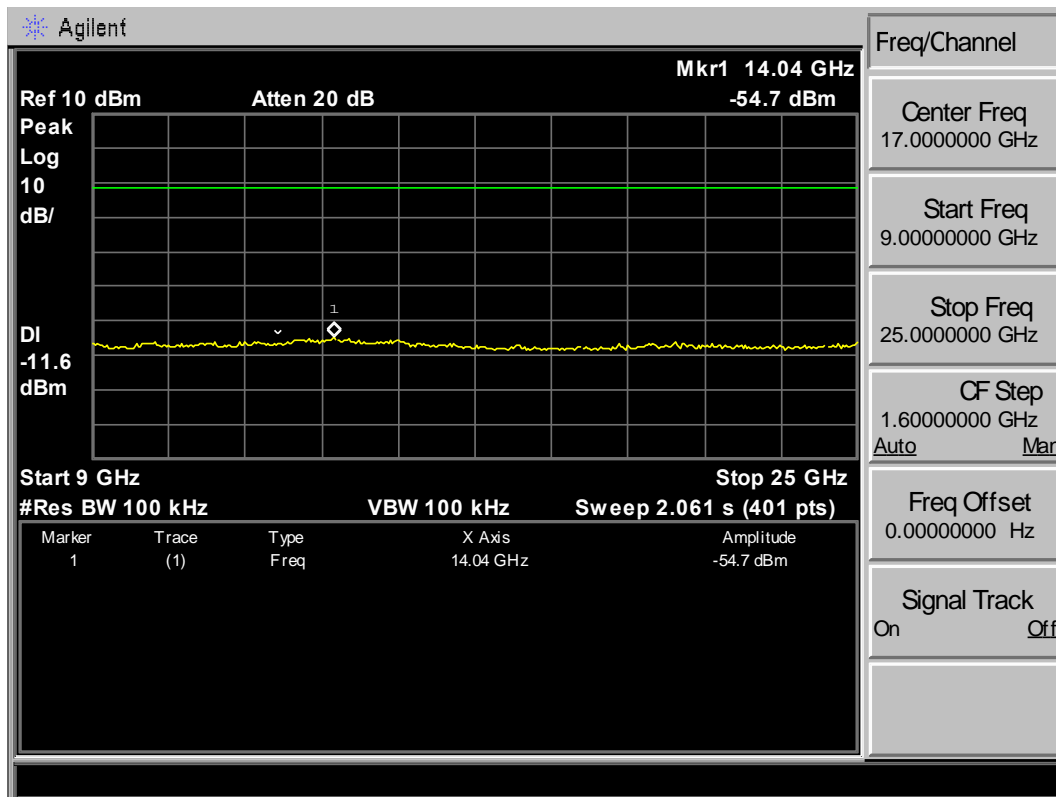
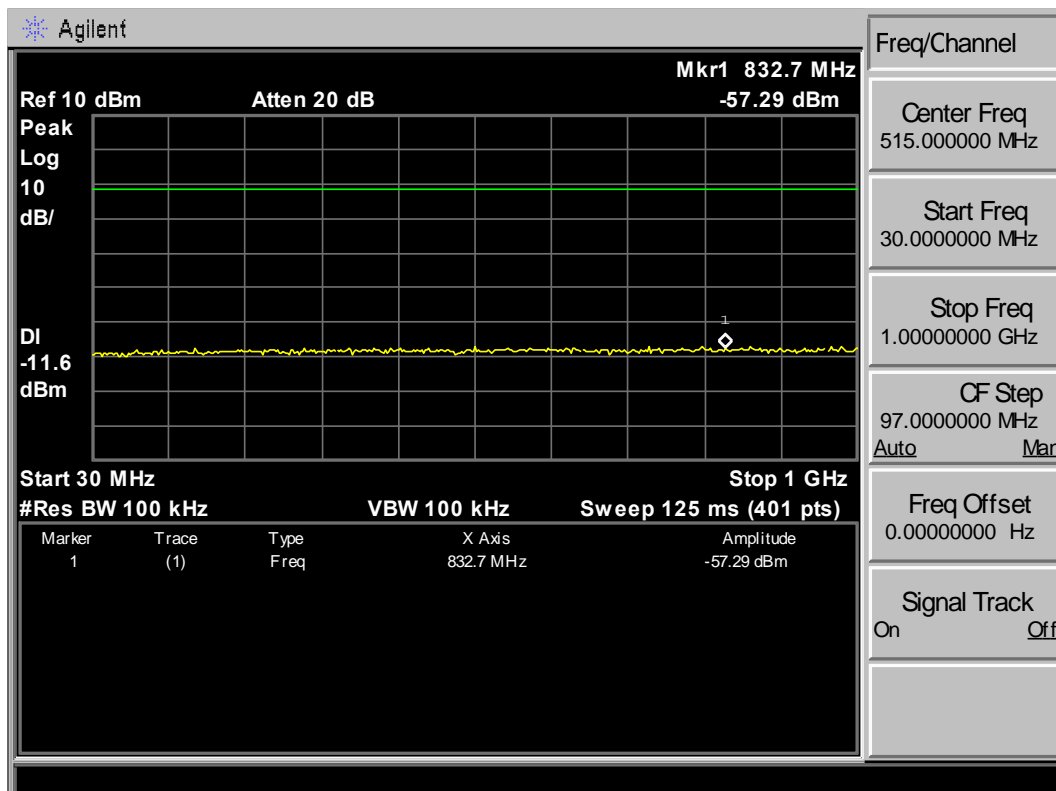
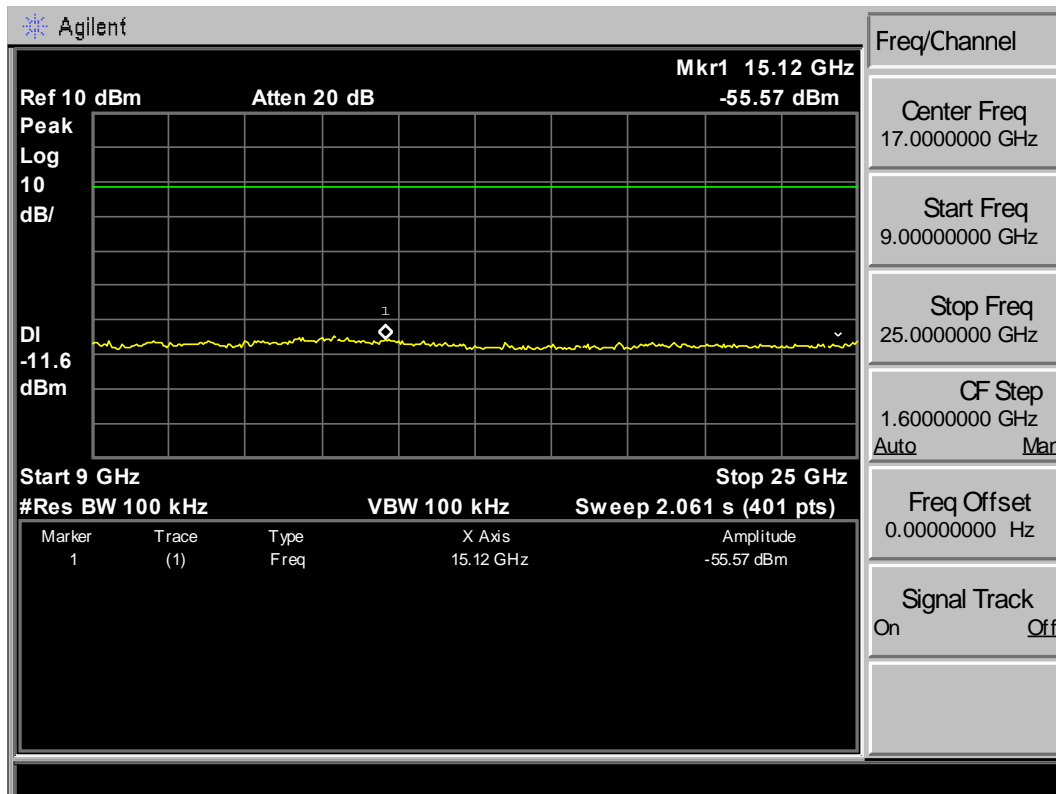
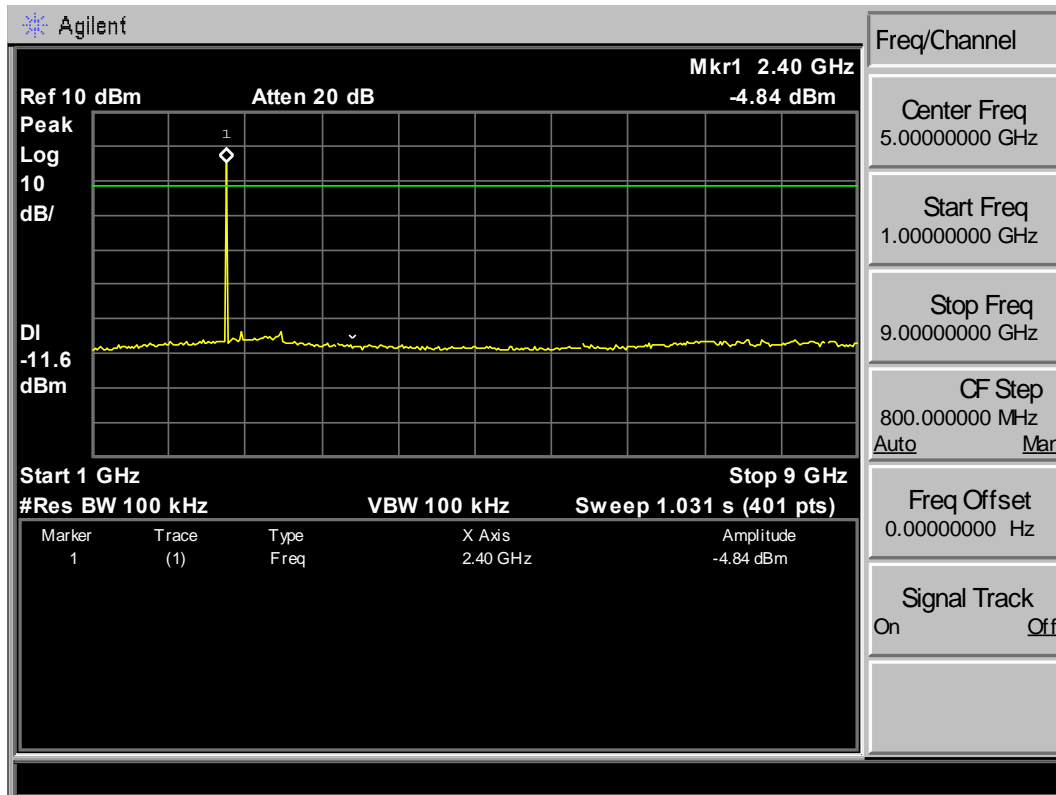


Figure 4: Test figure of Conducted Spurious Emissions, EDR (Low)





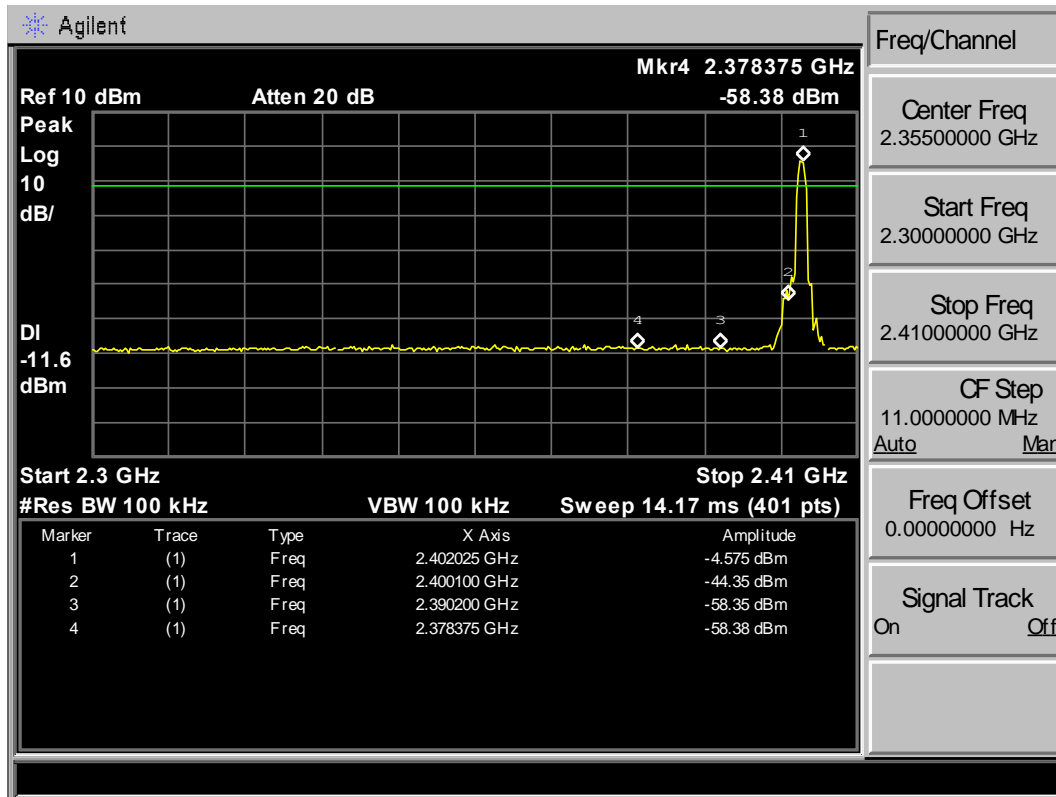
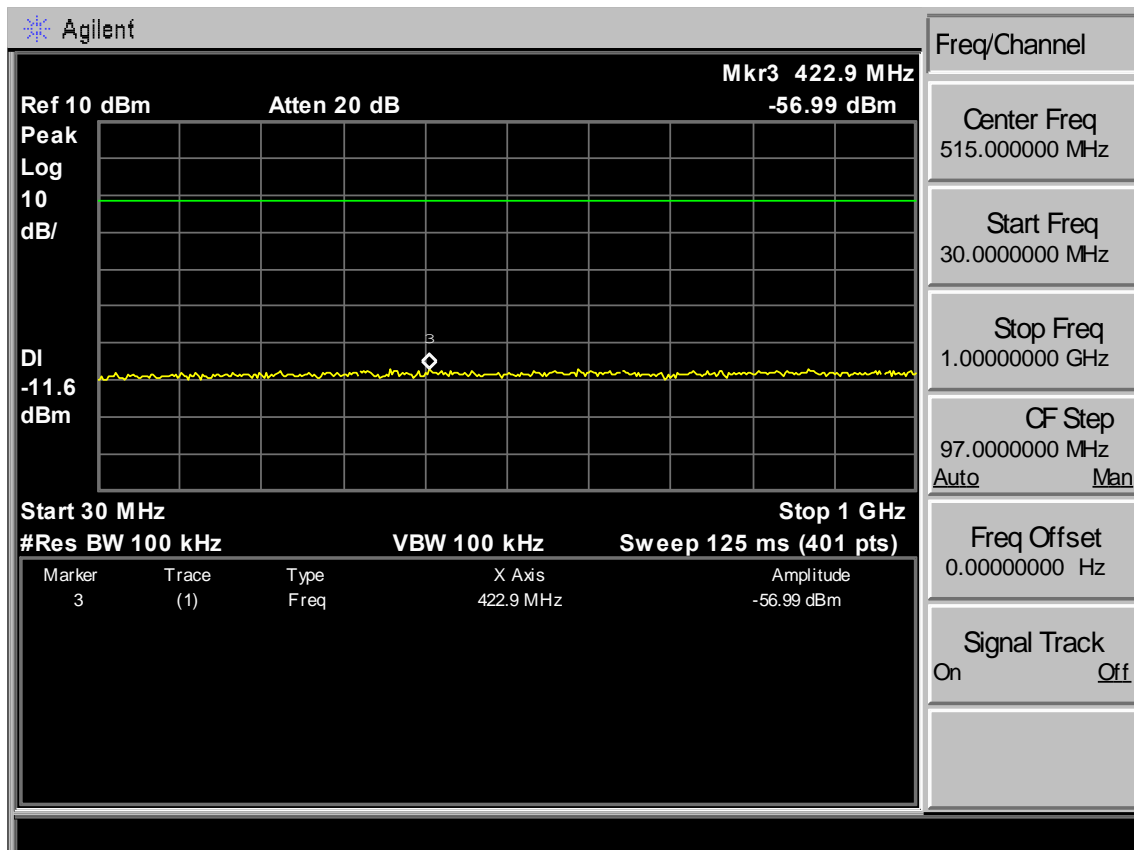


Figure 5: Test figure of Conducted Spurious Emissions, EDR (Mid)



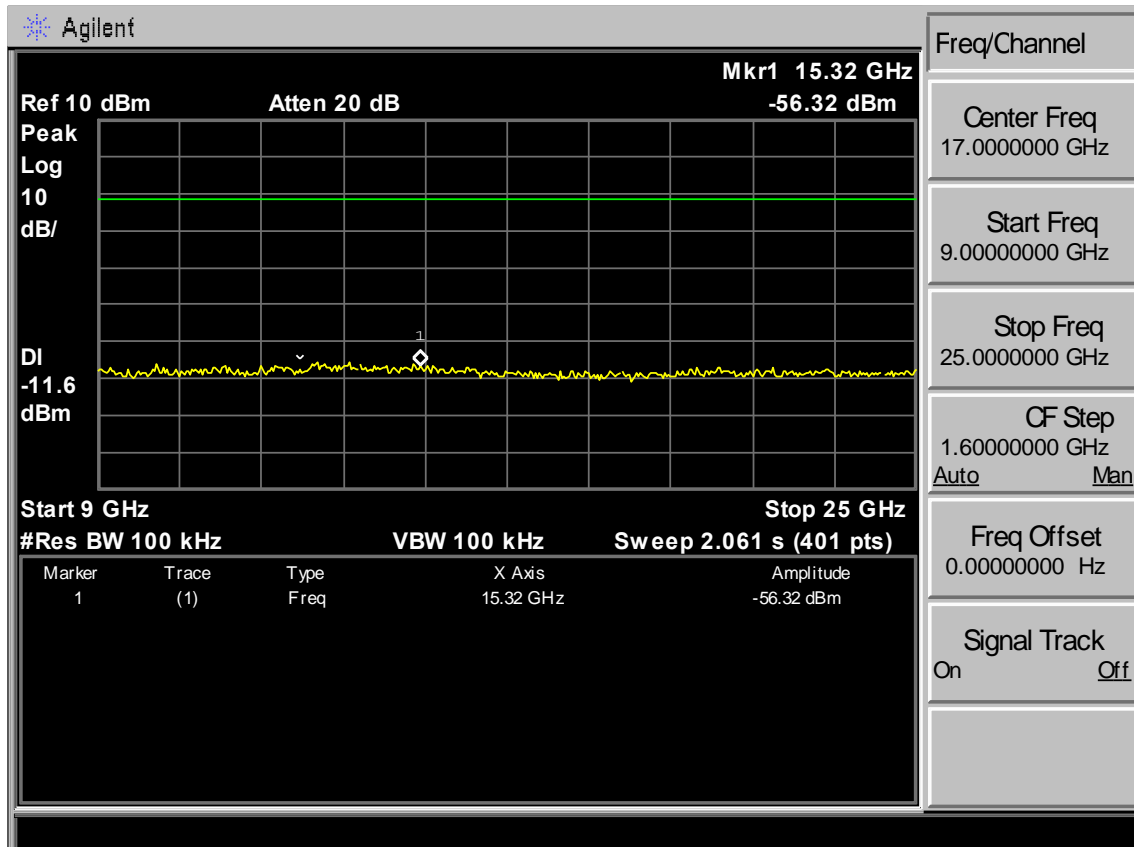
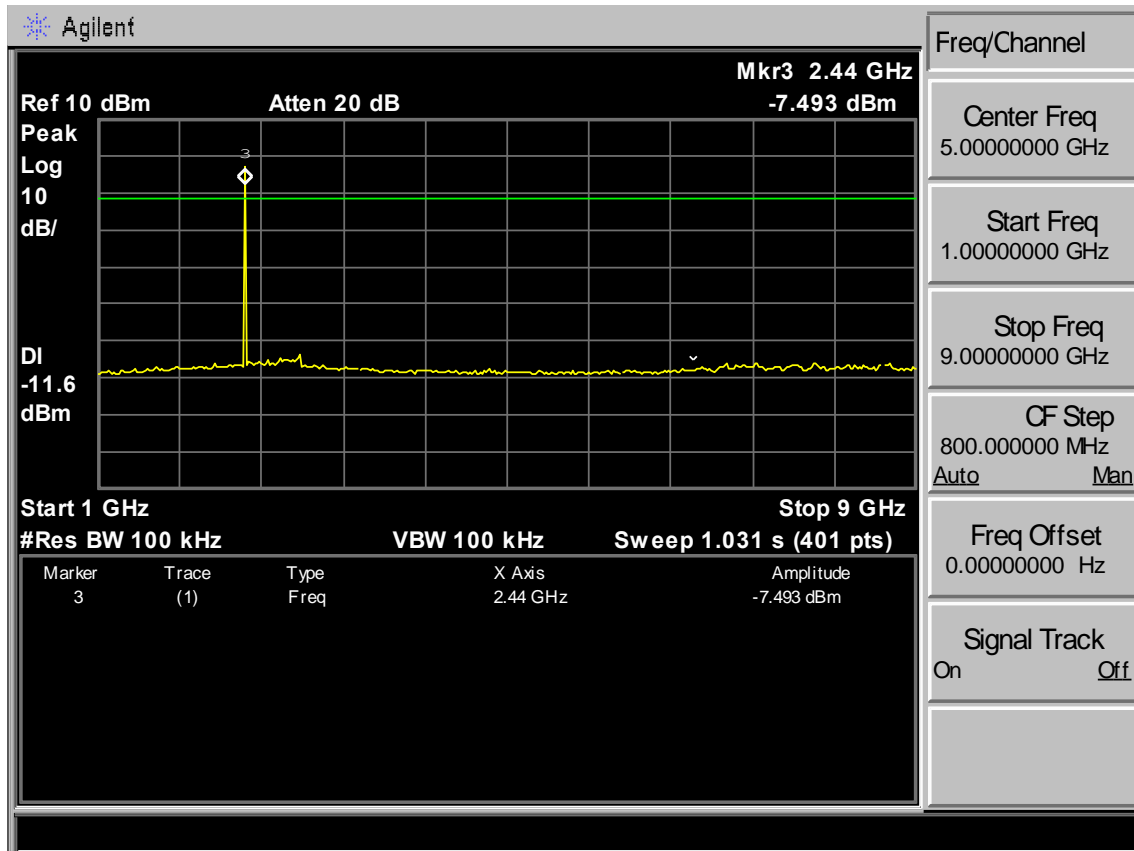
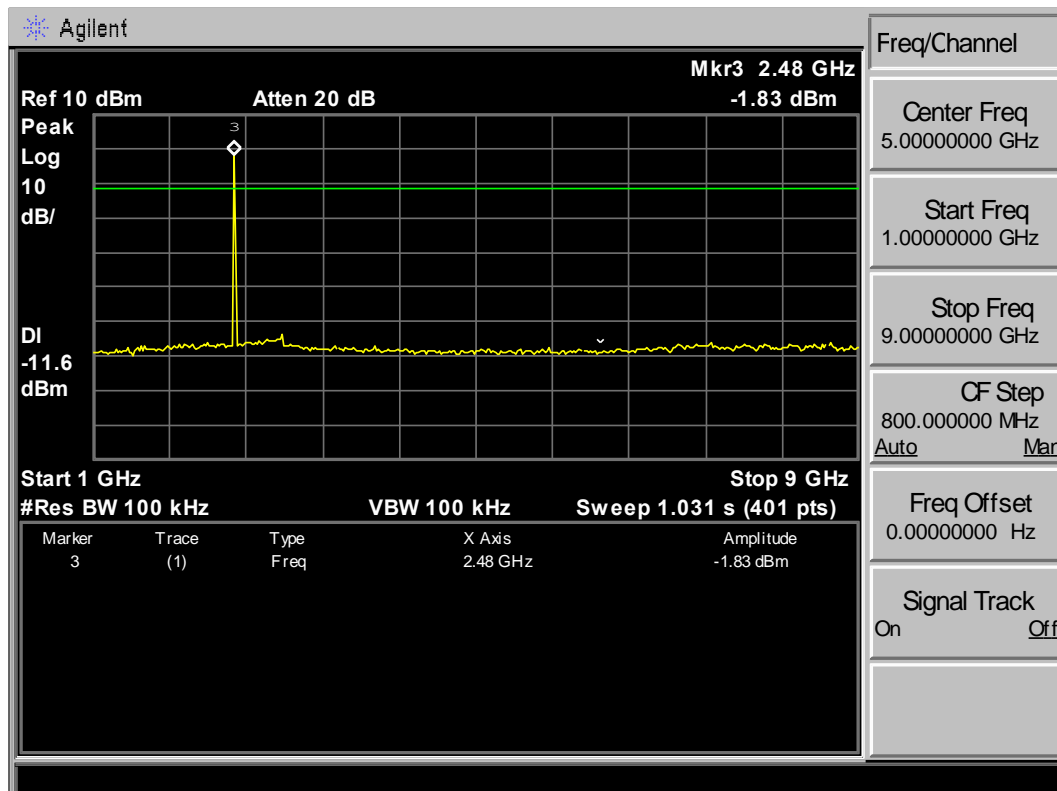
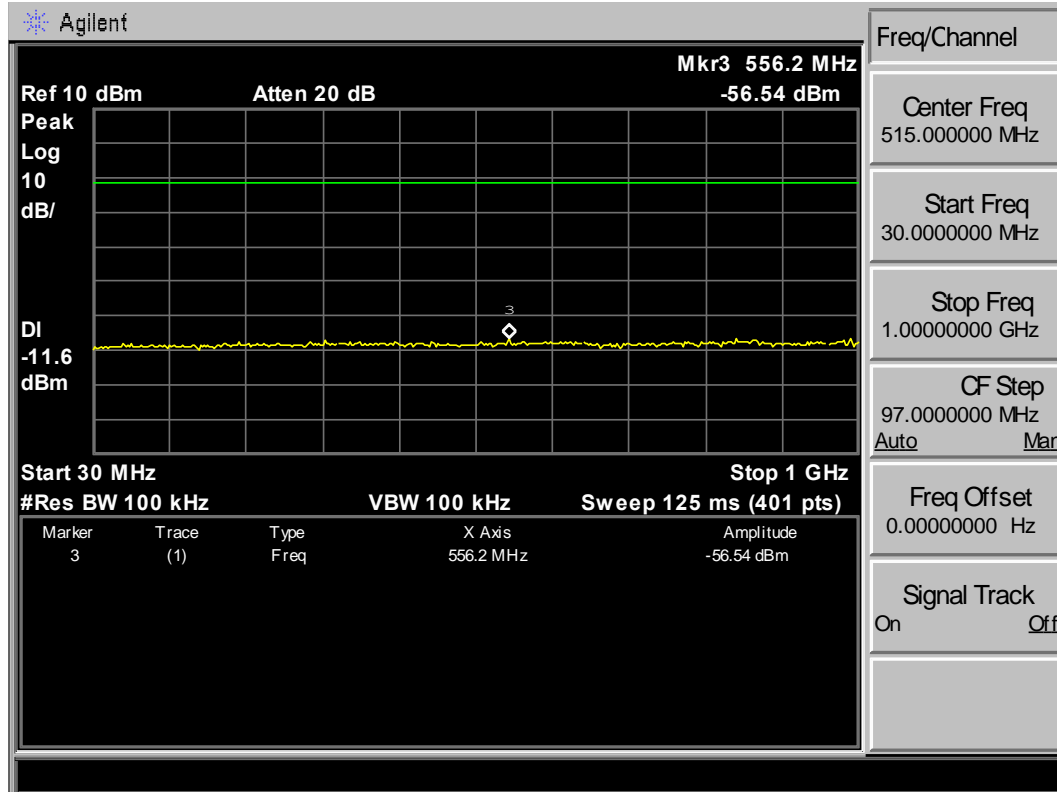


Figure 6: Test figure of Conducted Spurious Emissions, EDR (High)



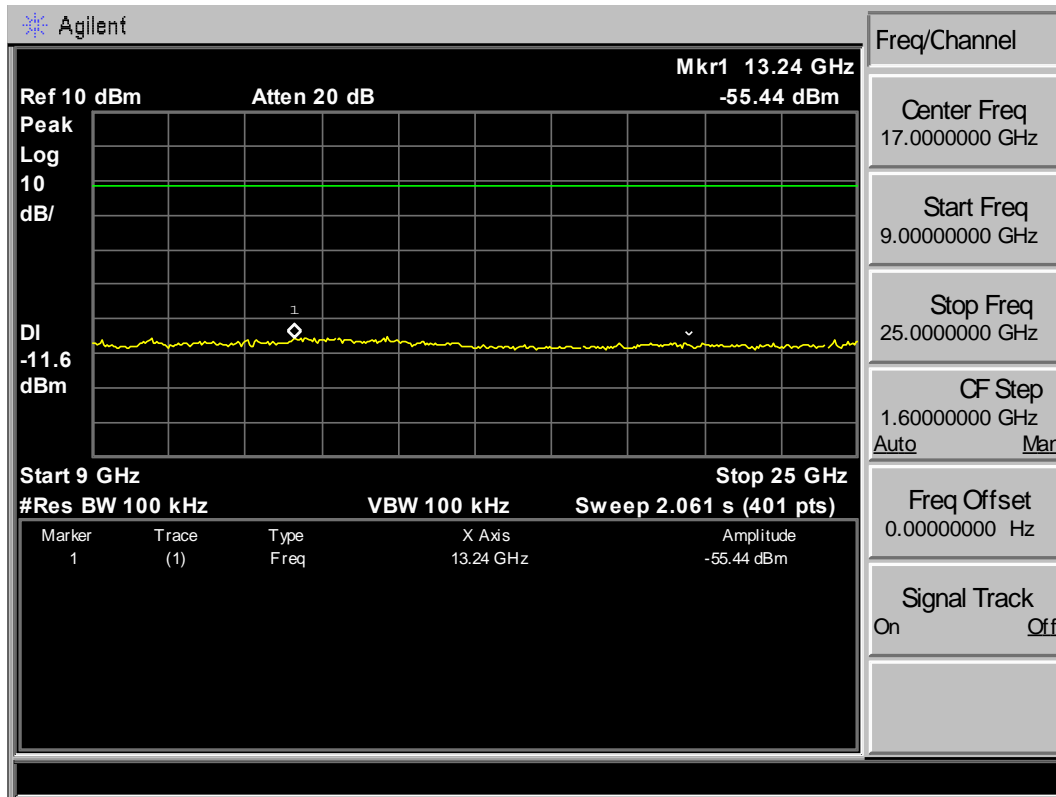
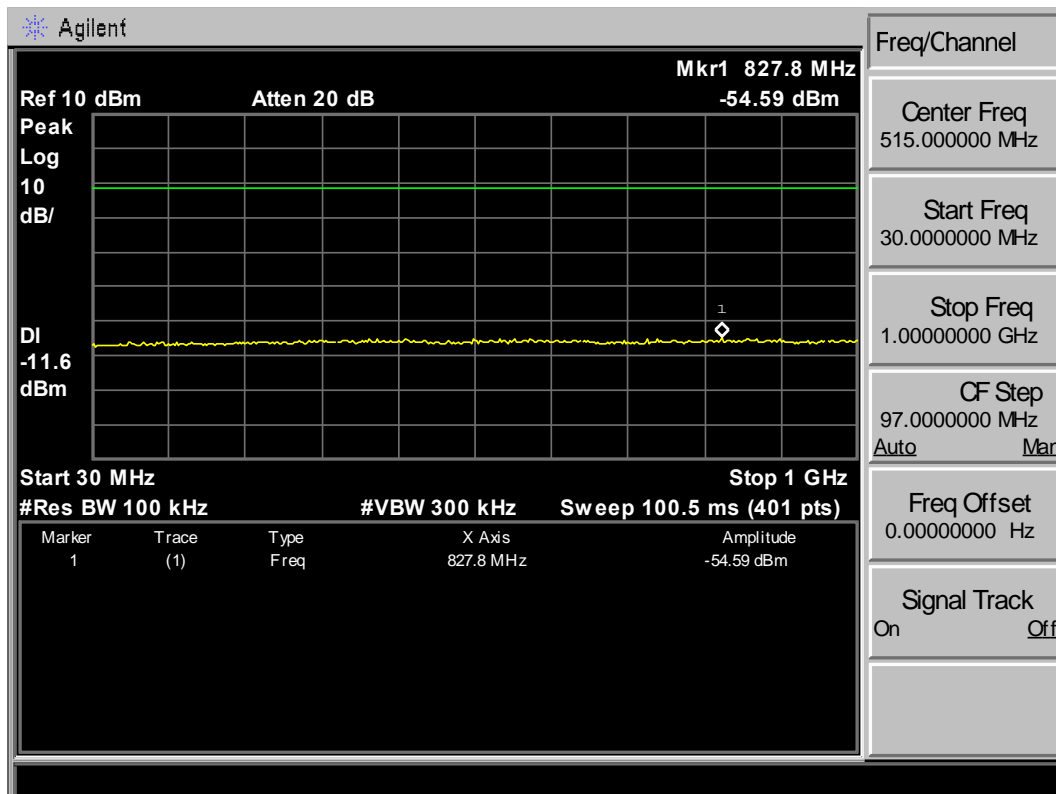


Figure 7: Test figure of Conducted Spurious Emissions, BLE (Low)



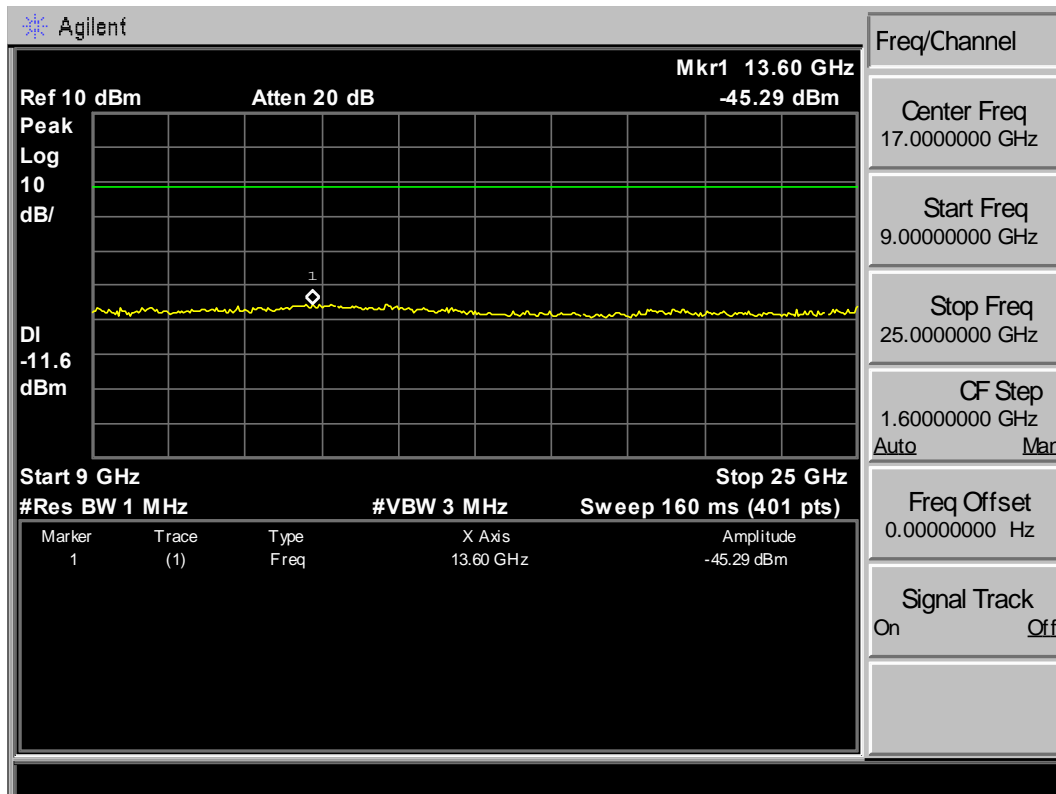
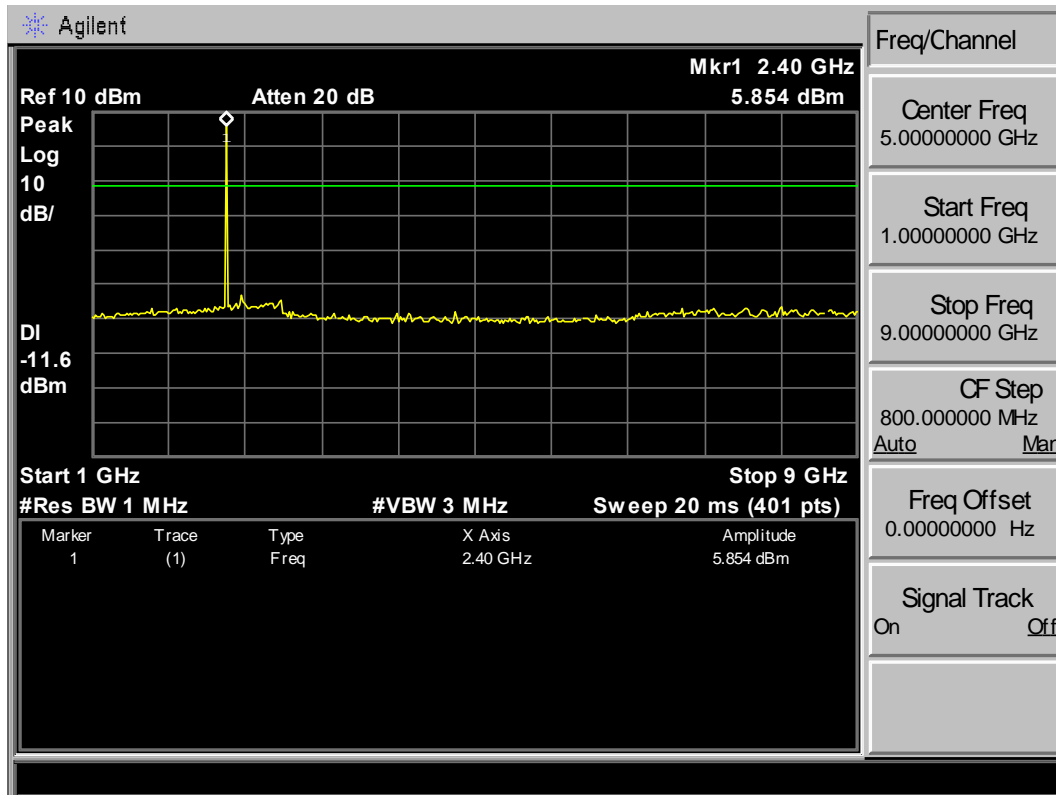
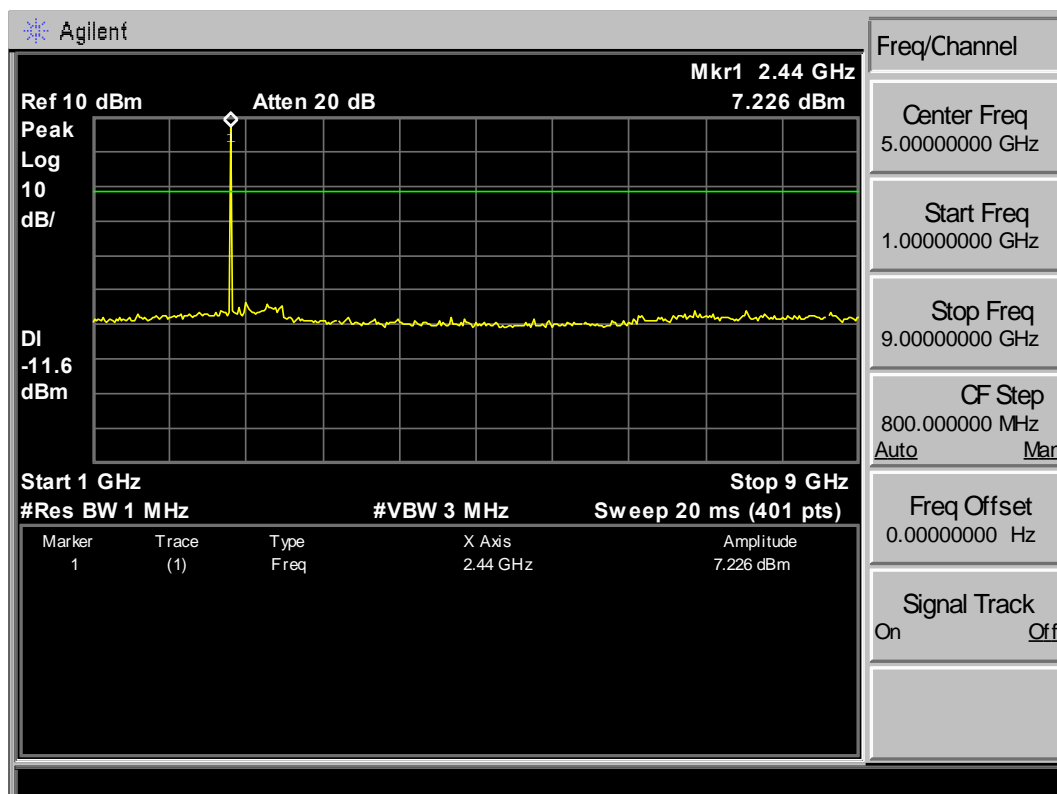
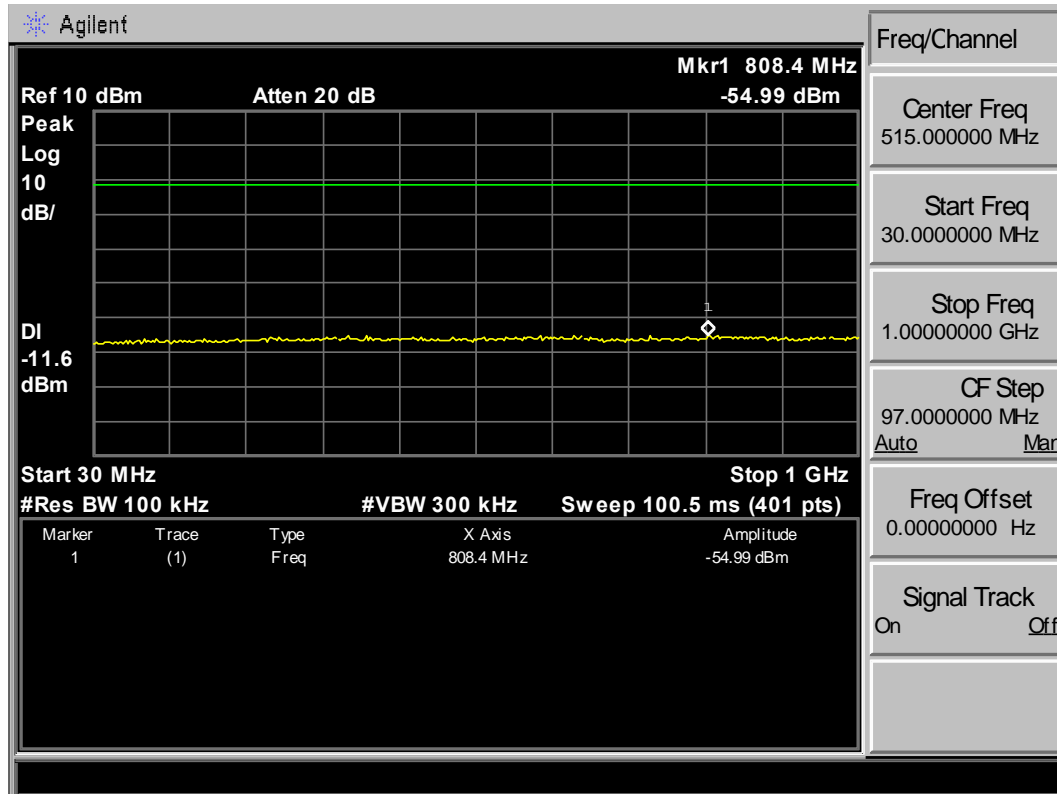




Figure 8: Test figure of Conducted Spurious Emissions, BLE (Mid)



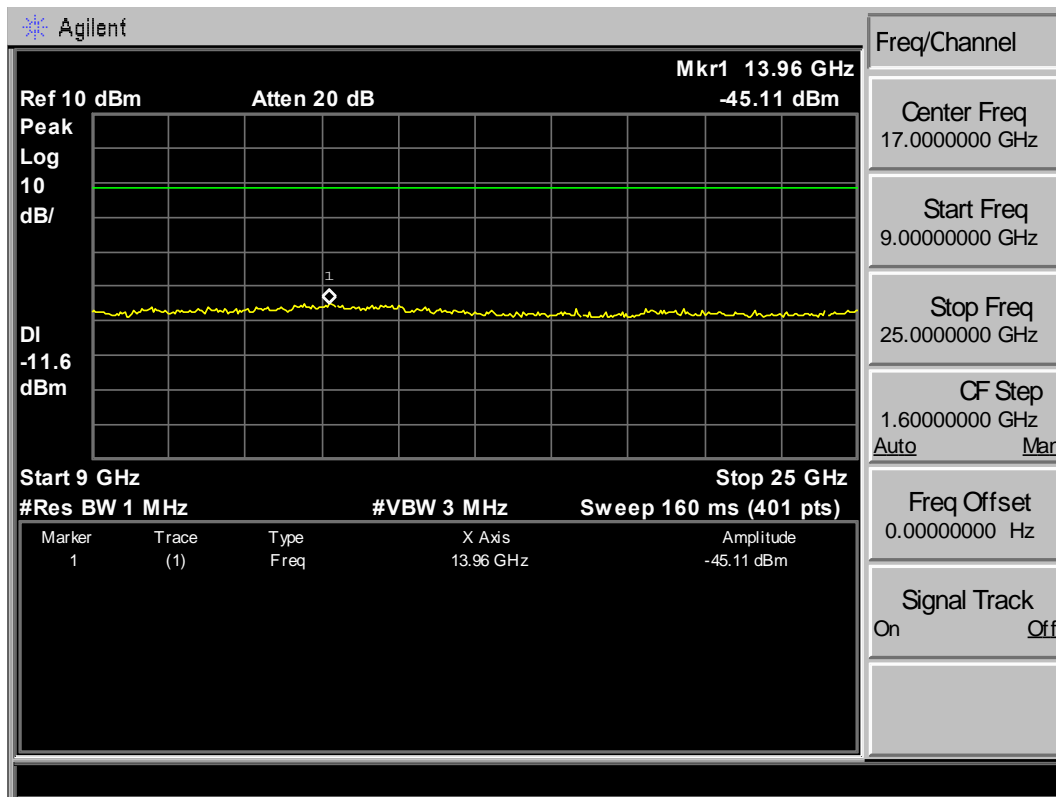
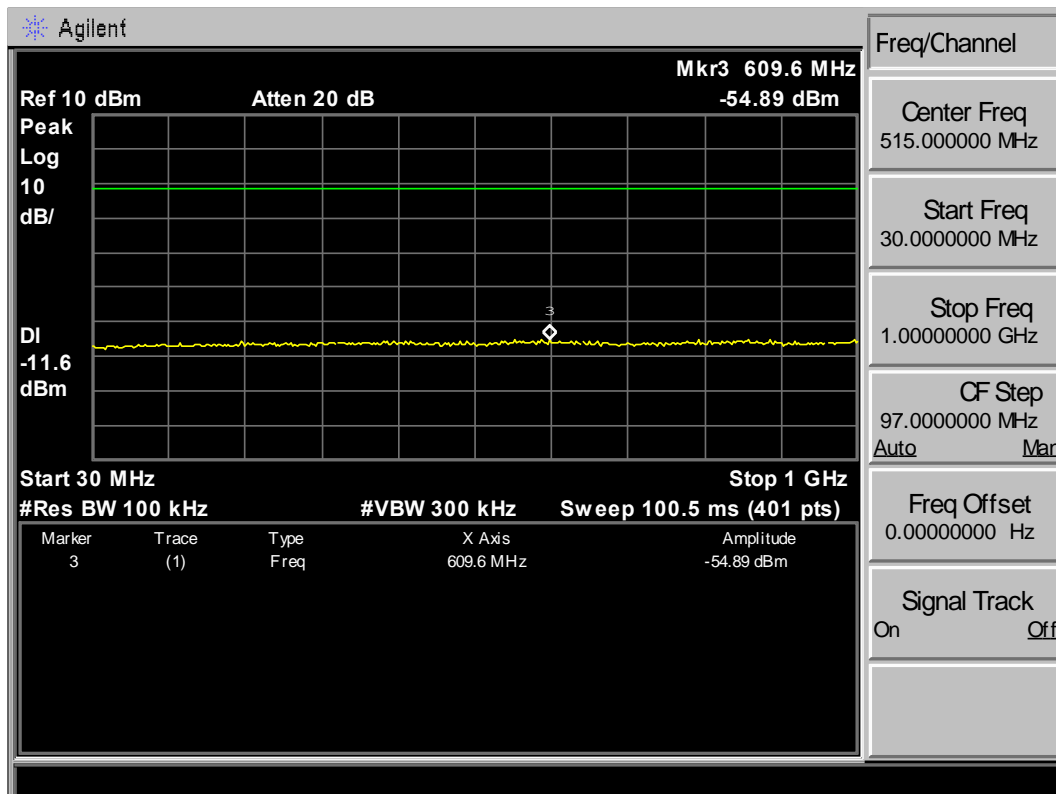


Figure 9: Test figure of Conducted Spurious Emissions, BLE (High)



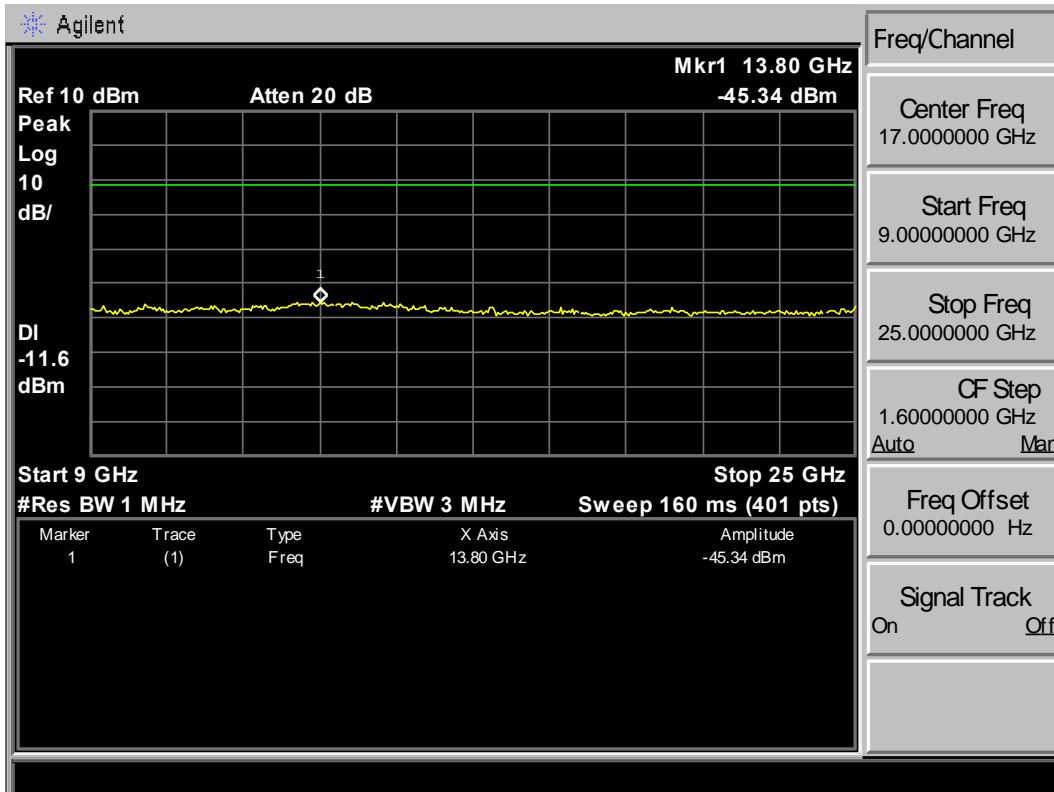
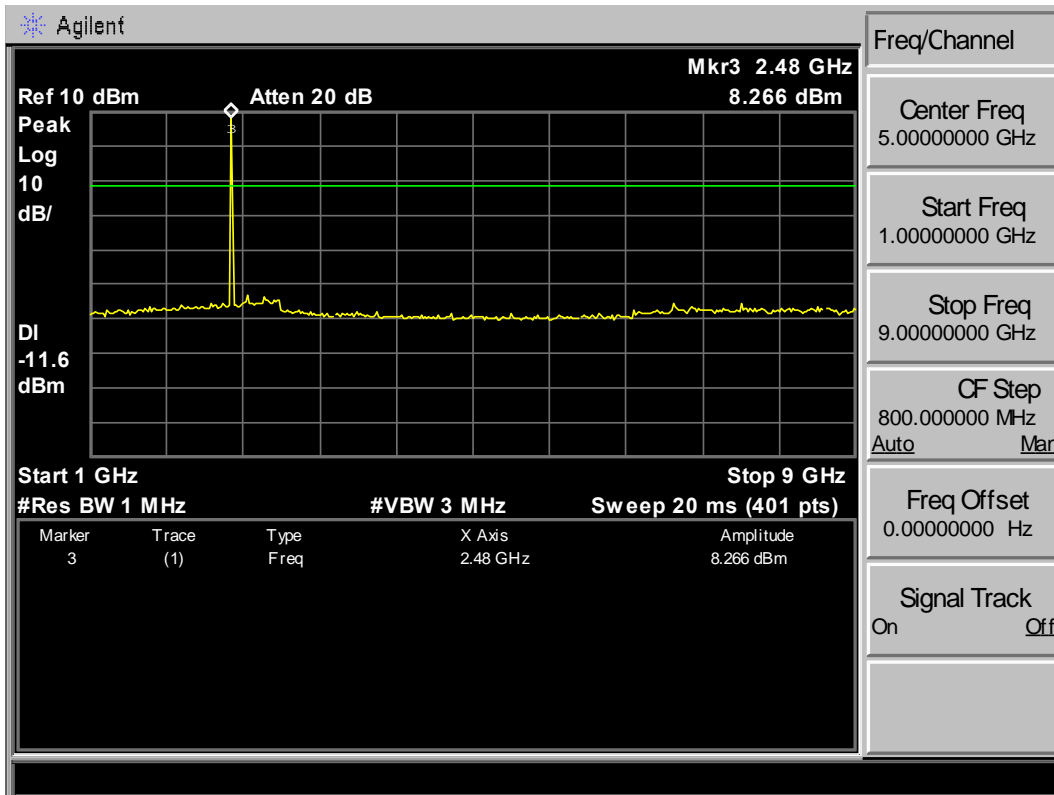


Figure 10: Test figure of Band Edge, BDR (Low)

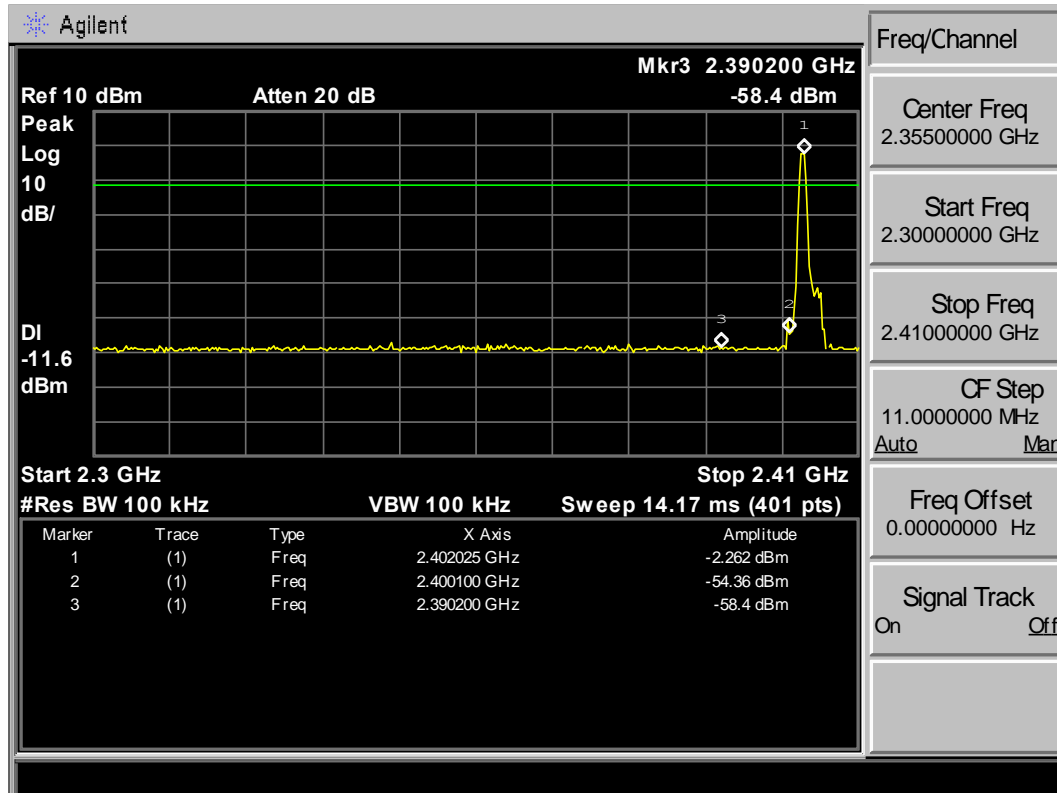


Figure 11: Test figure of Band Edge, BDR (High)

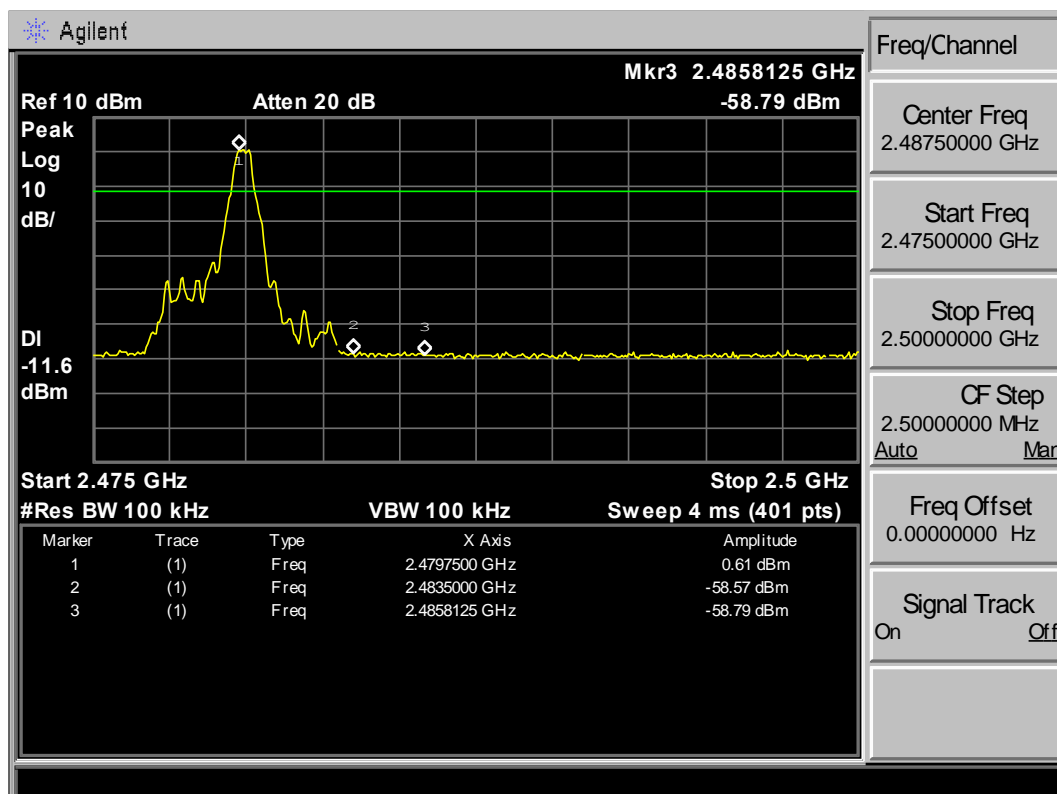


Figure 12: Test figure of Band Edge, EDR (Low)

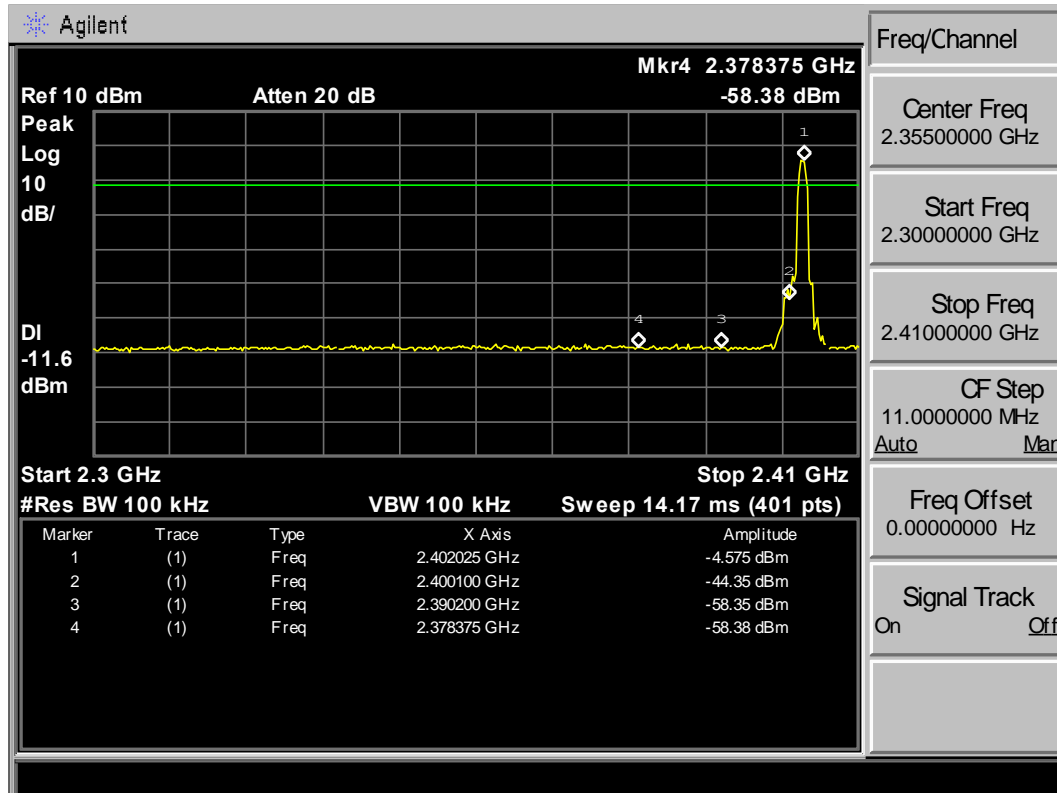


Figure 13: Test figure of Band Edge, EDR (High)

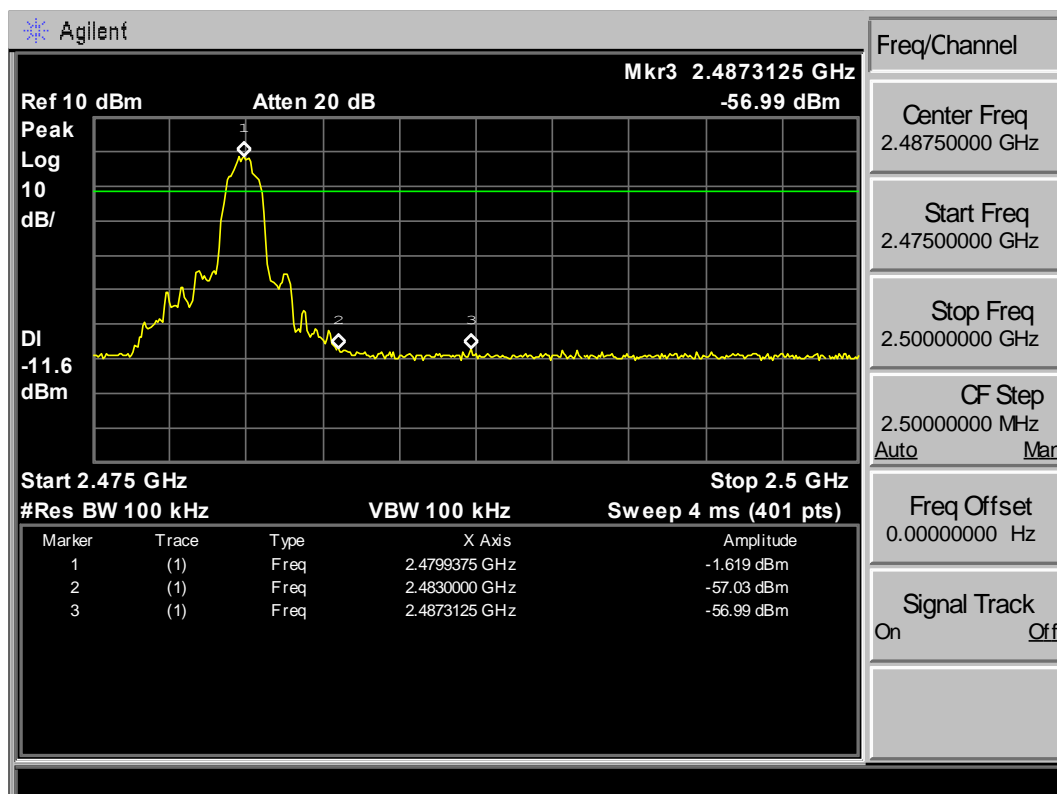


Figure 14: Test figure of Band Edge, BLE (Low)

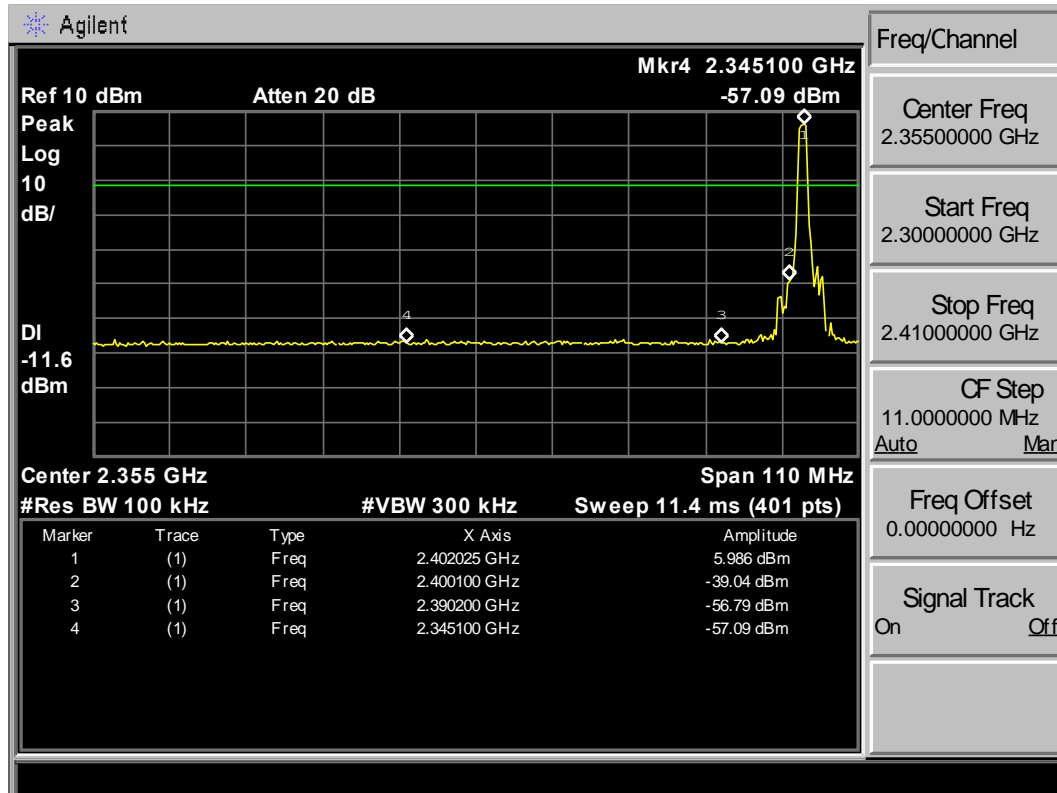


Figure 15: Test figure of Band Edge, BLE (High)

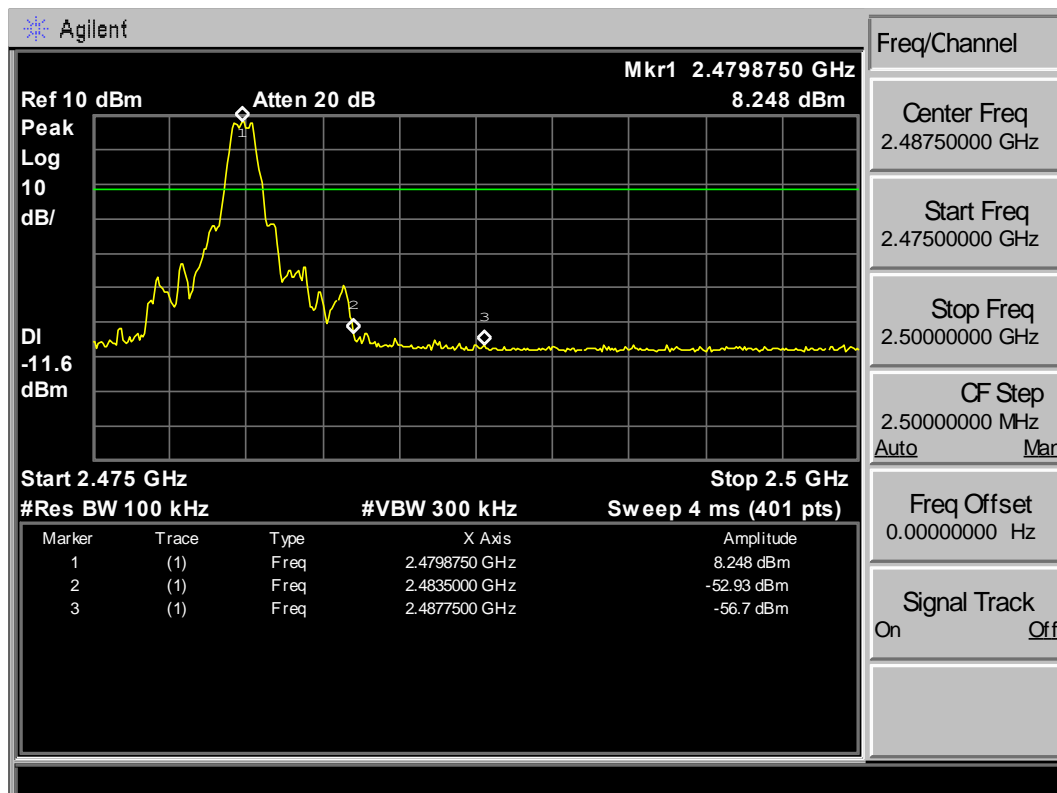
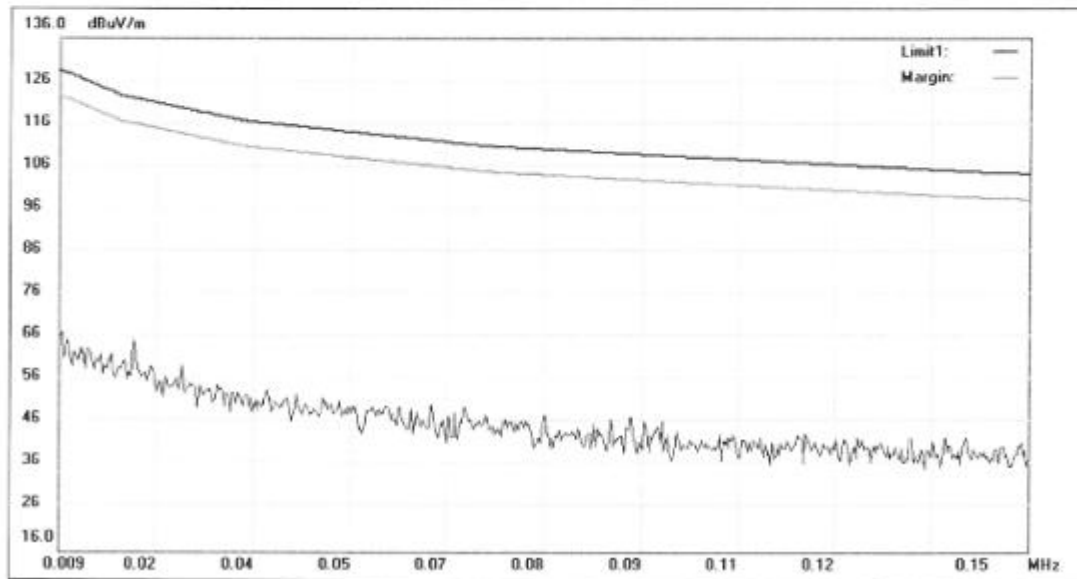


Figure 16: Test figure of Spurious Emissions (9kHz – 30MHz), BDR (Low)



966 (2) Chamber

Job No.:	20150427	Ant.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27	Time:11:03:01
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	GFSK TX 2402MHz		

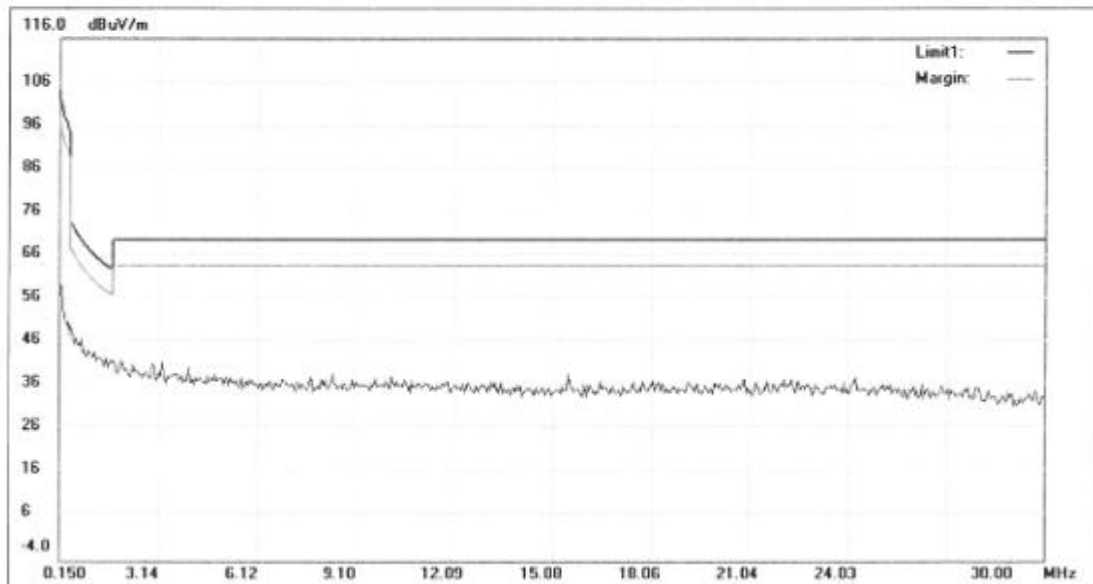



**深圳康来士标准测试技术有限公司**  
 Compliance Certification Services (ShenZhen) Inc.

地址: 广东省深圳市观澜镇松岗路18号保可达物流园10-1栋 TEL: 0755-28005000 FAX: 0755-29564902

## 966 (2) Chamber

Job No.:	20150427	Ant.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27	Time:11:01:06
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	GFSK TX 2402MHz		

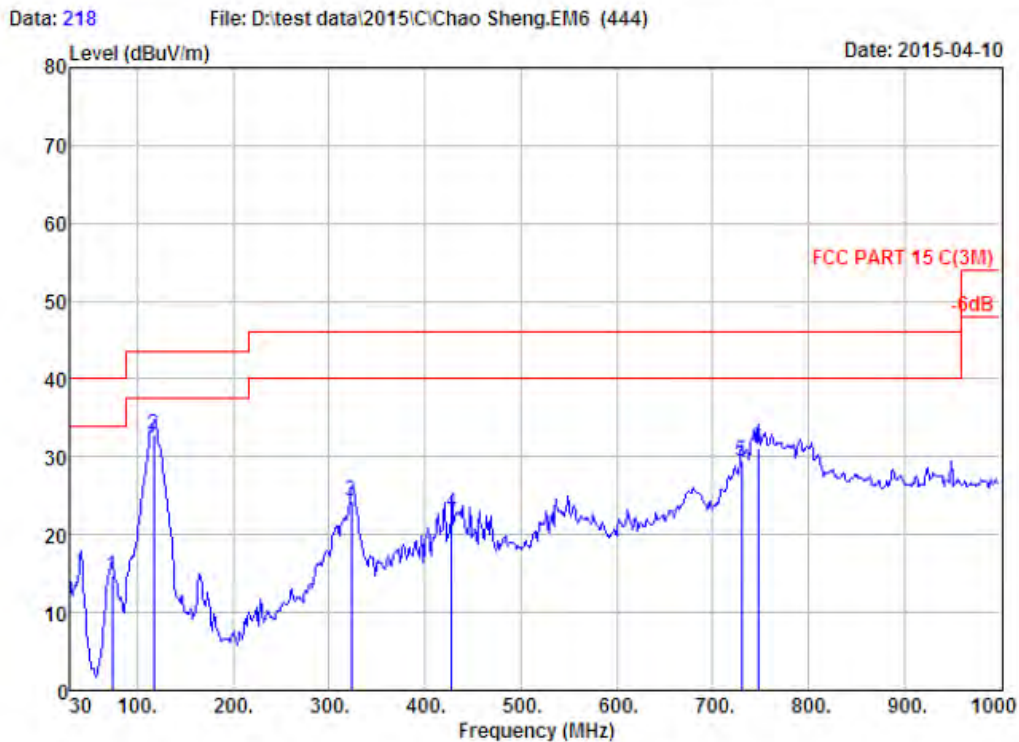




**Figure 17: Test figure of Spurious Emissions (30MHz – 1GHz), BDR (Low), H**

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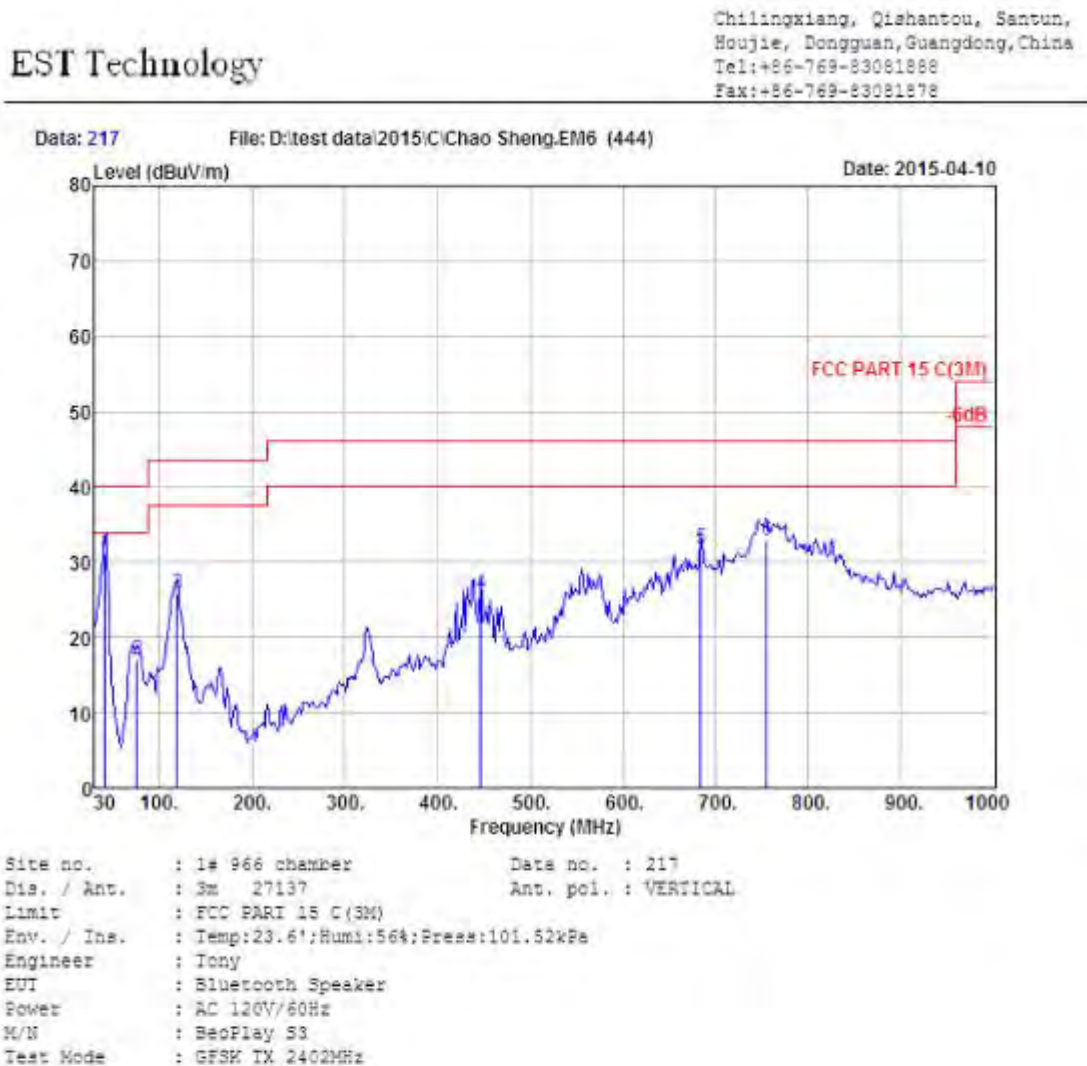
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Fax:+86-769-83081878



Site no. : 1# 966 chamber Data no. : 218  
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 C(3M)  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	73.65	6.22	1.15	7.29	14.66	40.00	25.34	QP
2	117.30	11.02	1.47	20.32	32.81	43.50	10.69	QP
3	322.94	13.65	2.43	8.18	24.26	46.00	21.74	QP
4	427.70	16.11	2.85	3.92	22.88	46.00	23.12	QP
5	730.34	22.15	3.76	3.61	29.52	46.00	16.48	QP
6	747.80	22.22	3.91	5.00	31.13	46.00	14.87	QP

Figure 18: Test figure of Spurious Emissions (30MHz – 1GHz), BDR (Low), V

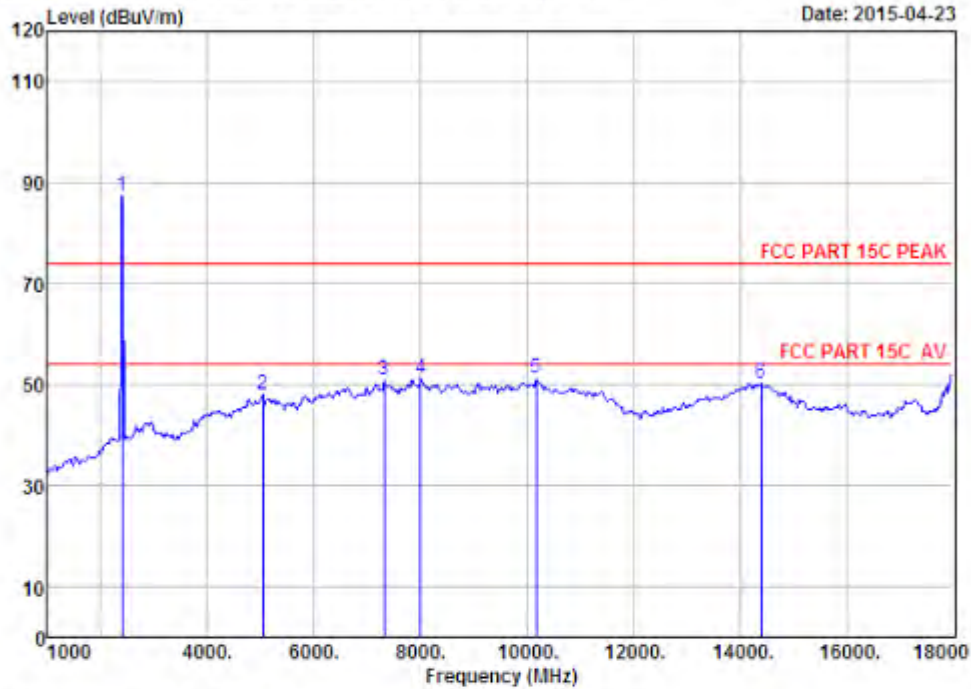


	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	41.64	11.75	0.85	18.61	31.21	40.00	8.79	QP
2	76.56	5.66	1.19	9.18	17.00	40.00	23.00	QP
3	119.24	11.11	1.42	13.24	25.77	43.50	17.73	QP
4	447.10	16.40	2.98	6.47	25.85	46.00	20.15	QP
5	684.75	20.33	3.61	7.94	31.88	46.00	14.12	QP
6	755.56	22.10	3.87	6.91	32.88	46.00	13.12	QP

**Figure 19: Test figure of Spurious Emissions (1GHz –25GHz), BDR (Low), H**

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Fax: +86-769-83081878

Data: 446 File: D:\test data\2015\C\Chao Sheng.EM6 (500) Date: 2015-04-23



Site no. : 1# 966 chamber Data no. : 446  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limite (dBUV/m)	Margin (dB)	Remark
1	2402.00	27.61	6.62	34.18	87.23	87.28	74.00	-13.28	Peak
2	5046.00	31.57	12.53	32.08	36.04	48.06	74.00	25.94	Peak
3	7324.00	36.55	11.57	31.99	34.69	50.82	74.00	23.18	Peak
4	8004.00	37.01	11.40	31.22	33.96	51.15	74.00	22.85	Peak
5	10180.00	38.42	11.49	32.11	33.31	51.11	74.00	22.89	Peak
6	14396.00	41.79	10.92	32.83	30.38	50.26	74.00	23.74	Peak

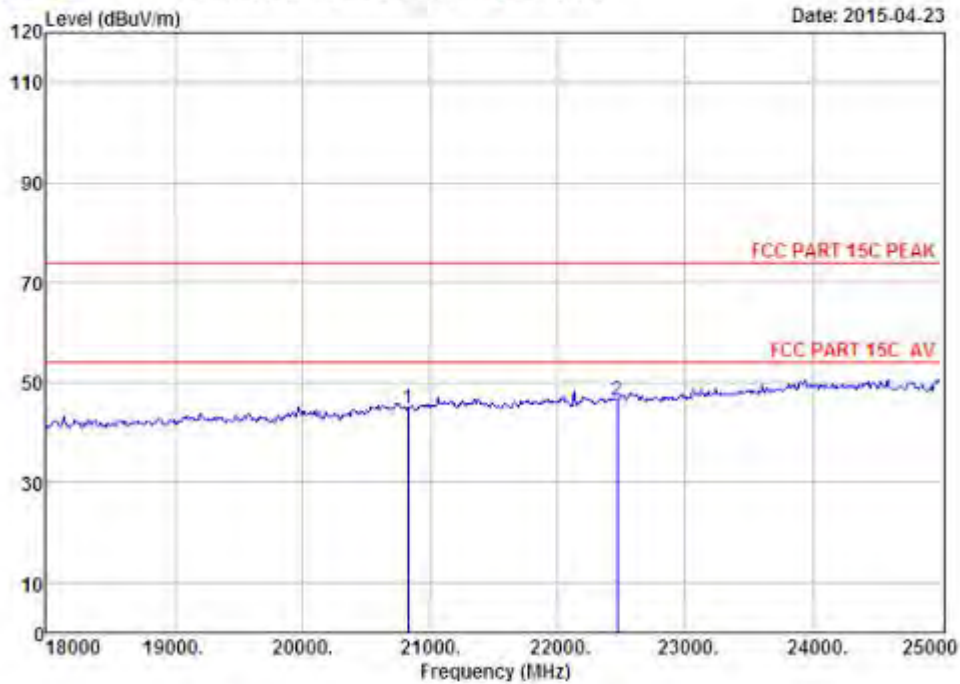
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 455 File: D:\test data\2015\C\Chao Sheng.EM6 (500)

Date: 2015-04-23



Site no. : 1# 966 chamber Data no. : 455  
 Dis. / Ant. : 3m ANI ABVOE 18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6%;Hum:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2402MHz

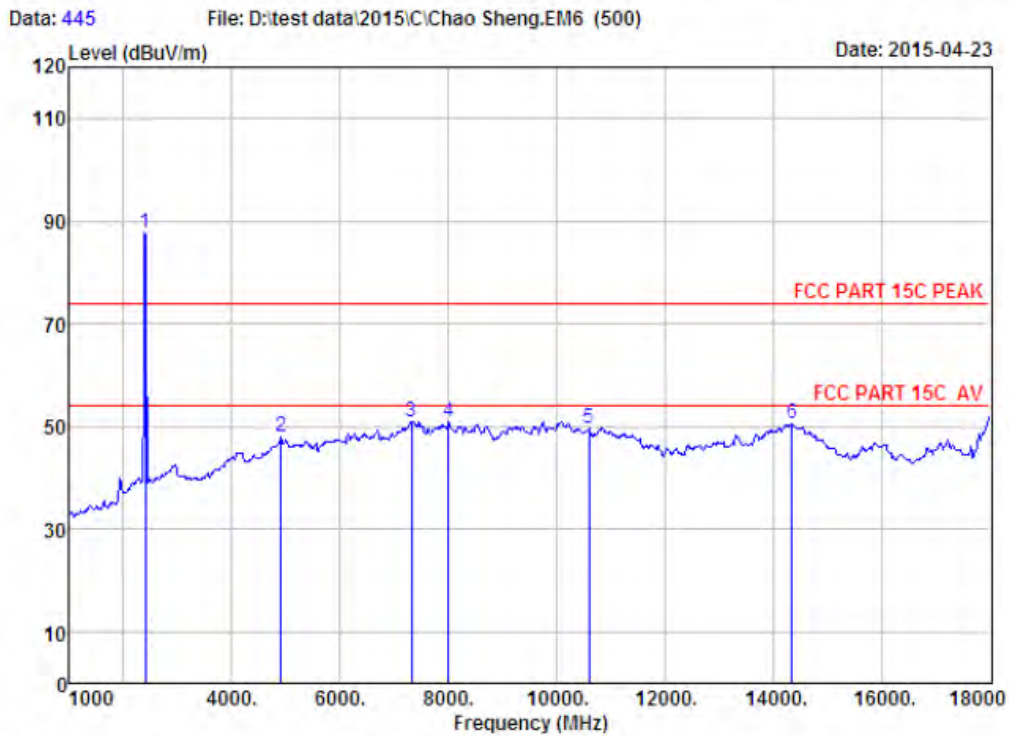
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	20828.00	46.20	20.05	35.96	14.62	44.91	74.00	29.09	Peak
2	22466.00	45.79	20.83	34.40	14.27	46.49	74.00	27.51	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official  
 limit are not reported.



**Figure 20: Test figure of Spurious Emissions (1GHz –25GHz), BDR (Low), V**

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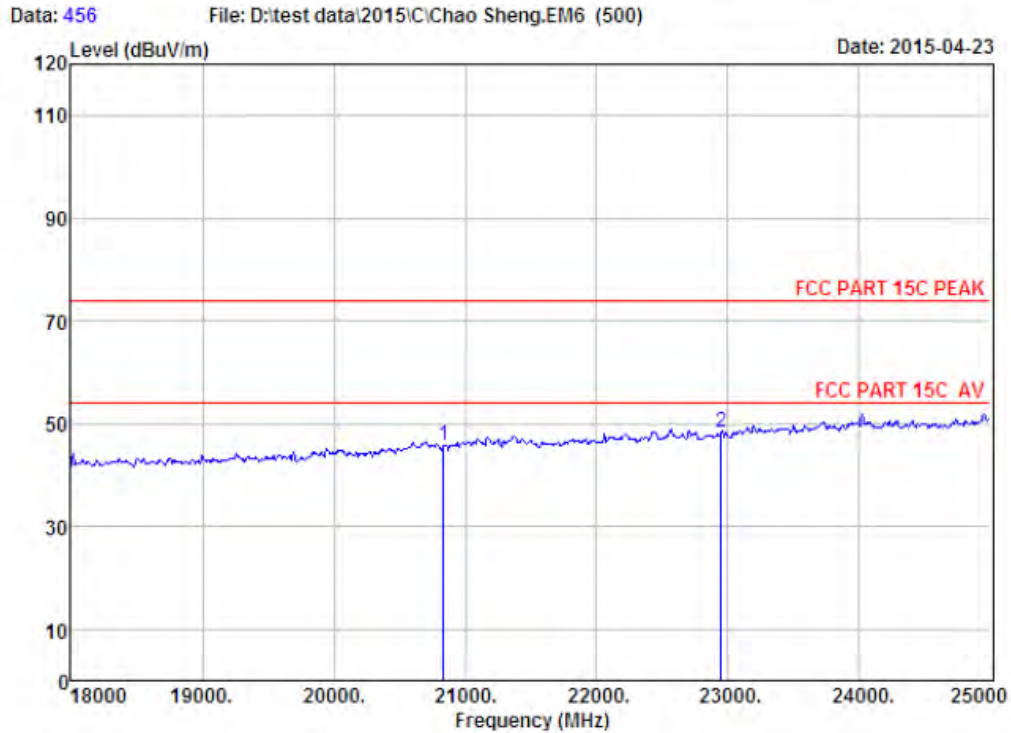
Site no. : 1# 966 chamber Data no. : 445  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6°;Humid:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.61	6.62	34.18	87.53	87.58	74.00	-13.58	Peak
2	4910.00	31.42	12.22	31.93	36.24	47.95	74.00	26.05	Peak
3	7324.00	36.55	11.57	31.99	34.85	50.98	74.00	23.02	Peak
4	8004.00	37.01	11.40	31.22	33.76	50.95	74.00	23.05	Peak
5	10605.00	39.09	11.31	32.91	32.12	49.61	74.00	24.39	Peak
6	14345.00	41.76	10.92	32.93	30.74	50.49	74.00	23.51	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Site no. : 1# 966 chamber Data no. : 456  
 Dis. / Ant. : 3m ANI ABOVE 18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	20835.00	46.20	20.06	35.96	15.55	45.85	74.00	28.15	Peak
2	22949.00	45.62	21.12	33.90	15.49	48.33	74.00	25.67	Peak

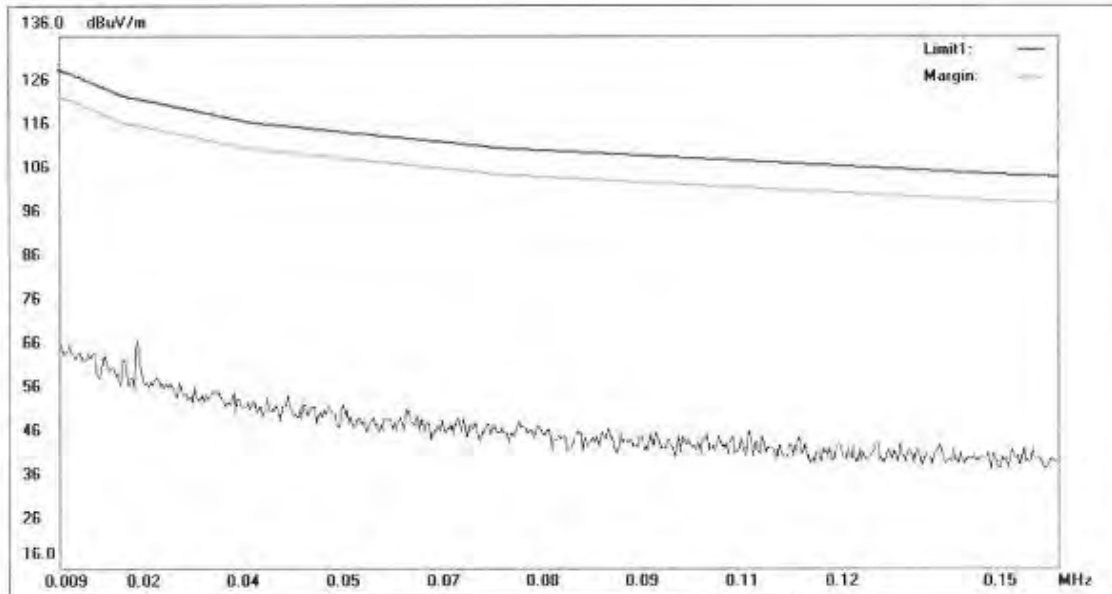
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

Figure 21: Test figure of Spurious Emissions (9kHz – 30MHz), BDR (Mid)



966 (2) Chamber

Job No.:	20150427	Ant.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27	Time:11:05:54
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	GFSK TX 2441MHz		





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— 地址 — : 广东省深圳市宝安区西乡街道铁岗社区铁岗山工业园 3 栋 3 楼 311 室 邮编: 518102 电话: 0755-27009600 传真: 0755-27009601

966 (2) Chamber

Job No.:	20150427	Ant.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27	Time:11:07:36
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	GFSK TX 2441MHz		

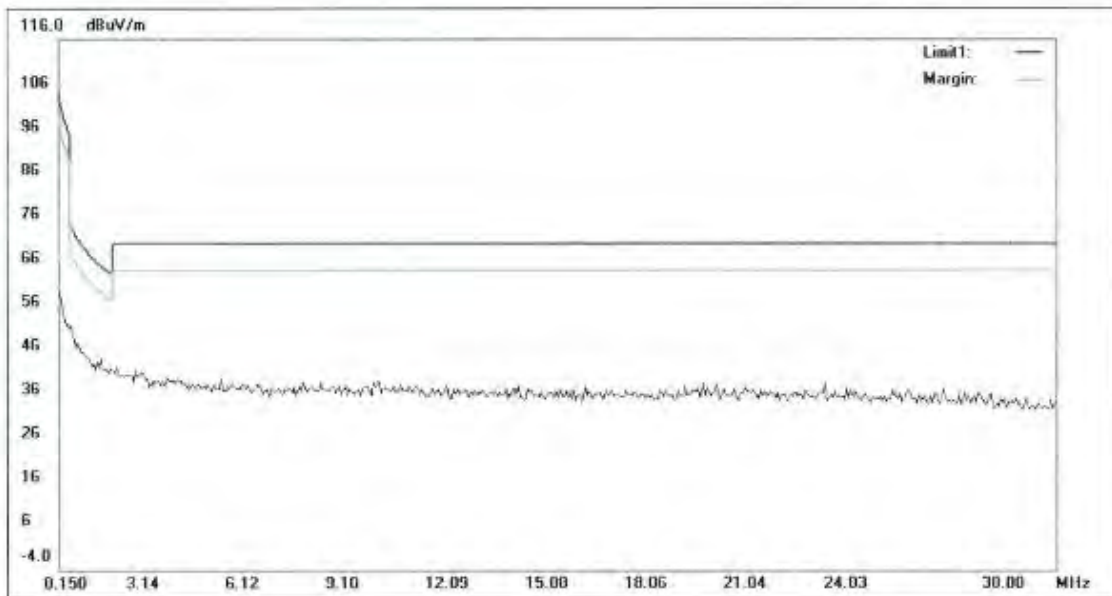
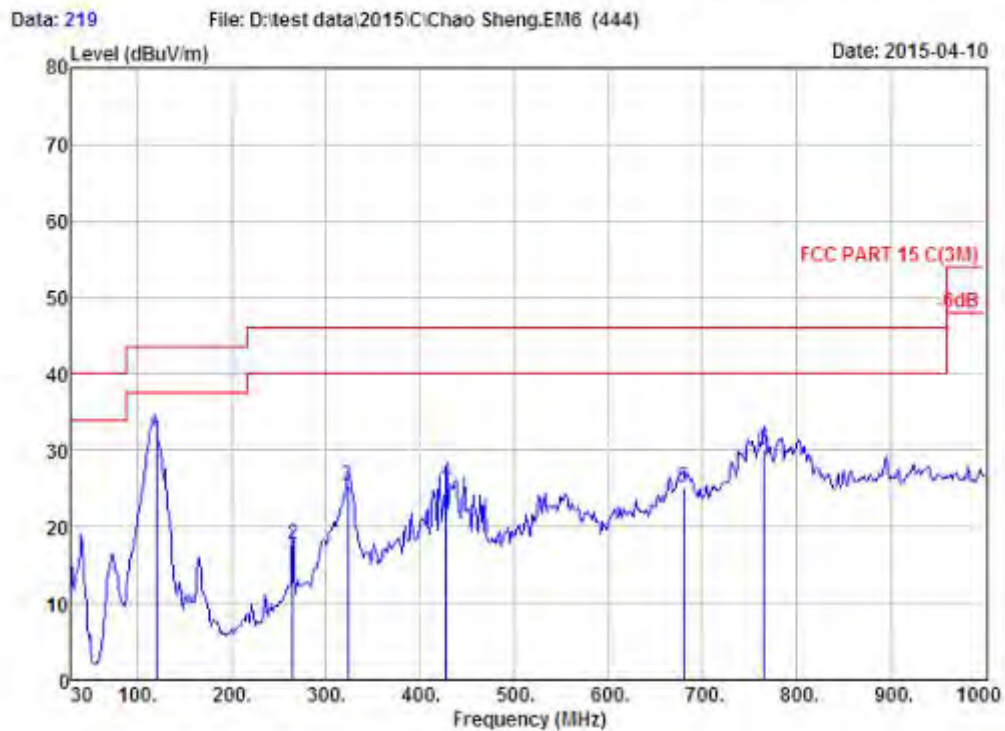




Figure 22: Test figure of Spurious Emissions (30MHz – 1GHz), BDR (Mid), H

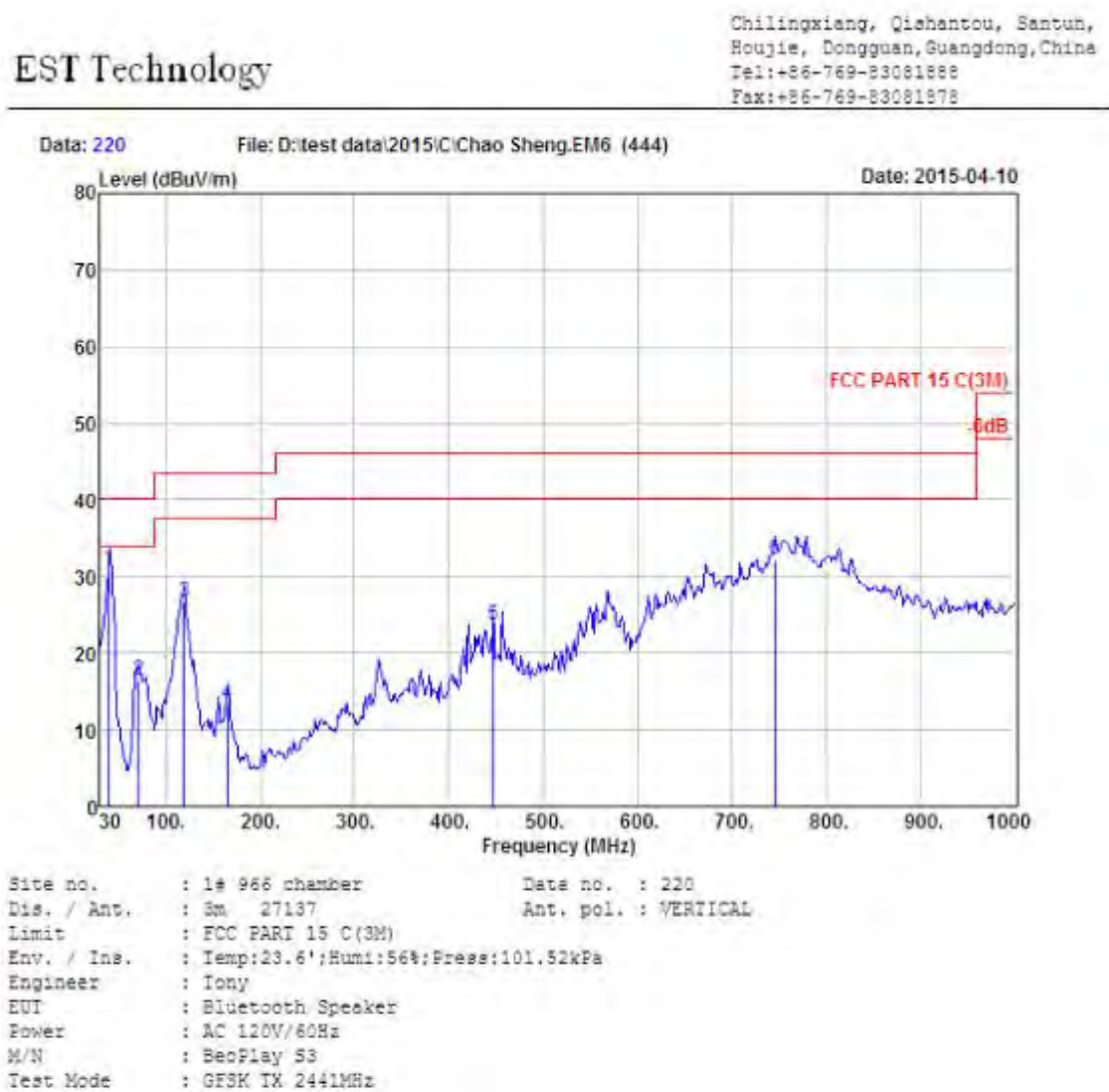
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Site no. : 1# 966 chamber Data no. : 219  
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 C(3M)  
 Env. / Ins. : Temp:23.6';Hum:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	120.21	11.16	1.41	18.72	31.29	43.50	12.21	QP
2	264.74	12.94	2.28	2.49	17.71	46.00	28.29	QP
3	322.94	13.65	2.43	9.25	25.33	46.00	20.67	QP
4	427.70	16.11	2.85	6.92	25.88	46.00	20.12	QP
5	679.90	20.29	3.66	1.27	25.22	46.00	20.78	QP
6	765.26	22.04	3.56	4.15	30.05	46.00	15.95	QP

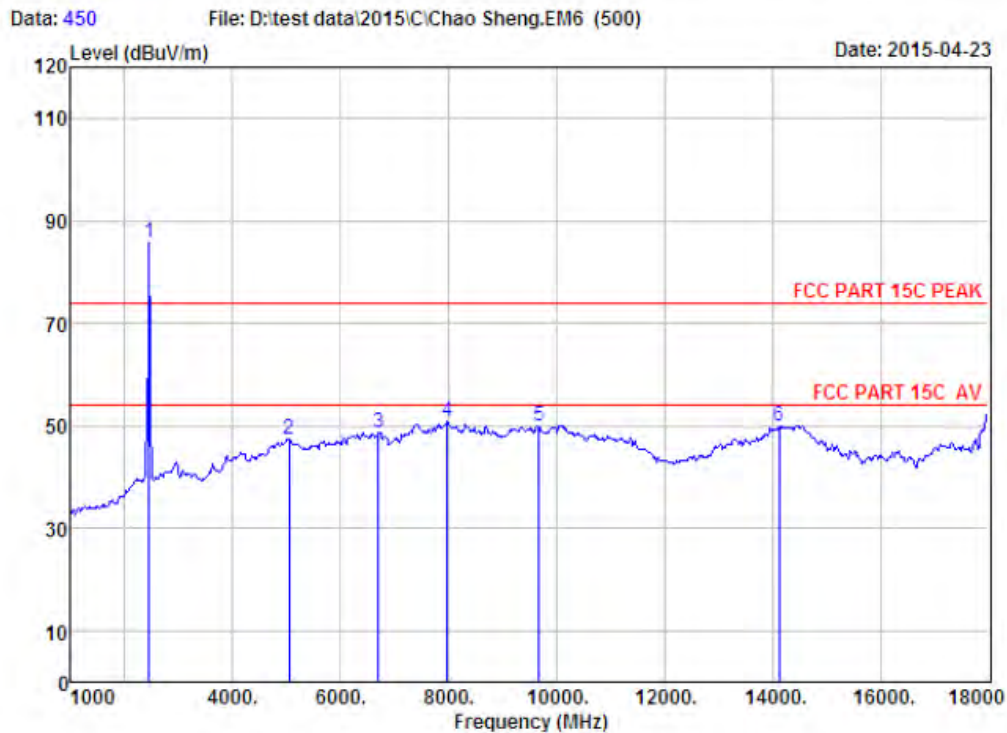
**Figure 23: Test figure of Spurious Emissions (30MHz – 1GHz), BDR (Mid), V**



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limite (dBUV/m)	Margin (dB)	Remark
1	39.70	12.90	0.81	17.20	30.91	40.00	9.09	QP
2	70.74	5.32	1.04	9.63	16.49	40.00	23.51	QP
3	119.24	11.11	1.42	14.21	26.74	43.50	16.76	QP
4	165.80	9.66	1.68	2.21	13.55	43.50	29.95	QP
5	447.10	16.40	2.95	4.24	23.62	46.00	22.38	QP
6	745.86	22.26	3.90	6.10	32.26	46.00	13.74	QP

**Figure 24: Test figure of Spurious Emissions (1GHz –25GHz), BDR (Mid), H**

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Site no. : 1# 966 chamber Data no. : 450  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK IX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	27.60	6.67	34.12	85.72	85.87	74.00	-11.87	Peak
2	5046.00	31.57	12.53	32.08	35.45	47.47	74.00	26.53	Peak
3	6695.00	34.49	11.95	32.23	34.33	48.54	74.00	25.46	Peak
4	7970.00	36.94	11.41	31.25	33.91	51.01	74.00	22.99	Peak
5	9670.00	38.01	11.67	31.88	32.23	50.03	74.00	23.97	Peak
6	14124.00	41.57	10.91	33.59	31.10	49.99	74.00	24.01	Peak

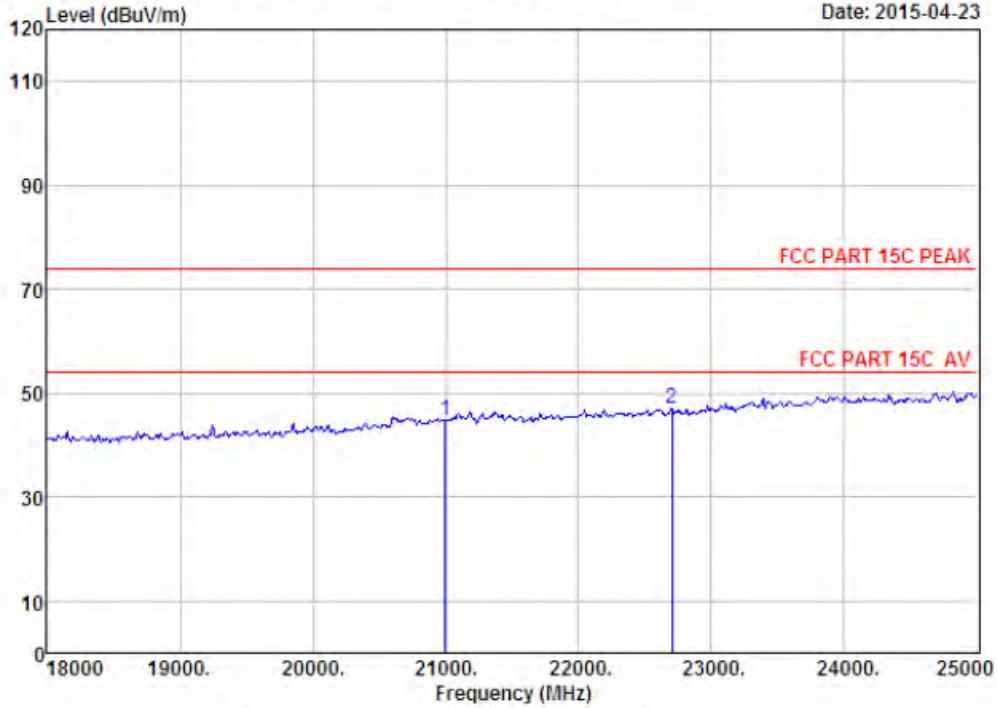
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 458 File: D:\test data\2015\C\Chao Sheng.EM6 (500)

Date: 2015-04-23



Site no. : 1# 966 chamber Data no. : 458  
 Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2441MHz

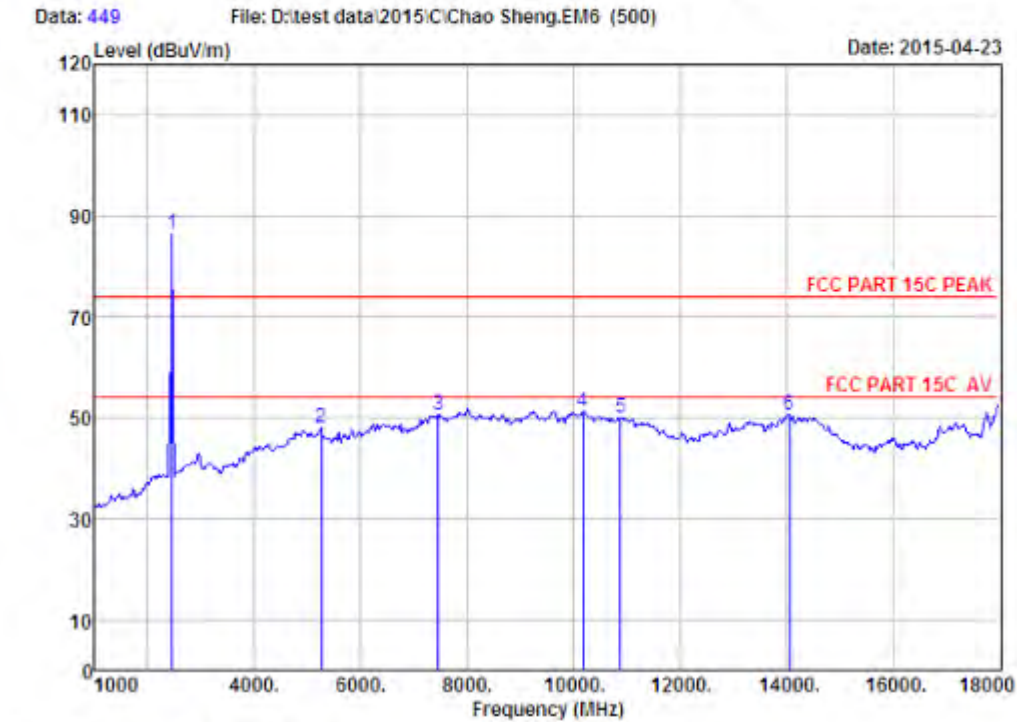
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	20996.00	46.30	20.13	35.80	14.33	44.96	74.00	29.04	Peak
2	22704.00	45.72	20.98	34.17	14.53	47.06	74.00	26.94	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Figure 25: Test figure of Spurious Emissions (1GHz –25GHz), BDR (Mid), V

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Site no. : 1# 966 chamber Data no. : 449  
 Dis. / Ant. : 3m ANI 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Hum:56%;Press:101.52kPa  
 Engineer : Tony  
 EUI : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2441.00	27.60	6.67	34.12	86.20	86.35	74.00	-12.35	Peak
2	5250.00	31.69	12.29	32.19	36.22	48.01	74.00	25.99	Peak
3	7460.00	36.52	11.61	31.91	34.20	50.42	74.00	23.58	Peak
4	10180.00	38.42	11.49	32.11	33.55	51.35	74.00	22.65	Peak
5	10894.00	39.41	11.29	33.46	32.66	49.90	74.00	24.10	Peak
6	14056.00	41.51	10.90	33.80	32.00	50.61	74.00	23.39	Peak

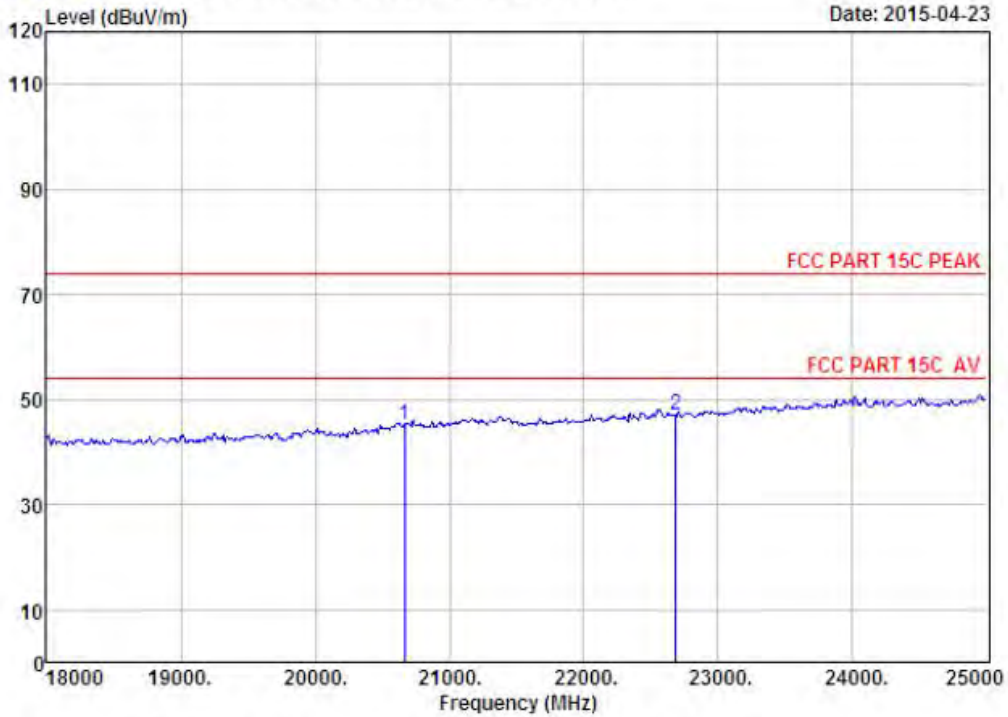
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 457 File: D:\test data\2015\C\Chao Sheng.EM6 (500)

Date: 2015-04-23



Site no. : 1# 966 chamber Data no. : 457  
 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6%;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	20667.00	46.10	19.98	36.09	15.25	45.24	74.00	28.76	Peak
2	22683.00	45.73	20.96	34.19	14.39	46.89	74.00	27.11	Peak

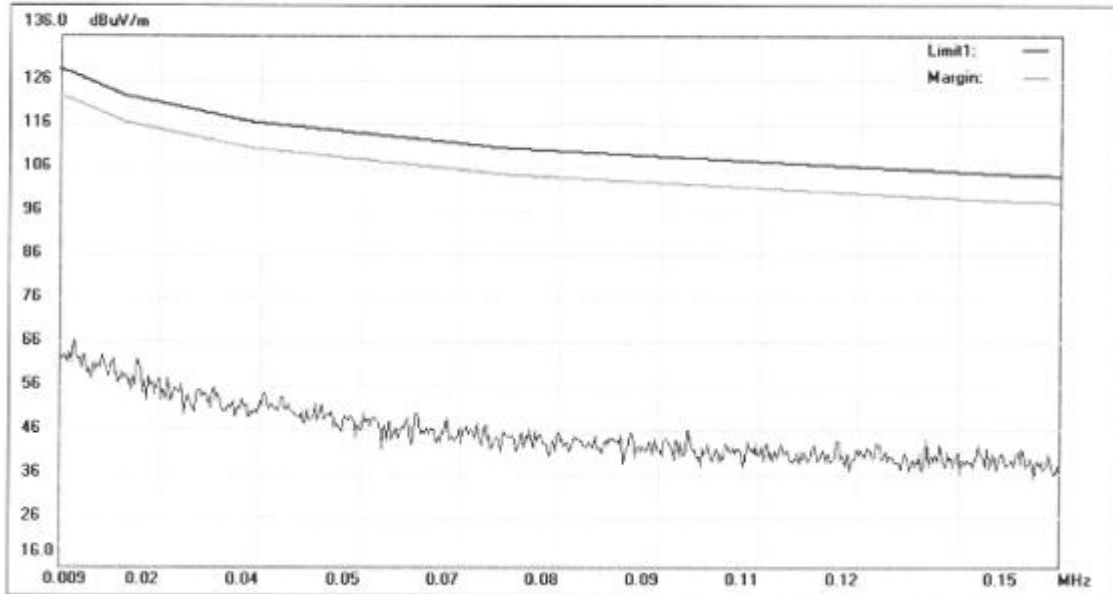
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

Figure 26: Test figure of Spurious Emissions (9kHz – 30MHz), BDR (High)



966 (2) Chamber

Job No.:	20150427	Ant.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:	2015-4-27 Time:11:10:43
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	GFSK TX 2480MHz		



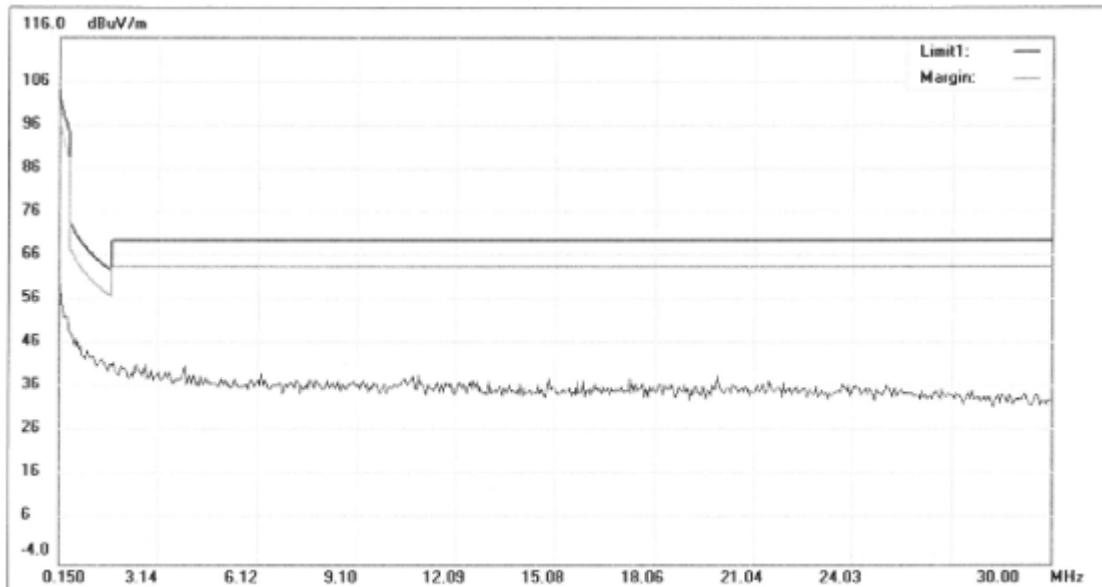


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Compliance Certification Services (ShenZhen) Inc.

地址：广东省深圳市观澜镇环观南路18号钰可达物流园10-1栋 TEL: 0755-28055000 FAX: 0755-29564902

966 (2) Chamber

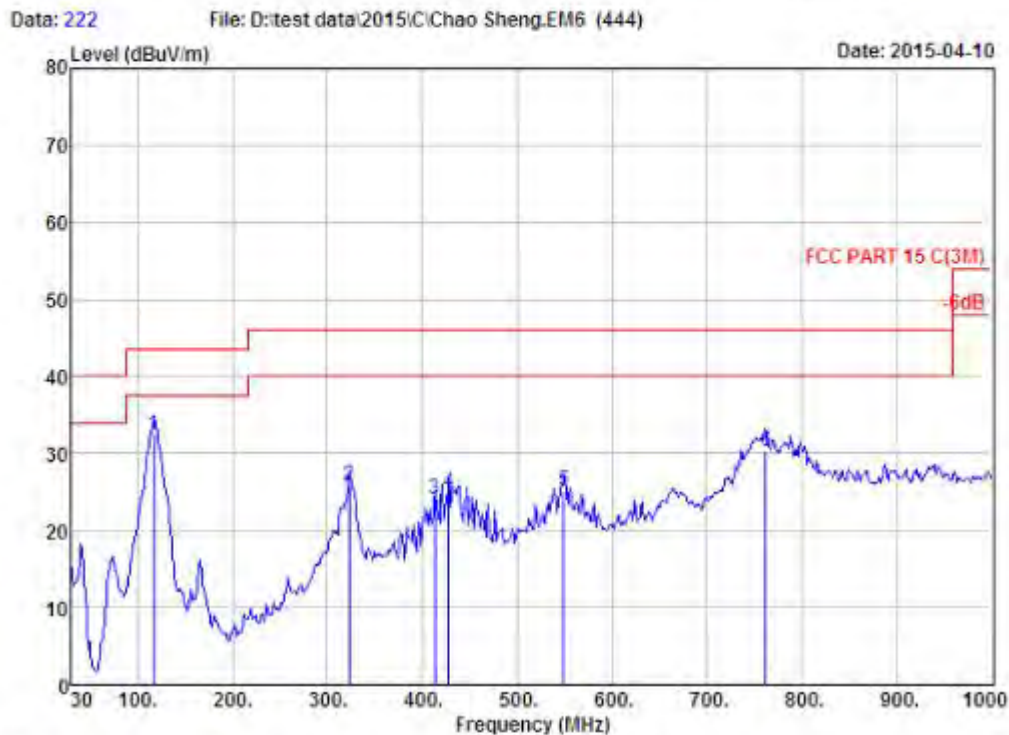
Job No.:	20150427	Ant.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27	Time:11:09:58
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	GFSK TX 2480MHz		





**Figure 27: Test figure of Spurious Emissions (30MHz – 1GHz), BDR (High), H**

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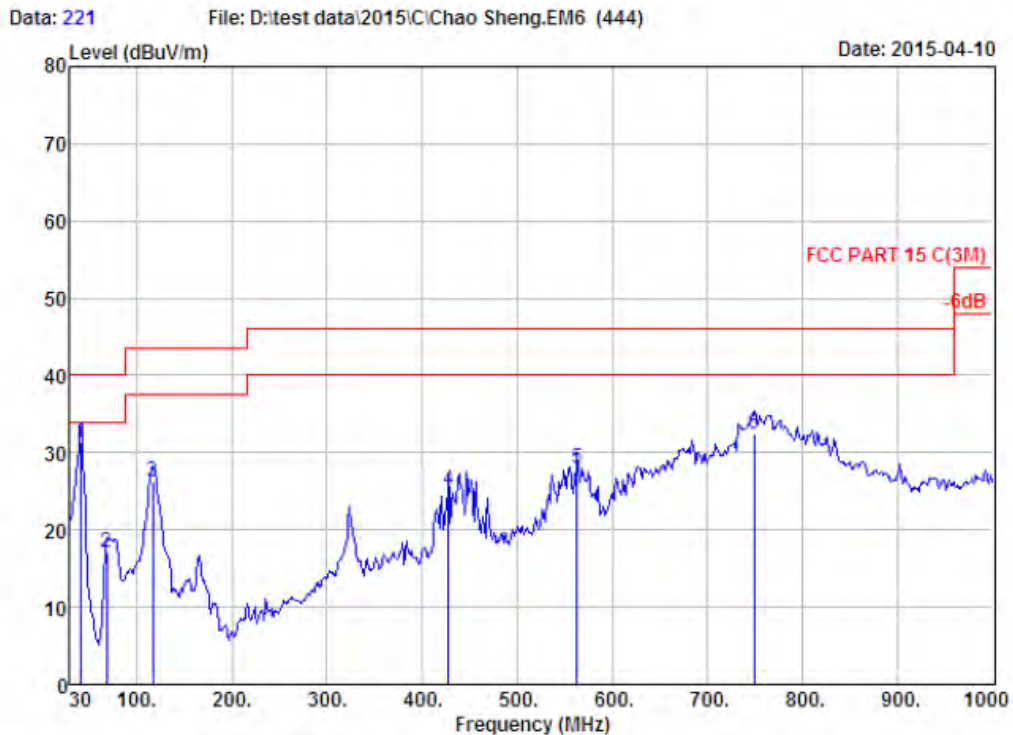
Site no. : 1# 966 chamber Data no. : 222  
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
Limit : FCC PART 15 C(3M)  
Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	117.30	11.02	1.47	19.99	32.48	43.50	11.02	QP
2	322.94	13.65	2.43	9.69	25.77	46.00	20.23	QP
3	413.15	16.29	2.69	5.22	24.20	46.00	21.80	QP
4	427.70	16.11	2.85	5.94	24.90	46.00	21.10	QP
5	548.95	19.45	3.26	2.51	25.22	46.00	20.78	QP
6	762.35	22.04	3.92	4.30	30.26	46.00	15.74	QP

**Figure 28: Test figure of Spurious Emissions (30MHz – 1GHz), BDR (High), V**

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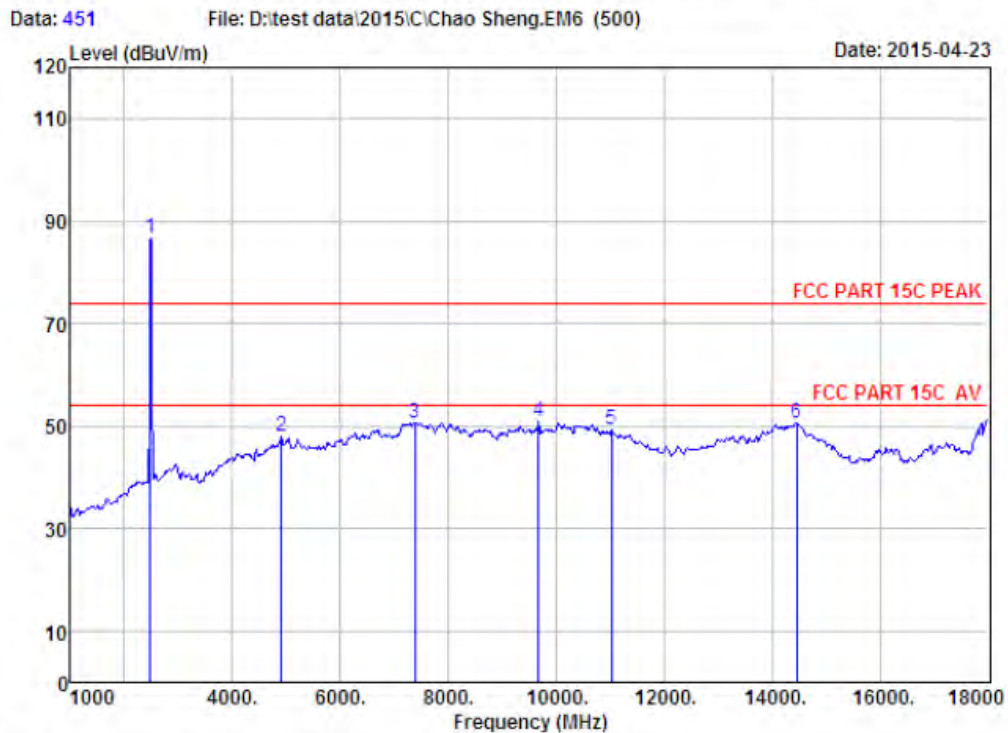


Site no. : 1# 966 chamber Data no. : 221  
 Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 C(3M)  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	41.64	11.75	0.85	18.77	31.37	40.00	8.63	QP
2	68.80	5.51	1.10	10.40	17.01	40.00	22.99	QP
3	117.30	11.02	1.47	13.74	26.23	43.50	17.27	QP
4	427.70	16.11	2.85	6.29	25.25	46.00	20.75	QP
5	563.50	19.67	3.28	5.05	28.00	46.00	18.00	QP
6	749.74	22.19	3.81	6.41	32.41	46.00	13.59	QP

**Figure 29: Test figure of Spurious Emissions (1GHz –25GHz), BDR (High), H**

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Site no. : 1# 966 chamber Data no. : 451  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUI : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	34.03	86.60	86.86	74.00	-12.86	Peak
2	4910.00	31.42	12.22	31.98	36.33	48.04	74.00	25.96	Peak
3	7375.00	36.57	11.59	31.98	34.52	50.70	74.00	23.30	Peak
4	9670.00	38.01	11.67	31.88	32.93	50.73	74.00	23.27	Peak
5	11030.00	39.50	11.27	33.71	32.25	49.31	74.00	24.69	Peak
6	14464.00	41.85	10.93	32.96	30.86	50.68	74.00	23.32	Peak

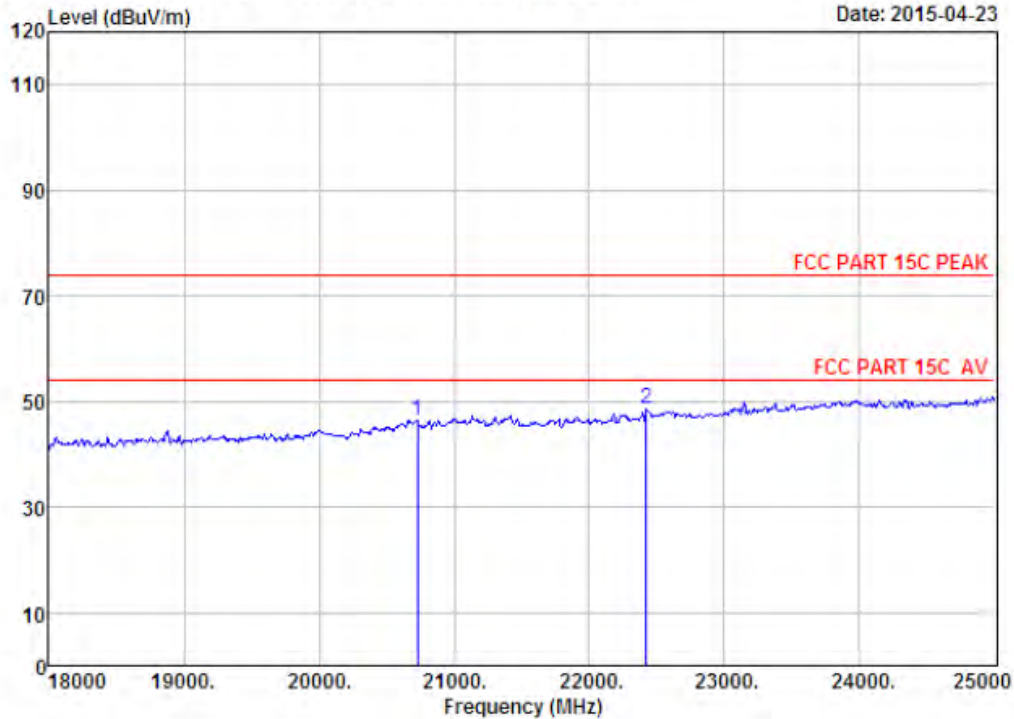
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 459 File: D:\test data\2015\C\Chao Sheng.EM6 (500)

Date: 2015-04-23



Site no. : 1# 966 chamber Data no. : 459  
 Dis. / Ant. : 3m ANI ABVOE 18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	20730.00	46.14	20.01	36.05	16.35	46.45	74.00	27.55	Peak
2	22424.00	45.78	20.81	34.45	16.35	48.49	74.00	25.51	Peak

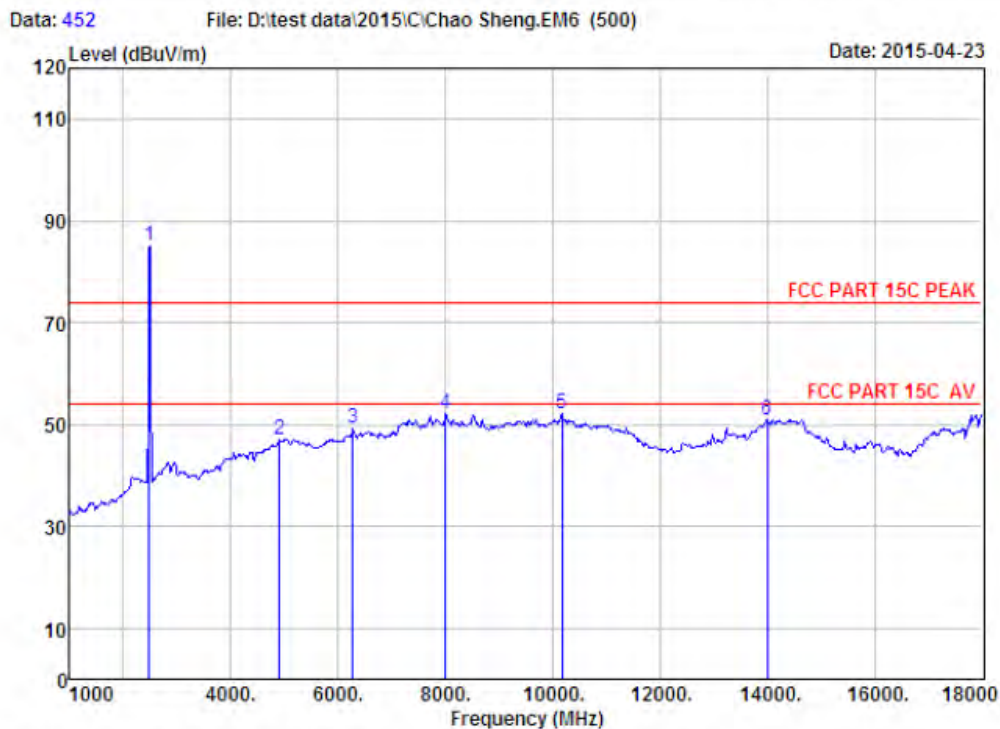
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



**Figure 30: Test figure of Spurious Emissions (1GHz –25GHz), BDR (High), V**

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Site no. : 1# 966 chamber Data no. : 452  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	34.03	85.00	85.26	74.00	-11.26	Peak
2	4910.00	31.42	12.22	31.93	35.31	47.02	74.00	26.98	Peak
3	6270.00	33.48	12.18	31.95	35.64	49.35	74.00	24.65	Peak
4	8004.00	37.01	11.40	31.22	34.95	52.14	74.00	21.86	Peak
5	10180.00	38.42	11.49	32.11	34.32	52.12	74.00	21.88	Peak
6	14005.00	41.46	10.90	33.95	32.59	51.00	74.00	23.00	Peak

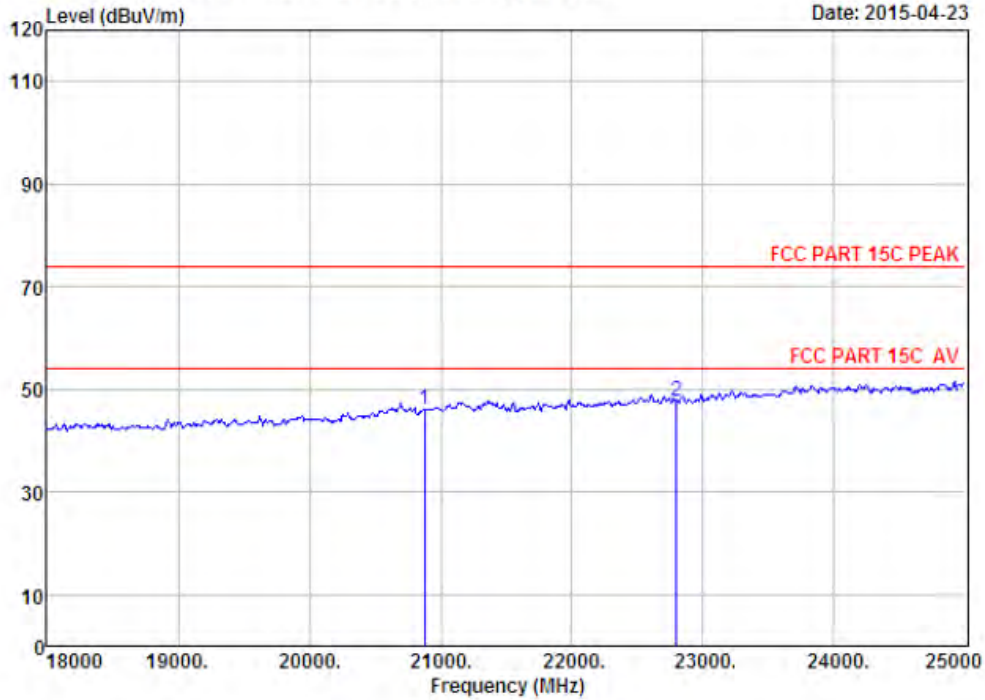
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 460 File: D:\test data\2015\C\Chao Sheng,EM6 (500)

Date: 2015-04-23



Site no. : 1# 966 chamber Data no. : 460  
 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	20877.00	46.23	20.08	35.91	15.78	46.18	74.00	27.82	Peak
2	22795.00	45.68	21.03	34.06	14.98	47.63	74.00	26.37	Peak

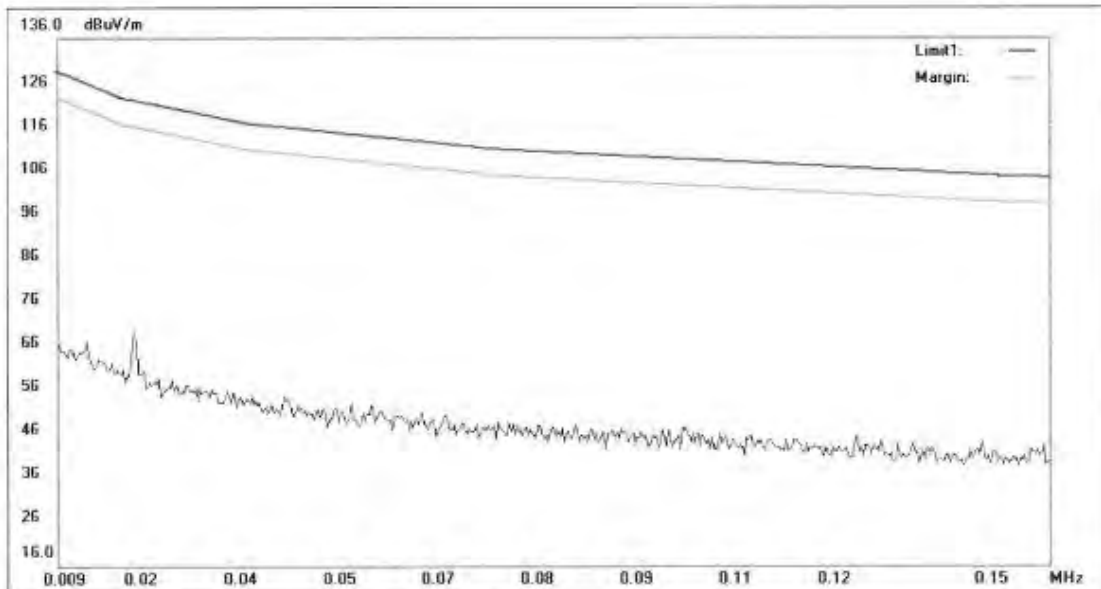
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

Figure 31: Test figure of Spurious Emissions (9kHz – 30MHz), EDR (Low)



966 (2) Chamber

Job No.:	20150427	Ant.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27	Time:11:18:01
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	8- DPSK TX 2402MHz		



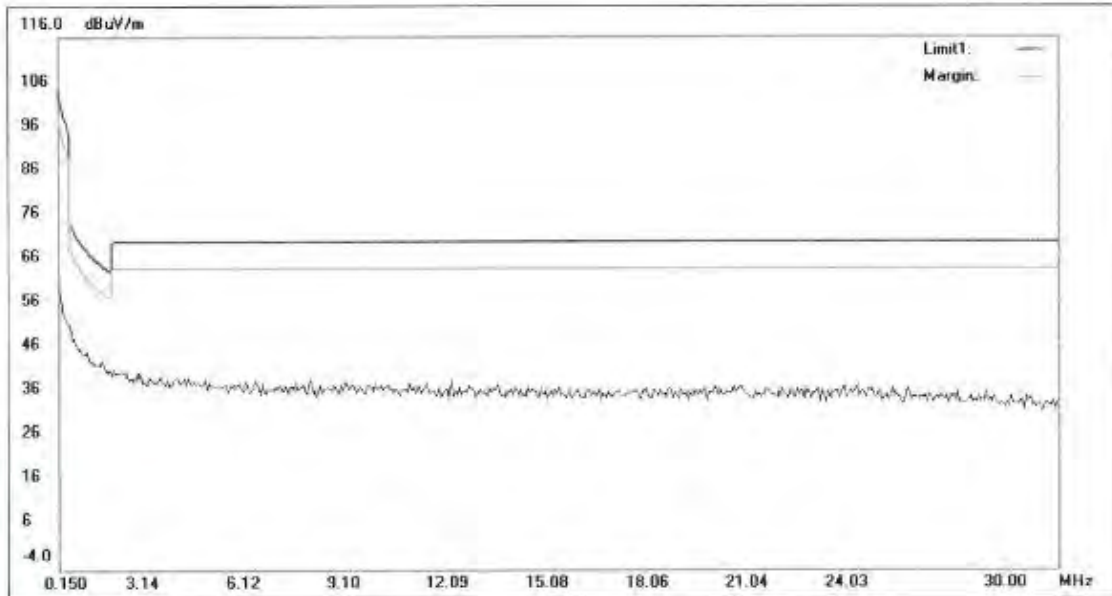


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地址：广东省深圳市宝安区西乡街道铁岗社区铁岗山大道111号 111 0755-26685000 传真：0755-26685002

966 (2) Chamber

Job No.:	20150427	Ant.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27	Time:11:19:40
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	8- DPSK TX 2402MHz		

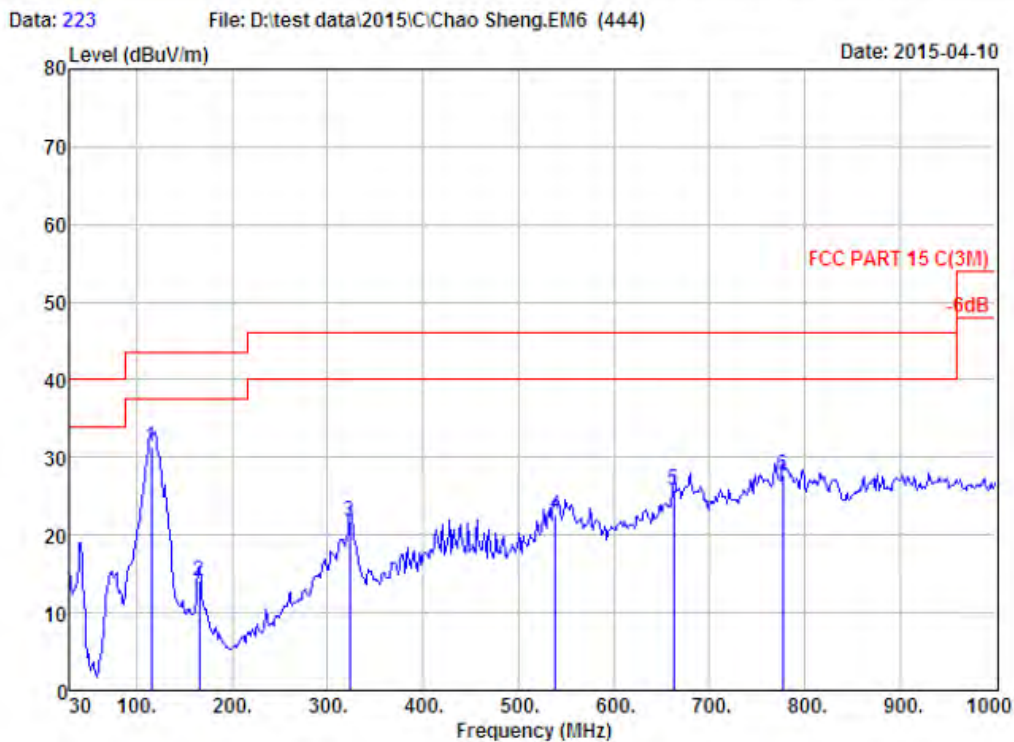




**Figure 32: Test figure of Spurious Emissions (30MHz – 1GHz), EDR (Low), H**

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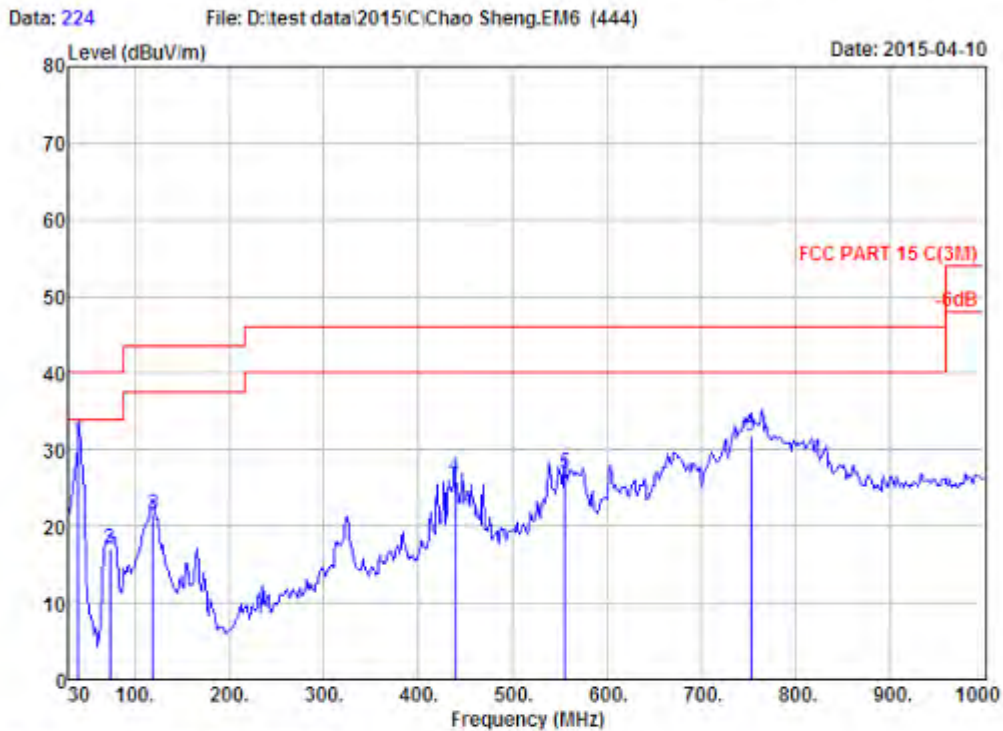


Site no. : 1# 966 chamber Data no. : 223  
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 C(3M)  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	115.36	10.93	1.46	18.99	31.38	43.50	12.12	QP
2	165.80	9.66	1.68	2.73	14.07	43.50	29.43	QP
3	322.94	13.65	2.43	5.70	21.78	46.00	24.22	QP
4	539.25	19.35	3.22	0.03	22.60	46.00	23.40	QP
5	662.44	20.10	3.55	2.11	25.76	46.00	20.24	QP
6	776.90	22.01	3.90	1.72	27.63	46.00	18.37	QP

Figure 33: Test figure of Spurious Emissions (30MHz – 1GHz), EDR (Low), V

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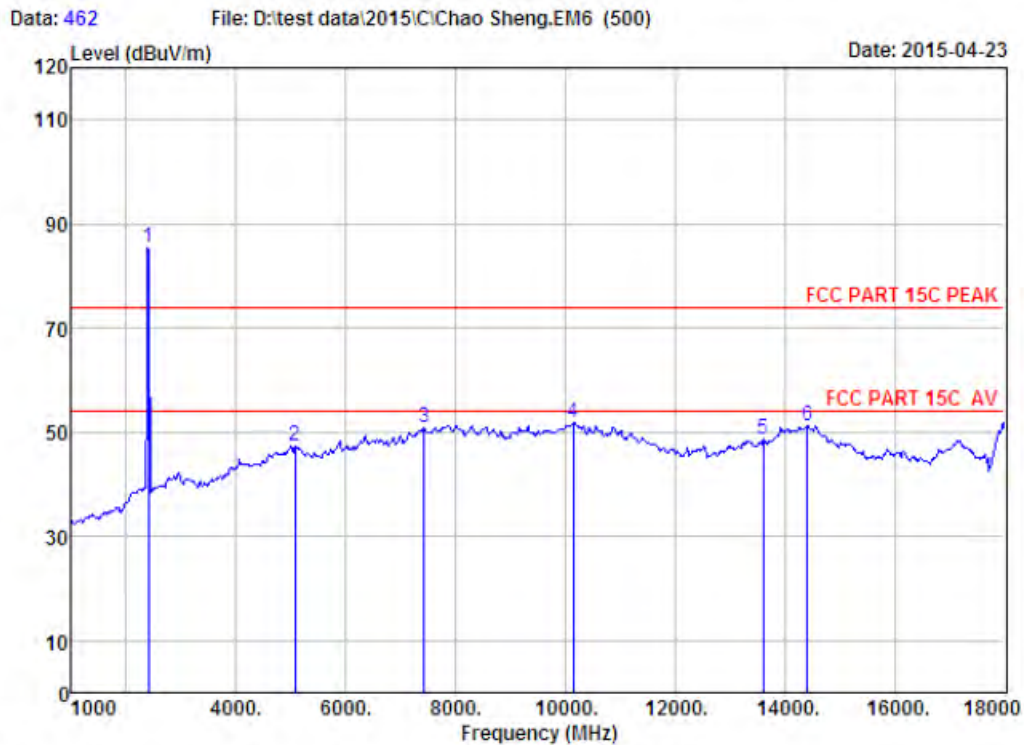
Site no. : 1# 966 chamber Data no. : 224  
 Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 C(3M)  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limite (dBuV/m)	Margin (dB)	Remark
1	39.70	12.90	0.81	17.40	31.11	40.00	8.89	QP
2	73.65	6.22	1.15	9.63	17.00	40.00	23.00	QP
3	119.24	11.11	1.42	8.95	21.48	43.50	22.02	QP
4	439.34	16.23	2.89	7.25	26.37	46.00	19.63	QP
5	555.74	19.61	3.25	4.12	26.98	46.00	19.02	QP
6	752.65	22.15	3.88	5.73	31.76	46.00	14.24	QP

**Figure 34: Test figure of Spurious Emissions (1GHz –25GHz), EDR (Low), H**

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Site no. : 1# 966 chamber Data no. : 462  
 Dis. / Ant. : 3m ANTI 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.61	6.62	34.18	85.41	85.46	74.00	-11.46	Peak
2	5080.00	31.59	12.49	32.14	35.41	47.35	74.00	26.65	Peak
3	7426.00	36.56	11.60	31.95	34.66	50.87	74.00	23.13	Peak
4	10146.00	38.36	11.51	32.05	33.89	51.71	74.00	22.29	Peak
5	13614.00	40.40	11.36	35.39	32.31	48.68	74.00	25.32	Peak
6	14413.00	41.80	10.92	32.78	31.25	51.19	74.00	22.81	Peak

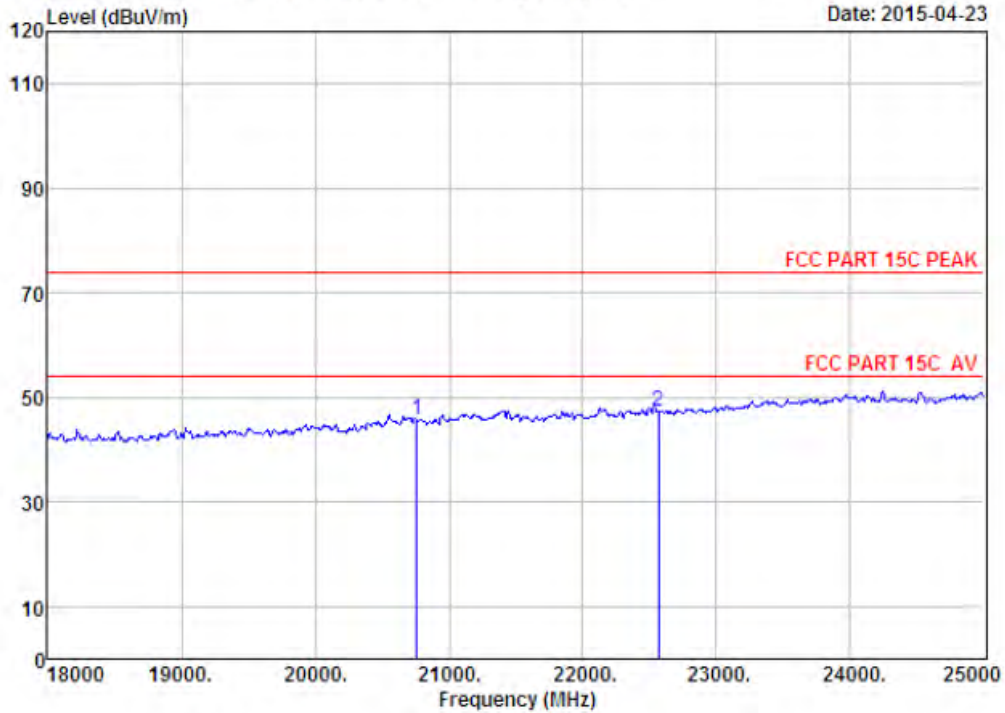
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 471 File: D:\test data\2015\C\Chao Sheng,EM6 (500)

Date: 2015-04-23



Site no. : 1# 966 chamber Data no. : 471  
 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6%; Humi:56%; Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	20758.00	46.15	20.02	36.03	15.47	45.61	74.00	28.39	Peak
2	22564.00	45.78	20.89	34.30	15.15	47.52	74.00	26.48	Peak

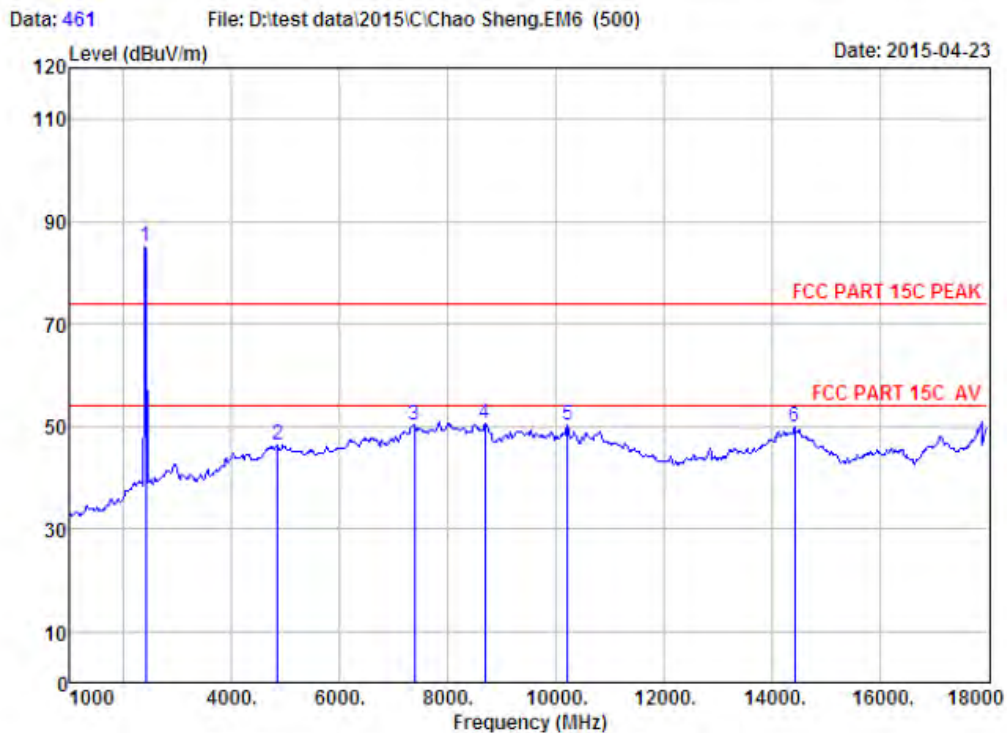
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



**Figure 35: Test figure of Spurious Emissions (1GHz –25GHz), EDR (Low), V**

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Site no. : 1# 966 chamber Data no. : 461  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limite (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.61	6.62	34.18	85.15	85.20	74.00	-11.20	Peak
2	4842.00	31.31	11.92	31.85	35.10	46.48	74.00	27.52	Peak
3	7375.00	36.57	11.59	31.98	34.18	50.36	74.00	23.64	Peak
4	8684.00	37.32	11.45	32.43	34.11	50.45	74.00	23.55	Peak
5	10214.00	38.48	11.47	32.17	32.55	50.33	74.00	23.67	Peak
6	14430.00	41.82	10.93	32.84	29.98	49.89	74.00	24.11	Peak

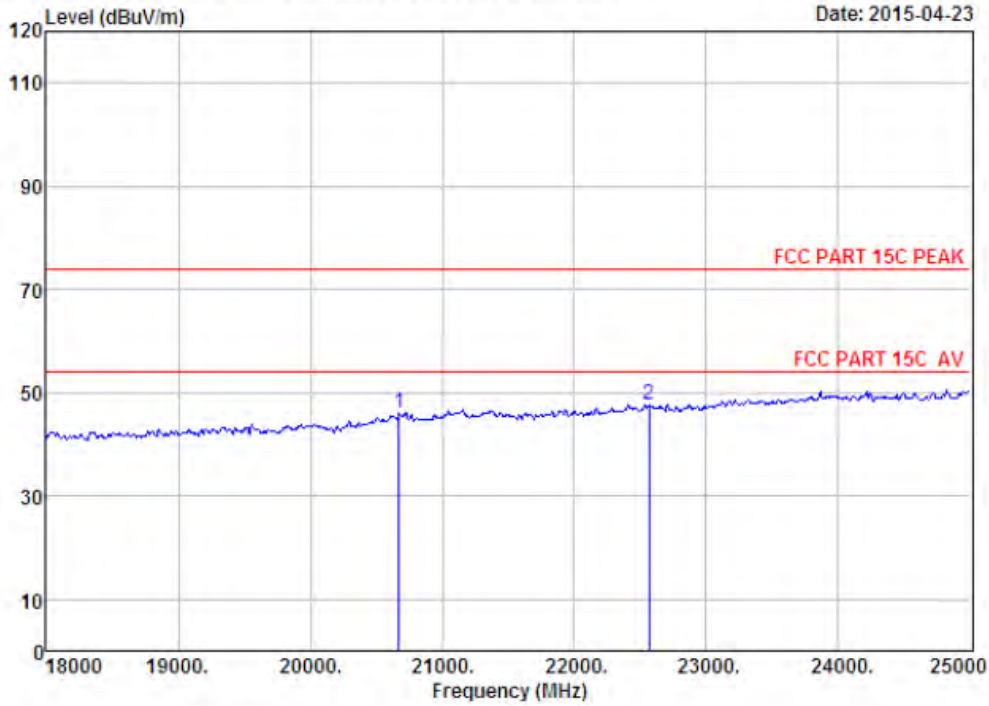
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 472 File: D:\test data\2015\C\Chao Sheng.EM6 (500)

Date: 2015-04-23



Site no. : 1# 966 chamber Data no. : 472  
 Dis. / Ant. : 3m ANI ABOVE 18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ina. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	20674.00	46.11	19.98	36.09	16.12	46.12	74.00	27.88	Peak
2	22564.00	45.78	20.89	34.30	15.26	47.63	74.00	26.37	Peak

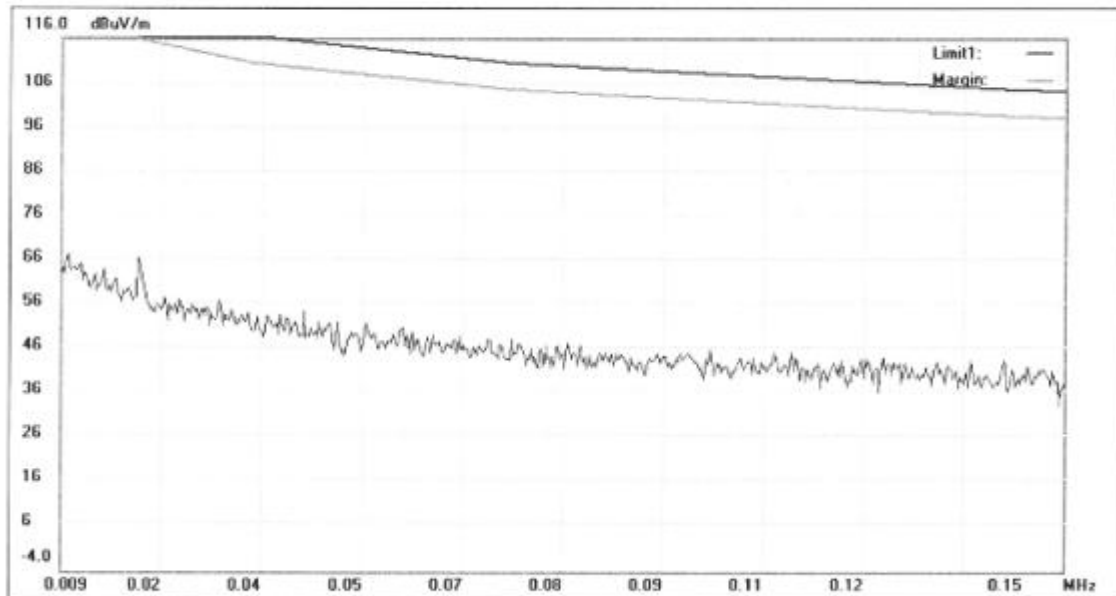
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

Figure 36: Test figure of Spurious Emissions (9kHz – 30MHz), EDR (Mid)



966 (2) Chamber

Job No.:	20150427	Ant. Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:	2015-4-27
Company:		Time:	11:16:00
Model:	BeoPlay S3	EUT:	Bluetooth Speaker
Test Mode:	8- DPSK TX 2441MHz	Test By:	



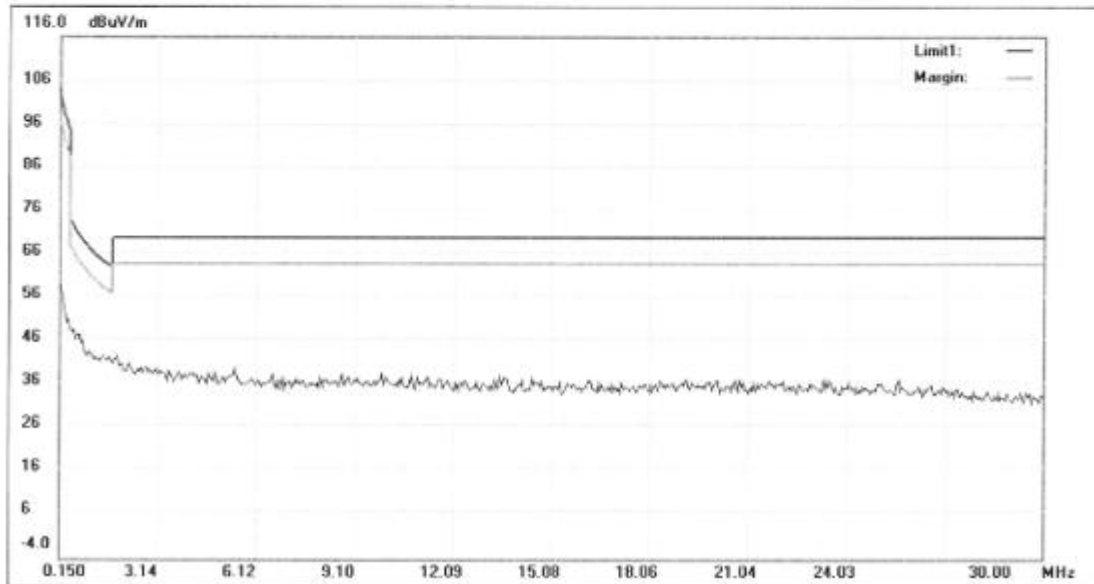


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Compliance Certification Services (ShenZhen) Inc.

地址：广东省深圳市观澜镇松岗南路18号钰讯科技园10-1楼 TEL: 0755-28055000 FAX: 0755-29564907

966 (2) Chamber

Job No.:	20150427	Ant.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27	Time:11:15:54
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	8- DPSK TX 2441MHz		

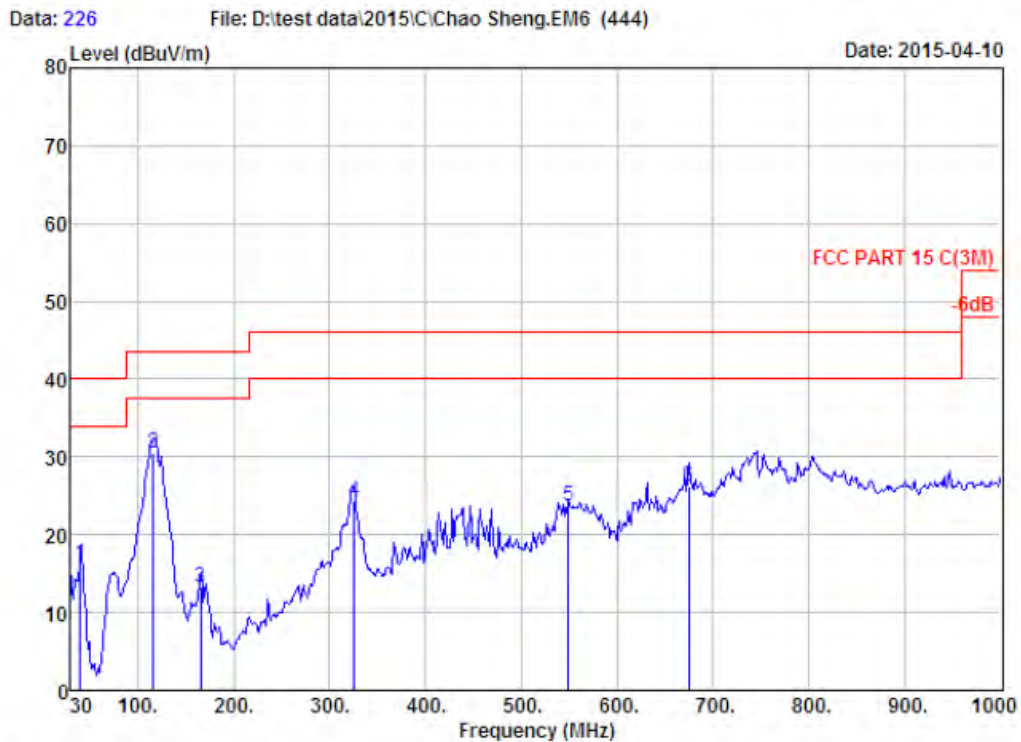




**Figure 37: Test figure of Spurious Emissions (30MHz – 1GHz), EDR (Mid), H**

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Site no. : 1# 966 chamber Data no. : 226  
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 C(3M)  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUI : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK IX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	39.70	12.90	0.81	2.58	16.29	40.00	23.71	QP
2	116.33	10.98	1.50	18.03	30.51	43.50	12.99	QP
3	165.80	9.66	1.68	1.91	13.25	43.50	30.25	QP
4	325.85	13.74	2.43	8.14	24.31	46.00	21.69	QP
5	548.95	19.45	3.26	0.90	23.61	46.00	22.39	QP
6	675.05	20.26	3.64	2.35	26.25	46.00	19.75	QP

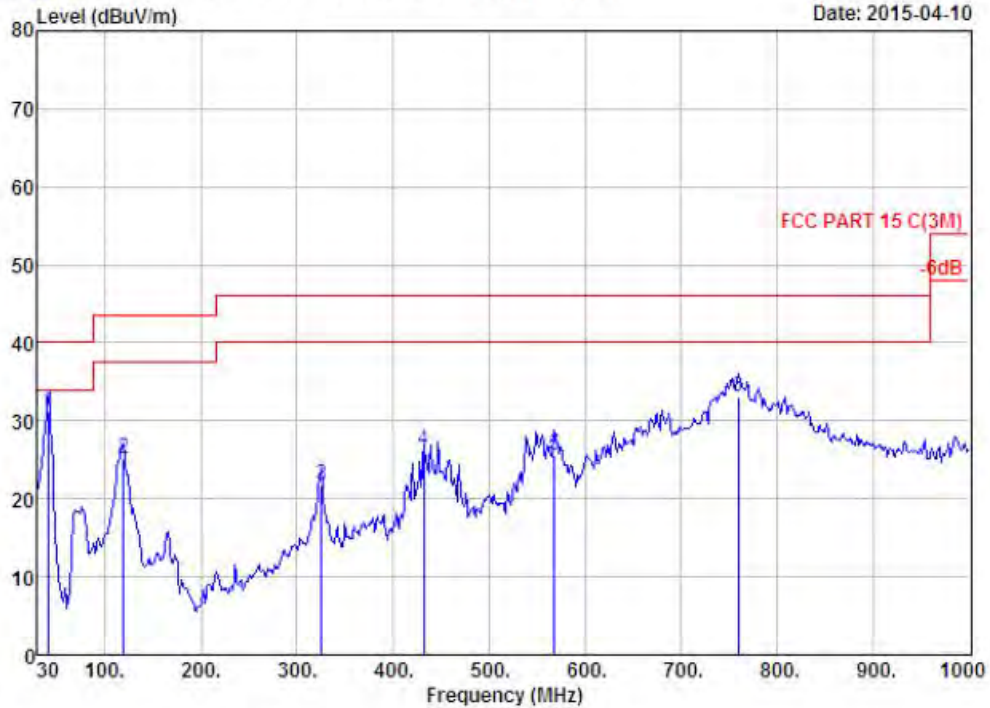
**Figure 38: Test figure of Spurious Emissions (30MHz – 1GHz), EDR (Mid), V**

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Data: 225 File: D:\test data\2015\C\Chao Sheng.EM6 (444)

Date: 2015-04-10



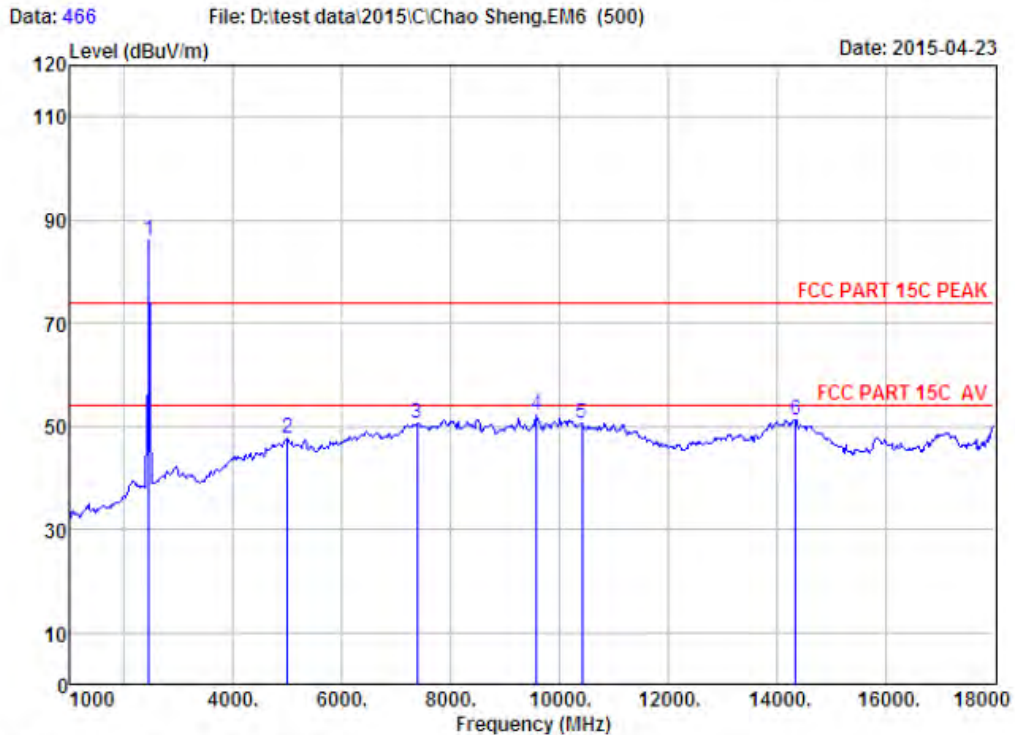
Site no. : 1# 966 chamber Data no. : 225  
 Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 C(3M)  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	41.64	11.75	0.85	18.55	31.15	40.00	8.85	QP
2	119.24	11.11	1.42	12.56	25.09	43.50	18.41	QP
3	325.85	13.74	2.43	5.64	21.81	46.00	24.19	QP
4	432.55	16.11	2.78	7.26	26.15	46.00	19.85	QP
5	568.35	19.62	3.24	2.84	25.70	46.00	20.30	QP
6	759.44	22.04	3.91	7.02	32.97	46.00	13.03	QP

Figure 39: Test figure of Spurious Emissions (1GHz –25GHz), EDR (Mid), H

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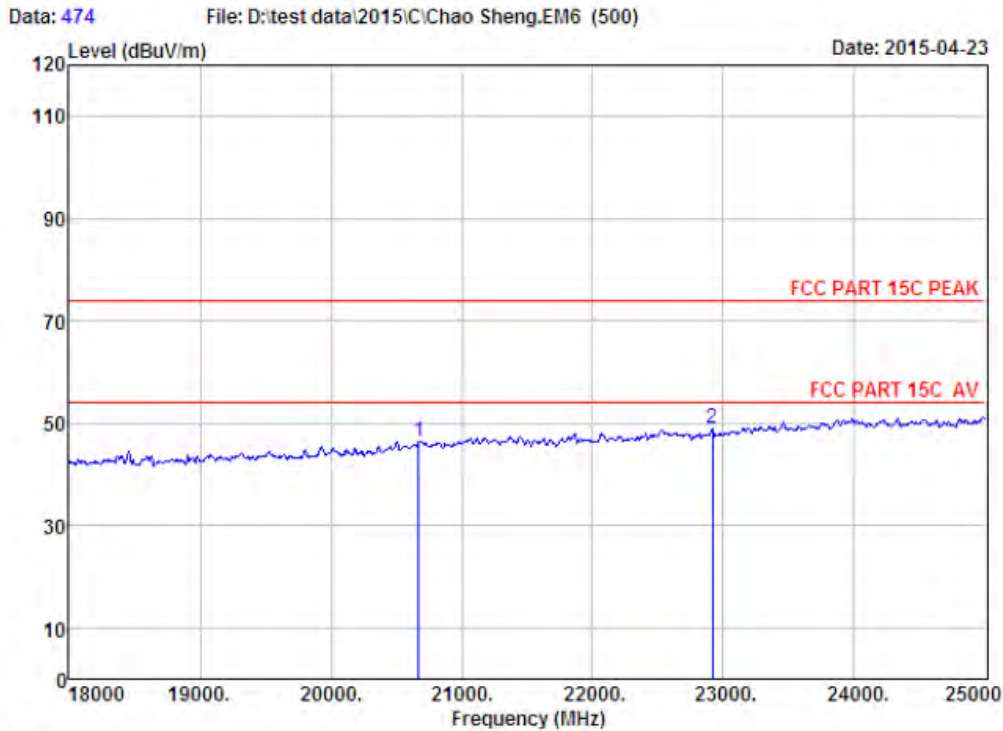
Site no. : 1# 966 chamber Data no. : 466  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6%;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.00	27.60	6.67	34.12	85.97	86.12	74.00	-12.12	Peak
2	4995.00	31.84	12.59	32.00	35.71	47.84	74.00	26.16	Peak
3	7375.00	36.57	11.59	31.98	34.27	50.45	74.00	23.55	Peak
4	9585.00	37.92	11.69	31.93	34.43	52.11	74.00	21.89	Peak
5	10418.00	38.83	11.36	32.56	32.82	50.45	74.00	23.55	Peak
6	14345.00	41.76	10.92	32.93	31.59	51.34	74.00	22.66	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Site no. : 1# 966 chamber Data no. : 474  
 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6%;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	20674.00	46.11	19.98	36.09	16.44	46.44	74.00	27.56	Peak
2	22914.00	45.64	21.10	33.93	16.27	49.08	74.00	24.92	Peak

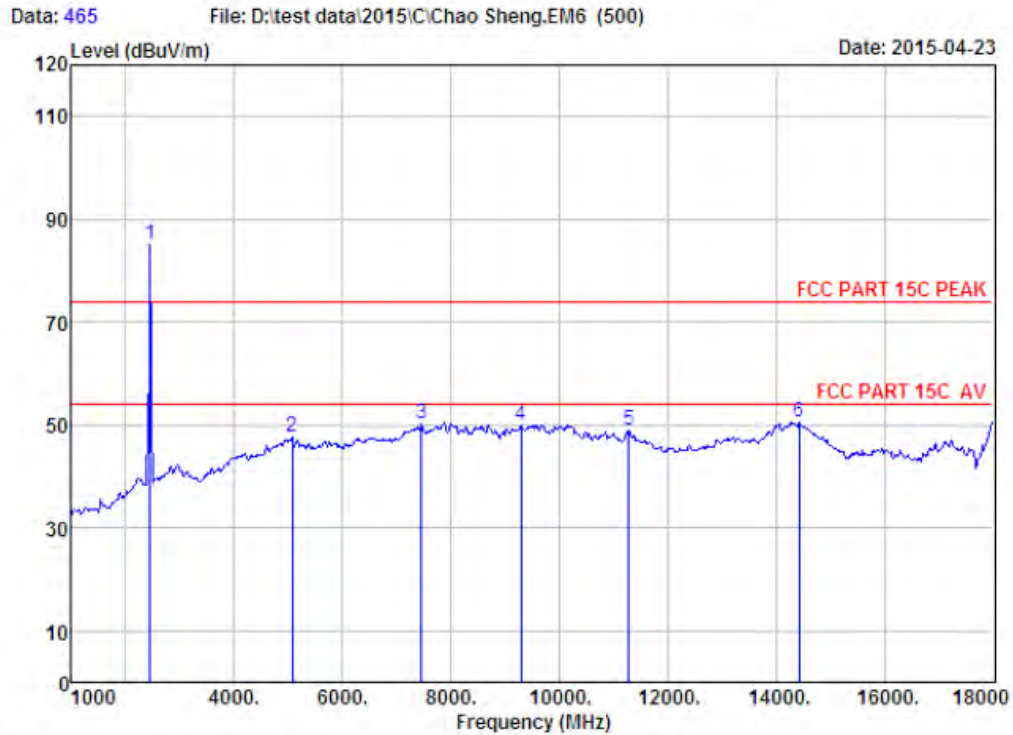
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Figure 40: Test figure of Spurious Emissions (1GHz –25GHz), EDR (Mid), V

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Site no. : 1# 966 chamber Data no. : 465  
 Dis. / Ant. : 3m ANI 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUI : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2441.00	27.60	6.67	34.12	84.83	84.98	74.00	-10.98	Peak
2	5080.00	31.59	12.49	32.14	35.70	47.64	74.00	26.36	Peak
3	7460.00	36.52	11.61	31.91	33.89	50.11	74.00	23.89	Peak
4	9296.00	37.91	11.61	32.18	32.72	50.06	74.00	23.94	Peak
5	11285.00	39.33	11.08	34.20	32.70	48.91	74.00	25.09	Peak
6	14430.00	41.82	10.93	32.84	30.61	50.52	74.00	23.48	Peak

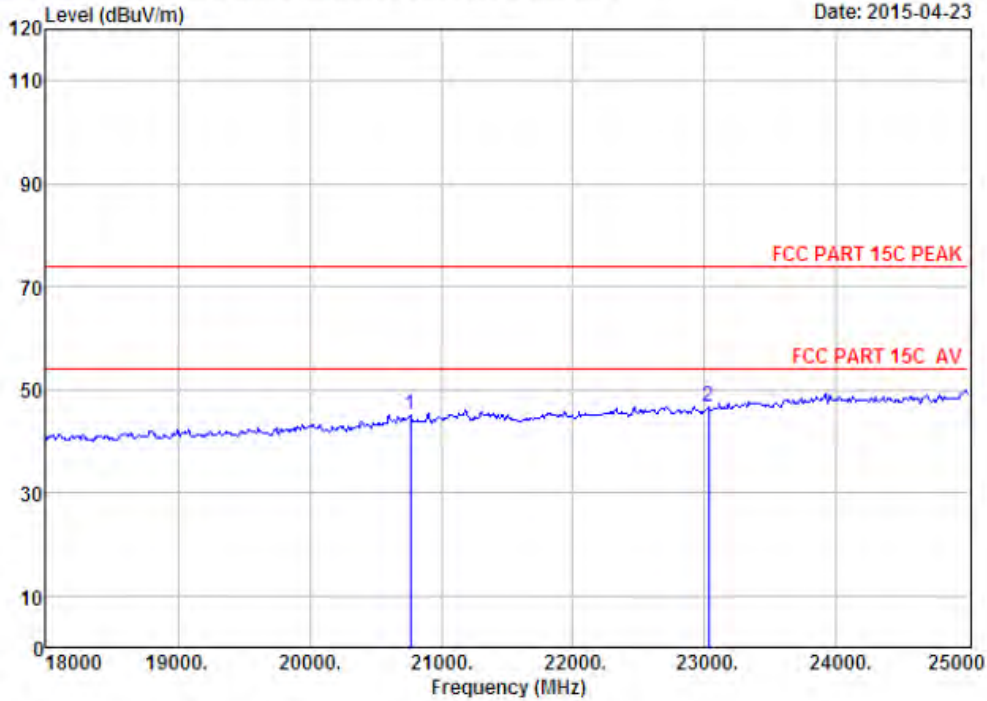
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 473 File: D:\test data\2015\C\Chao Sheng.EM6 (500)

Date: 2015-04-23



Site no. : 1# 966 chamber Data no. : 473  
 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	20765.00	46.16	20.02	36.00	14.81	44.99	74.00	29.01	Peak
2	23026.00	45.60	21.17	33.82	13.64	46.59	74.00	27.41	Peak

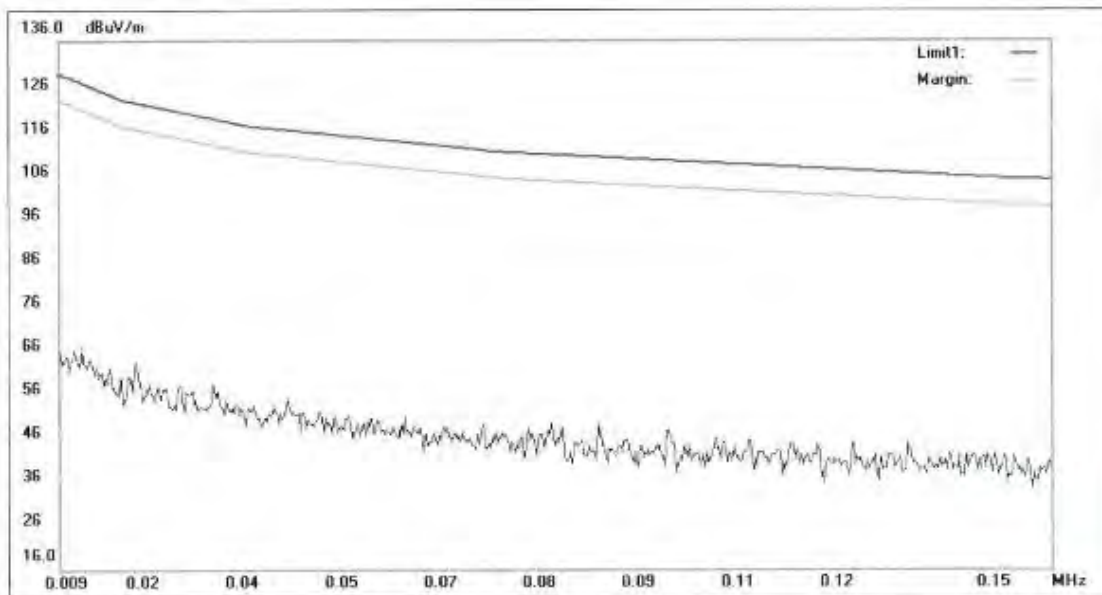
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

Figure 41: Test figure of Spurious Emissions (9kHz – 30MHz), EDR (High)



966 (2) Chamber

Job No.:	20150427	Ant.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27	Time:11:12:29
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	8- DPSK TX 2480MHz		



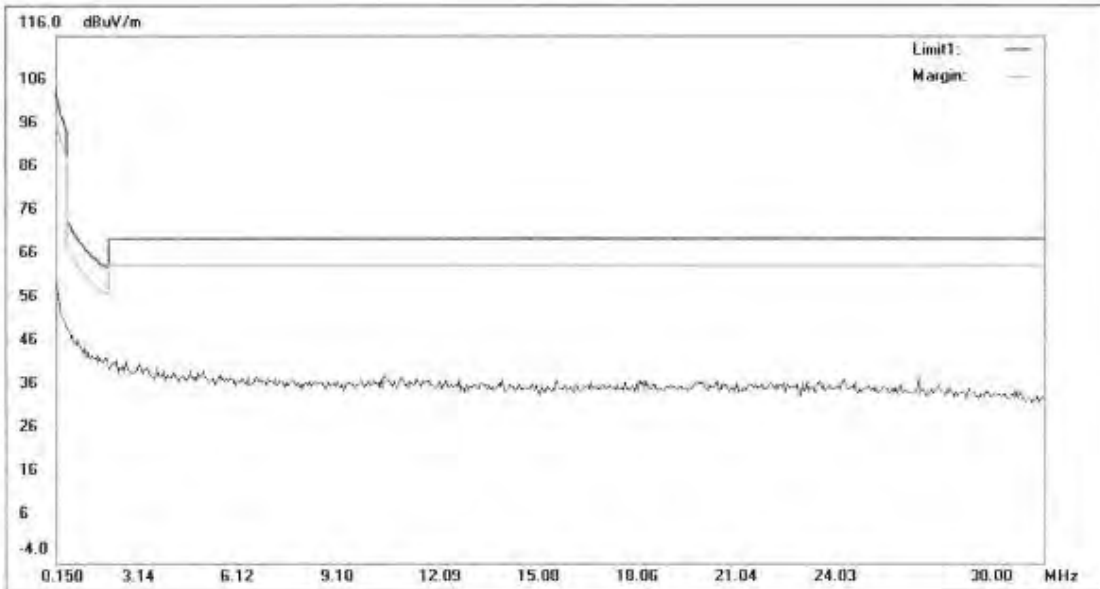


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966 (2) Chamber

Job No.:	20150427	Ant.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27	Time:11:13:32
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	8- DPSK TX 2480MHz		

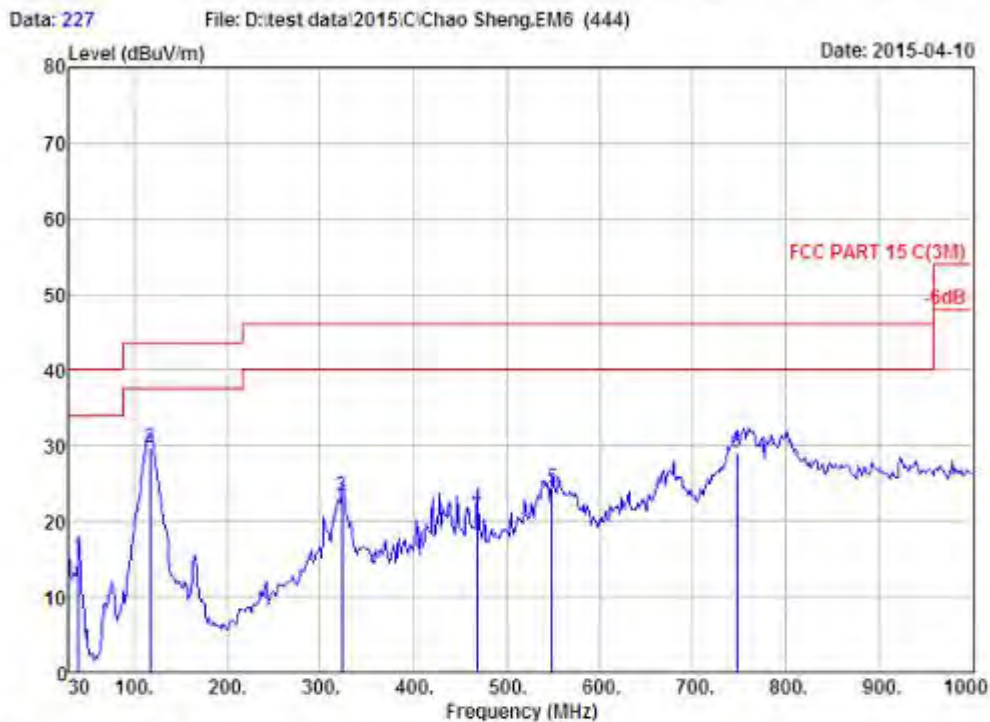




**Figure 42: Test figure of Spurious Emissions (30MHz – 1GHz), EDR (High), H**

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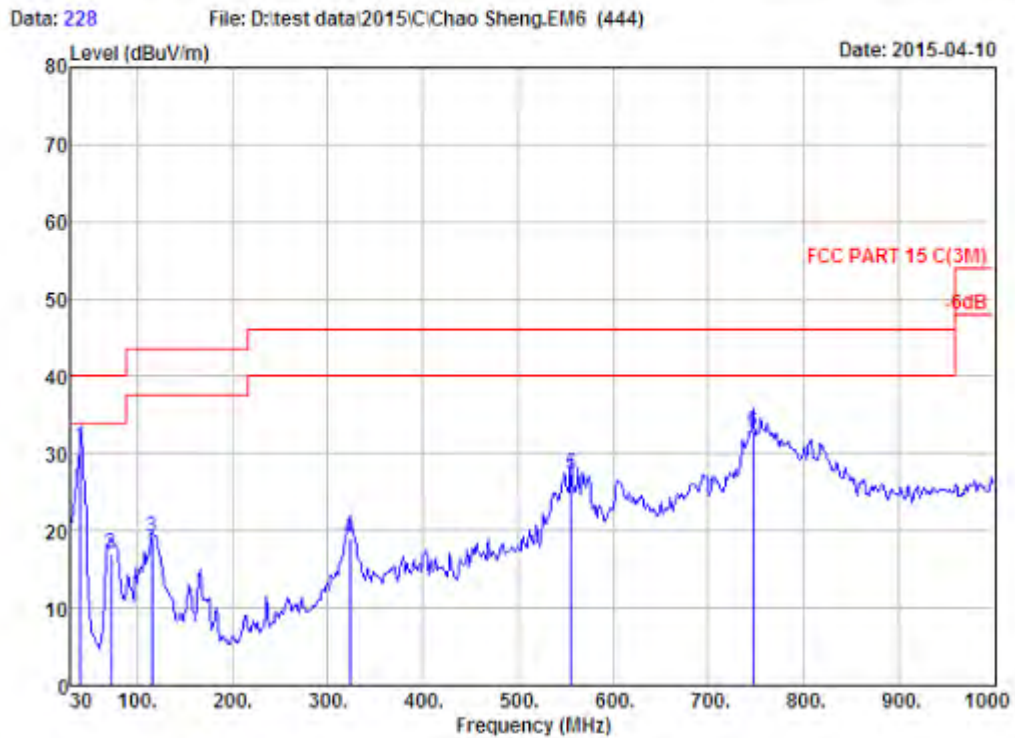
Site no. : 1# 966 chamber Data no. : 227  
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 C(3M)  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limite (dBuV/m)	Margin (dB)	Remark
1	39.70	12.90	0.81	1.65	15.36	40.00	24.64	QP
2	117.30	11.02	1.47	17.17	29.66	43.50	13.84	QP
3	322.94	13.65	2.43	7.13	23.21	46.00	22.79	QP
4	465.44	17.14	3.09	1.44	21.67	46.00	24.33	QP
5	545.95	19.45	3.26	1.64	24.35	46.00	21.65	QP
6	747.80	22.22	3.91	2.78	28.91	46.00	17.09	QP

**Figure 43: Test figure of Spurious Emissions (30MHz – 1GHz), EDR (High), V**

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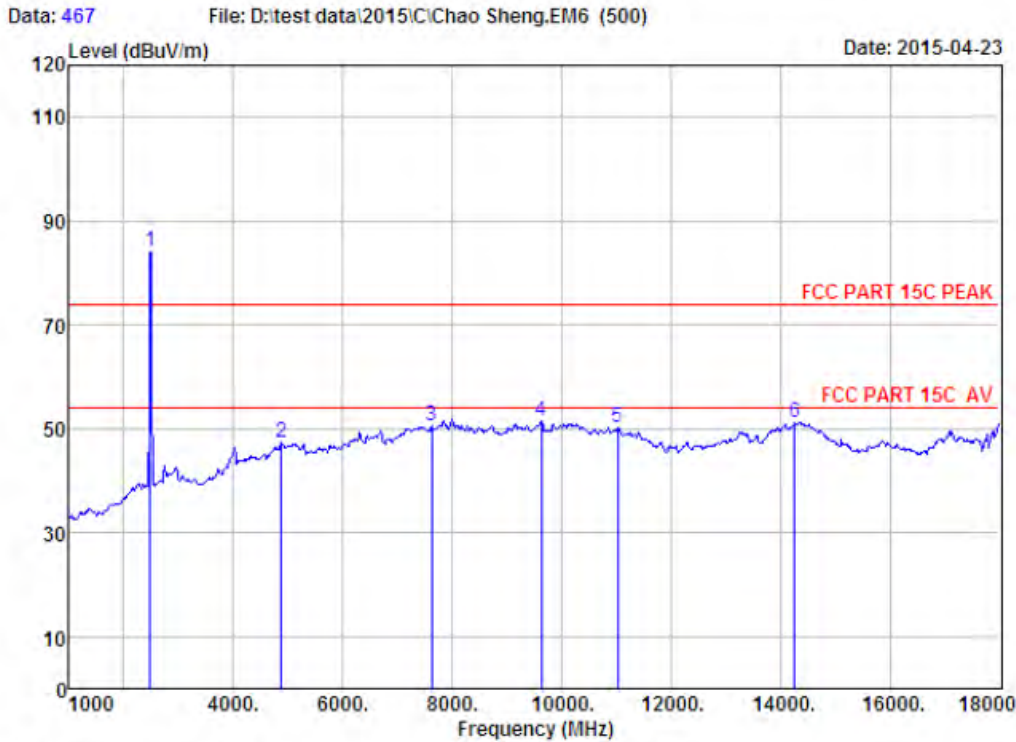
Site no. : 1# 966 chamber Date no. : 228  
 Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 C(3M)  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limite (dBuV/m)	Margin (dB)	Remark
1	39.70	12.90	0.81	17.14	30.85	40.00	9.15	QP
2	71.71	6.03	1.08	9.93	17.04	40.00	22.96	QP
3	115.36	10.93	1.46	6.71	19.10	43.50	24.40	QP
4	322.94	13.65	2.43	2.98	19.06	46.00	26.94	QP
5	555.74	19.61	3.25	4.52	27.38	46.00	18.62	QP
6	747.80	22.22	3.91	6.64	32.77	46.00	13.23	QP

**Figure 44: Test figure of Spurious Emissions (1GHz –25GHz), EDR (High), H**

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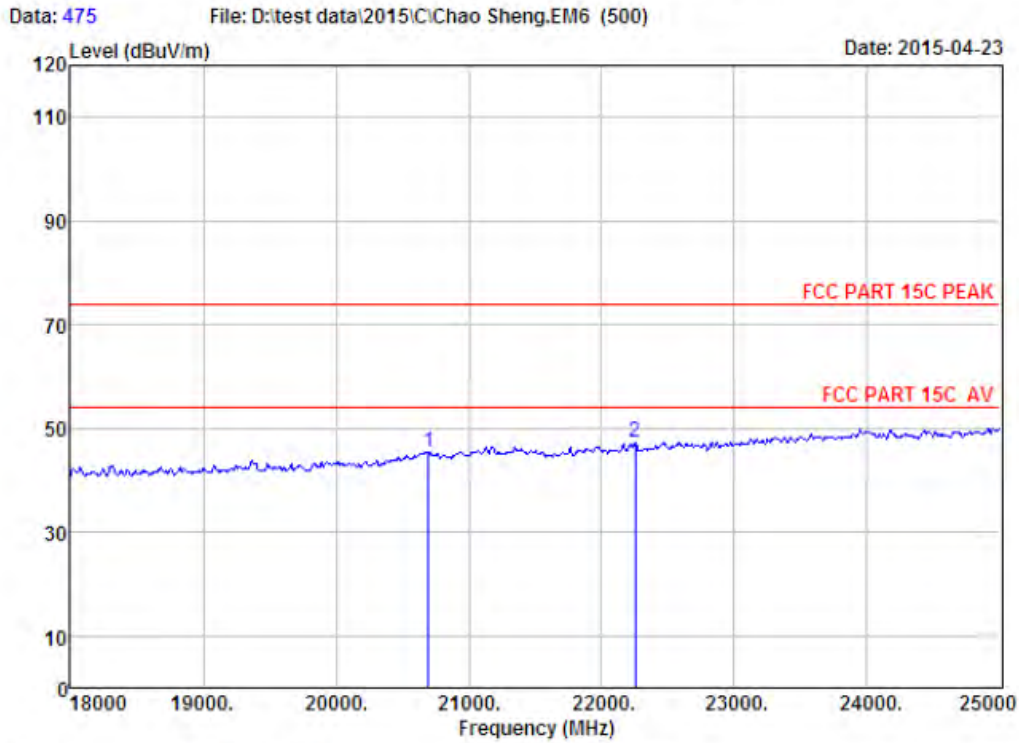
Site no. : 1# 966 chamber Data no. : 467  
 Dis. / Ant. : 3m ANI 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	34.03	83.78	84.04	74.00	-10.04	Peak
2	4876.00	31.37	12.07	31.90	35.85	47.39	74.00	26.61	Peak
3	7630.00	36.41	11.56	31.68	34.38	50.67	74.00	23.33	Peak
4	9636.00	37.96	11.68	31.91	33.73	51.46	74.00	22.54	Peak
5	11030.00	39.50	11.27	33.71	33.18	50.24	74.00	23.76	Peak
6	14260.00	41.68	10.92	33.19	31.82	51.23	74.00	22.77	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Site no. : 1# 966 chamber Data no. : 475  
 Dis. / Ant. : 3m ANI ABVOE 18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	20695.00	46.11	19.99	36.07	15.57	45.60	74.00	28.40	Peak
2	22256.00	45.75	20.71	34.64	15.50	47.32	74.00	26.68	Peak

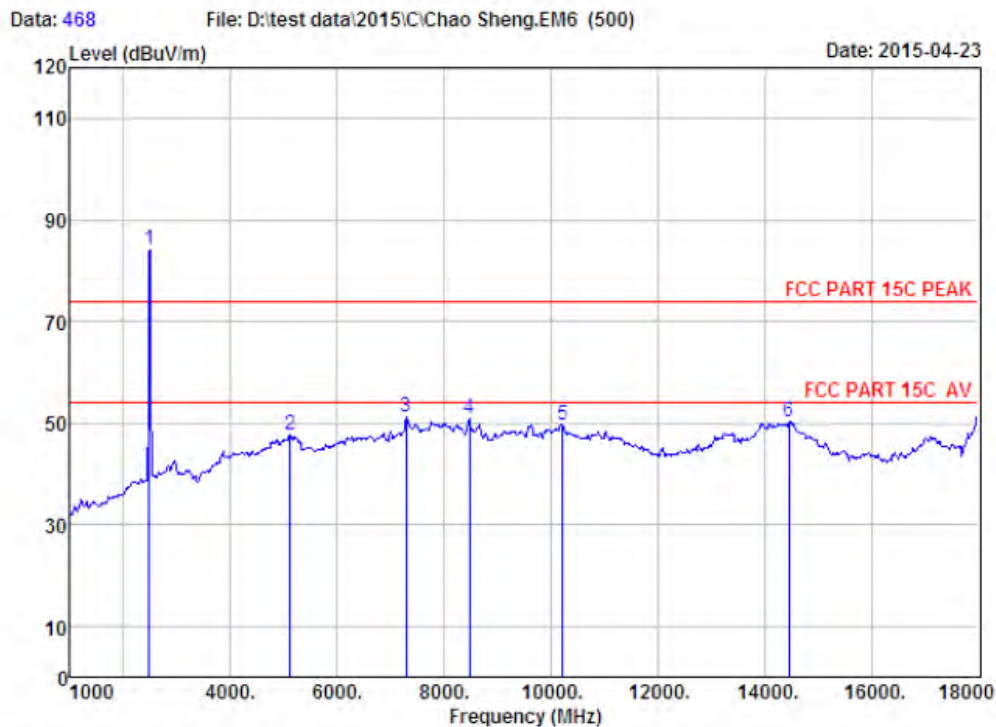
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



**Figure 45: Test figure of Spurious Emissions (1GHz –25GHz), EDR (High), V**

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Site no. : 1# 966 chamber Data no. : 468  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	34.03	84.04	84.30	74.00	-10.30	Peak
2	5114.00	31.62	12.45	32.17	35.84	47.74	74.00	26.26	Peak
3	7290.00	36.54	11.56	32.02	35.05	51.13	74.00	22.87	Peak
4	8480.00	36.91	11.45	31.89	34.47	50.94	74.00	23.06	Peak
5	10214.00	38.48	11.47	32.17	31.76	49.54	74.00	24.46	Peak
6	14464.00	41.85	10.93	32.96	30.39	50.21	74.00	23.79	Peak

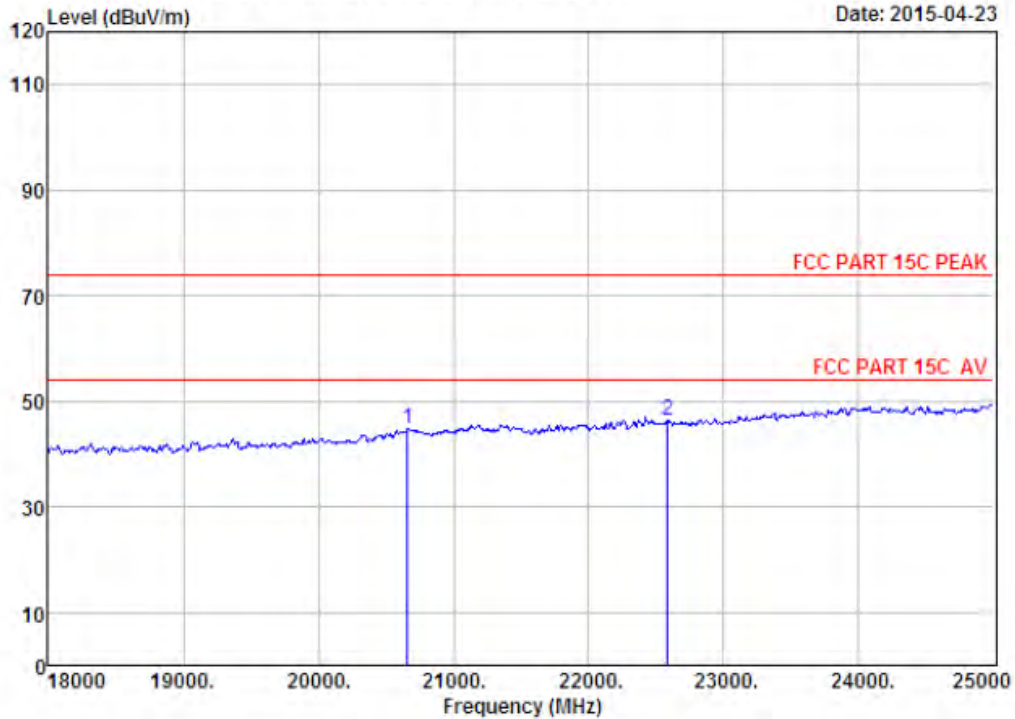
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 476 File: D:\test data\2015\C\Chao Sheng,EM6 (500)

Date: 2015-04-23



Site no. : 1# 966 chamber Data no. : 476  
 Dis. / Ant. : 3m ANI ABOVE 18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	20660.00	46.10	19.98	36.12	14.85	44.81	74.00	29.19	Peak
2	22585.00	45.77	20.90	34.30	13.99	46.36	74.00	27.64	Peak

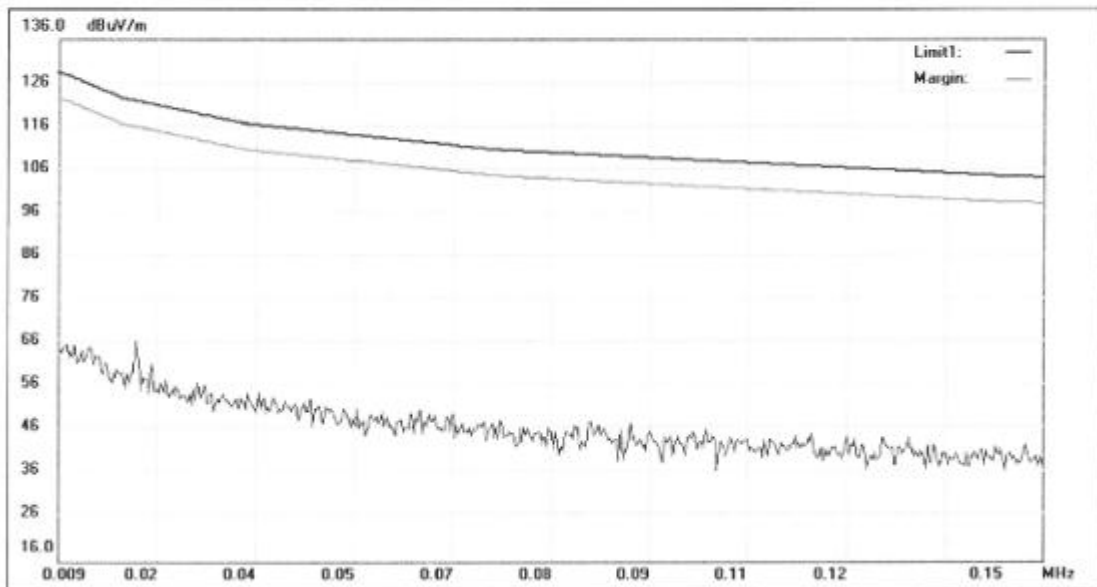
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

Figure 46: Test figure of Spurious Emissions (9kHz – 30MHz), BLE (Low)



966 (2) Chamber

Job No.:	20150427	Ant.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27	Time:11:23:01
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	GFSK TX 2402MHz		



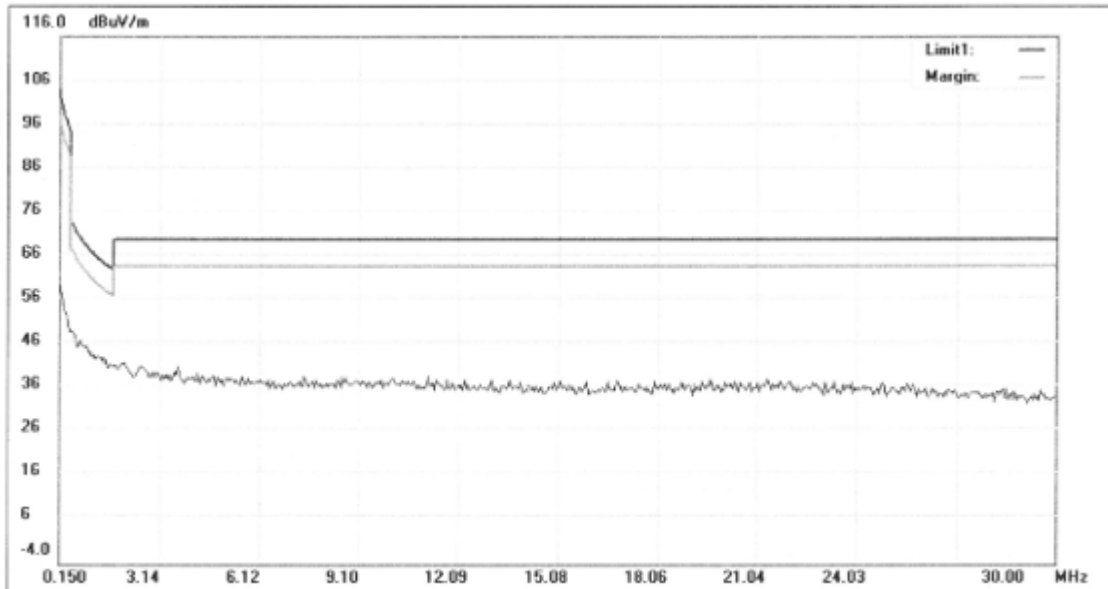


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966 (2) Chamber

Job No.:	20150427	Ant.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27	Time:11:21:16
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	GFSK TX 2402MHz		

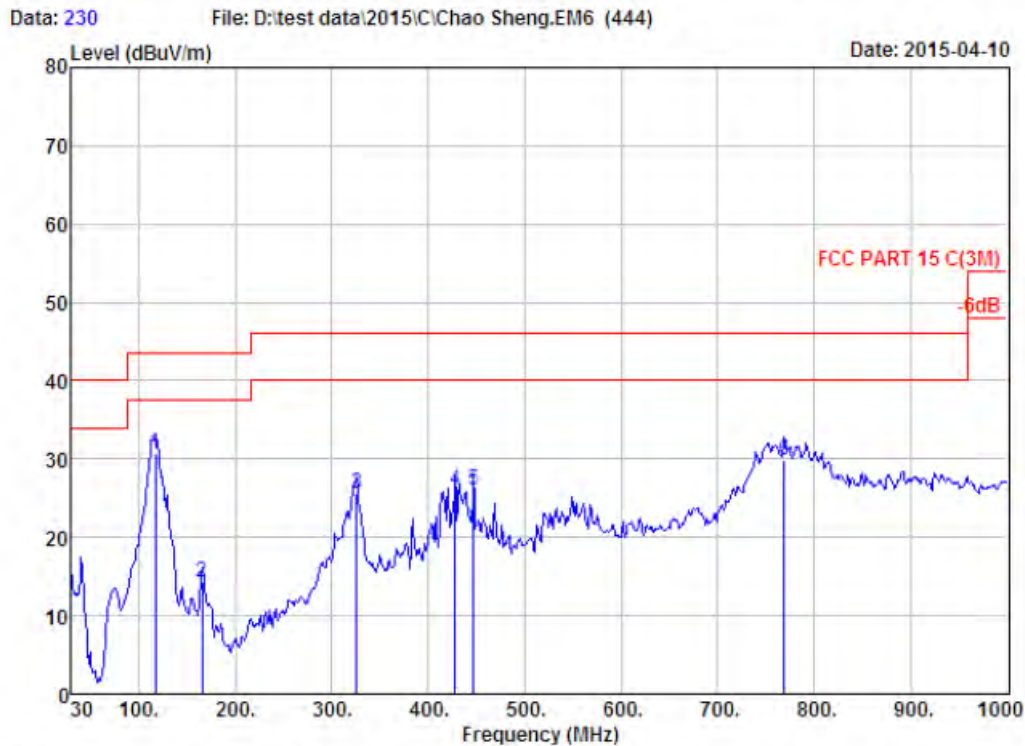




**Figure 47: Test figure of Spurious Emissions (30MHz – 1GHz), BLE (Low), H**

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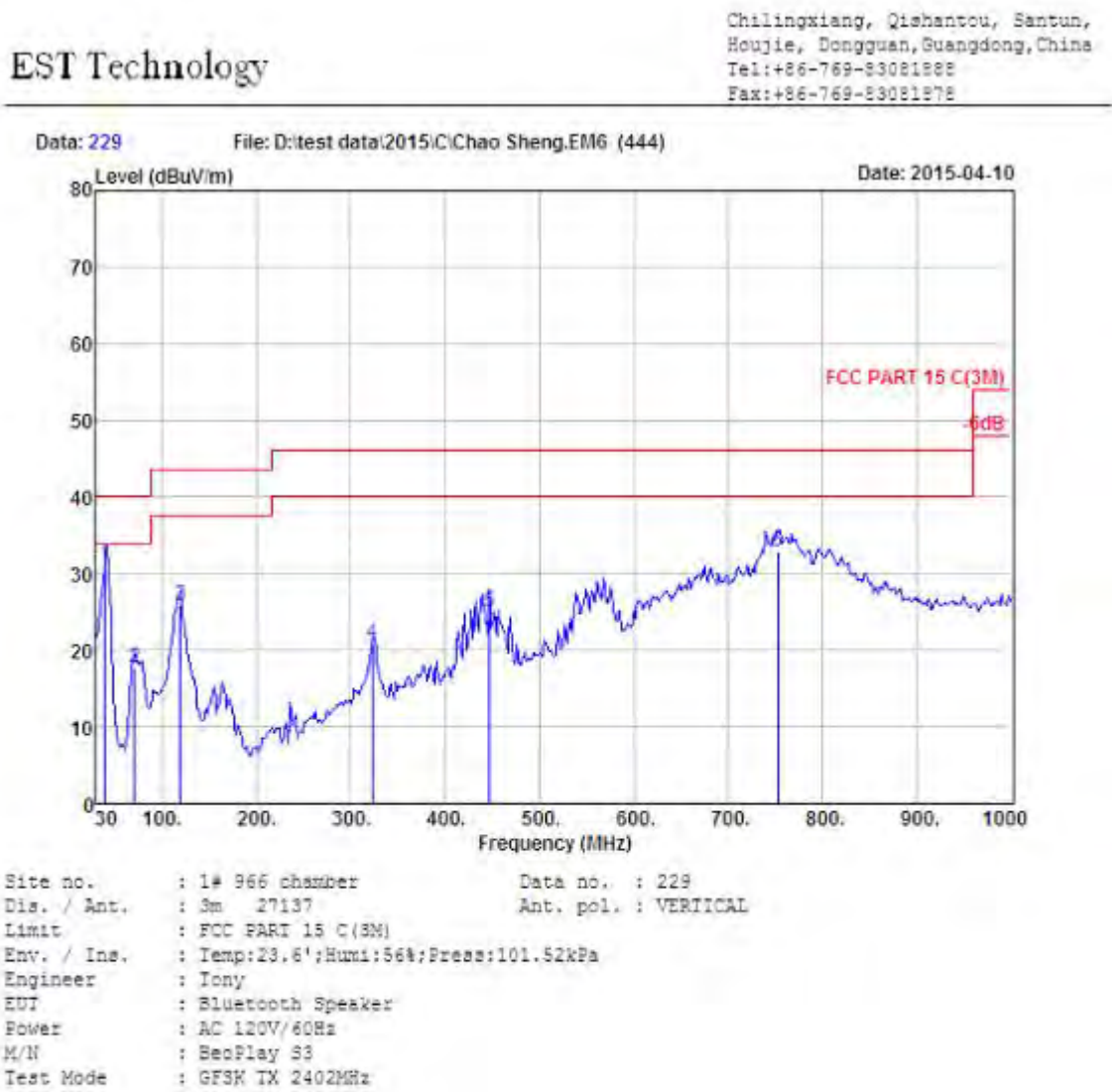
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Houjie, Dongguan, Guangdong, China  
Tel:+86-769-83081888  
Fax:+86-769-83081878



Site no. : 1# 966 chamber Data no. : 230  
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 C(3M)  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	117.30	11.02	1.47	18.22	30.71	43.50	12.79	QP
2	165.80	9.66	1.68	2.87	14.21	43.50	29.29	QP
3	325.85	13.74	2.43	9.53	25.70	46.00	20.30	QP
4	427.70	16.11	2.85	7.07	26.03	46.00	19.97	QP
5	447.10	16.40	2.98	6.67	26.05	46.00	19.95	QP
6	769.14	22.05	3.94	3.95	29.94	46.00	16.06	QP

**Figure 48: Test figure of Spurious Emissions (30MHz – 1GHz), BLE (Low), V**

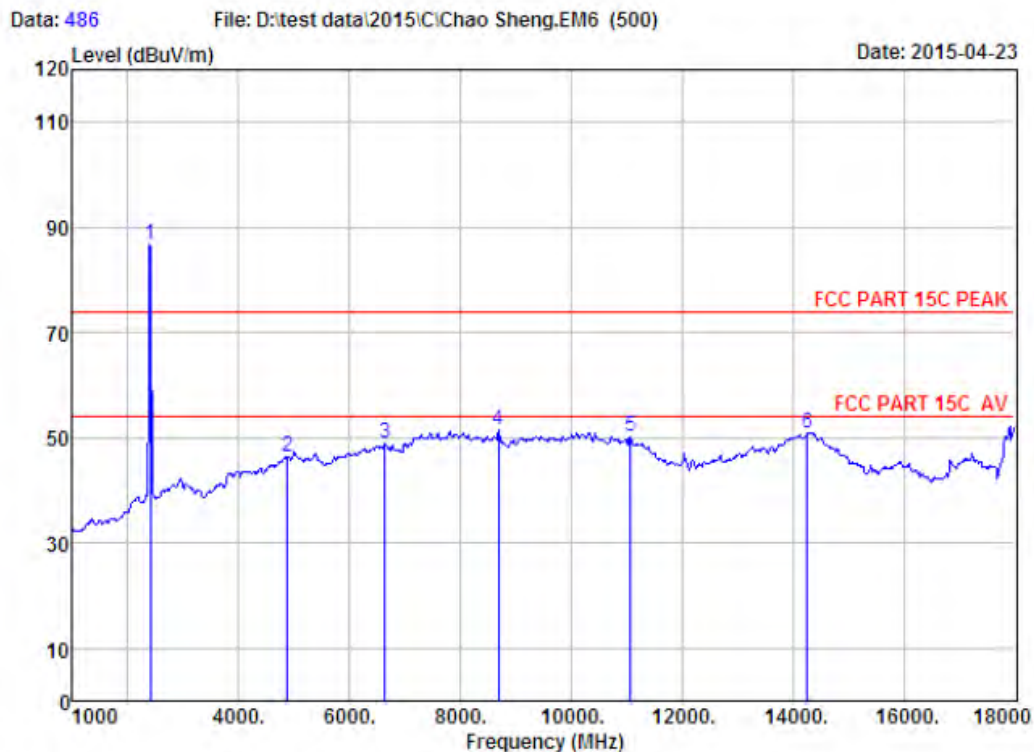


	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	39.70	12.90	0.81	17.42	31.13	40.00	8.87	QP
2	70.74	5.82	1.04	10.93	17.79	40.00	22.21	QP
3	119.24	11.11	1.42	13.27	25.80	43.50	17.70	QP
4	322.94	13.65	2.43	4.72	20.80	46.00	25.20	QP
5	447.10	16.40	2.98	5.66	25.04	46.00	20.96	QP
6	752.65	22.15	3.88	6.88	32.91	46.00	13.09	QP

**Figure 49: Test figure of Spurious Emissions (1GHz –25GHz), BLE (Low), H**

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Site no. : 1# 966 chamber Data no. : 486  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2402.00	27.61	6.62	34.18	86.74	86.79	74.00	-12.79	Peak
2	4876.00	31.37	12.07	31.90	34.93	46.47	74.00	27.53	Peak
3	6644.00	34.48	12.02	32.20	34.79	49.09	74.00	24.91	Peak
4	8684.00	37.32	11.45	32.43	35.24	51.58	74.00	22.42	Peak
5	11064.00	39.48	11.24	33.78	33.35	50.29	74.00	23.71	Peak
6	14260.00	41.68	10.92	33.19	31.47	50.88	74.00	23.12	Peak

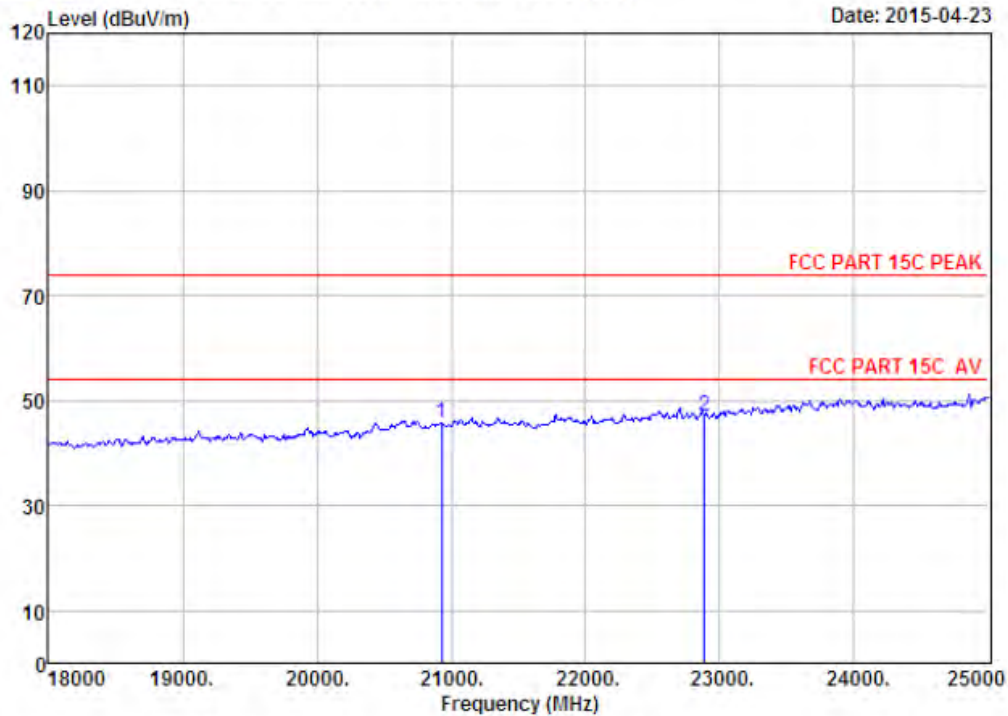
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 495 File: D:\test data\2015\C\Chao Sheng.EM6 (501)

Date: 2015-04-23



Site no. : 1# 966 chamber Data no. : 495  
 Dis. / Ant. : 3m ANT A8V0E 18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK IX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	20926.00	46.26	20.10	35.87	15.28	45.77	74.00	28.23	Peak
2	22886.00	45.65	21.08	33.98	14.25	47.00	74.00	27.00	Peak

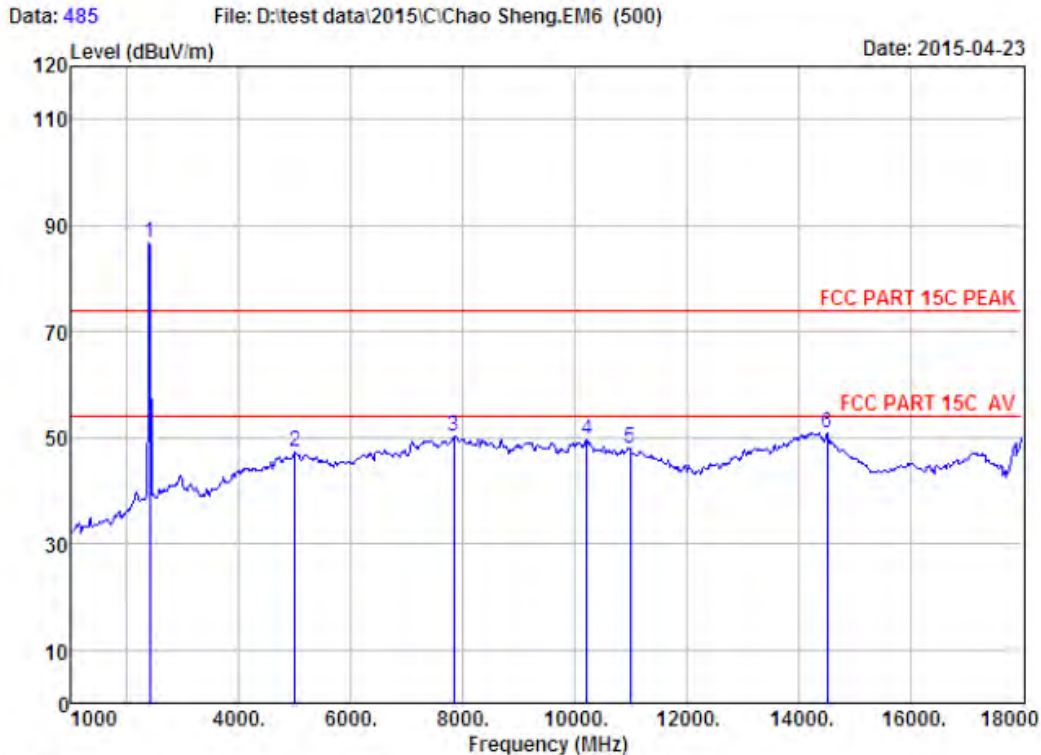
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



**Figure 50: Test figure of Spurious Emissions (1GHz –25GHz), BLE (Low), V**

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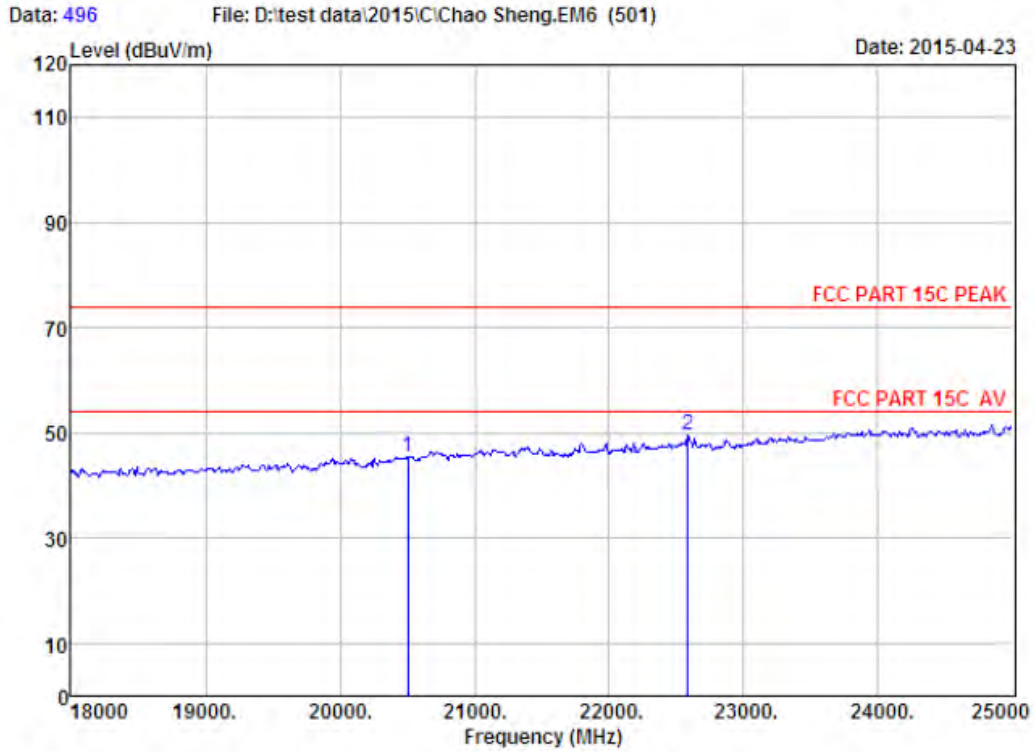
Site no. : 1# 966 chamber Data no. : 485  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6%;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.00	27.61	6.62	34.18	86.65	86.70	74.00	-12.70	Peak
2	4995.00	31.54	12.59	32.00	35.16	47.29	74.00	26.71	Peak
3	7834.00	36.68	11.47	31.40	33.58	50.33	74.00	23.67	Peak
4	10214.00	38.48	11.47	32.17	31.74	49.52	74.00	24.48	Peak
5	10996.00	39.52	11.29	33.65	30.93	48.09	74.00	25.91	Peak
6	14515.00	41.89	10.93	33.14	31.32	51.00	74.00	23.00	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Site no. : 1# 966 chamber Data no. : 496  
 Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUI : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	20506.00	46.00	19.91	36.25	15.82	45.48	74.00	28.52	Peak
2	22585.00	45.77	20.90	34.30	17.28	49.65	74.00	24.35	Peak

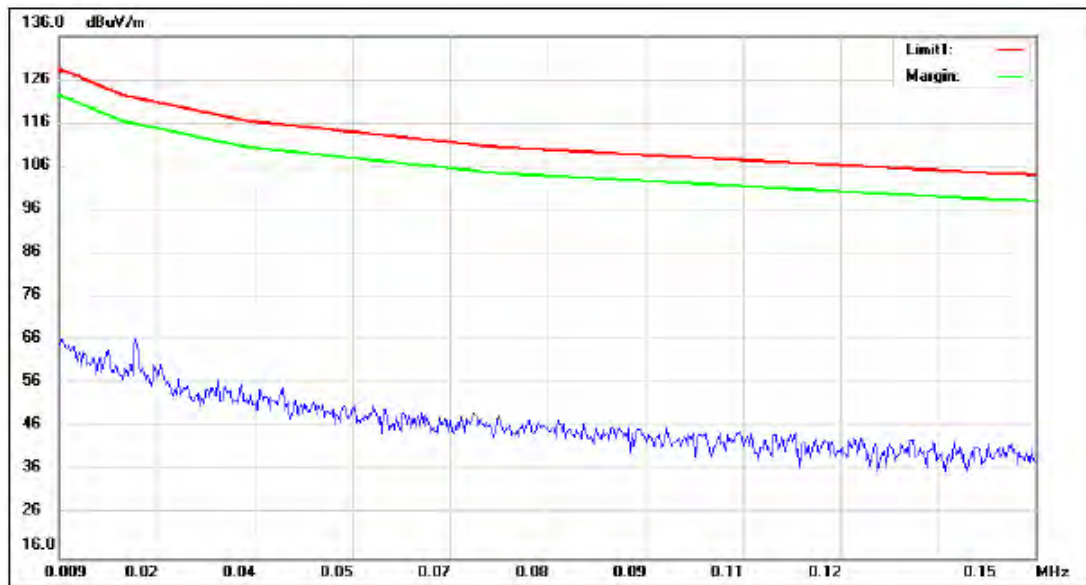
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

Figure 51: Test figure of Spurious Emissions (9kHz – 30MHz), BLE (Mid)



966 (2) Chamber

Job No.:	20150427	Ant.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:	2015-4-27 Time:11:25:14
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	GFSK TX 2440MHz		



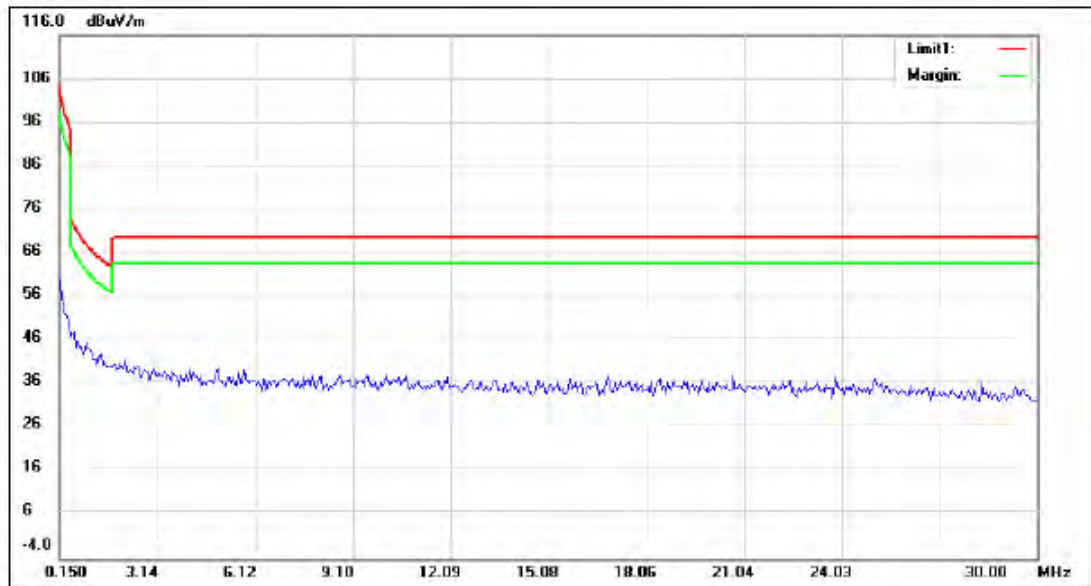


深圳康来士标准测试技术有限公司  
Compliance Certification Services (ShenZhen) Inc.

地址: 广东省深圳市宝安区西乡街道铁岗社区铁岗路18号康来士标准测试技术有限公司  
TEL: 0755-28058800 FAX: 0755-29564902

966 (2) Chamber

Job No.:	20150427	Ant.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27	Time:11:27:54
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	GFSK TX 2440MHz		

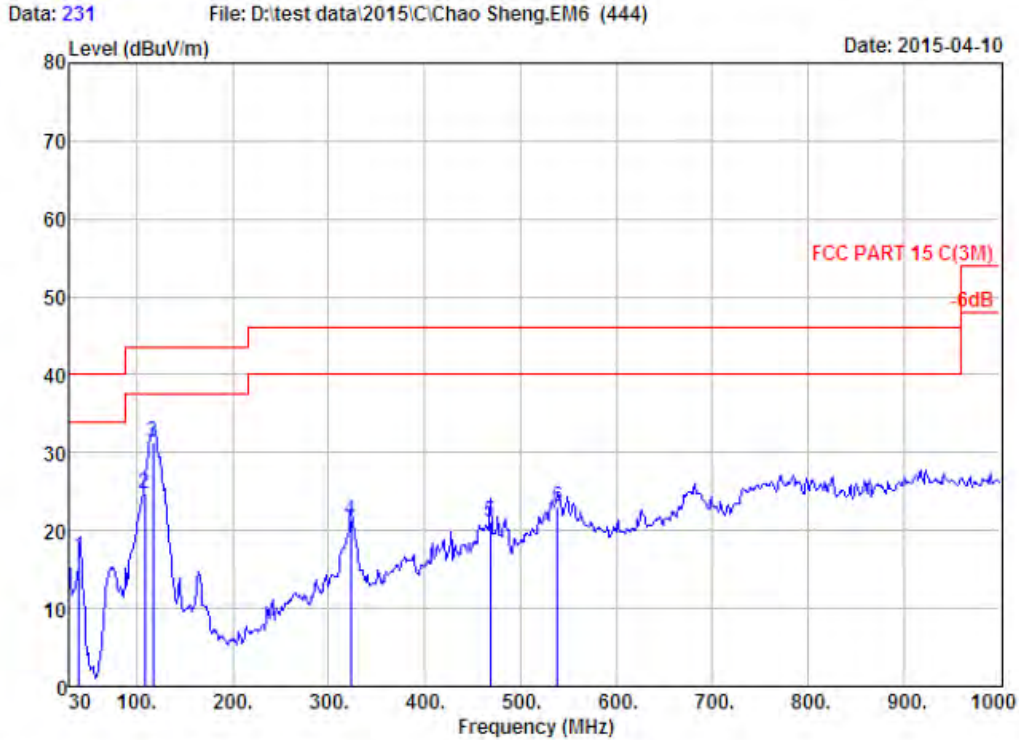




**Figure 52: Test figure of Spurious Emissions (30MHz – 1GHz), BLE (Mid), H**

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Site no. : 1# 966 chamber Data no. : 231  
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 C(3M)  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2440MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	39.70	12.90	0.81	2.95	16.66	40.00	23.34	QP
2	108.57	10.34	1.39	13.00	24.73	43.50	18.77	QP
3	117.30	11.02	1.47	18.82	31.31	43.50	12.19	QP
4	322.94	13.65	2.43	5.22	21.30	46.00	24.70	QP
5	465.44	17.14	3.09	0.81	21.04	46.00	24.96	QP
6	539.25	19.35	3.22	0.41	22.98	46.00	23.02	QP

**Figure 53: Test figure of Spurious Emissions (30MHz – 1GHz), BLE (Mid), V**

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Data: 232 File: D:\test data\2015\C\Chao Sheng.EM6 (444)

Date: 2015-04-10



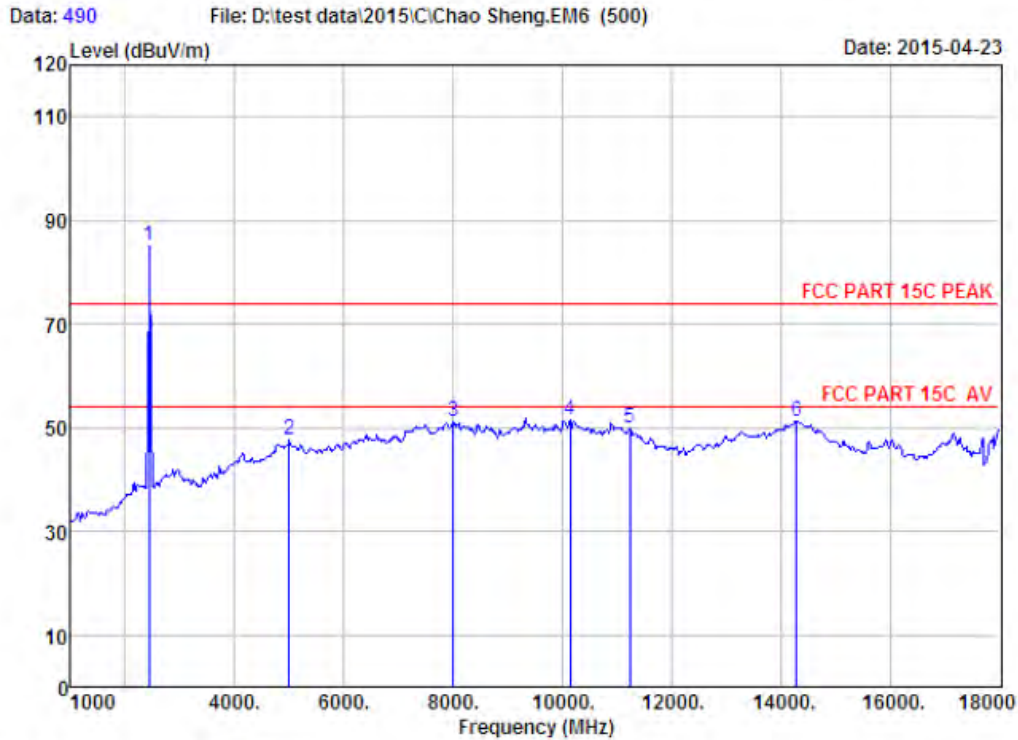
Site no. : 1# 966 chamber Data no. : 232  
 Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 C(3M)  
 Env. / Ins. : Temp:23.6°;Hum:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GPSK TX 2440MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	41.64	11.75	0.85	18.91	31.51	40.00	8.49	QP
2	73.65	6.22	1.15	10.37	17.74	40.00	22.26	QP
3	117.30	11.02	1.47	12.26	24.75	43.50	18.75	QP
4	165.80	9.66	1.68	3.06	14.40	43.50	29.10	QP
5	322.94	13.65	2.43	4.09	20.17	46.00	25.83	QP
6	439.34	16.23	2.89	6.71	25.83	46.00	20.17	QP

**Figure 54: Test figure of Spurious Emissions (1GHz –25GHz), BLE (Mid), H**

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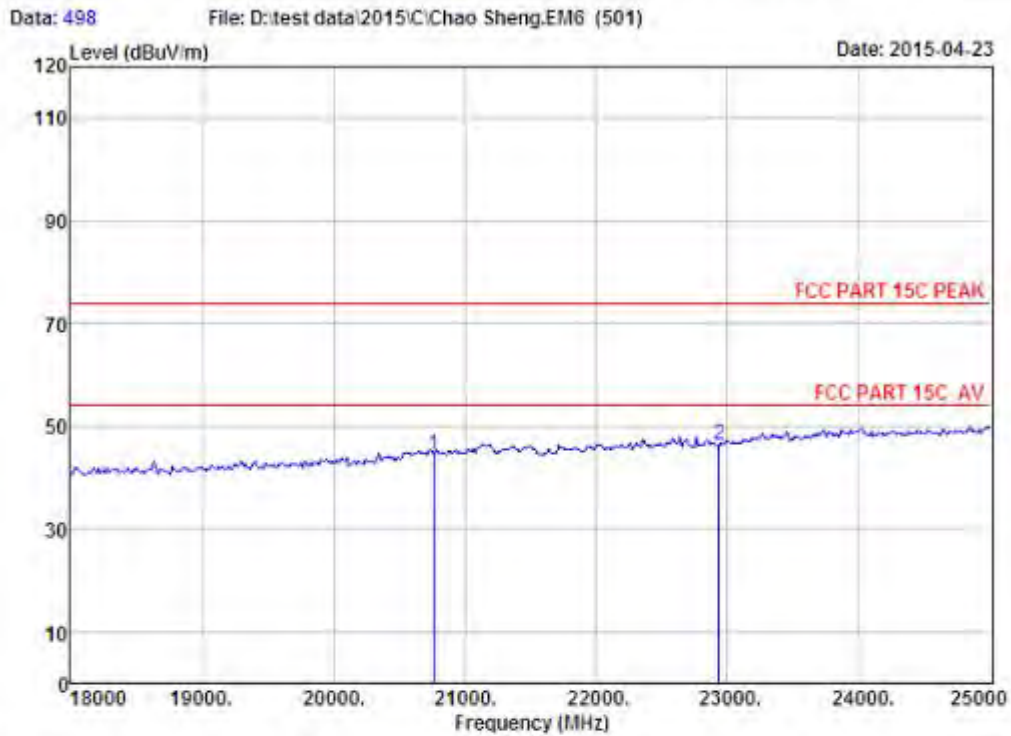
Site no. : 1# 966 chamber Data no. : 490  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6%;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUI : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2440MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2440.00	27.60	6.67	34.12	85.01	85.16	74.00	-11.16	Peak
2	4995.00	31.54	12.59	32.00	35.52	47.65	74.00	26.35	Peak
3	8004.00	37.01	11.40	31.22	34.08	51.27	74.00	22.73	Peak
4	10146.00	38.36	11.51	32.05	33.59	51.41	74.00	22.59	Peak
5	11234.00	39.37	11.12	34.10	33.63	50.02	74.00	23.98	Peak
6	14294.00	41.71	10.92	33.08	31.69	51.24	74.00	22.76	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Site no. : 1# 966 chamber Data no. : 498  
 Dis. / Ant. : 3m ANT ABVDE 18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2440MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	20765.00	46.16	20.02	36.00	14.39	44.57	74.00	29.43	Peak
2	22935.00	45.63	21.11	33.93	13.55	46.36	74.00	27.64	Peak

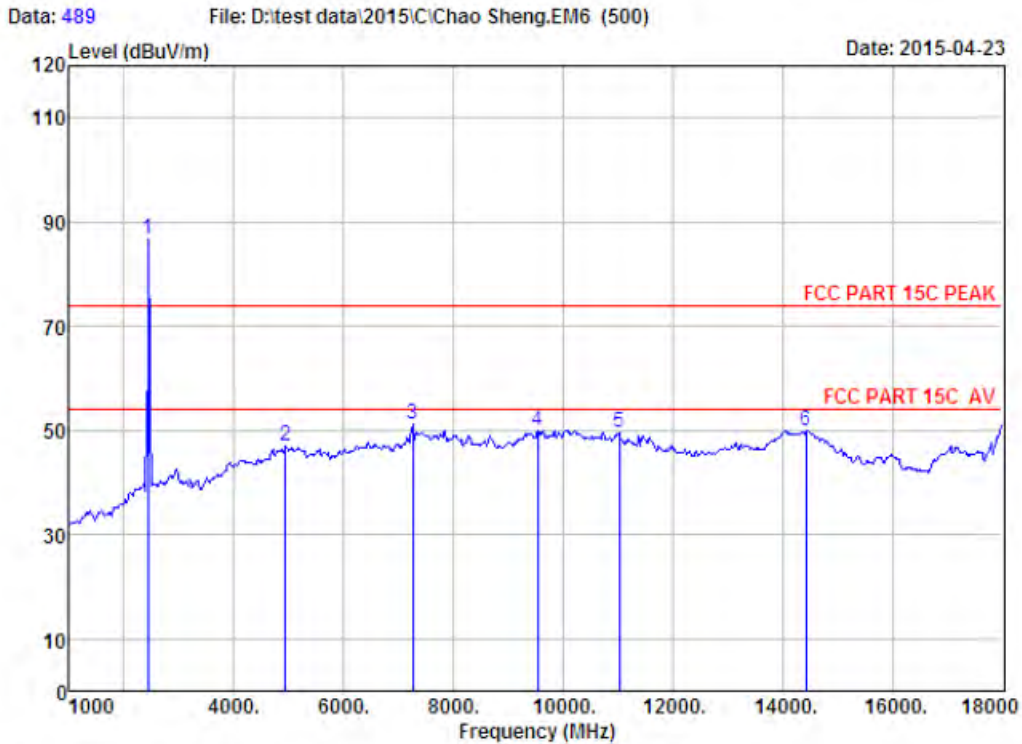
Remarks: 1. Emission level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Figure 55: Test figure of Spurious Emissions (1GHz –25GHz), BLE (Mid), V

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Site no. : 1# 966 chamber Data no. : 489  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2440MHz

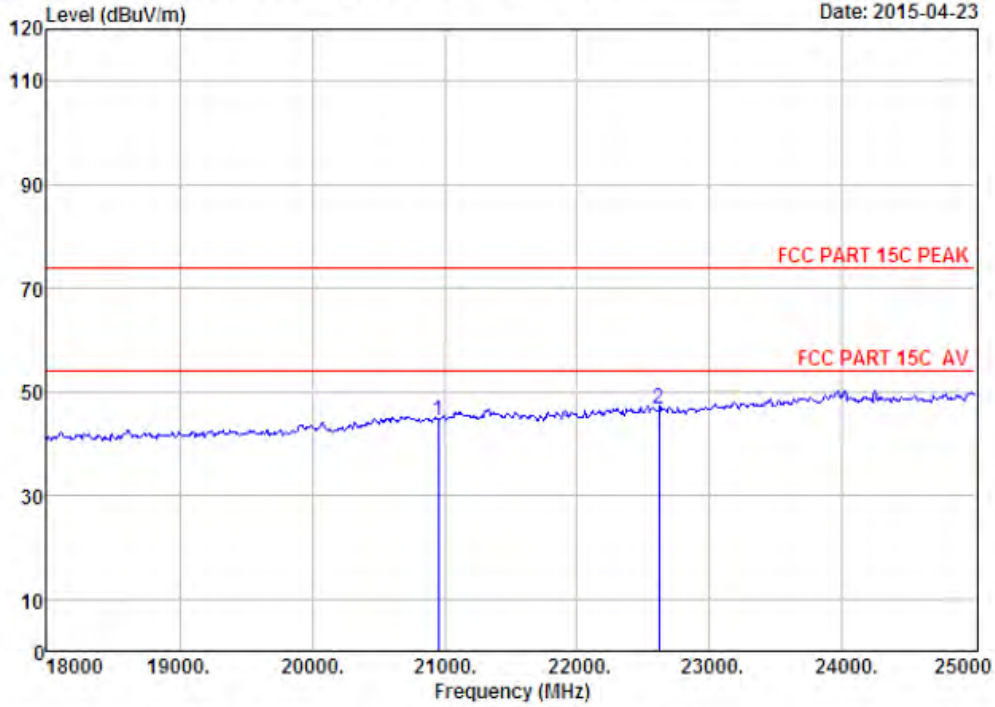
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limite (dBuV/m)	Margin (dB)	Remark
1	2440.00	27.60	6.67	34.12	86.52	86.67	74.00	-12.67	Peak
2	4944.00	31.47	12.37	31.96	35.18	47.06	74.00	26.94	Peak
3	7256.00	36.53	11.55	32.06	35.17	51.19	74.00	22.81	Peak
4	9534.00	37.97	11.70	31.92	32.22	49.97	74.00	24.03	Peak
5	11030.00	39.50	11.27	33.71	32.44	49.50	74.00	24.50	Peak
6	14430.00	41.82	10.93	32.84	30.01	49.92	74.00	24.08	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

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Data: 497 File: D:\test data\2015\CI\Chao Sheng.EM6 (501) Date: 2015-04-23



Site no. : 1# 966 chamber Data no. : 497  
 Dis. / Ant. : 3m ANI ABOVE 18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2440MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	20954.00	46.27	20.11	35.85	14.01	44.54	74.00	29.46	Peak
2	22613.00	45.75	20.92	34.24	14.42	46.85	74.00	27.15	Peak

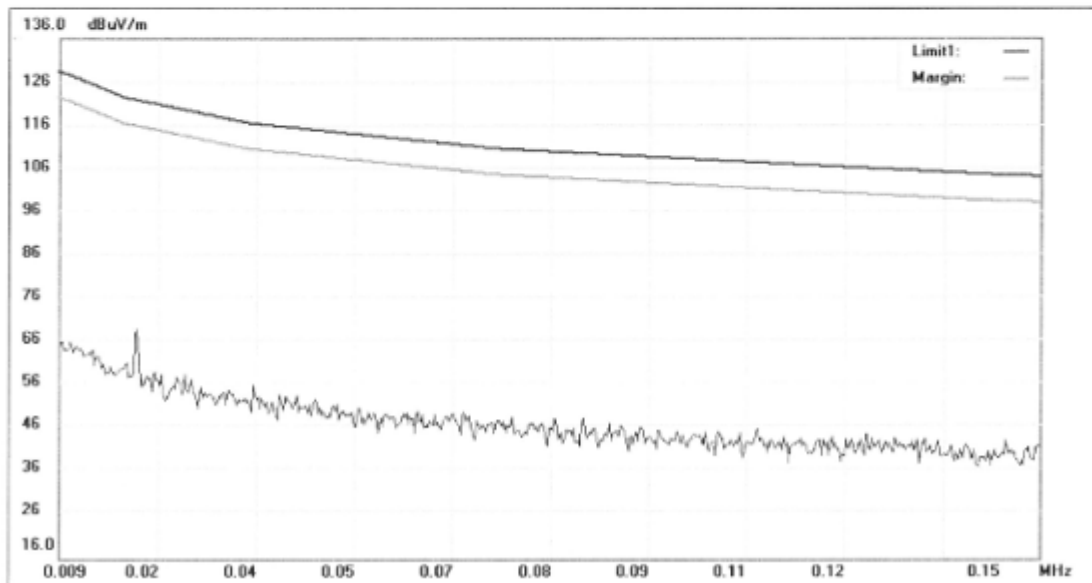
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

Figure 56: Test figure of Spurious Emissions (9kHz – 30MHz), BLE (High)



966 (2) Chamber

Job No.:	20150427	Ant.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:	2015-4-27 Time:11:31:05
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	GFSK TX 2480MHz		







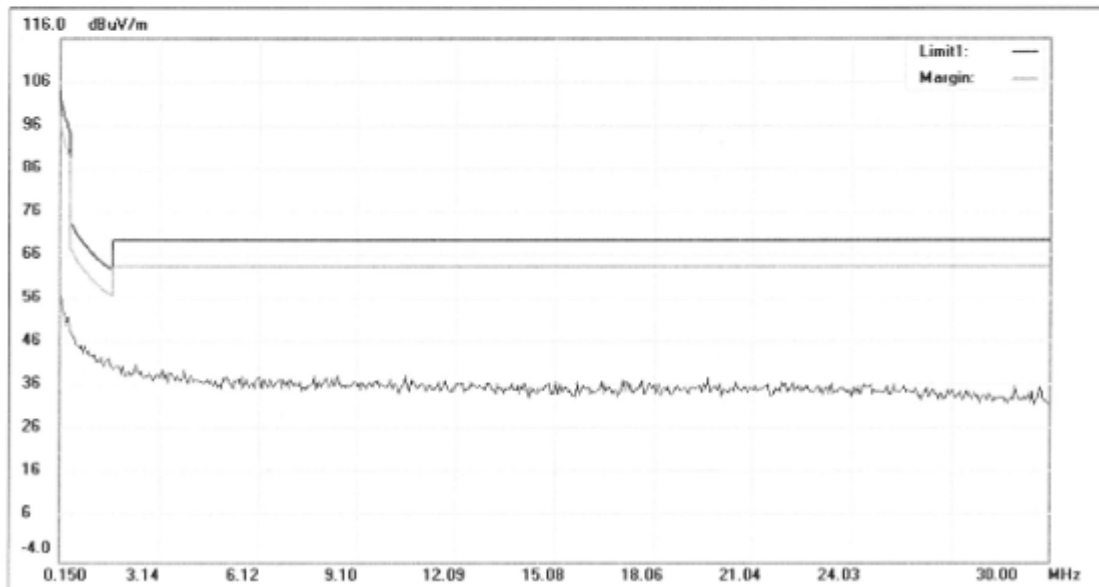
## 深圳康来士标准测试技术有限公司

### Compliance Certification Services (ShenZhen) Inc.

地址：广东省深圳市观澜镇观澜南路18号能达物流园10-1栋 TEL: 0755-28055000 FAX: 0755-29564902

#### 966 (2) Chamber

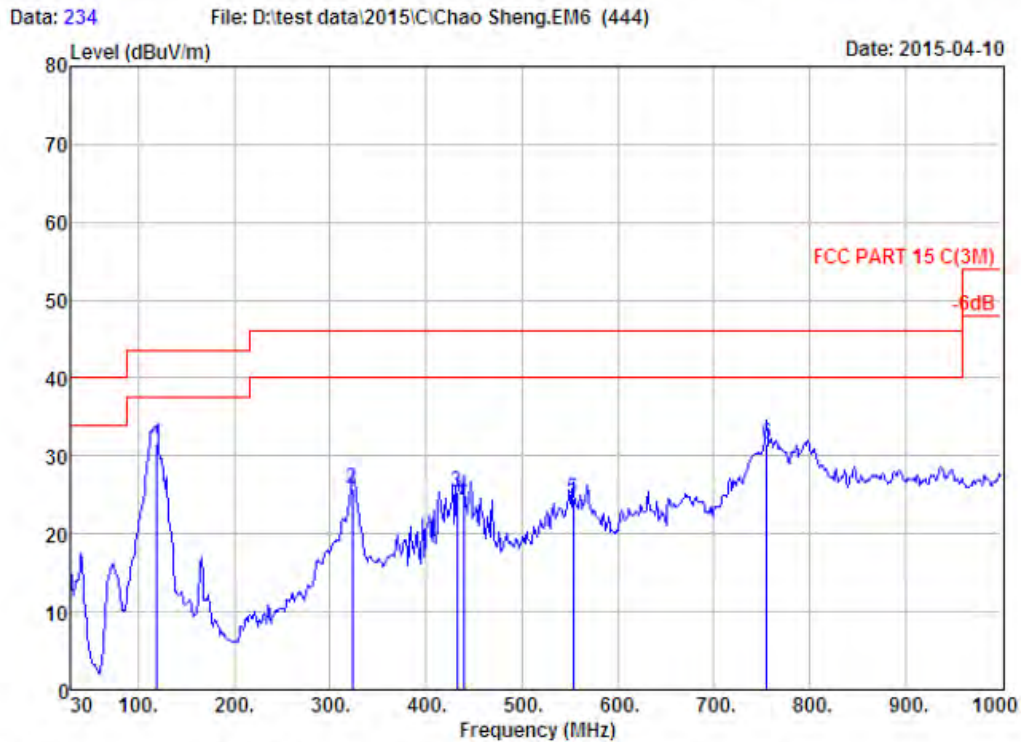
Job No.:	20150427	Ant.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27	Time:11:29:17
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	GFSK TX 2480MHz		



**Figure 57: Test figure of Spurious Emissions (30MHz – 1GHz), BLE (High), H**

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Site no. : 1# 966 chamber Data no. : 234  
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 C(3M)  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK IX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	119.24	11.11	1.42	19.12	31.65	43.50	11.85	QP
2	322.94	13.65	2.43	9.77	25.85	46.00	20.15	QP
3	432.55	16.11	2.78	6.51	25.40	46.00	20.60	QP
4	439.34	16.23	2.89	5.86	24.98	46.00	21.02	QP
5	553.80	19.55	3.26	1.77	24.58	46.00	21.42	QP
6	755.56	22.10	3.87	5.61	31.58	46.00	14.42	QP

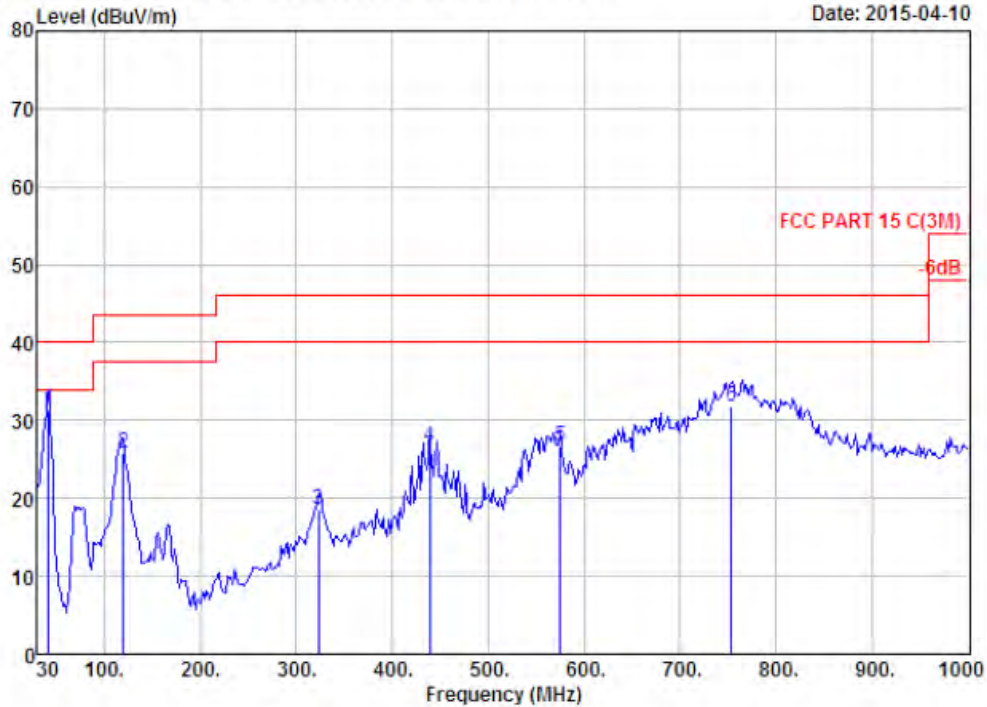
**Figure 58: Test figure of Spurious Emissions (30MHz – 1GHz), BLE (High), V**

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Data: 233 File: D:\test data\2015\C\Chao Sheng.EM6 (444)

Date: 2015-04-10

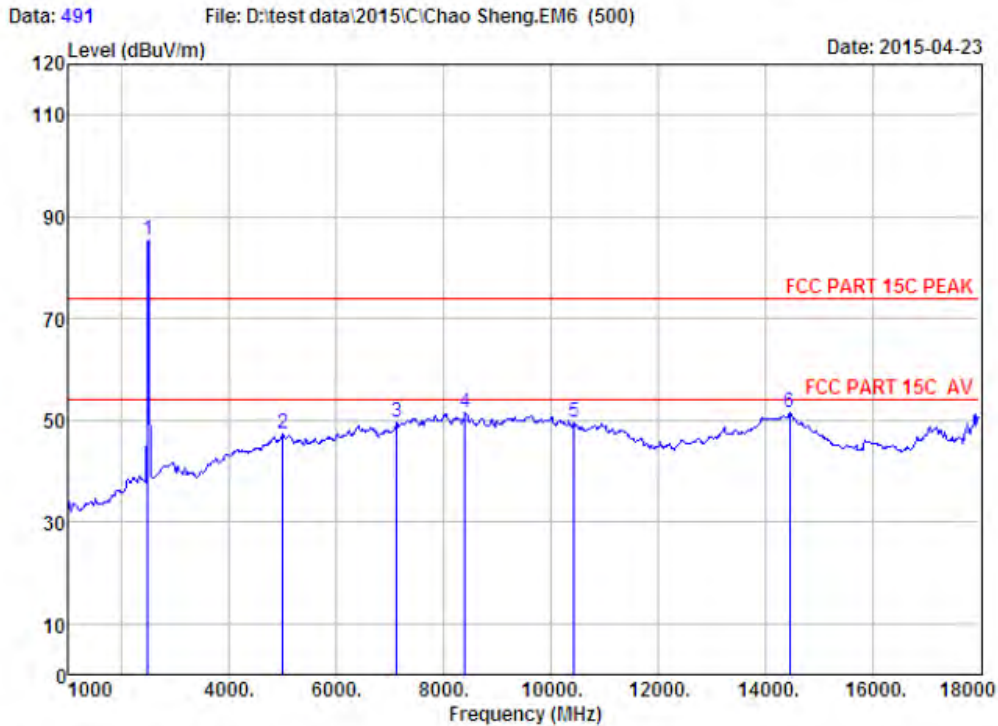


Site no. : 1# 966 chamber Data no. : 233  
 Dis. / Ant. : 3m 27197 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 C(3M)  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	41.64	11.75	0.85	18.83	31.43	40.00	8.57	QP
2	119.24	11.11	1.42	13.19	25.72	43.50	17.78	QP
3	322.94	13.65	2.43	2.52	18.60	46.00	27.40	QP
4	439.34	16.23	2.89	7.46	26.58	46.00	19.42	QP
5	575.14	19.55	3.40	3.81	26.76	46.00	19.24	QP
6	753.62	22.13	3.90	5.79	31.82	46.00	14.18	QP

**Figure 59: Test figure of Spurious Emissions (1GHz –25GHz), BLE (High), H**

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Site no. : 1# 966 chamber Data no. : 491  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2480MHz

	Ant. Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	34.03	85.26	85.52	74.00	-11.52	Peak
2	4995.00	31.54	12.59	32.00	35.16	47.29	74.00	26.71	Peak
3	7120.00	36.08	11.51	32.28	34.19	49.50	74.00	24.50	Peak
4	8395.00	36.68	11.44	31.76	35.10	51.46	74.00	22.54	Peak
5	10435.00	38.86	11.35	32.59	31.89	49.51	74.00	24.49	Peak
6	14464.00	41.85	10.93	32.96	31.79	51.61	74.00	22.39	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

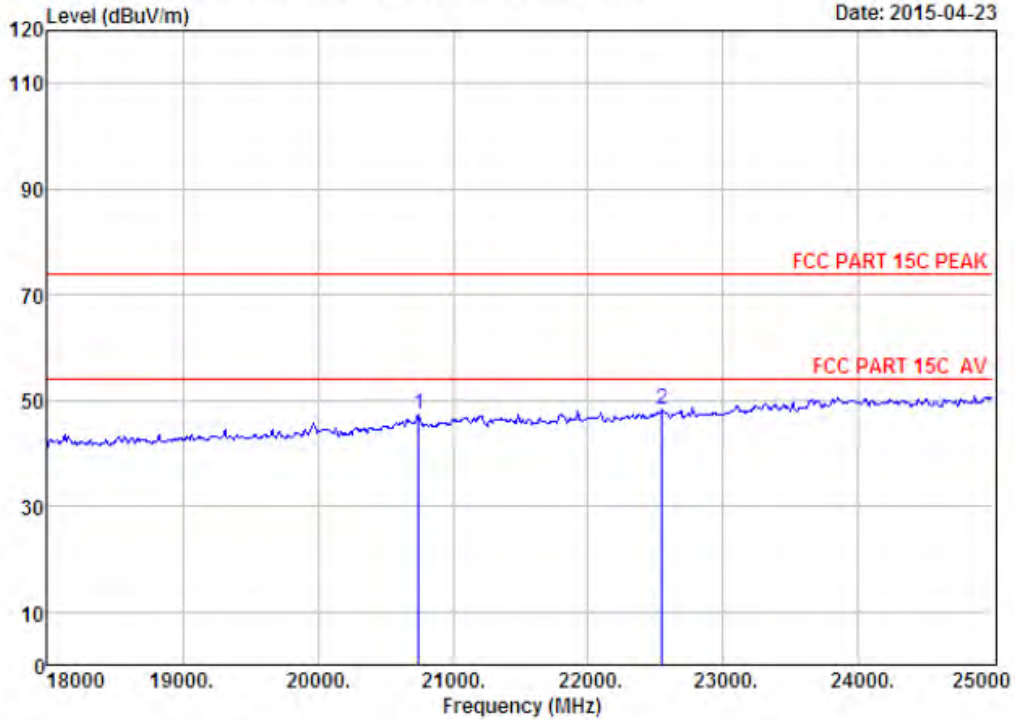


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Data: 499 File: D:\test data\2015\Chao Sheng.EM6 (501)

Date: 2015-04-23



Site no. : 1# 966 chamber Data no. : 499  
 Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2480MHz

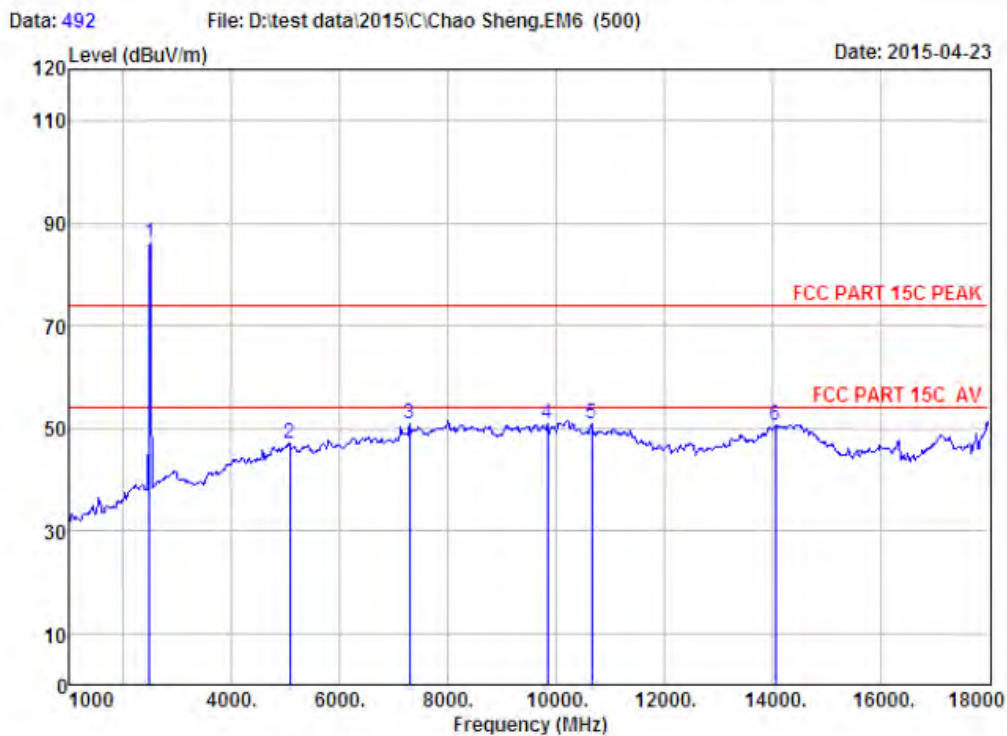
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	20744.00	46.15	20.02	36.03	17.15	47.29	74.00	26.71	Peak
2	22550.00	45.78	20.89	34.32	15.93	48.28	74.00	25.72	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

**Figure 60: Test figure of Spurious Emissions (1GHz –25GHz), BLE (High), V**

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Site no. : 1# 966 chamber Data no. : 492  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	34.03	85.68	85.94	74.00	-11.94	Peak
2	5080.00	31.59	12.49	32.14	35.19	47.13	74.00	26.87	Peak
3	7290.00	36.54	11.56	32.02	34.69	50.77	74.00	23.23	Peak
4	9840.00	38.16	11.63	31.81	32.77	50.75	74.00	23.25	Peak
5	10656.00	39.15	11.30	33.01	33.37	50.81	74.00	23.19	Peak
6	14056.00	41.51	10.90	33.80	32.09	50.70	74.00	23.30	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

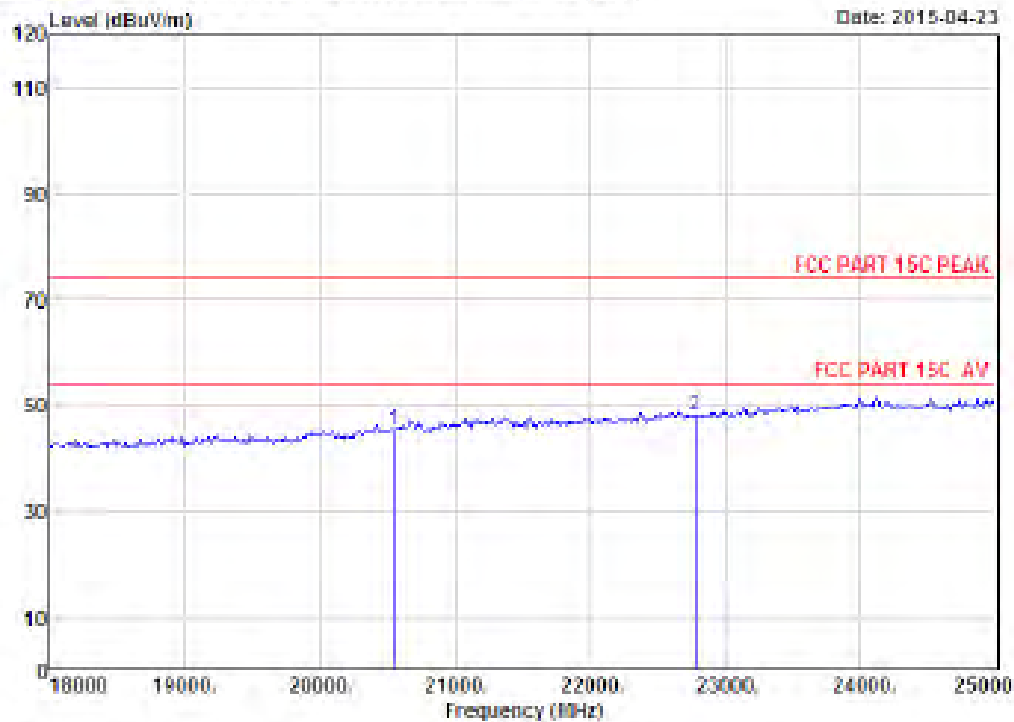


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Data: 500 File: D:\test data\2015\CI\Chao Sheng.EM6 (501)

Date: 2015-04-23



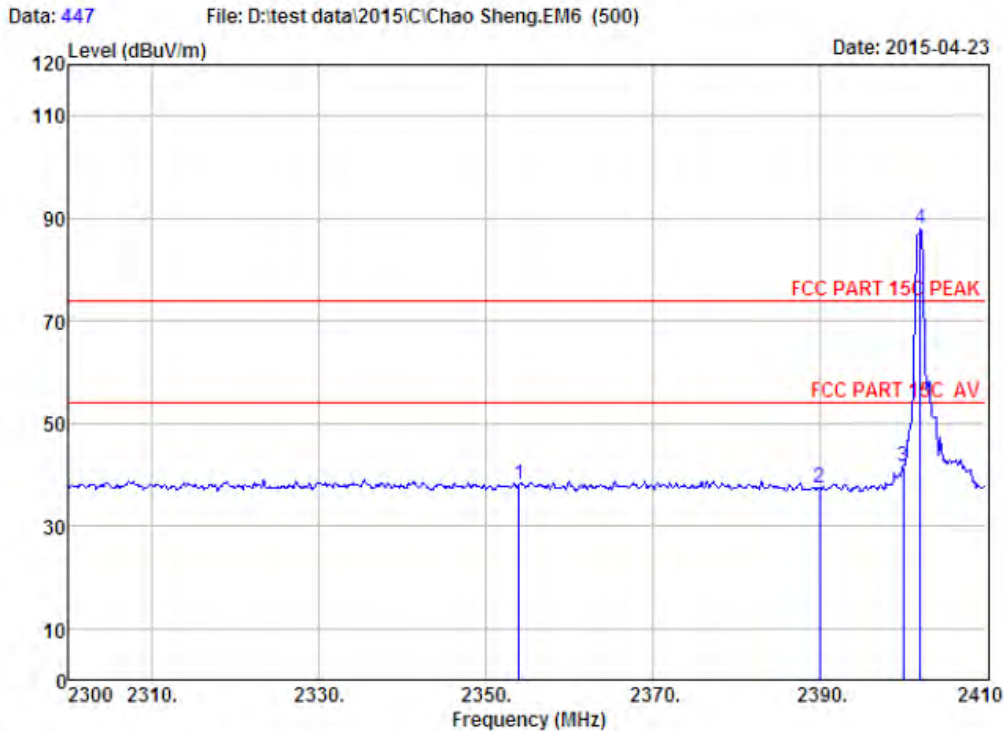
Site no. : L# 966 chamber Data no. : 500  
 Dis. / Ant. : 3m ANT ABOVE LSS Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp: 28.6° (Emit: 65W / Power: 01.62KPa  
 Engineer : Jody  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/DI : BeoPlay B3  
 Test Mode : GSM TX 2490MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Ampl Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	20848.00	46.03	13.98	36.21	15.43	45.23	74.00	28.77	Peak
2	22781.00	45.69	21.02	34.09	16.23	47.89	74.00	26.16	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Ampl Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not recorded.

**Figure 61: Test figure of Radiated Emissions in Restricted Bands, BDR (Low), H**

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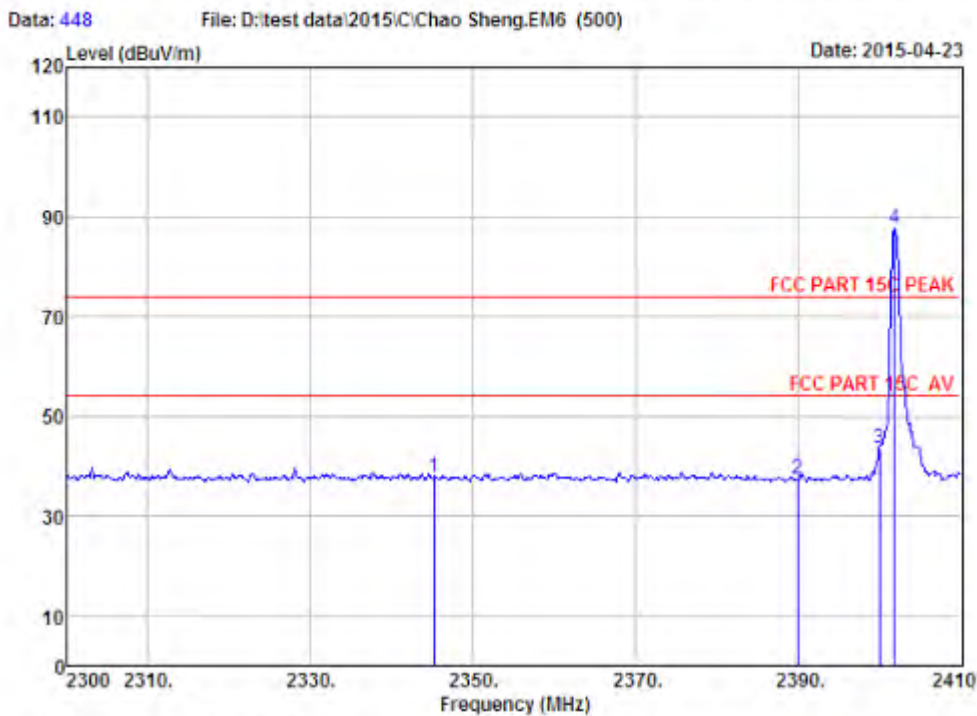
Site no. : 1# 966 chamber Data no. : 447  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2402MHz(No Hopping)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2354.01	27.70	6.58	34.22	38.07	38.13	74.00	35.87	Peak
2	2390.00	27.64	6.62	34.19	37.47	37.54	74.00	36.46	Peak
3	2400.00	27.61	6.62	34.18	41.66	41.71	74.00	32.29	Peak
4	2402.08	27.61	6.62	34.18	87.80	87.85	74.00	-13.85	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

**Figure 62: Test figure of Radiated Emissions in Restricted Bands, BDR (Low), V**

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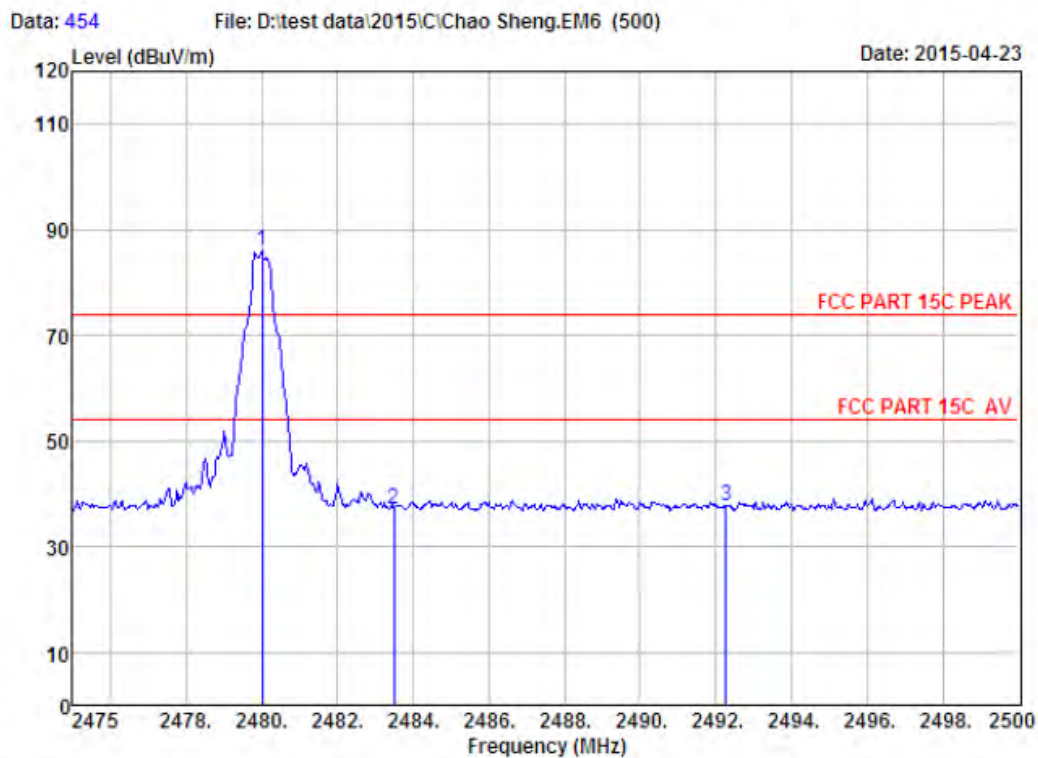
Site no. : 1# 966 chamber Date no. : 448  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUI : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2402MHz (No Hopping)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Remark
1	2345.21	27.70	6.56	34.22	37.70	37.74	74.00	36.26	Peak
2	2390.00	27.64	6.62	34.19	37.43	37.50	74.00	36.50	Peak
3	2400.00	27.61	6.62	34.18	43.62	43.67	74.00	30.33	Peak
4	2401.86	27.61	6.62	34.18	87.52	87.57	74.00	-13.57	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

**Figure 63: Test figure of Radiated Emissions in Restricted Bands, BDR (High), H**

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Site no. : 1# 966 chamber Data no. : 454  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUI : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2480MHz (No Hopping)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	34.03	85.70	85.96	74.00	-11.96	Peak
2	2483.50	27.58	6.71	34.03	36.98	37.24	74.00	36.76	Peak
3	2492.28	27.58	6.73	34.03	37.53	37.81	74.00	36.19	Peak

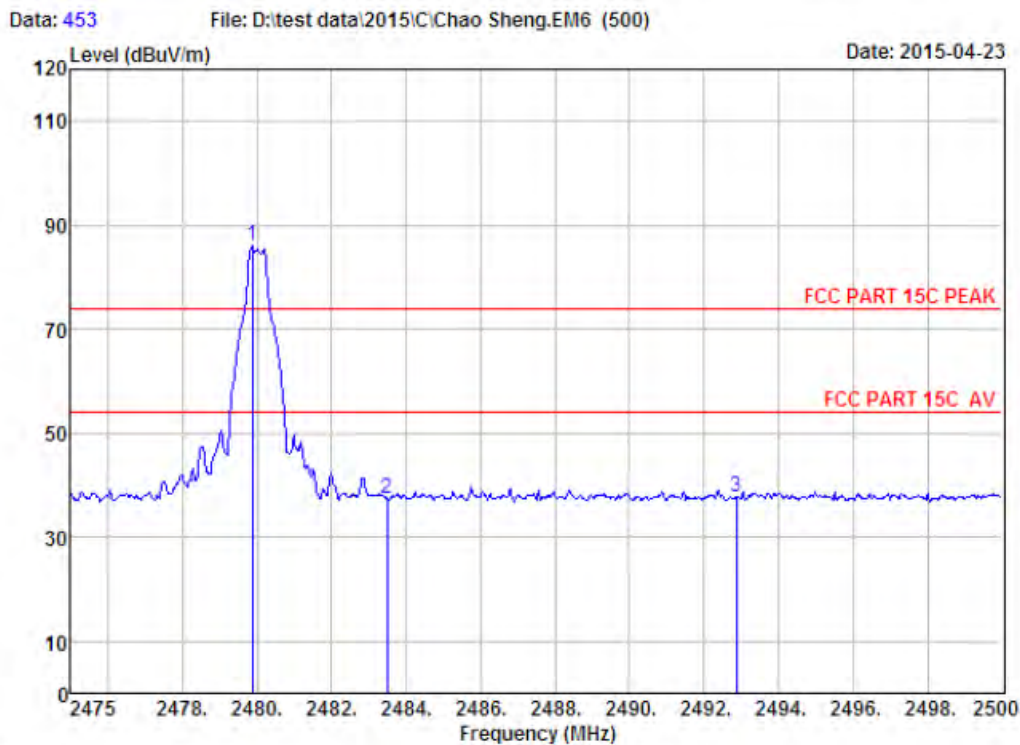
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
2. The emission levels that are 20dB below the official limit are not reported.



**Figure 64: Test figure of Radiated Emissions in Restricted Bands, BDR (High), V**

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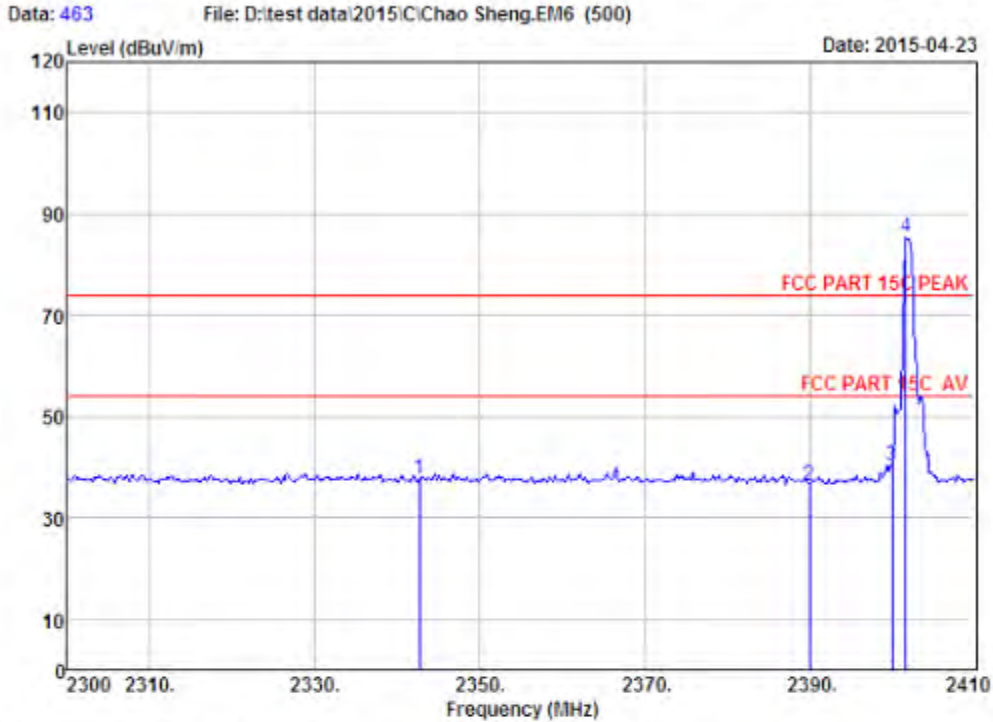
Site no. : 1# 966 chamber Data no. : 453  
 Dis. / Ant. : 3m ANT 1-16G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2480MHz (No Hopping)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.88	27.58	6.71	34.03	85.74	86.00	74.00	-12.00	Peak
2	2483.50	27.58	6.71	34.03	37.11	37.37	74.00	36.63	Peak
3	2492.88	27.58	6.73	34.03	37.59	37.87	74.00	36.13	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

**Figure 65: Test figure of Radiated Emissions in Restricted Bands, EDR (Low), H**

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Site no. : 1# 966 chamber Data no. : 463  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUI : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/W : SeoPlay S3  
 Test Mode : 8-DPSK TX 2402MHz(No Hopping)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2342.88	27.70	6.56	34.22	37.61	37.65	74.00	36.35	Peak
2	2390.00	27.64	6.62	34.19	36.51	36.58	74.00	37.42	Peak
3	2400.00	27.61	6.62	34.18	40.35	40.40	74.00	33.60	Peak
4	2401.75	27.61	6.62	34.18	85.29	85.34	74.00	-11.34	Peak

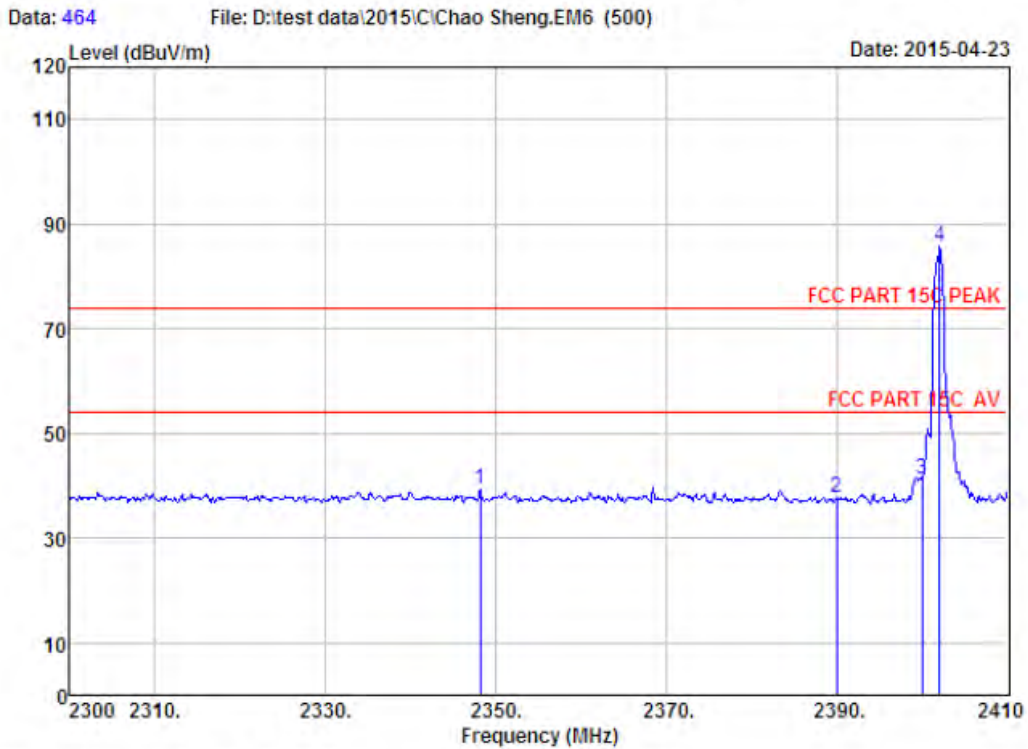
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



**Figure 66: Test figure of Radiated Emissions in Restricted Bands, EDR (Low), V**

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Site no. : 1# 966 chamber Data no. : 464  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6%;Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2402MHz(No Hopping)

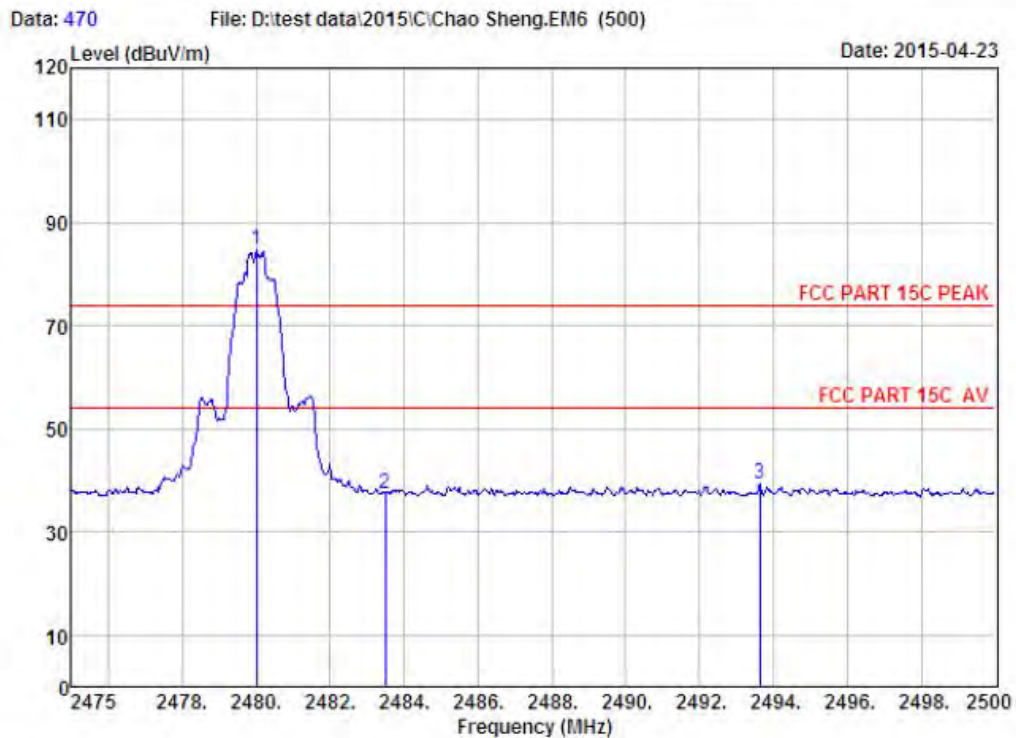
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2348.18	27.70	6.56	34.22	39.41	39.45	74.00	34.55	Peak
2	2390.00	27.64	6.62	34.19	37.65	37.72	74.00	36.28	Peak
3	2400.00	27.61	6.62	34.18	41.30	41.35	74.00	32.65	Peak
4	2402.08	27.61	6.62	34.18	85.58	85.63	74.00	-11.63	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

**Figure 67: Test figure of Radiated Emissions in Restricted Bands, EDR (High), H**

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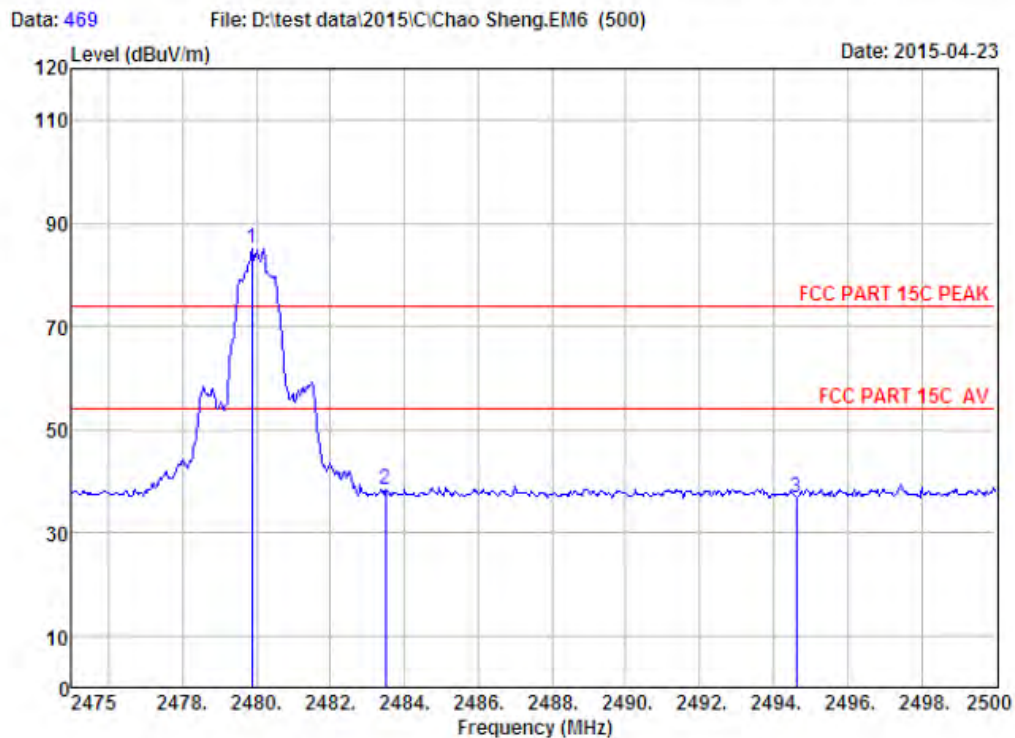
Site no. : 1# 966 chamber Data no. : 470  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : 8-DPSK TX 2480MHz (No Hopping)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	34.03	84.58	84.84	74.00	-10.84	Peak
2	2483.50	27.58	6.71	34.03	37.22	37.48	74.00	36.52	Peak
3	2493.63	27.58	6.73	34.03	39.14	39.42	74.00	34.58	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

**Figure 68: Test figure of Radiated Emissions in Restricted Bands, EDR (High), V**

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Site no. : 1# 966 chamber Data no. : 469  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUI : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : 8-DPSK TX 2480MHz(No Hopping)

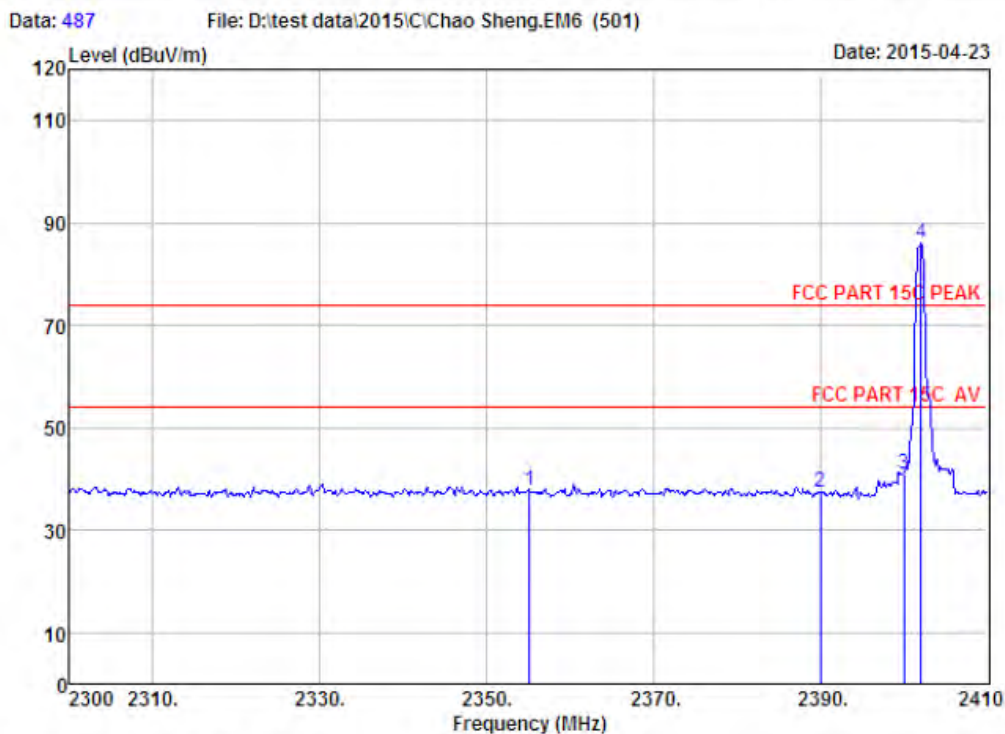
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2479.88	27.58	6.71	34.03	84.91	85.17	74.00	-11.17	Peak
2	2483.50	27.58	6.71	34.03	37.98	38.24	74.00	35.76	Peak
3	2494.60	27.57	6.73	34.00	36.66	36.96	74.00	37.04	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
2. The emission levels that are 20dB below the official limit are not reported.

**Figure 69: Test figure of Radiated Emissions in Restricted Bands, BLE (Low), H**

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Site no. : 1# 966 chamber Data no. : 487  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2355.11	27.70	6.58	34.22	37.58	37.64	74.00	36.36	Peak
2	2390.00	27.64	6.62	34.19	37.33	37.40	74.00	36.60	Peak
3	2400.00	27.61	6.62	34.18	41.03	41.08	74.00	32.92	Peak
4	2402.08	27.61	6.62	34.18	86.05	86.10	74.00	-12.10	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

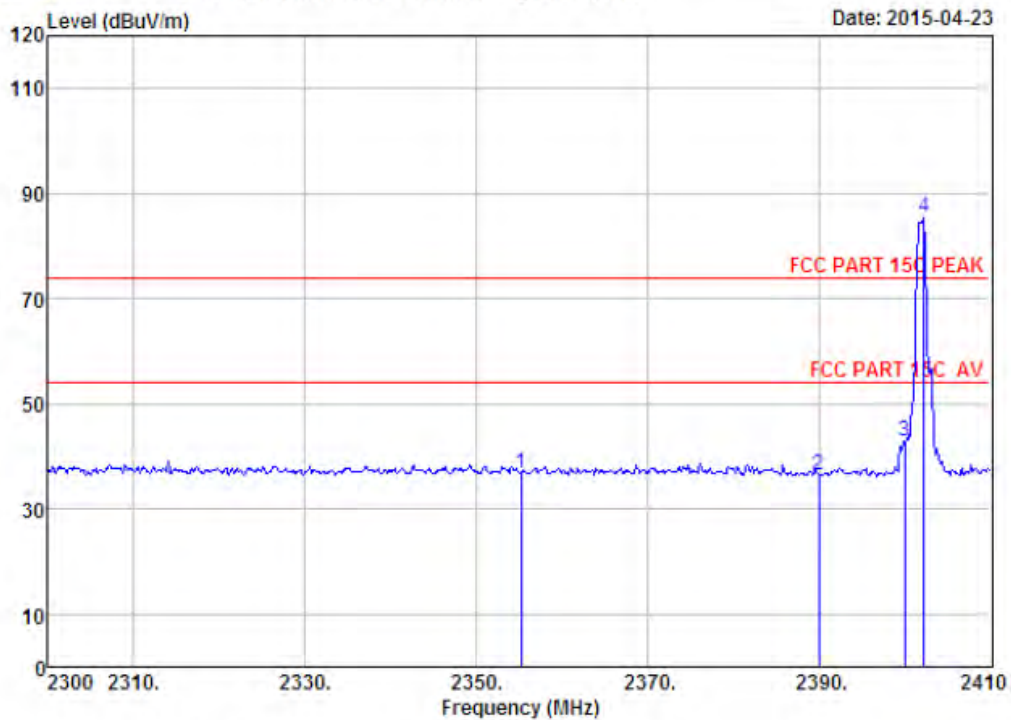


**Figure 70: Test figure of Radiated Emissions in Restricted Bands, BLE (Low), V**

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Data: 488 File: D:\test data\2015\C\Chao Sheng.EM6 (501)



Site no. : 1# 966 chamber Data no. : 488  
Dis. / Ant. : 3m ANI 1-18G Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2402MHz

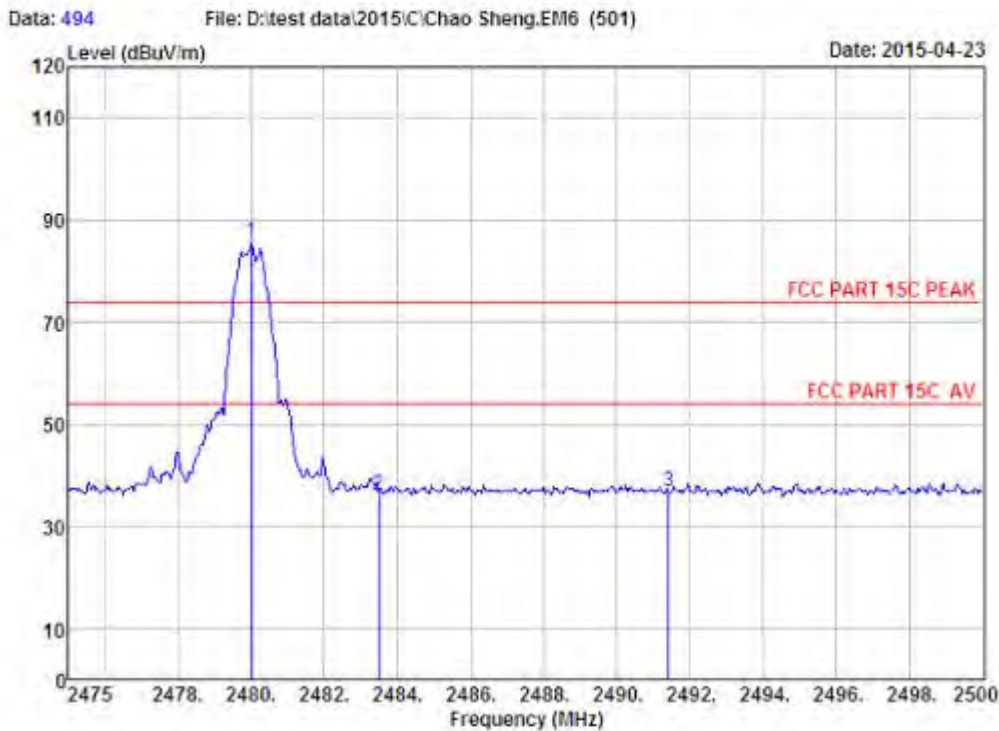
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2355.22	27.70	6.58	34.22	36.82	36.88	74.00	37.12	Peak
2	2390.00	27.64	6.62	34.19	36.40	36.47	74.00	37.53	Peak
3	2400.00	27.61	6.62	34.18	42.93	42.98	74.00	31.02	Peak
4	2402.30	27.61	6.62	34.18	85.23	85.28	74.00	-11.28	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
2. The emission levels that are 20dB below the official limit are not reported.

**Figure 71: Test figure of Radiated Emissions in Restricted Bands, BLE (High), H**

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Site no. : 1# 966 chamber Data no. : 494  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6° Humi:56% Press:101.52kPa  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	34.03	85.45	85.71	74.00	-11.71	Peak
2	2483.50	27.58	6.71	34.03	36.02	36.28	74.00	37.72	Peak
3	2491.43	27.58	6.73	34.03	36.60	36.88	74.00	37.12	Peak

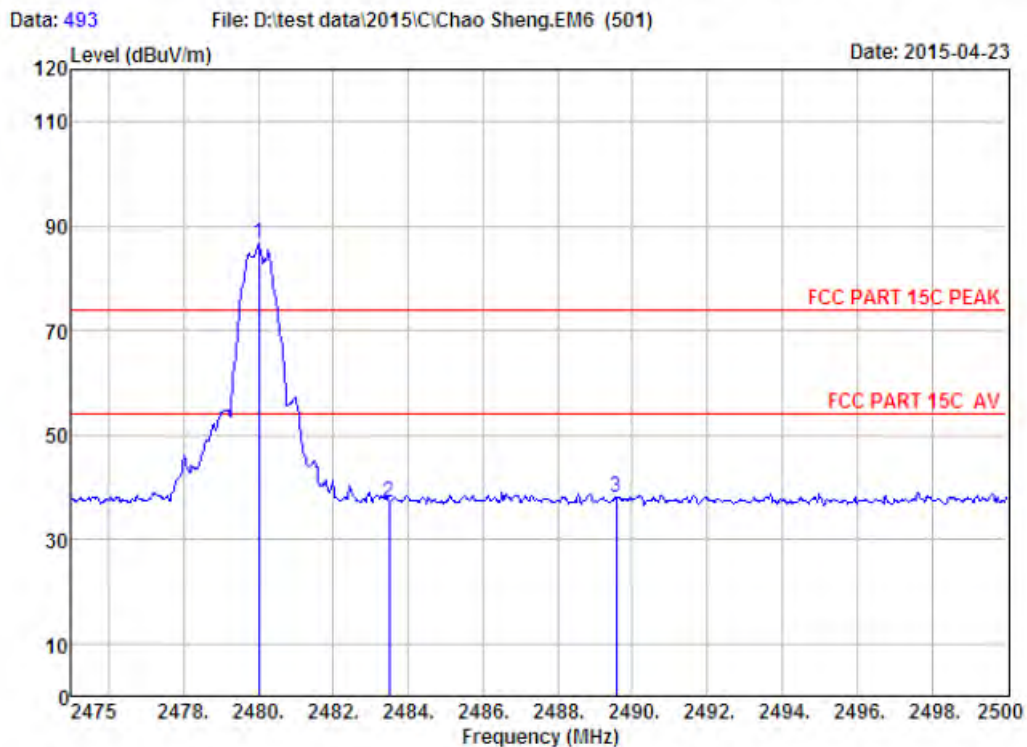
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



**Figure 72: Test figure of Radiated Emissions in Restricted Bands, BLE (High), V**

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Site no. : 1# 966 chamber Data no. : 493  
 Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : Temp:23.6°; Humi:56%; Press:101.52kPa  
 Engineer : Tony  
 EUI : Bluetooth Speaker  
 Power : AC 120V/60Hz  
 M/N : BeoPlay S3  
 Test Mode : GFSK TX 2480MHz

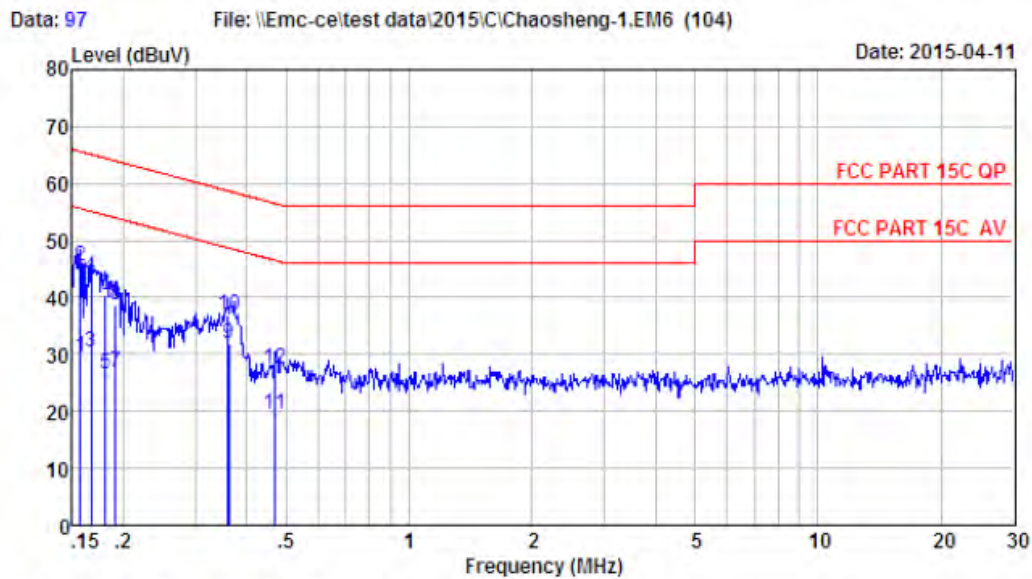
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBUV)	Emission Level (dBUV/m)	Limits (dBUV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	34.03	86.50	86.76	74.00	-12.76	Peak
2	2483.50	27.58	6.71	34.03	36.71	36.97	74.00	37.03	Peak
3	2489.58	27.58	6.73	34.03	37.83	38.11	74.00	35.89	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

**Figure 73: Test figure of Conducted Emissions, Mode C line live**

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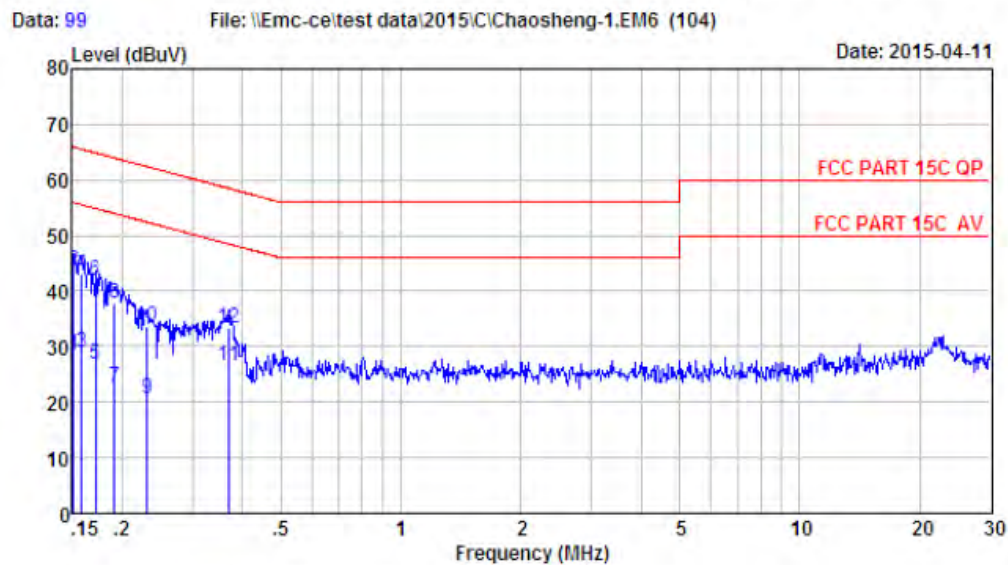
Site no : 844 Shield Room  
 Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa LINE  
 Limit : FCC PART 15C QP  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 M/N : AC 120V/60Hz  
 Power : BeoPlay S3  
 Test Mode : IX Mode

	Freq. (MHz)	LISN Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	0.16	9.61	9.81	9.98	29.40	55.65	26.25	Average
2	0.16	9.61	9.81	25.98	45.40	65.65	20.25	QP
3	0.17	9.61	9.81	11.13	30.55	55.12	24.57	Average
4	0.17	9.61	9.81	24.13	43.55	65.12	21.57	QP
5	0.18	9.61	9.80	7.09	26.50	54.46	27.96	Average
6	0.18	9.61	9.80	21.09	40.50	64.46	23.96	QP
7	0.19	9.61	9.80	7.37	26.78	53.98	27.20	Average
8	0.19	9.61	9.80	19.37	38.78	63.98	25.20	QP
9	0.36	9.61	9.82	12.42	31.85	48.69	16.84	Average
10	0.36	9.61	9.82	17.42	36.85	58.69	21.84	QP
11	0.47	9.61	9.81	0.02	19.44	46.49	27.05	Average
12	0.47	9.61	9.81	8.02	27.44	56.49	29.05	QP

Figure 74: Test figure of Conducted Emissions, Mode C line neutral

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Site no : 844 Shield Room  
 Env. / Ins. : Temp:23.6°;Humi:56%;Press:101.52kPa NEUTRAL  
 Limit : FCC PART 15C QP  
 Engineer : Tony  
 EUT : Bluetooth Speaker  
 M/N : AC 120V/60Hz  
 Power : BeoPlay S3  
 Test Mode : IX Mode

	Freq. (MHz)	LISN Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	0.15	9.46	9.81	9.33	28.60	55.96	27.36	Average
2	0.15	9.46	9.81	24.33	43.60	65.96	22.36	QP
3	0.16	9.48	9.81	9.68	28.97	55.56	26.59	Average
4	0.16	9.48	9.81	23.68	42.97	65.56	22.59	QP
5	0.17	9.52	9.81	7.47	26.80	54.90	28.10	Average
6	0.17	9.52	9.81	22.47	41.80	64.90	23.10	QP
7	0.19	9.58	9.80	3.35	22.73	53.98	31.25	Average
8	0.19	9.58	9.80	18.35	37.73	63.98	26.25	QP
9	0.23	9.60	9.80	1.23	20.63	52.39	31.76	Average
10	0.23	9.60	9.80	14.23	33.63	62.39	28.76	QP
11	0.37	9.59	9.82	7.09	26.50	48.47	21.97	Average
12	0.37	9.59	9.82	14.09	33.50	58.47	24.97	QP