

Produkte  
Products

<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>	TTUBEPLAYS3		
<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		<i>Vertrauliche Informationen</i>		
<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	Amy Wang / Project Engineer		Max Y. C. Yao / Department Manager	22 May, 2015	
Datum Date	Name/Stellung Name/Position	Unterschrift Signature	Datum Date	Name/Stellung Name/Position	Unterschrift Signature
<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(fail) = 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(fail) = failed a.m. test specifications(s) N/A = not applicable N/T = not tested					
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 <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>					

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## ***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 Ian 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.

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## 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

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

**Radiated Emission (9KHz – 30MHz)**

Equipment	Manufacturer	Model No.	Serial No.	Cal Until
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 basic 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 Ian Town, Baoan Distr, Shenzhen, China is listed on the US Federal Communications Commission list of facilities approved to perform measurements, the register No. 441872.

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## 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

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**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, π/4DQPSK
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)						
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	/	/

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**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)						
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

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## 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

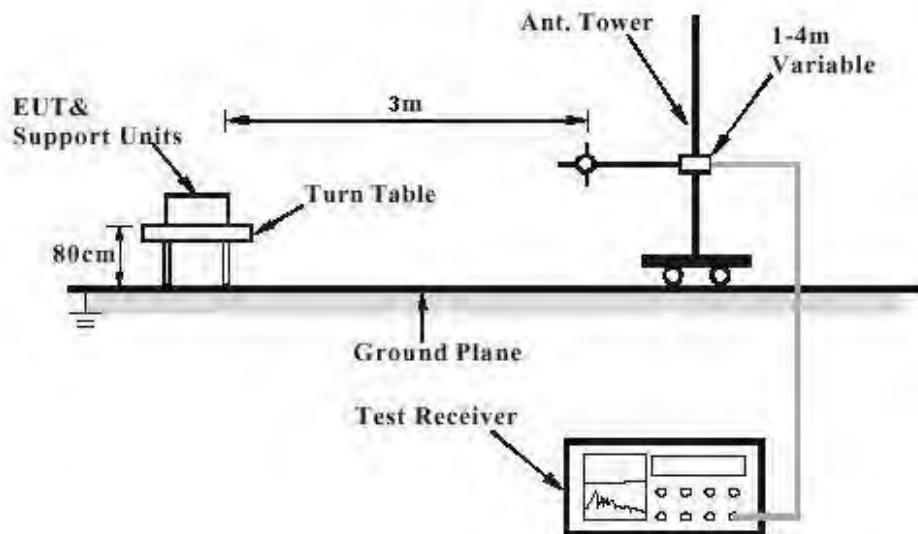
The test sample, which has been tested, contained the noise suppression parts as described in the technical document. No additional measures were employed to achieve compliance.

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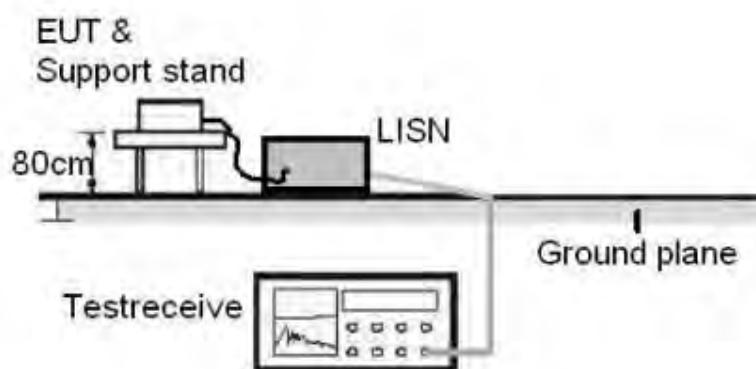
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## 4.5 Test set-up

**Diagram of Measurement Configuration for Radiation Test**



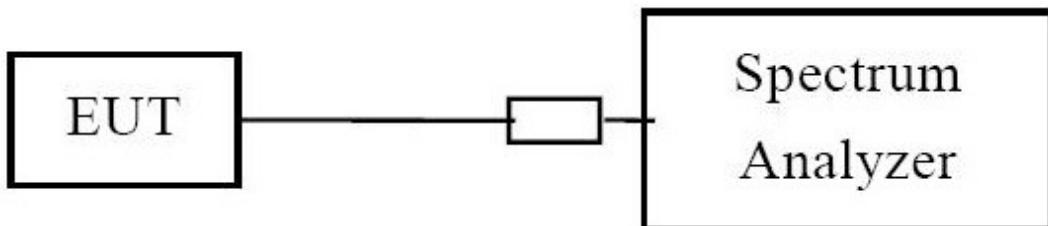
**Diagram of Measurement Configuration for Mains Conduction Measurement**



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**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.

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### 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

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

Channel	Channel Frequency (MHz)	Peak Output Power		Limit
		(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
		(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
		(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

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### 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

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### 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

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### 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.

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### 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.

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### 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

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### 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				

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### 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
2400 to 2483.5 MHz	79	$\geq 15$	Pass

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### 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

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**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

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### 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.

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## 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.

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## 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

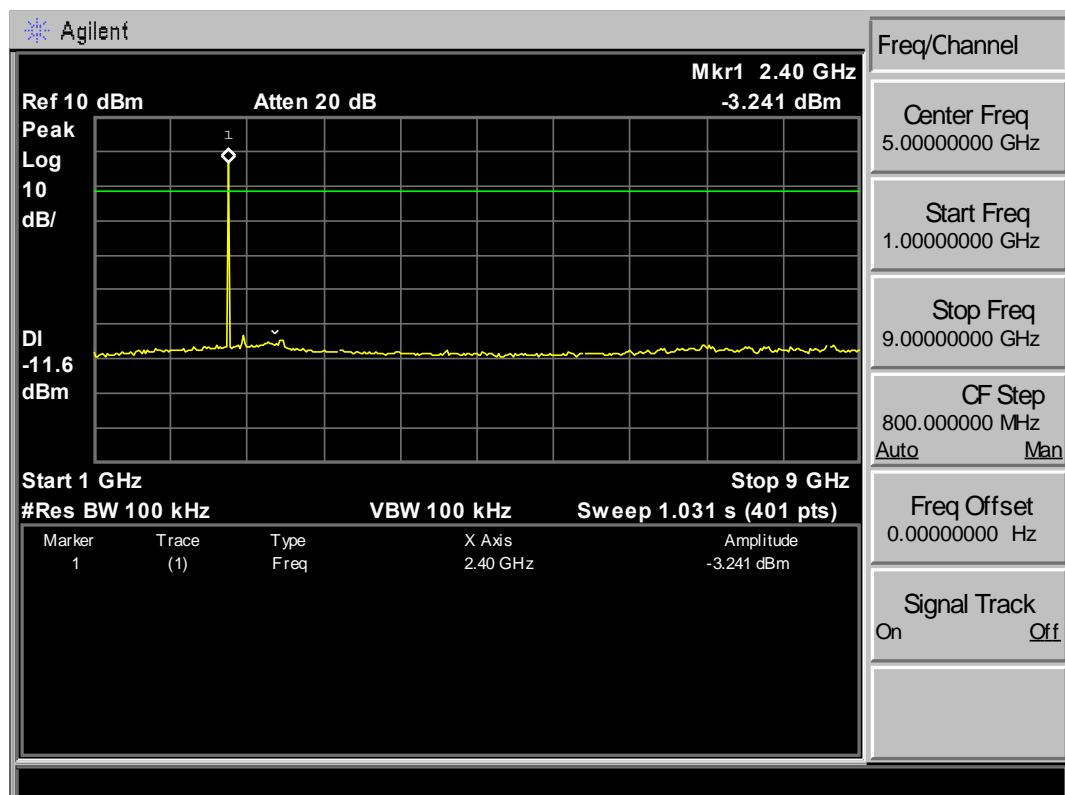
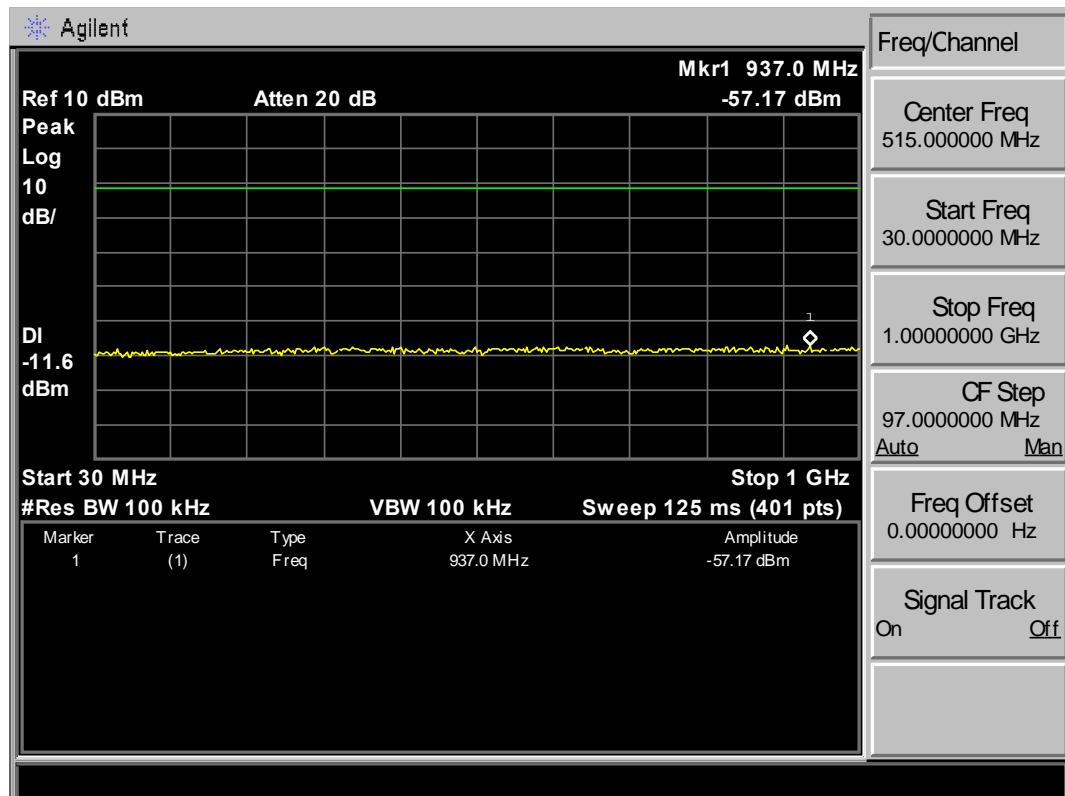
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**Figure 1: Test figure of Conducted Spurious Emissions, BDR (Low)**



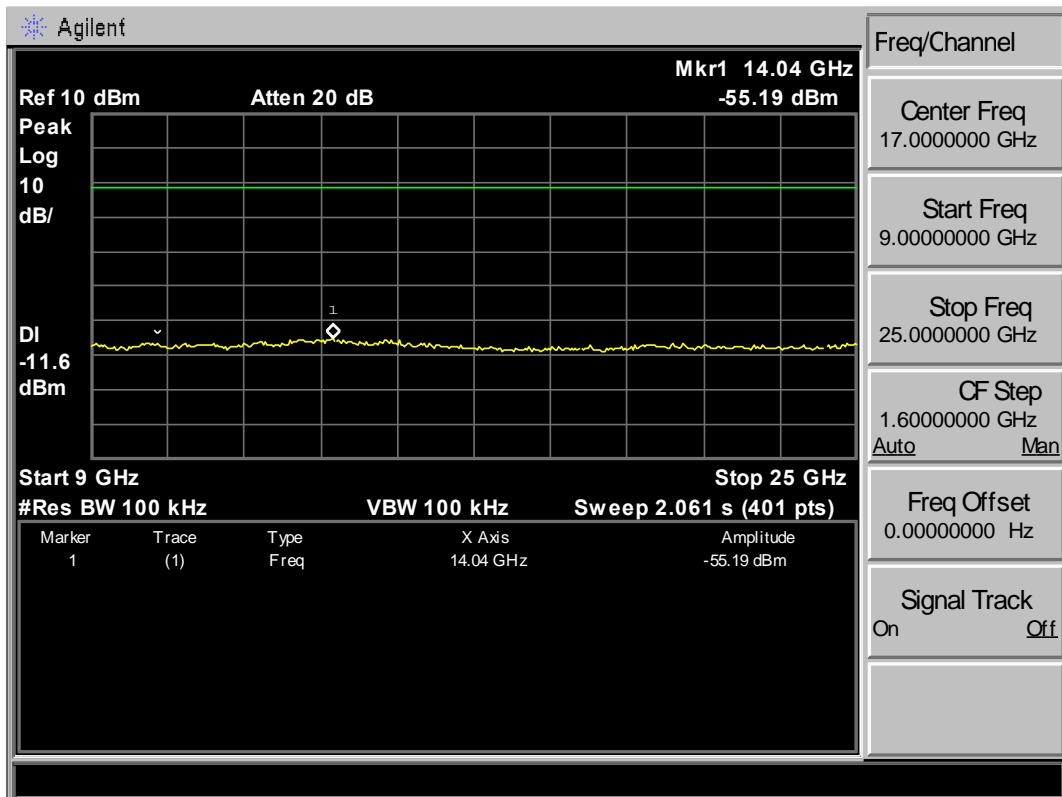
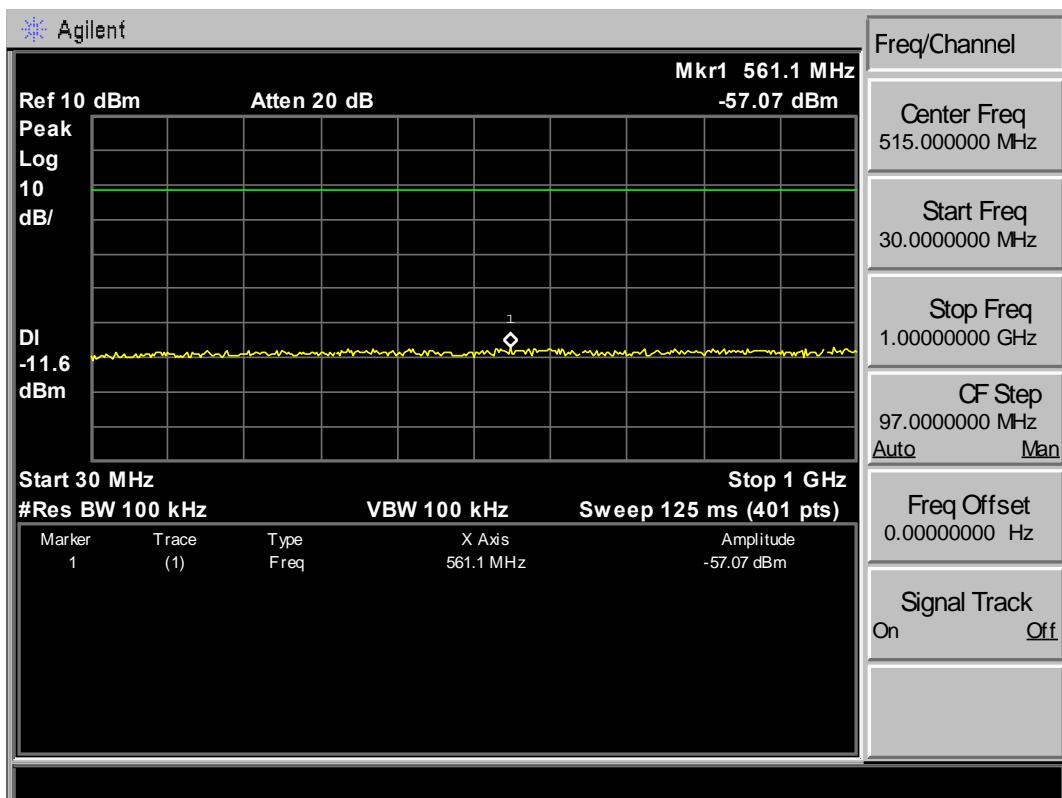
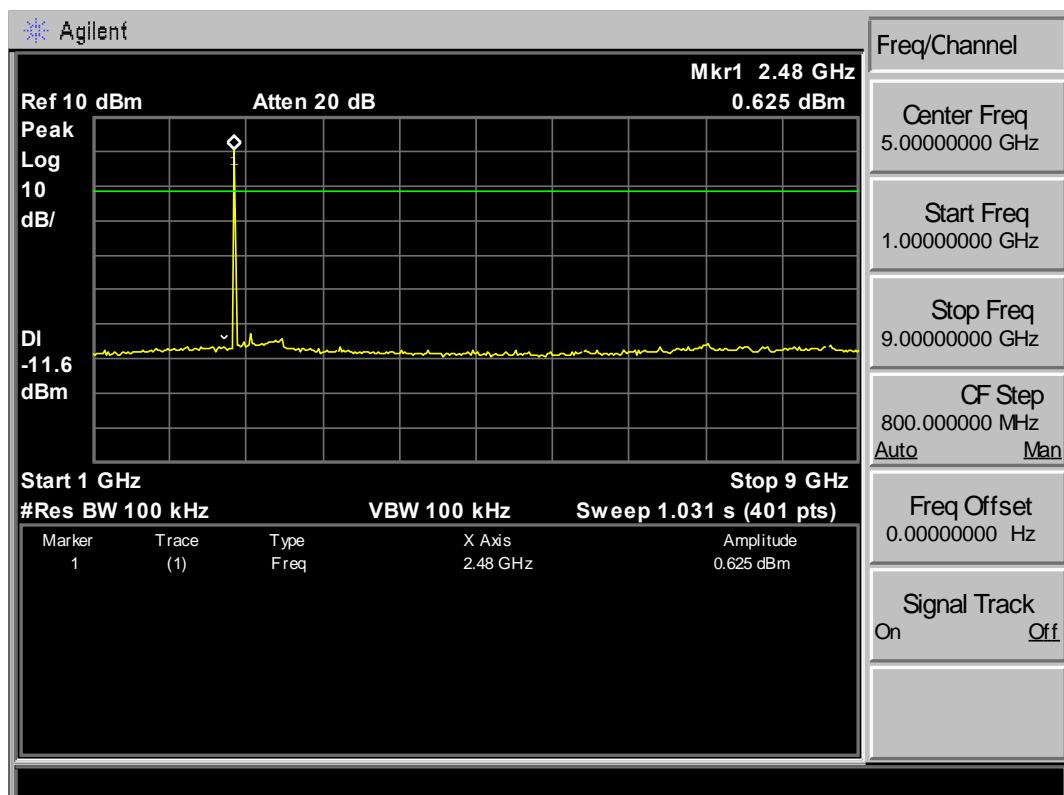
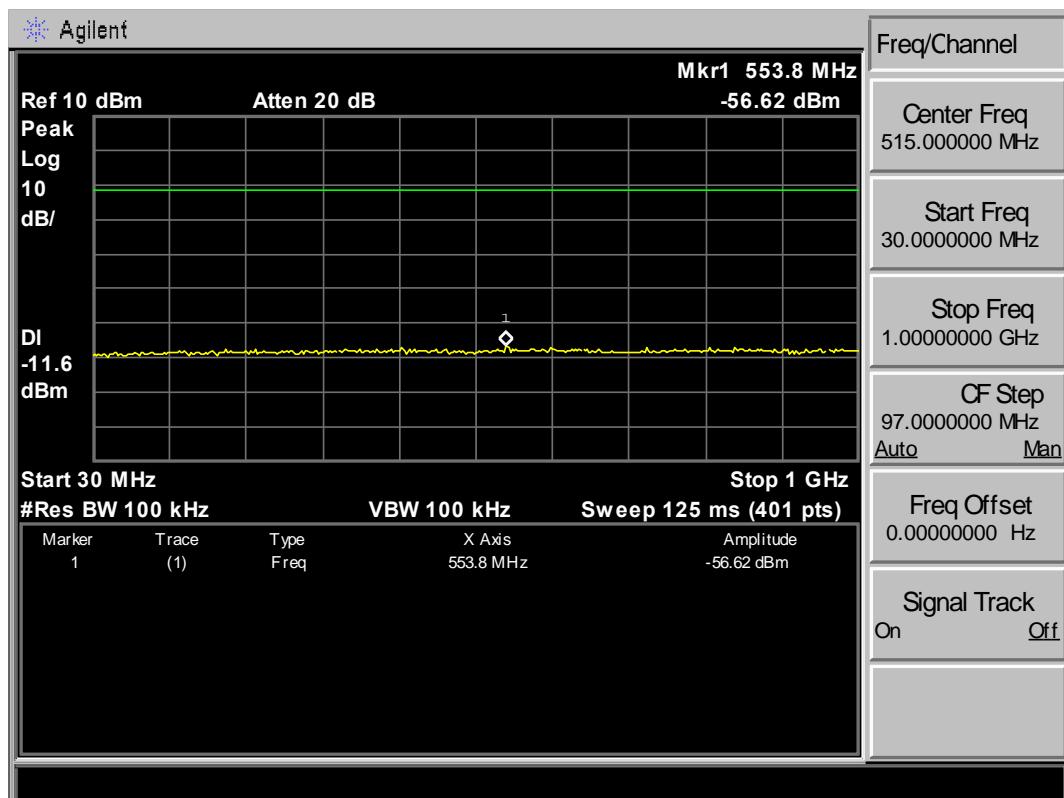


Figure 2: Test figure of Conducted Spurious Emissions, BDR (Mid)





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



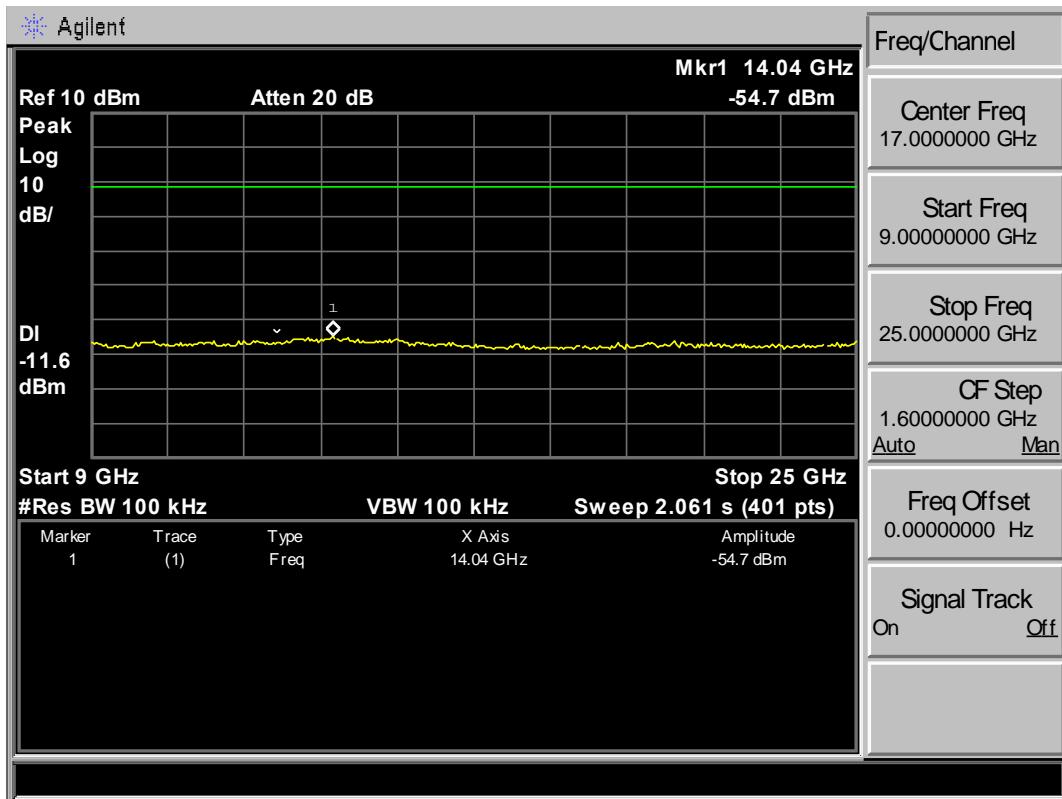
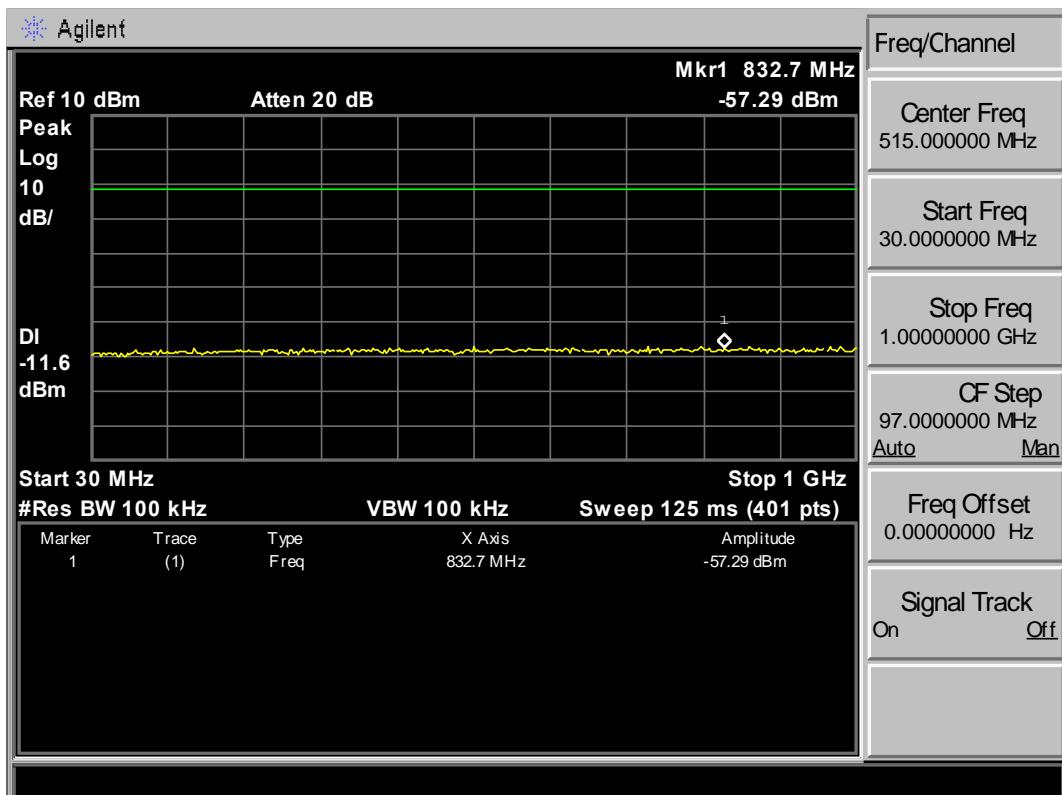
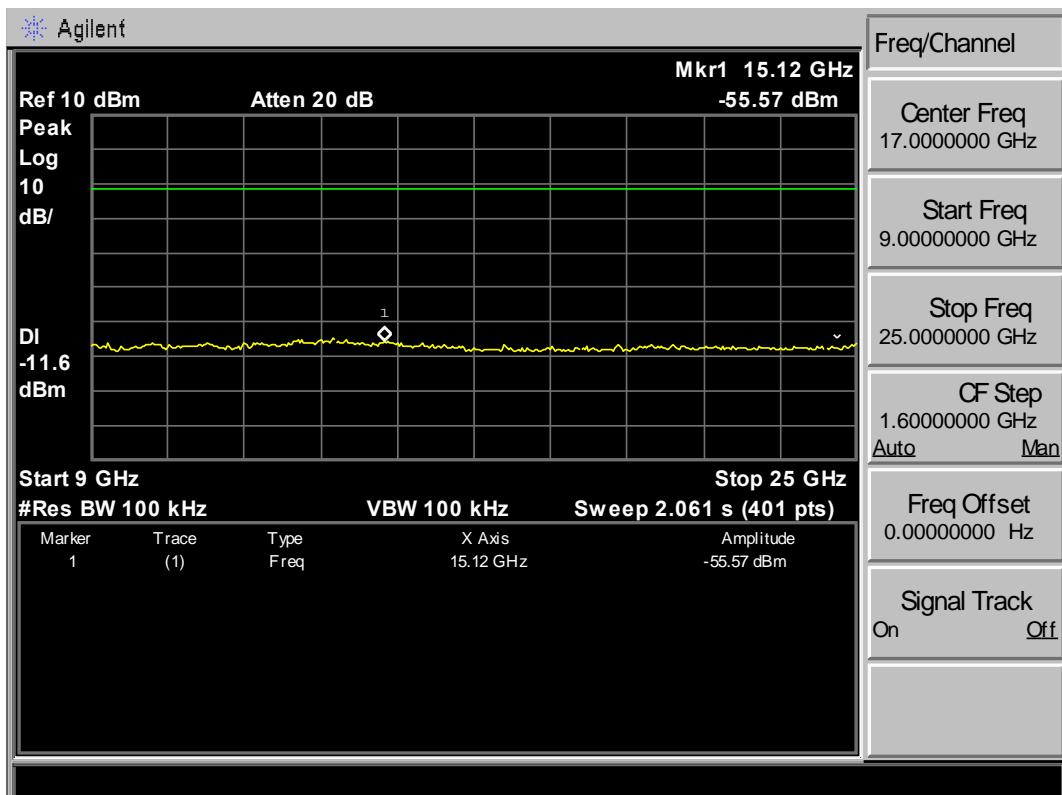
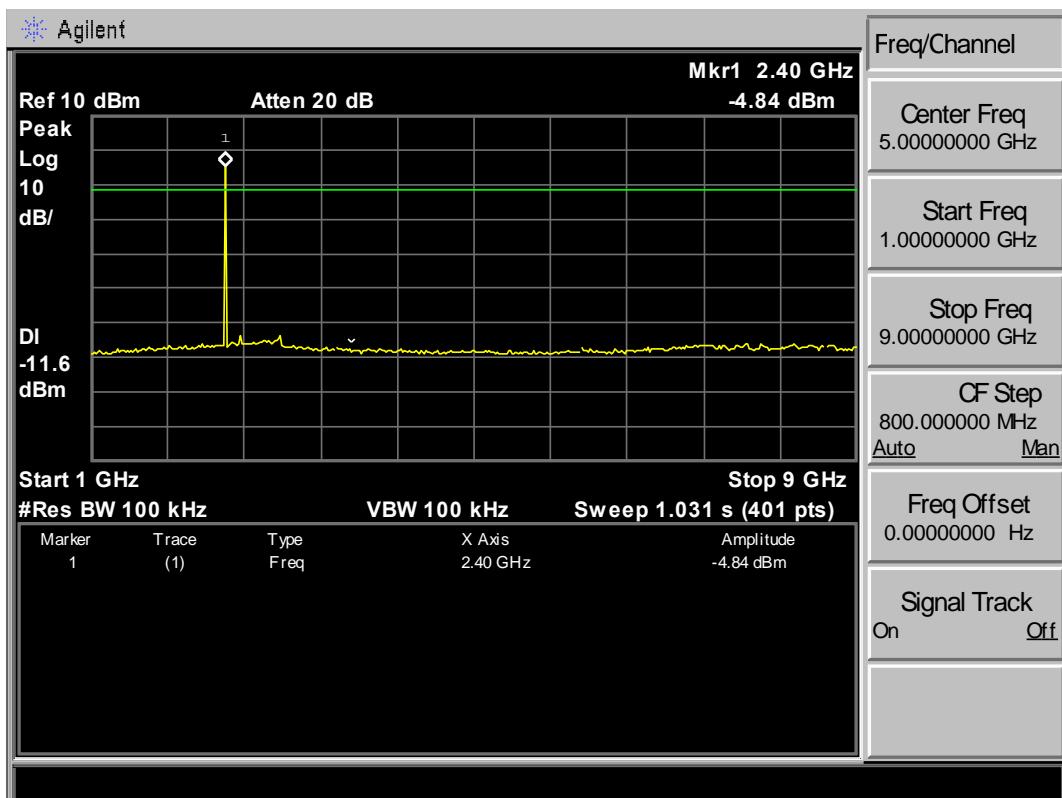


Figure 4: Test figure of Conducted Spurious Emissions, EDR (Low)





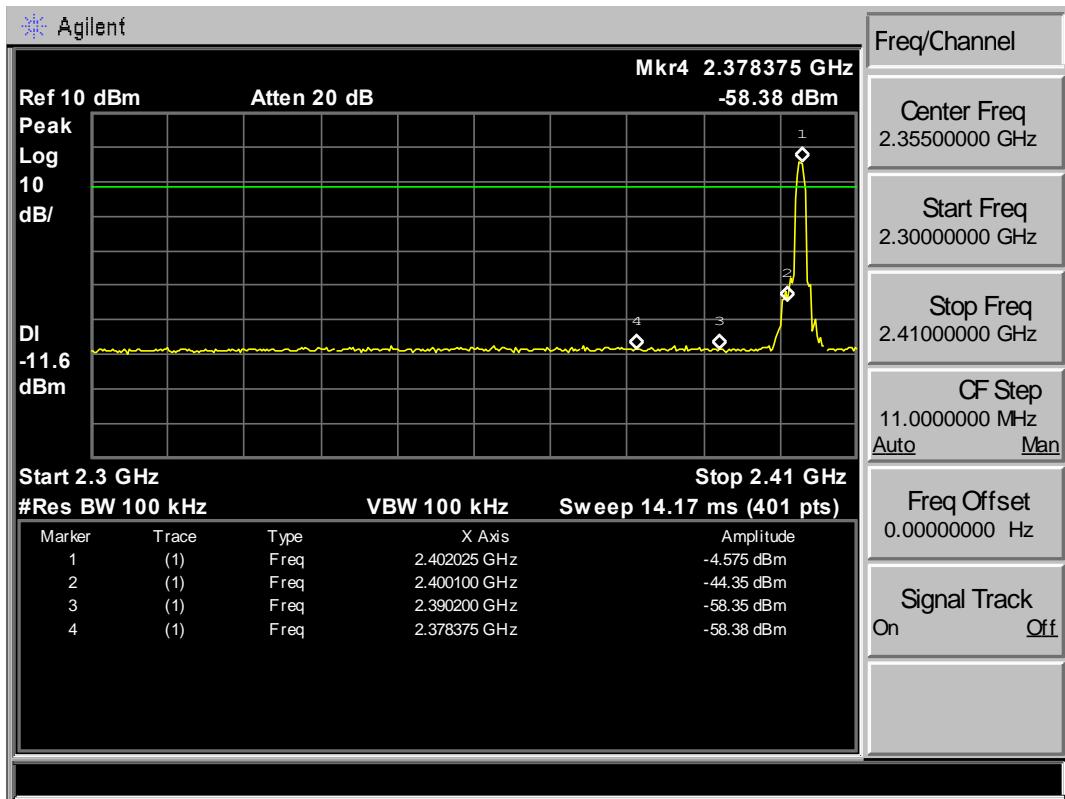
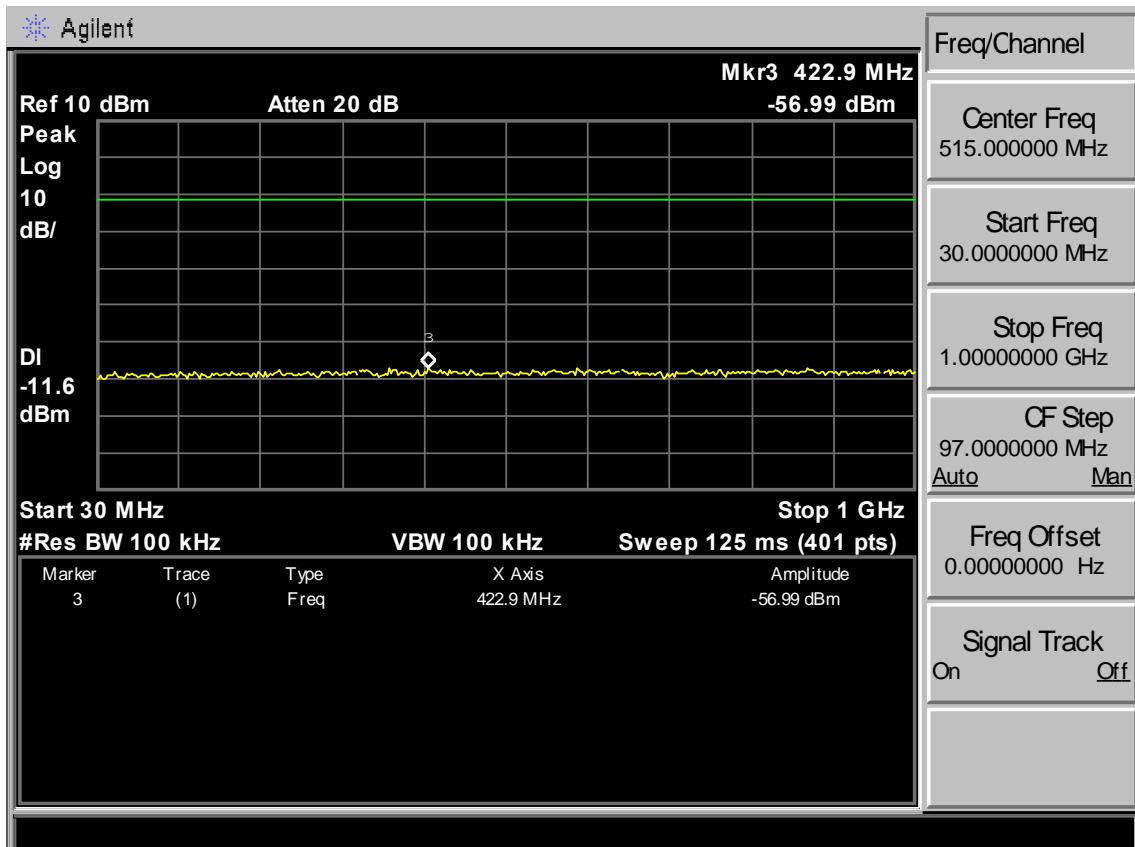
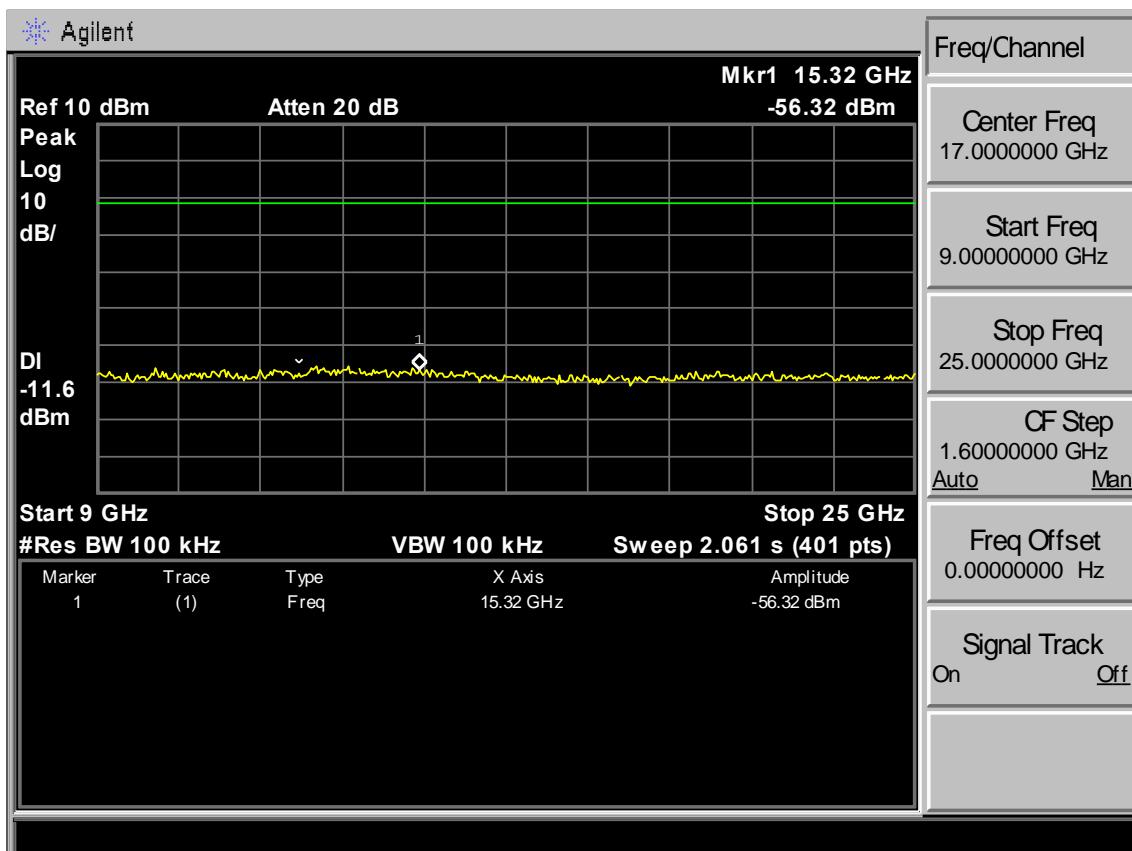
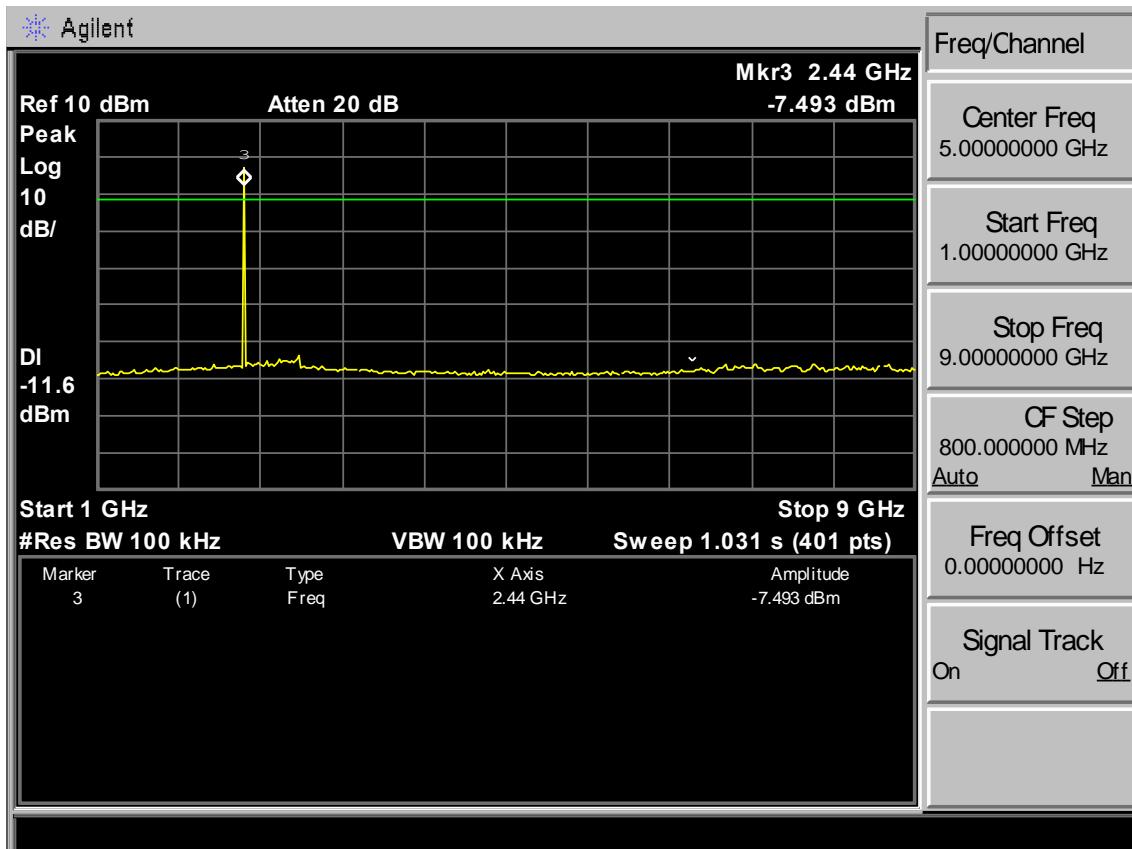
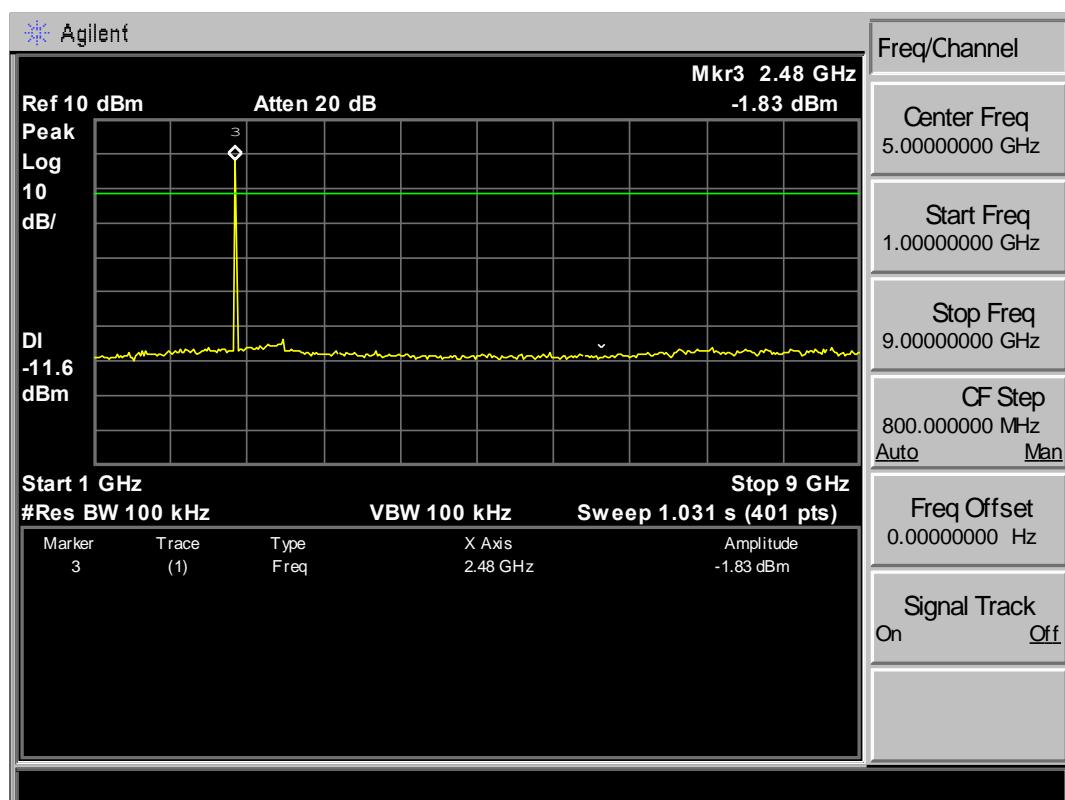
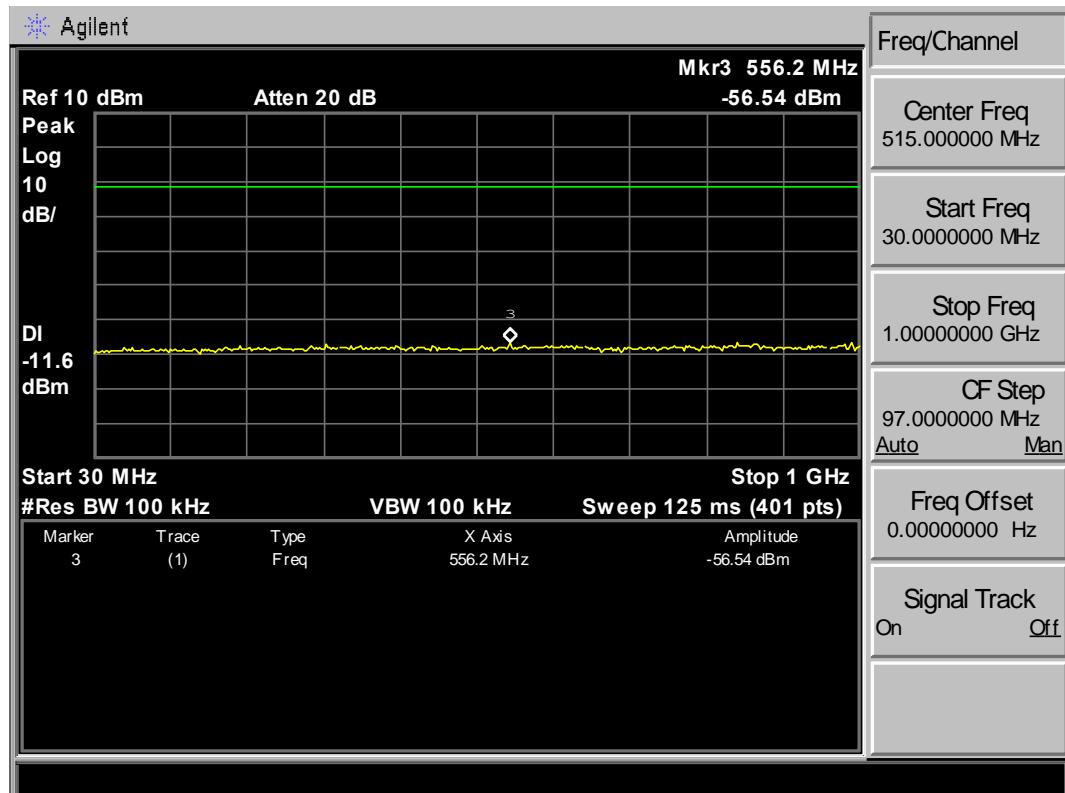


Figure 5: Test figure of Conducted Spurious Emissions, EDR (Mid)





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



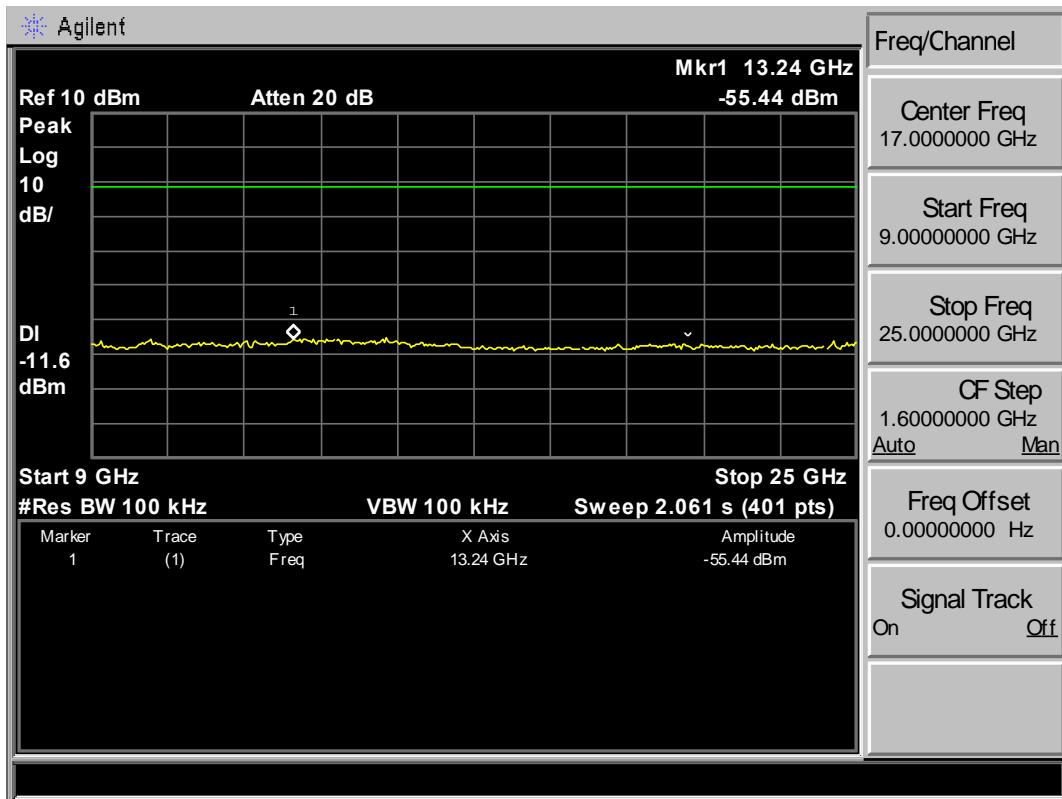
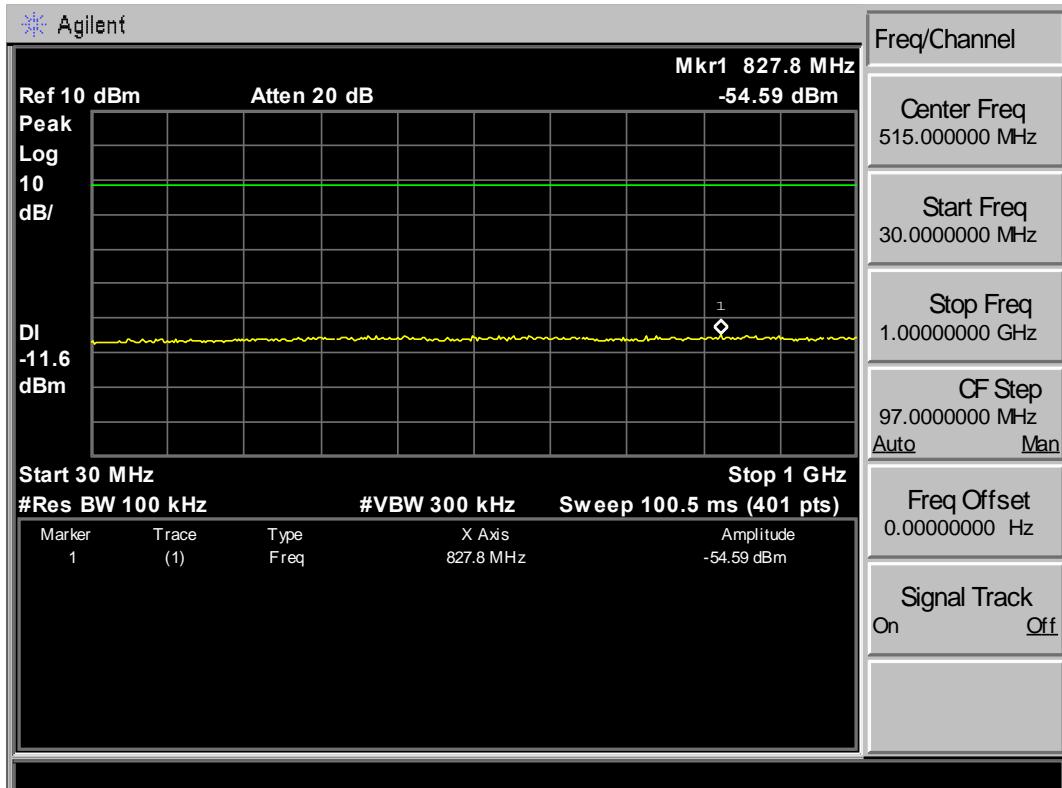
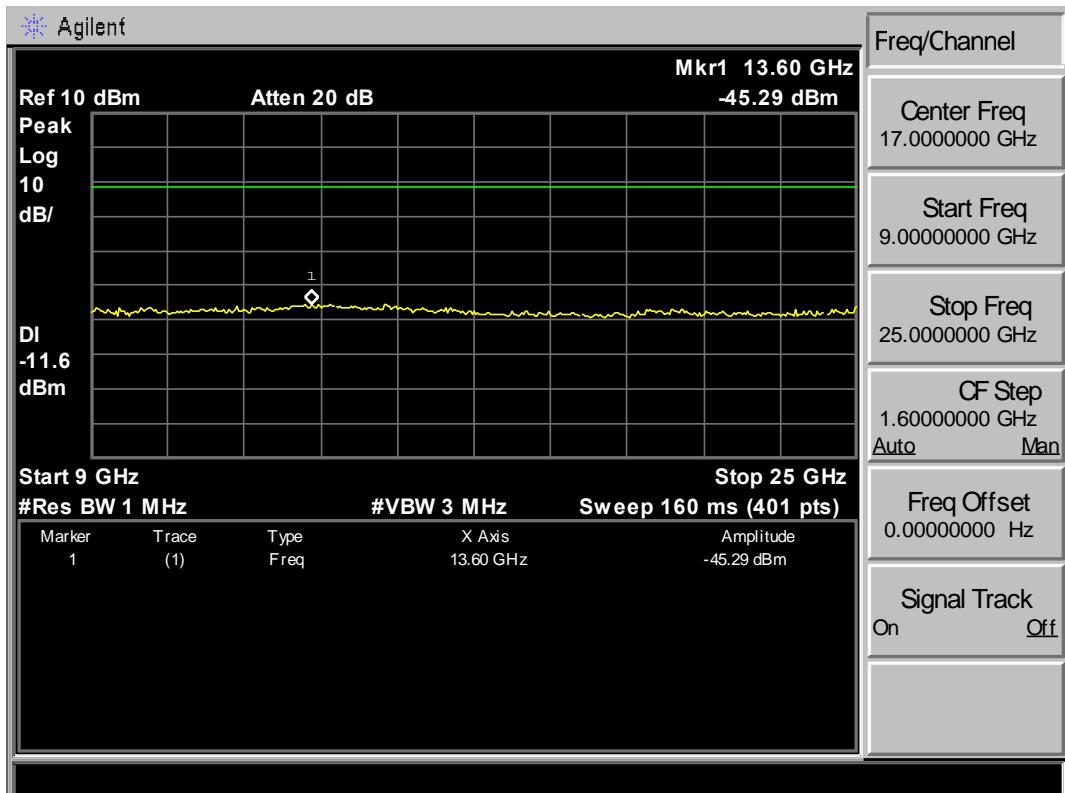
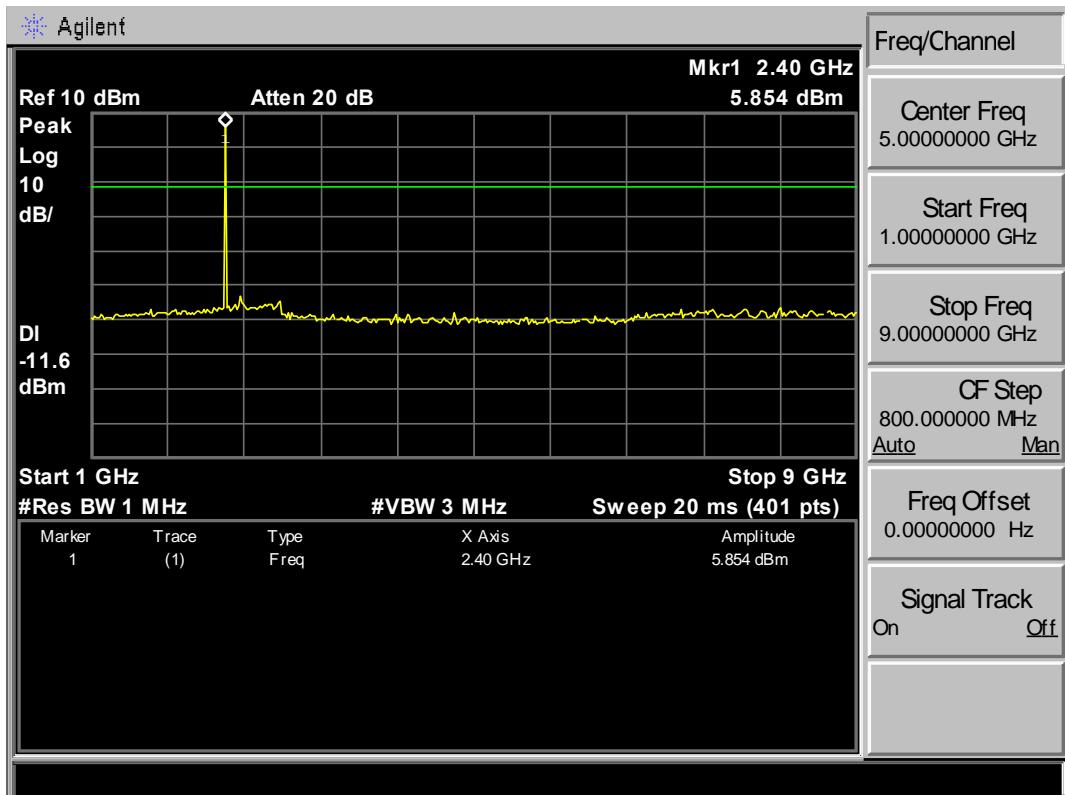
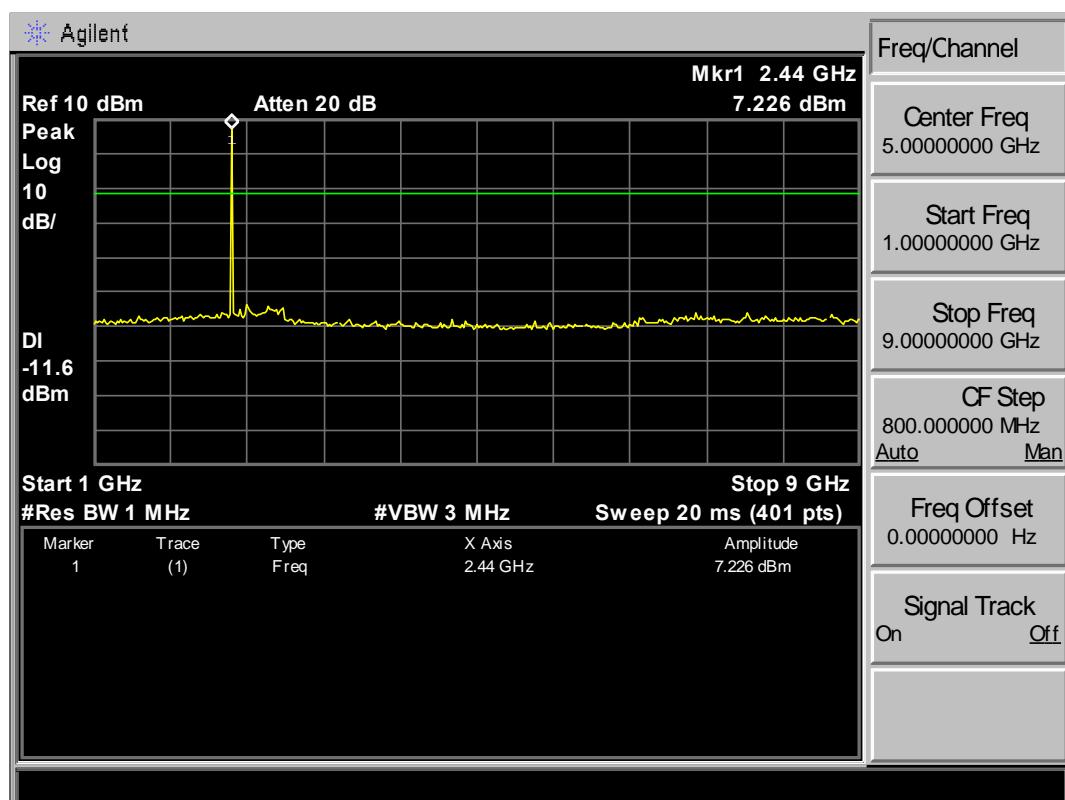
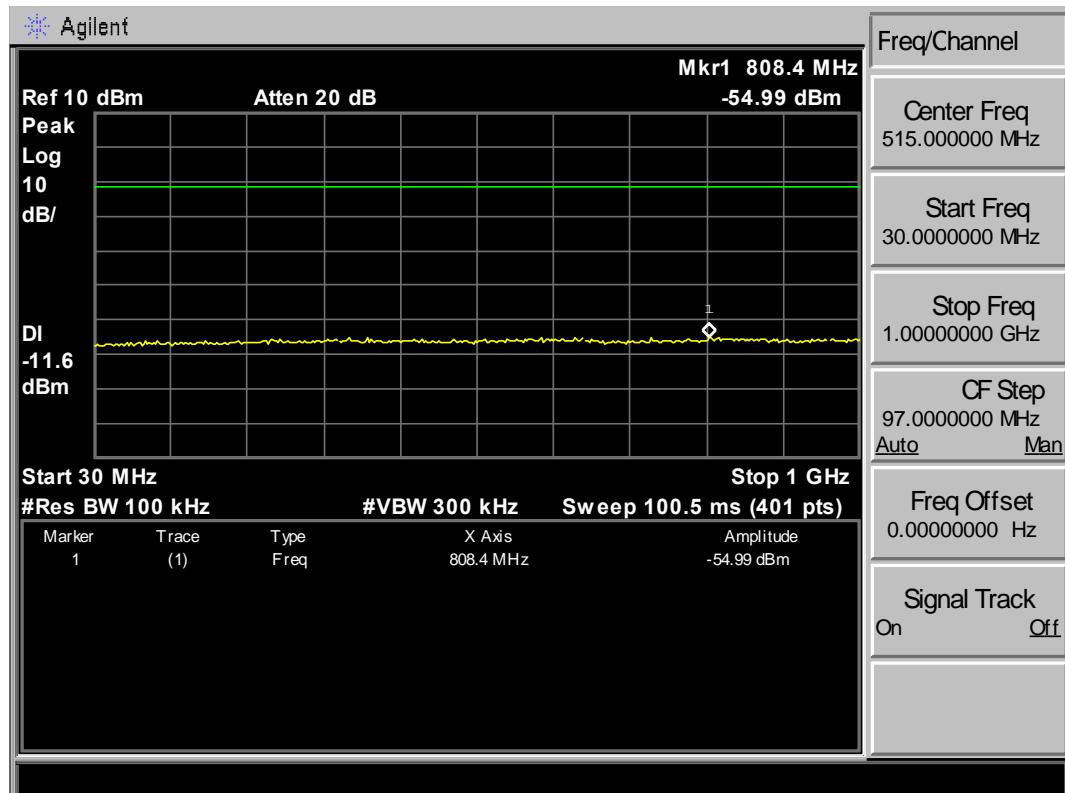


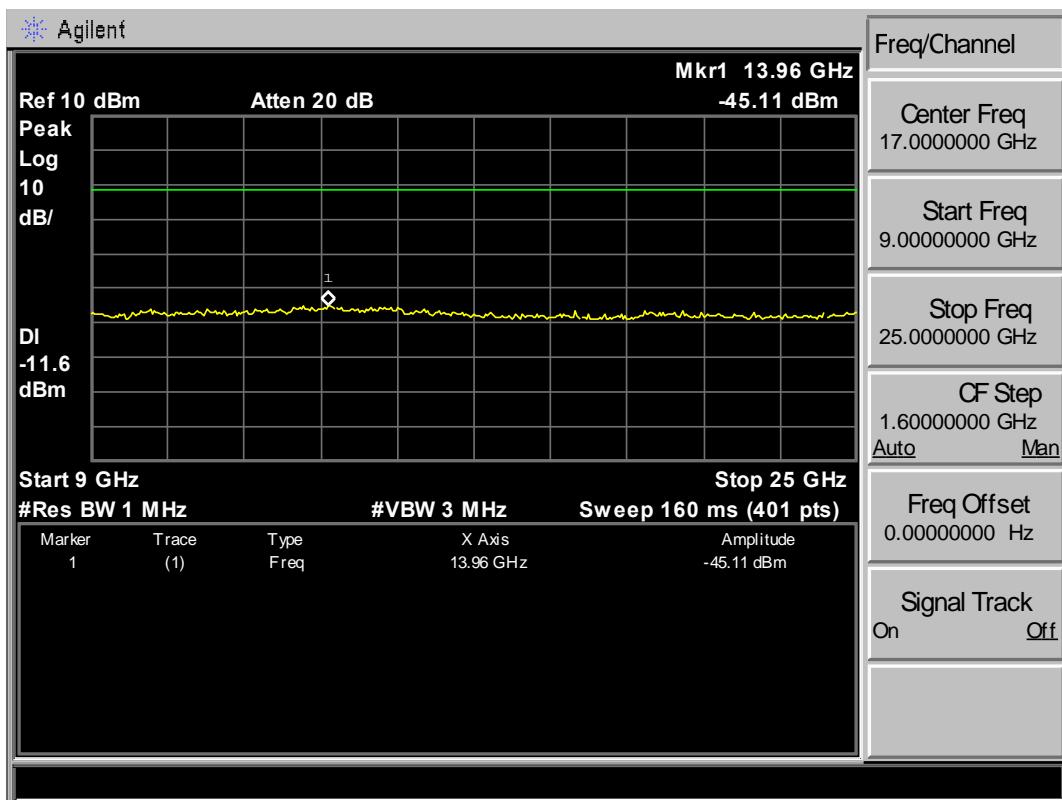
Figure 7: Test figure of Conducted Spurious Emissions, BLE (Low)



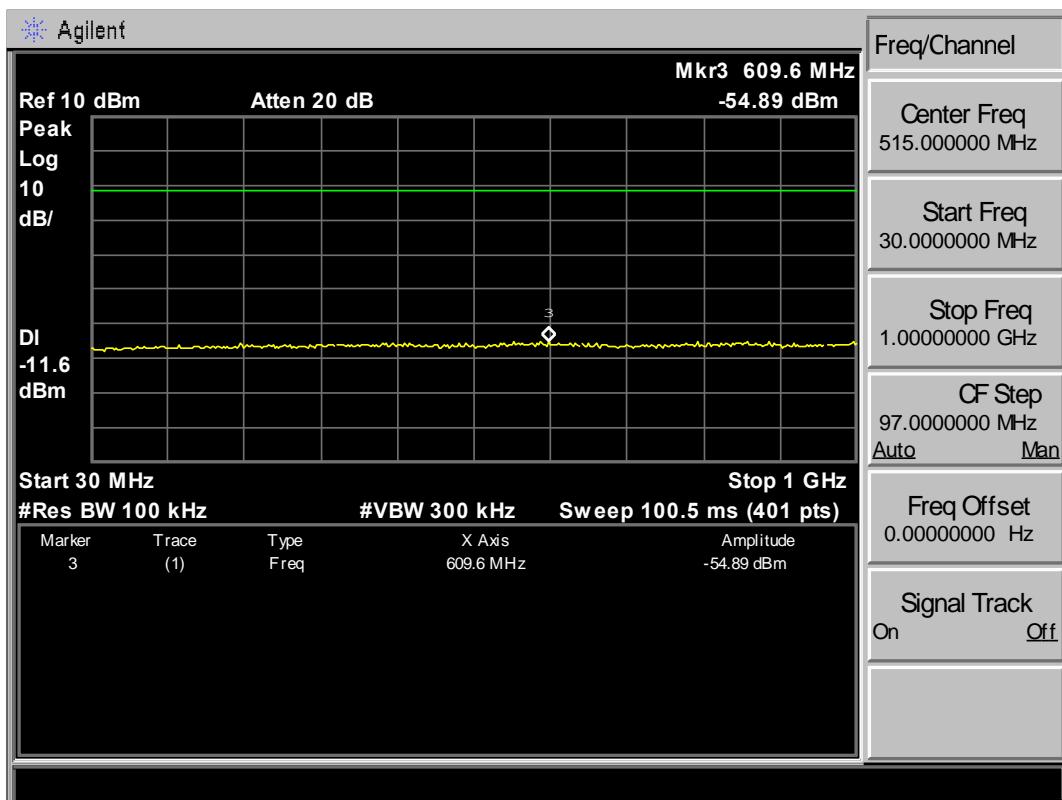


**Figure 8: Test figure of Conducted Spurious Emissions, BLE (Mid)**





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



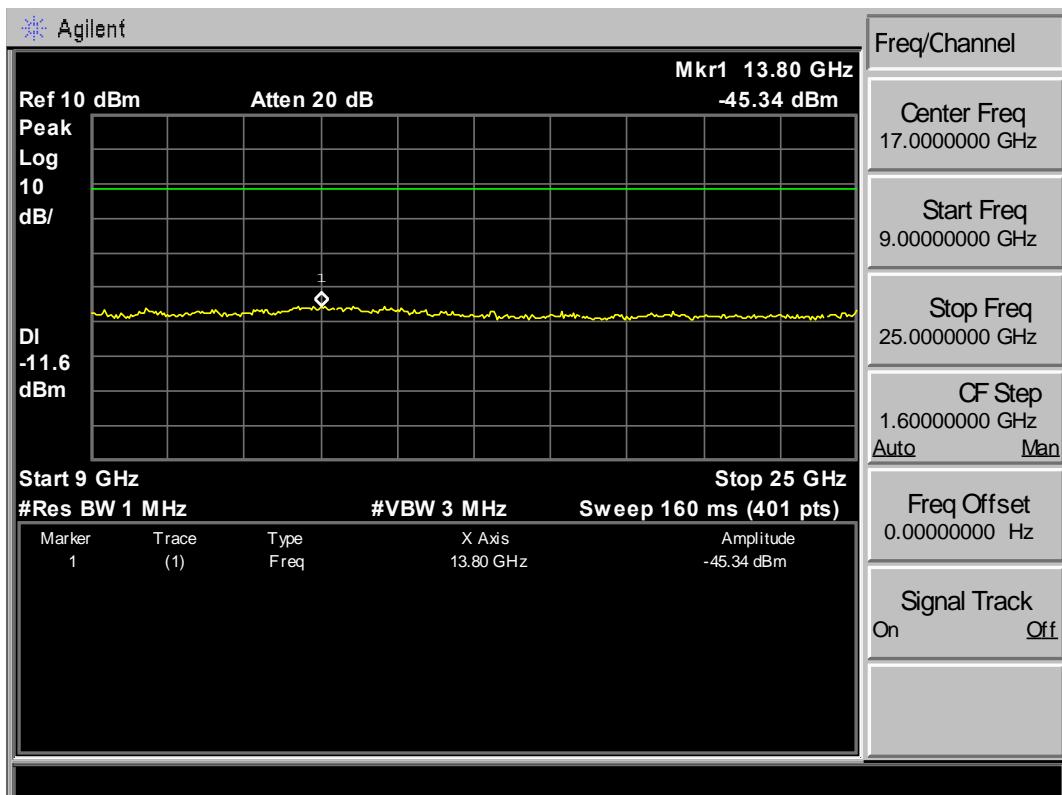
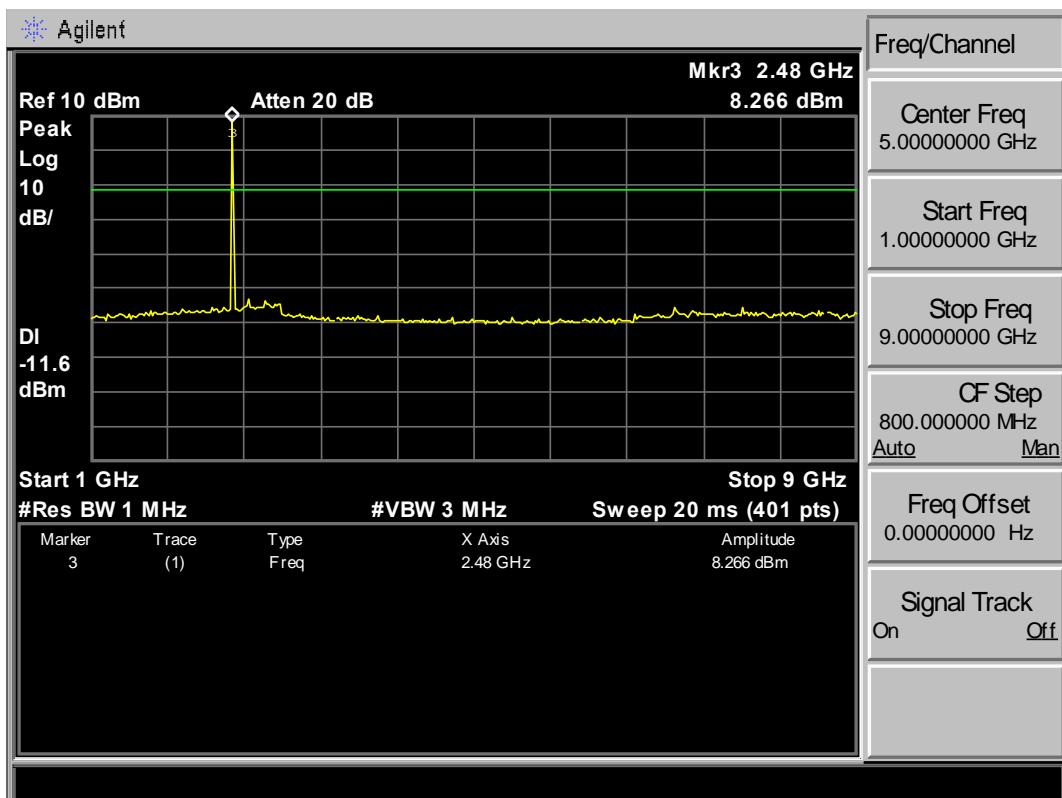


Figure 10: Test figure of Band Edge, BDR (Low)

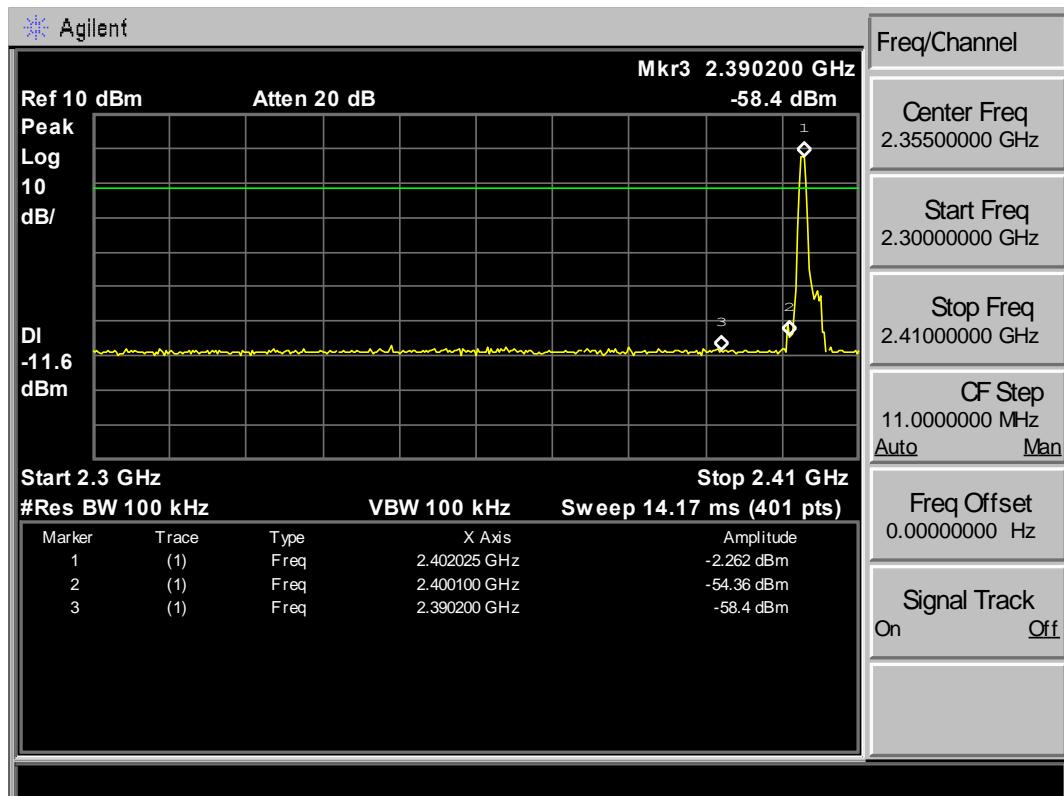


Figure 11: Test figure of Band Edge, BDR (High)

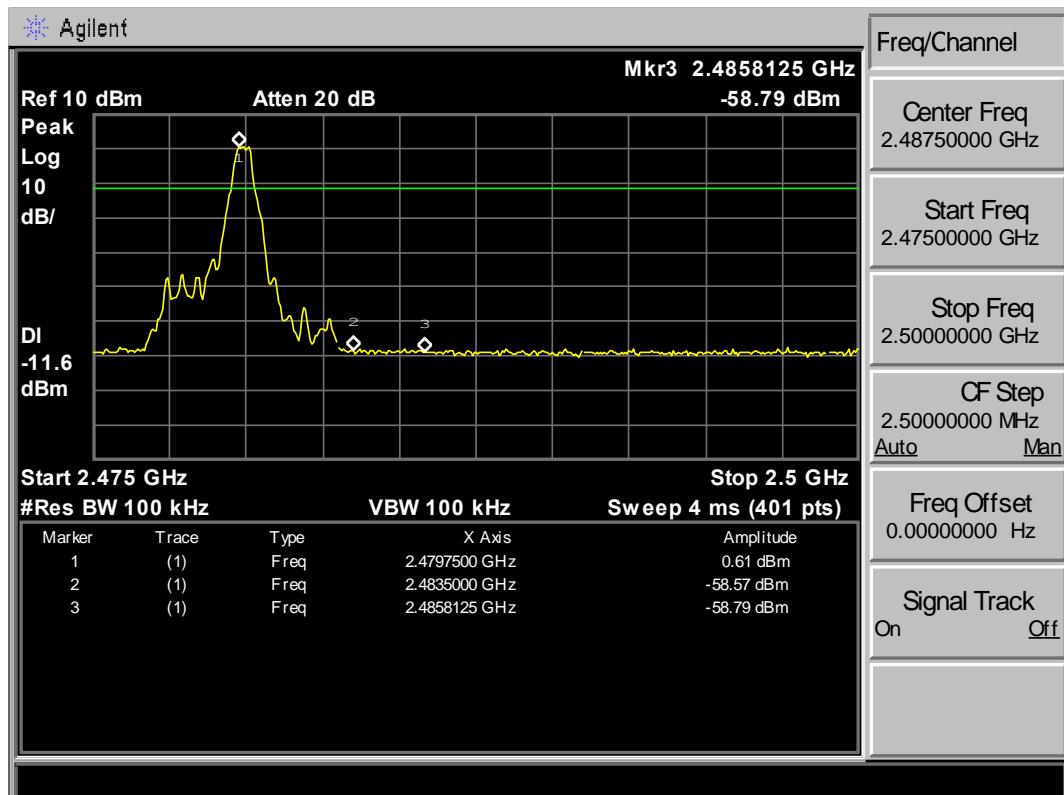


Figure 12: Test figure of Band Edge, EDR (Low)

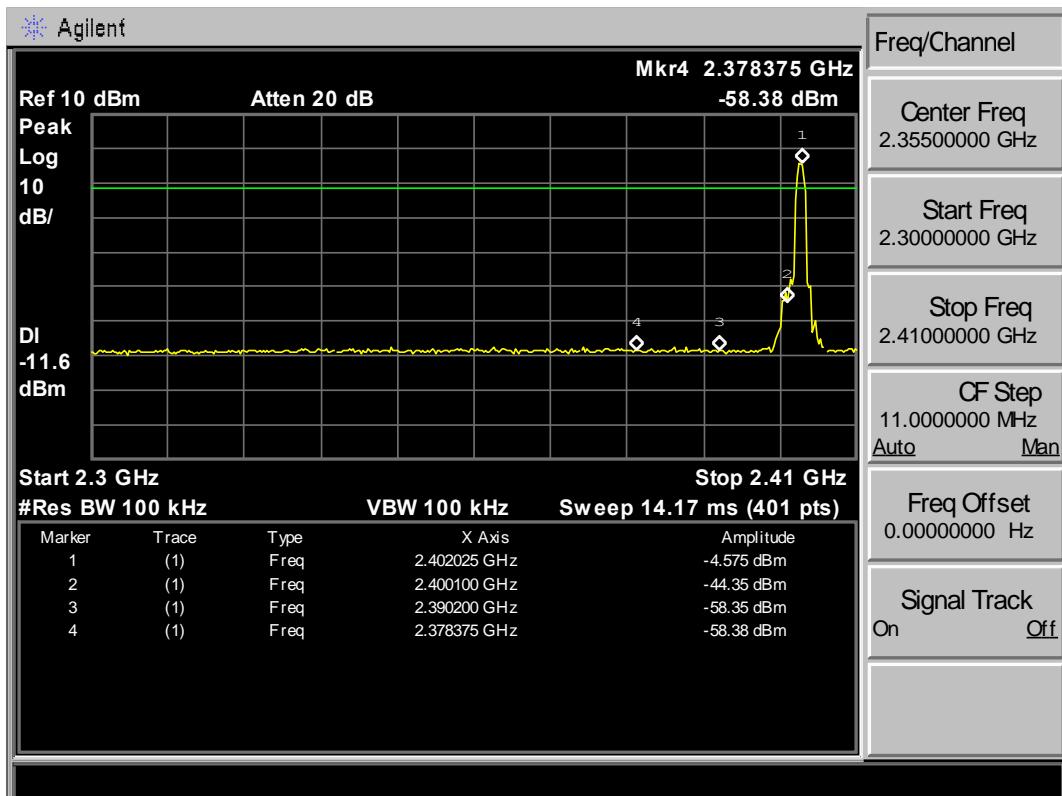


Figure 13: Test figure of Band Edge, EDR (High)

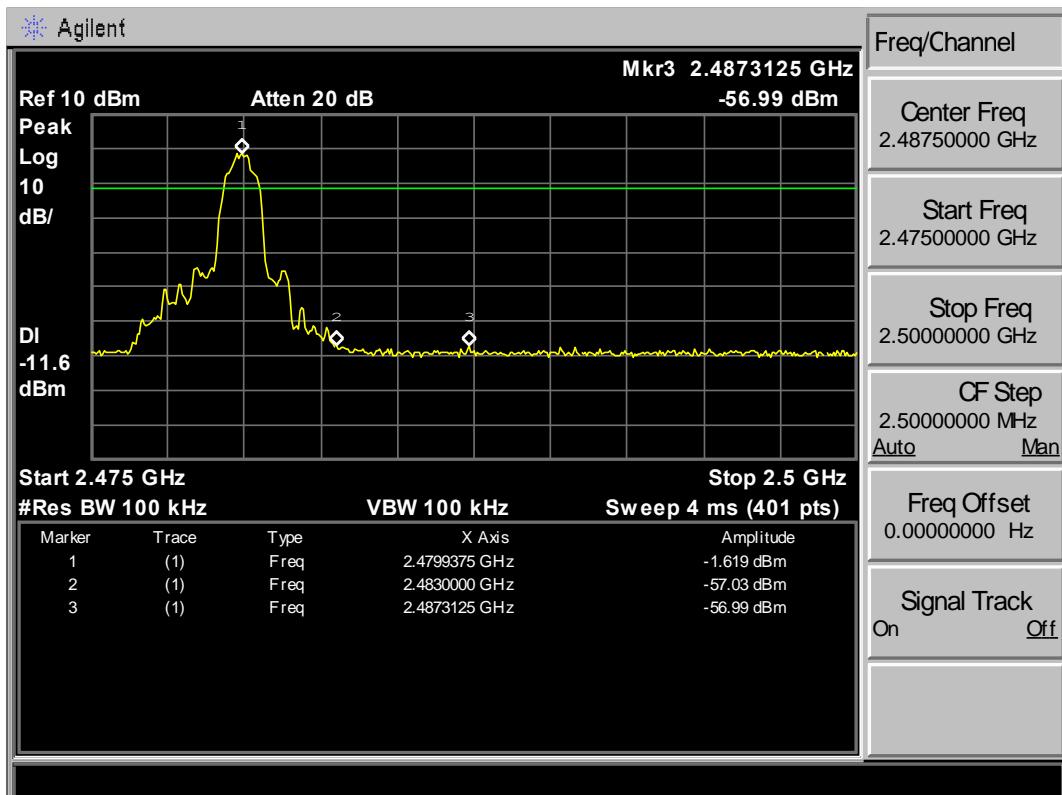


Figure 14: Test figure of Band Edge, BLE (Low)

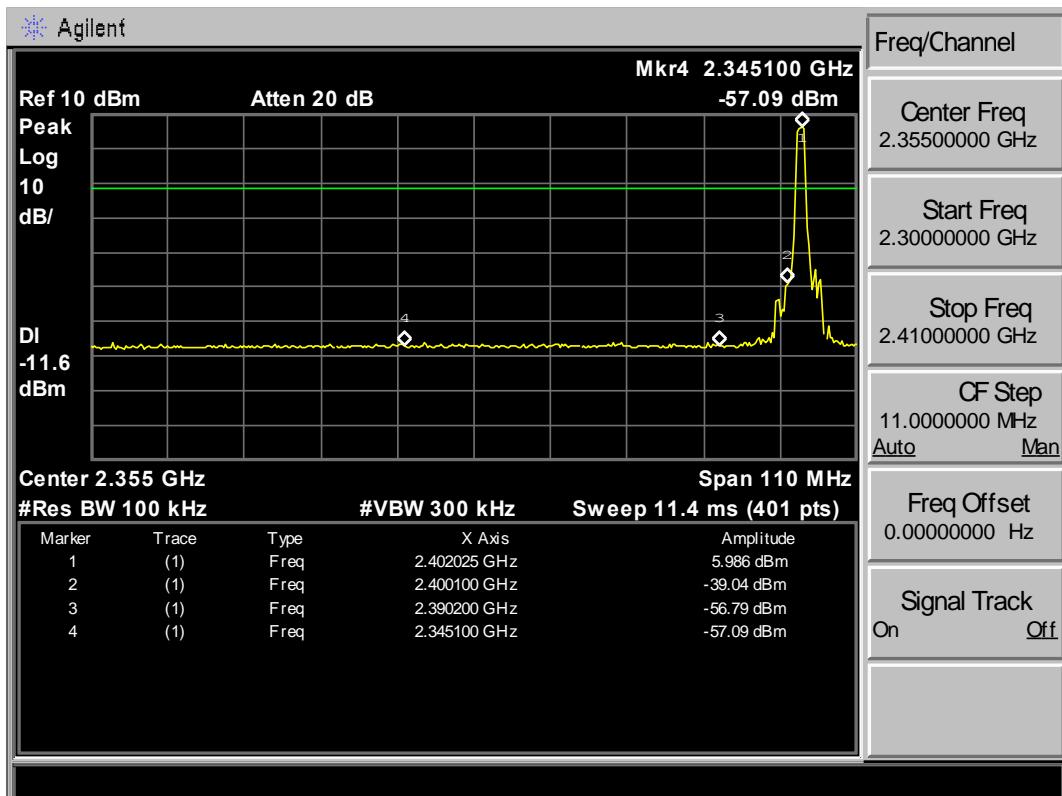


Figure 15: Test figure of Band Edge, BLE (High)

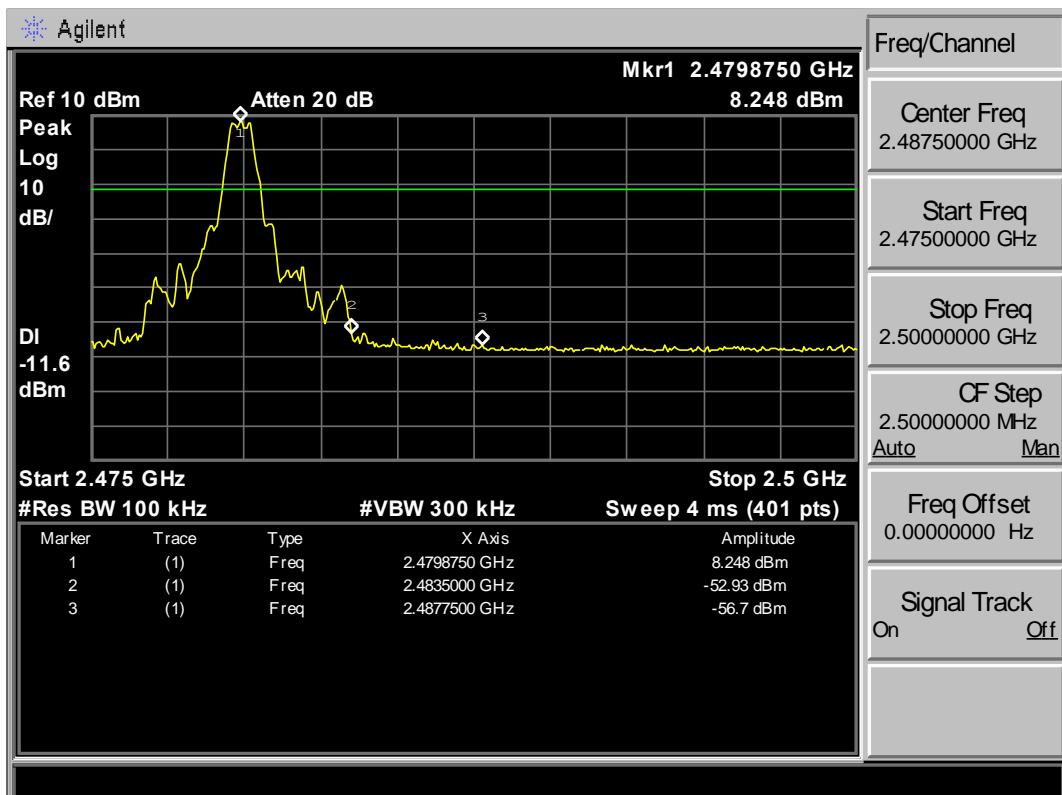


Figure 16: Test figure of Spurious Emissions (9kHz – 30MHz), BDR (Low)

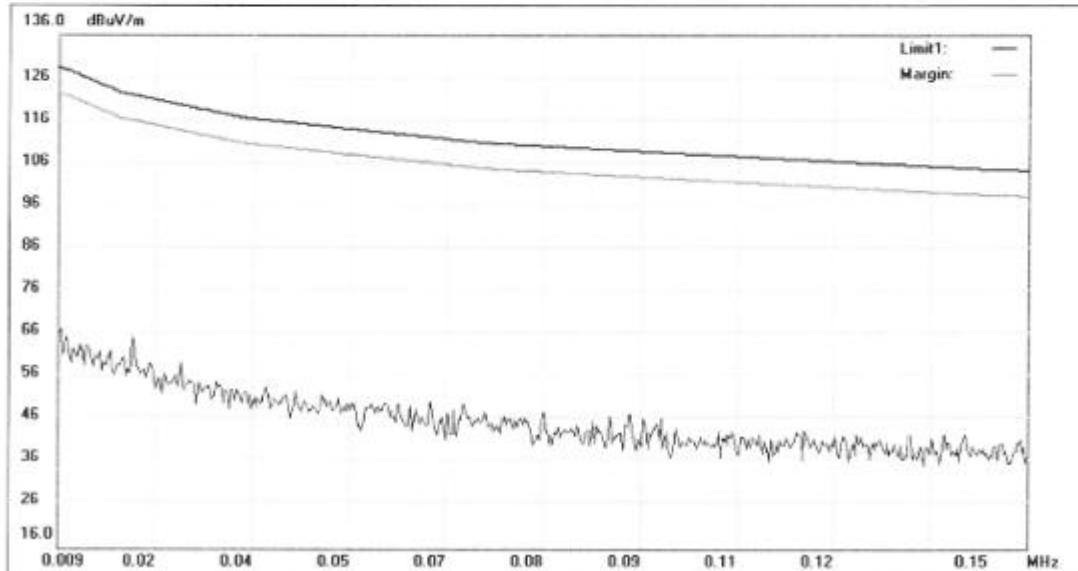


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966 (2) Chamber

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:11:03:01
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	GFSK TX 2402MHz		



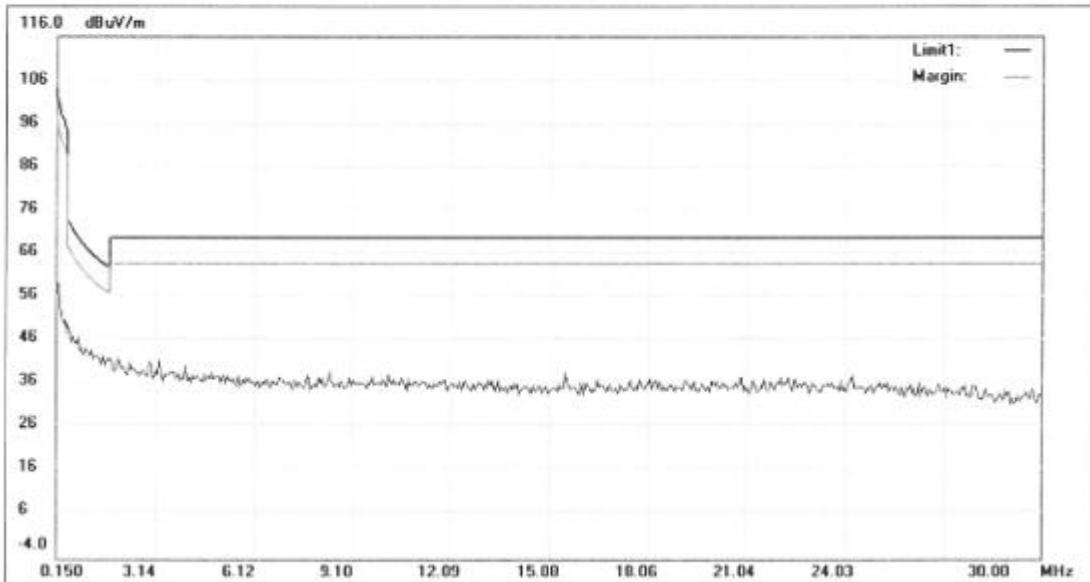


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966 (2) Chamber

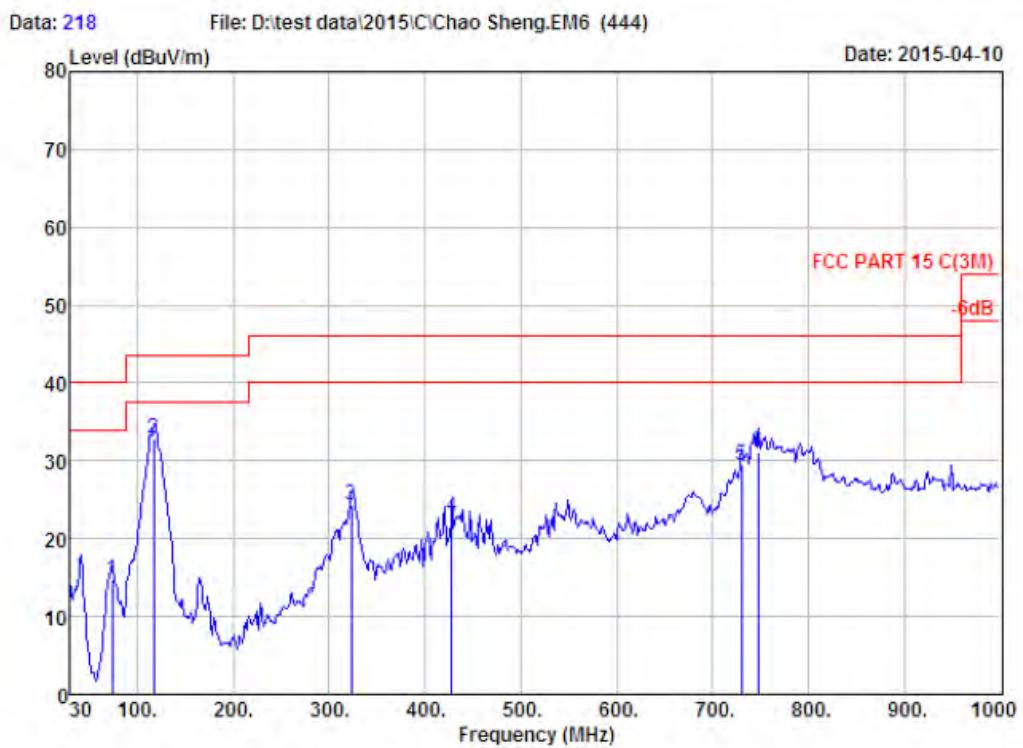
Job No.:	20150427	Ant.Polar.:
Standard:	FCC PART 15(9K-30M)	Test Distance: 3m
Test item:	Radiated Emission Measurement	Power: AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27 Time:11:01:06
Company:		EUT: Bluetooth Speaker
Model:	BeoPlay S3	Test By:
Test Mode:	GFSK TX 2402MHz	



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

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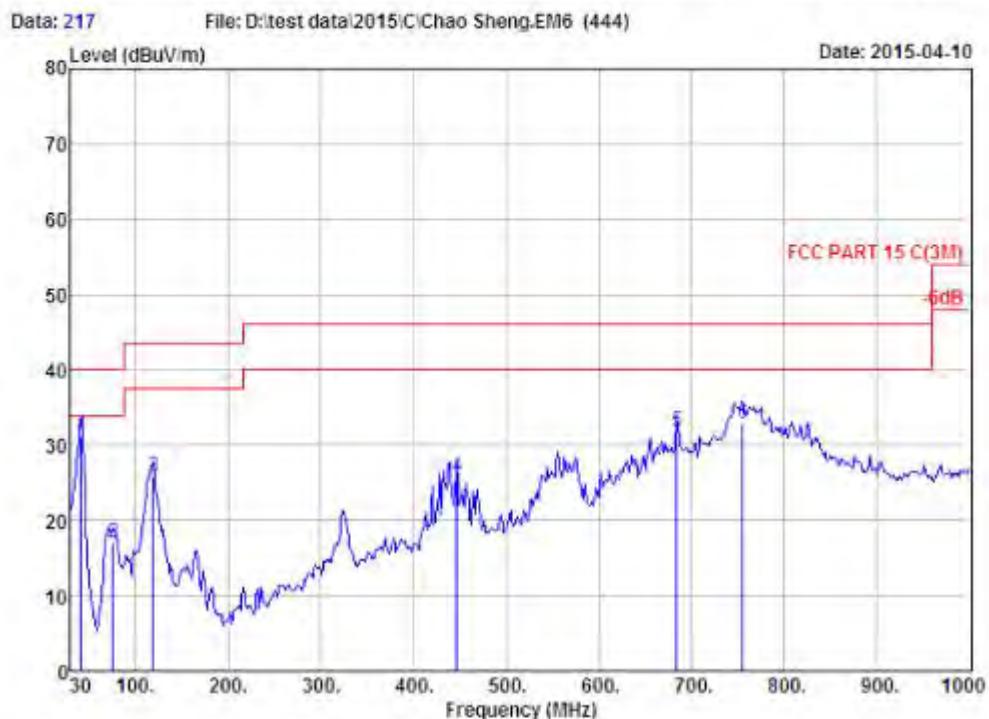


Site no. : 1# 966 chamber      Data no. : 218  
Dis. / Ant. : 3m 27137      Ant. pol. : HORIZONTAL  
Limit : FCC PART 15 C(3M)  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB <sub>u</sub> V)	Emission Level (dB <sub>u</sub> V/m)	Limits (dB <sub>u</sub> V/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**

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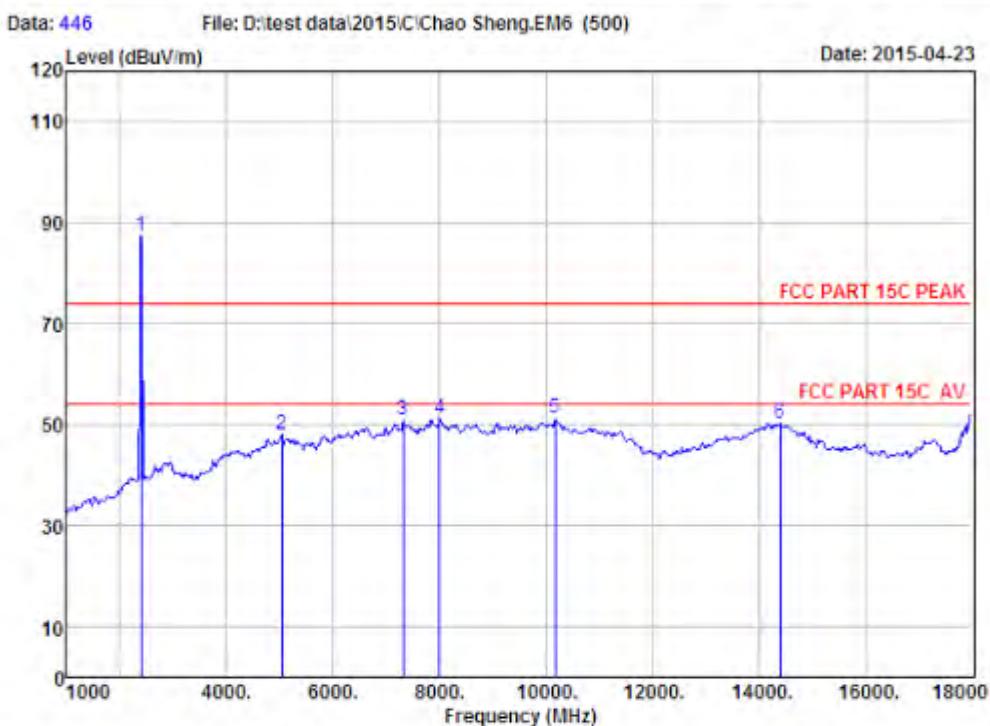
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Tel: +86-769-83081888  
Fax: +86-769-83081878

Site no. : 1# 966 chamber Data no. : 217  
Dis. / Ant. : 3m 27137 Ant. poi. : 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 : 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 41.64	11.75	0.85	18.61	31.21	40.00	8.79	QP
2 76.56	6.66	1.19	9.15	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	25.88	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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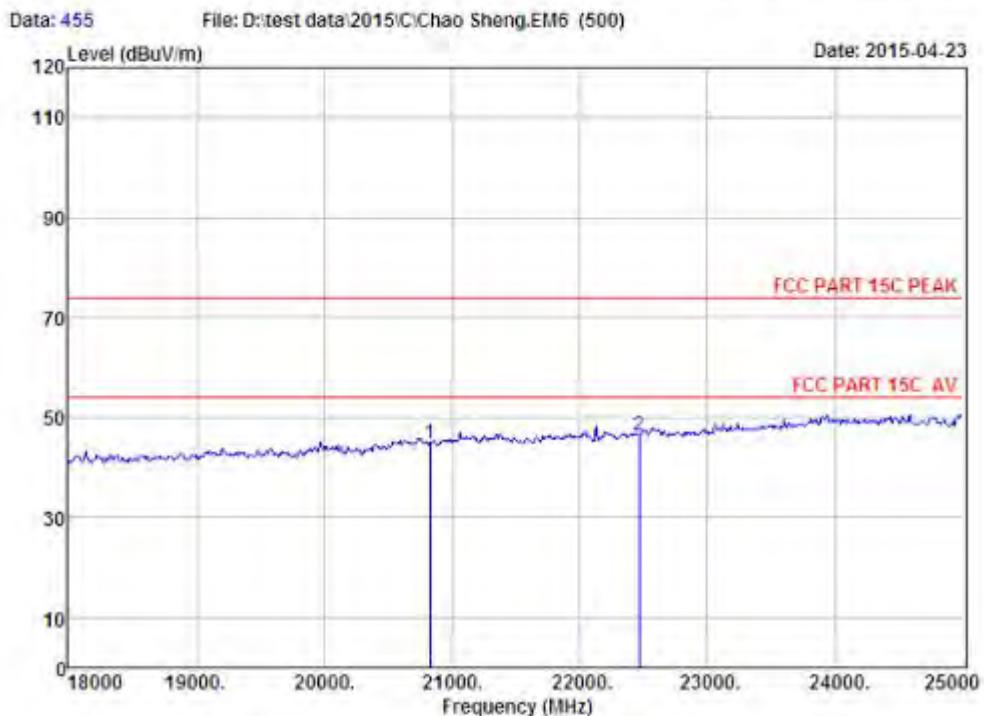
Site no. : 1# 966 chamber Data no. : 446  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2402MHz

Freq. (MHz)	Ant.	Cable	Amp	Emission				Margin (dB)	Remark
	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)		
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	36.42	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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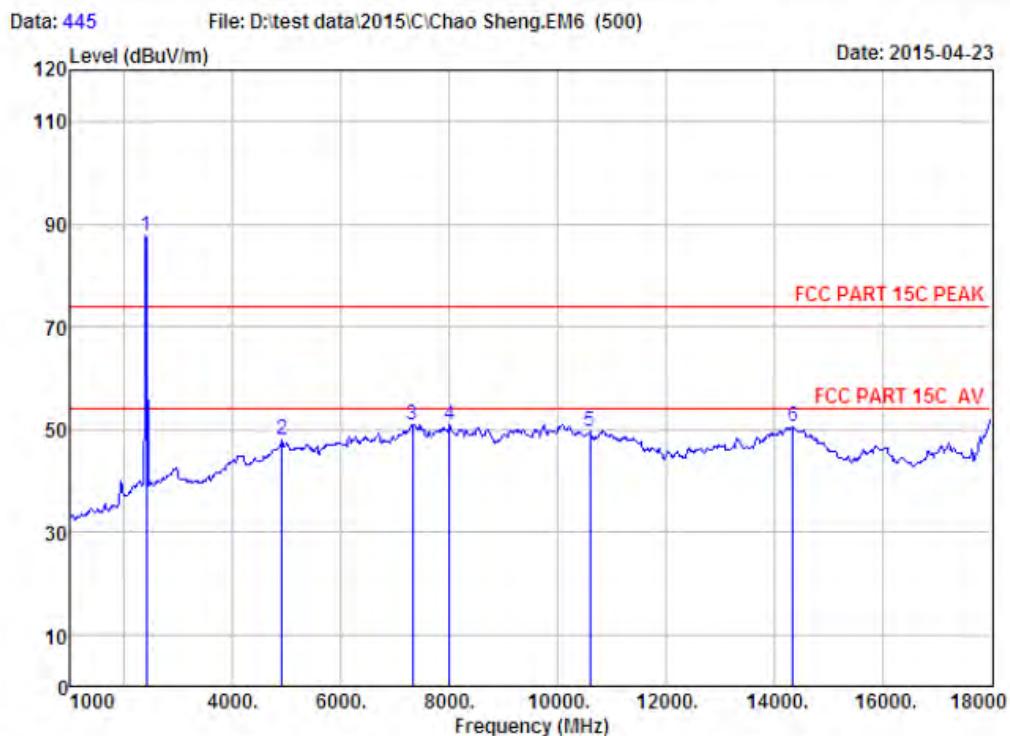
Site no. : 1# 966 chamber Data no. : 455  
Dis. / Ant. : 3m ANT ABOVE 18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/H : BeoPlay S3  
Test Mode : GFSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission			Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)		
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= Antenne 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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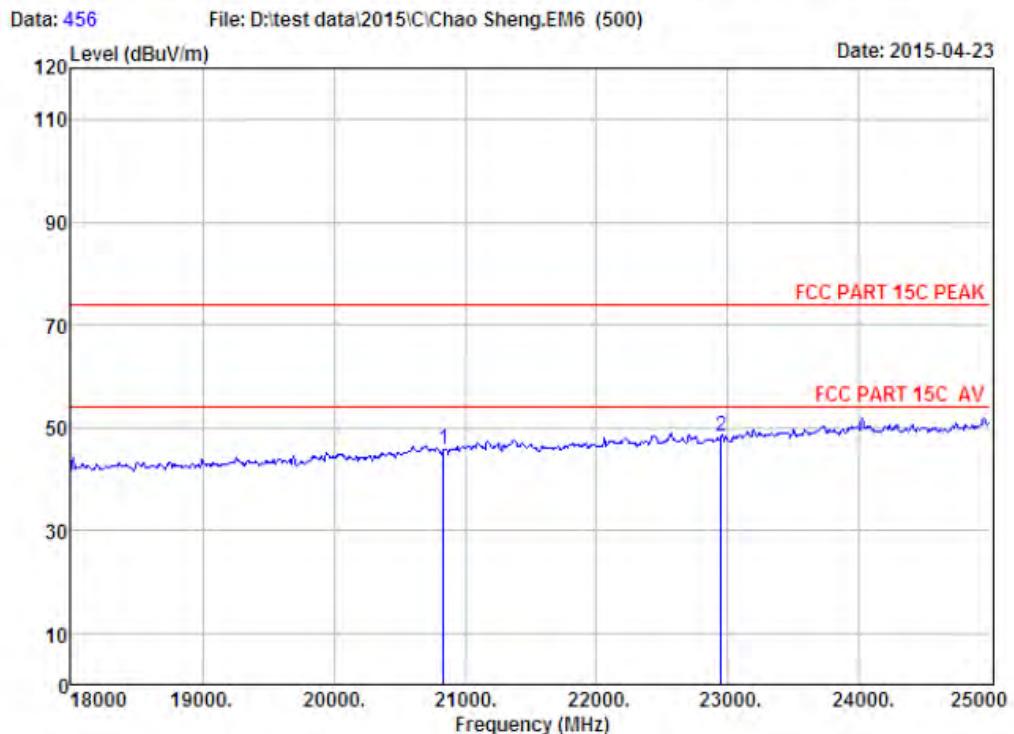
Site no. : 1# 966 chamber Data no. : 445  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dBm)	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 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 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.

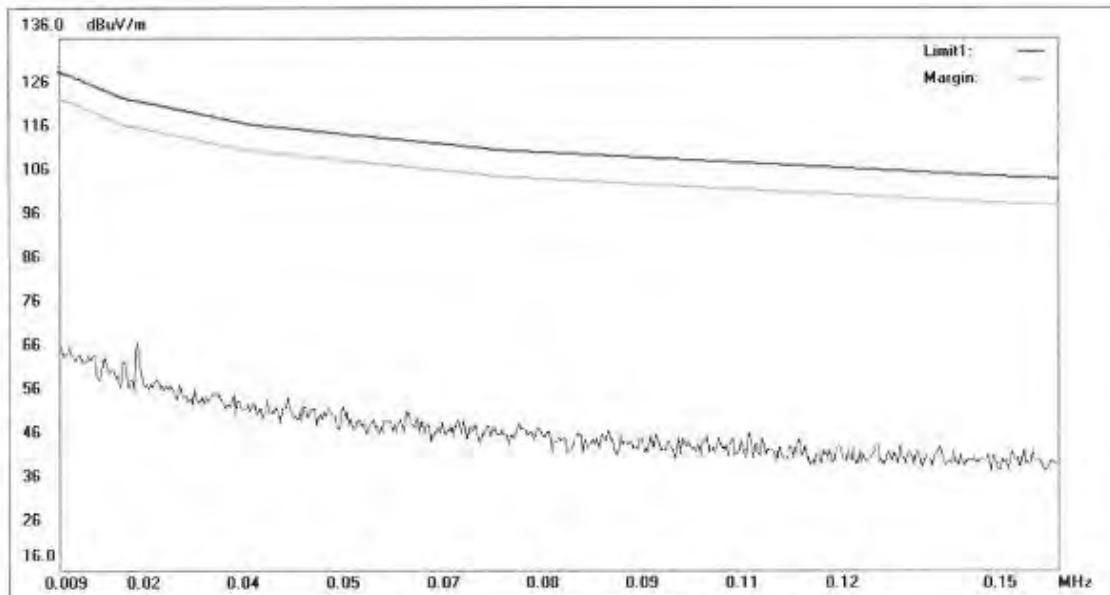
Figure 21: Test figure of Spurious Emissions (9kHz – 30MHz), BDR (Mid)



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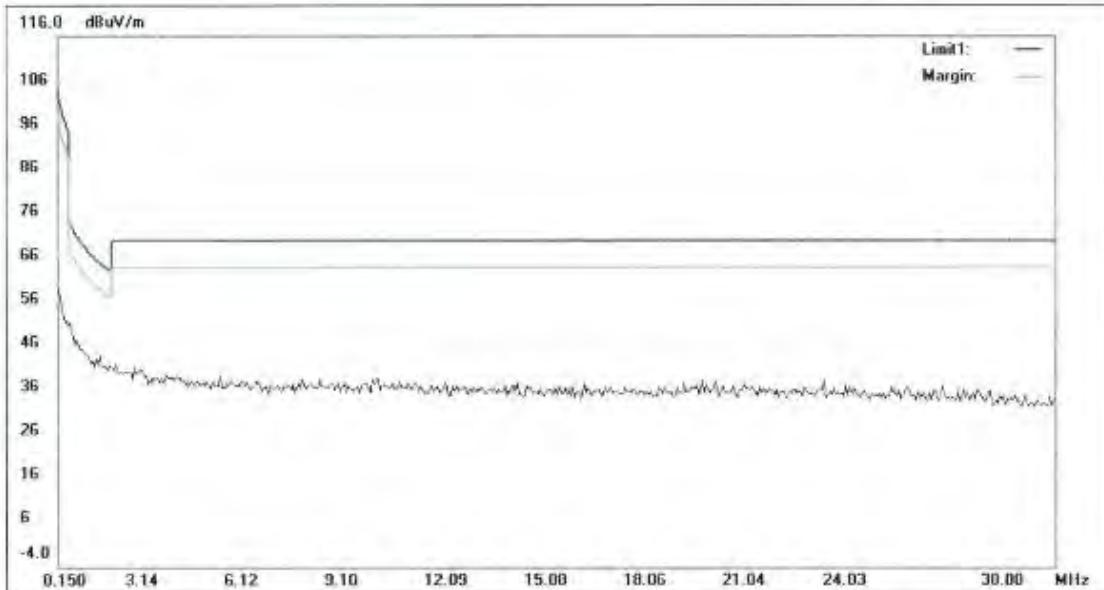
966 (2) Chamber	
Job No.:	20150427
Standard:	FCC PART 15(9K-30M)
Test item:	Radiated Emission Measurement
Temp.(C)/Hum.(%RH):	24(C)/52%RH
Company:	
Model:	BeoPlay S3
Test Mode:	GFSK TX 2441MHz
Ant.Polar.:	
Test Distance:	3m
Power:	AC 120V/60Hz
Date:2015-4-27	Time:11:05:54
EUT:	Bluetooth Speaker
Test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





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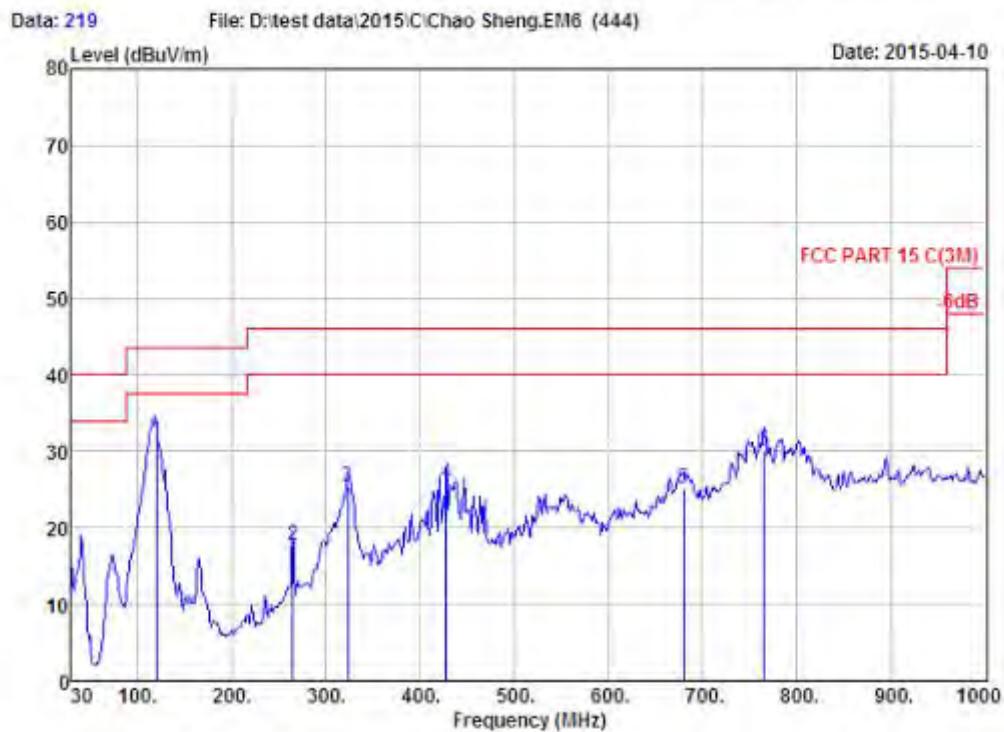
966 (2) Chamber	
Job No.:	20150427
Standard:	FCC PART 15(9K-30M)
Test item:	Radiated Emission Measurement
Temp.(C)/Hum.(%RH):	24(C)/52%RH
Company:	
Model:	BeoPlay S3
Test Mode:	GFSK TX 2441MHz
Ant.Polar.:	
Test Distance:	3m
Power:	AC 120V/60Hz
Date:2015-4-27	Time:11:07:36
EUT:	Bluetooth Speaker
Test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



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

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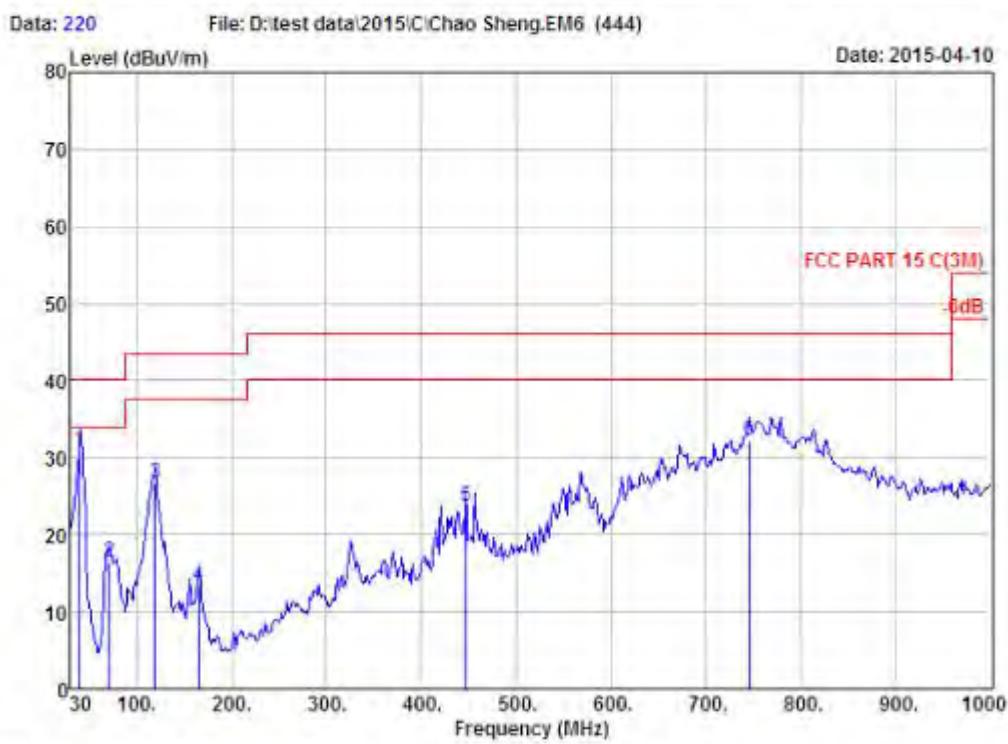


Site no. : 1# 966 chamber Data no. : 219  
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
Limit : FCC PART 15 C(3M)  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission				
			Reading (dB <sub>uV</sub> )	Level (dB <sub>uV/m</sub> )	Limit <sub>a</sub> (dB <sub>uV/m</sub> )	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	2.55	6.92	25.98	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	3.86	4.15	30.05	46.00	15.95	QP

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

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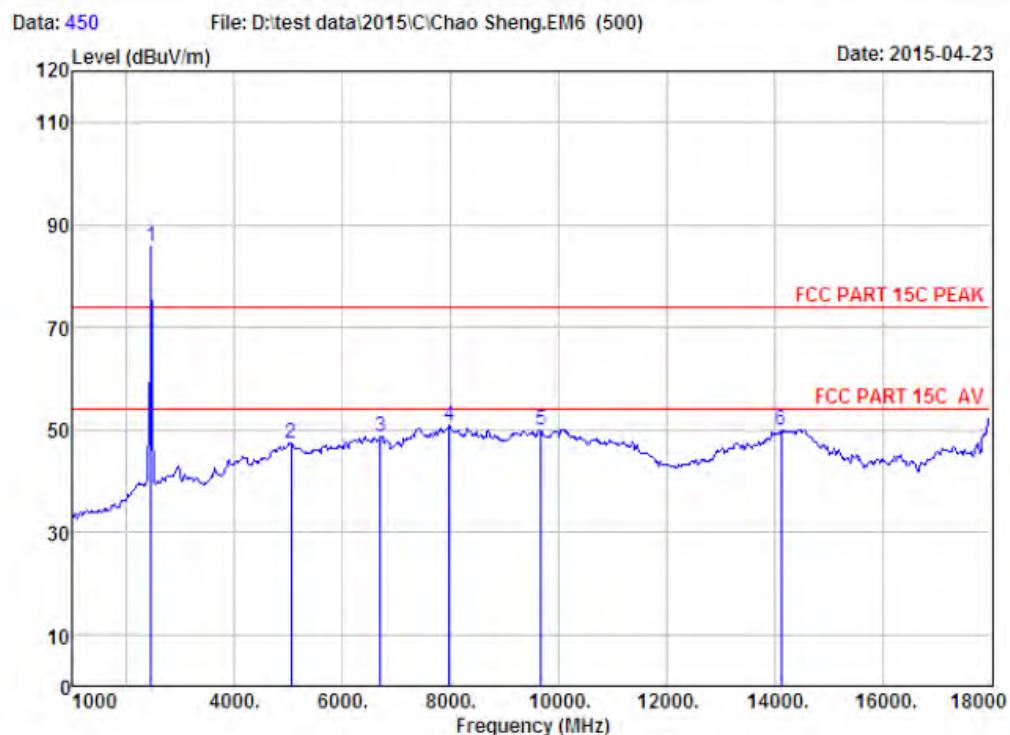
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Site no. : 1# 966 chamber Date no. : 220  
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL  
Limit : FCC PART 15 C(3M)  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Iony  
EUI : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : Beoplay S3  
Test Mode : GFSK TX 2441MHz

	Freq. (MHz)	Ant. (dB/m)	Cable (dB)	Emission Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	39.70	12.90	0.81	17.20	30.91	40.00	9.09	QP
2	70.74	5.82	1.04	9.63	18.49	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	2.98	4.24	23.62	46.00	22.38	QP
6	745.96	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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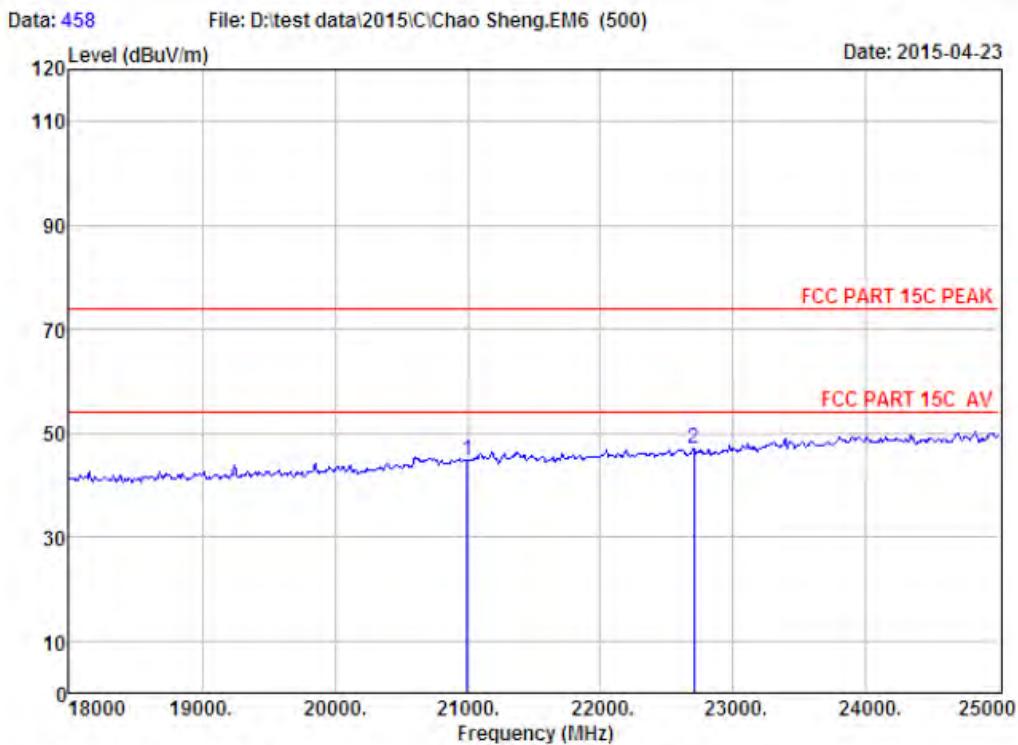
Site no. : 1# 966 chamber Data no. : 450  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2441MHz

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	85.72	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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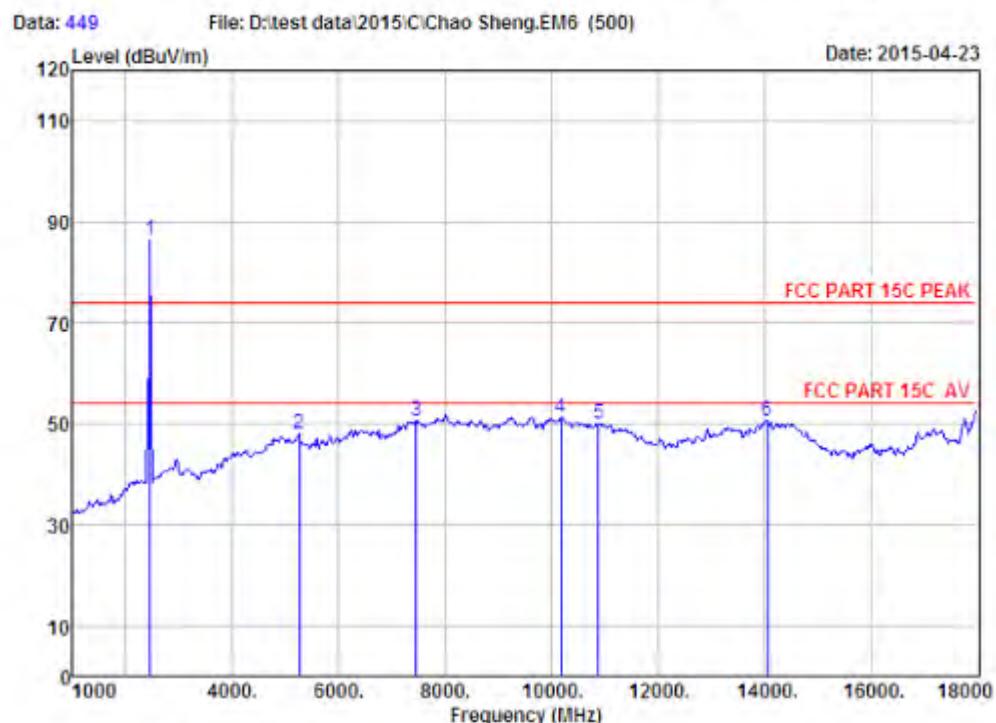
Site no. : 1# 966 chamber Data no. : 458  
Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : TONY  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)			
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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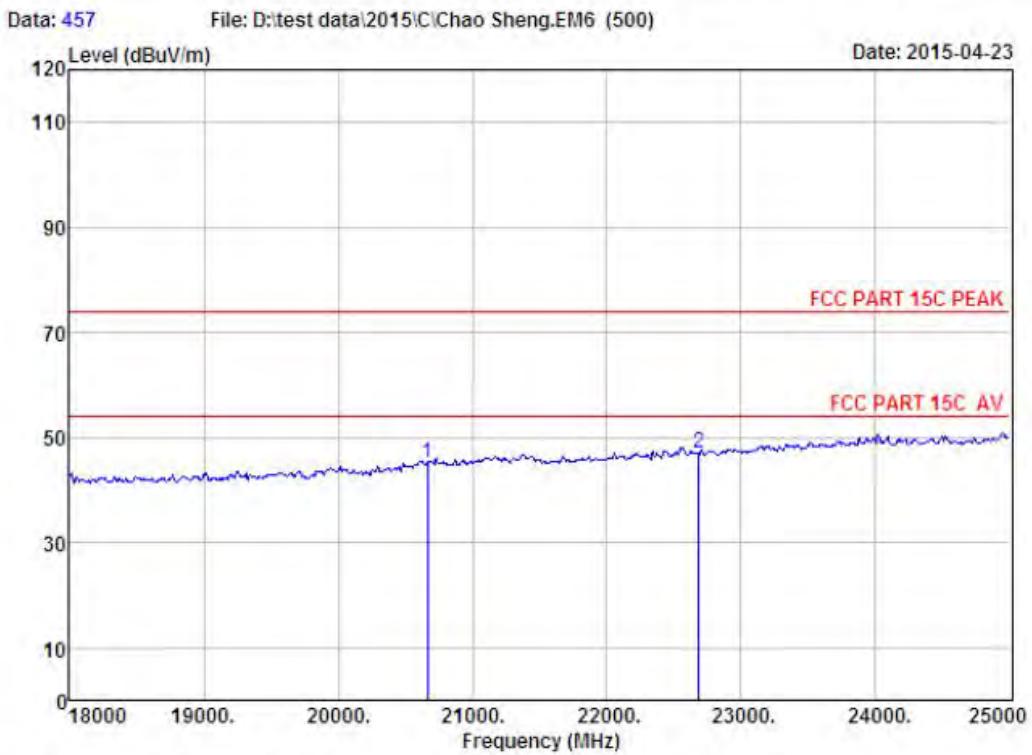
Site no. : 1# 966 chamber Data no. : 449  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2441MHz

	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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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. (dB/m)	Cable (dB)	Amp (dB)	Emission						
				Factor	Loss	Factor	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)
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)**

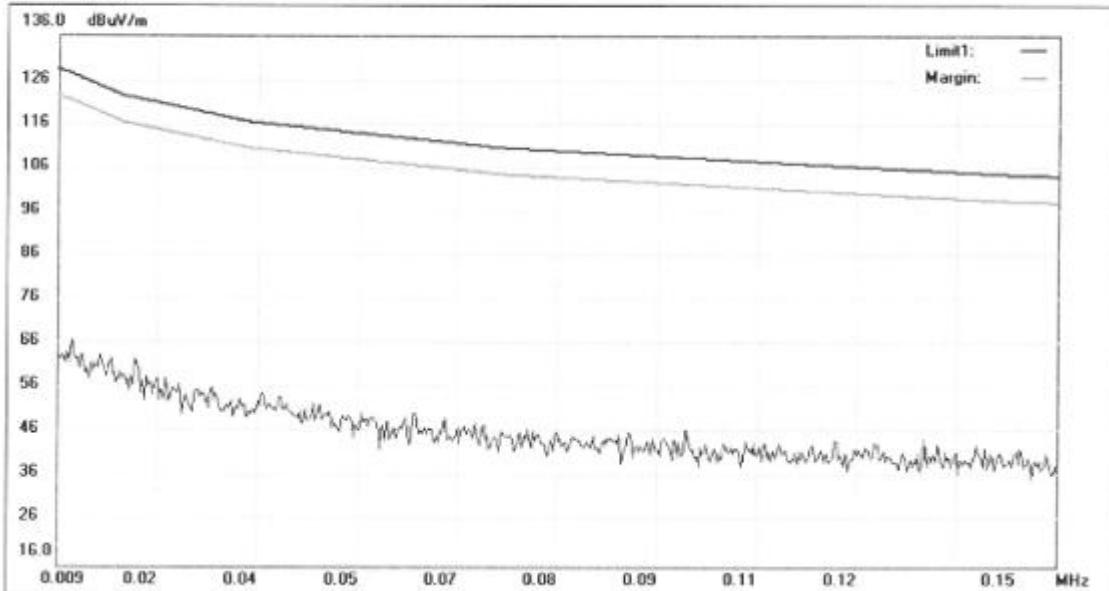


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966 (2) Chamber

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:11:10:43
Company:		EUT: Bluetooth Speaker
Model:	BeoPlay S3	Test By:
Test Mode:	GFSK TX 2480MHz	



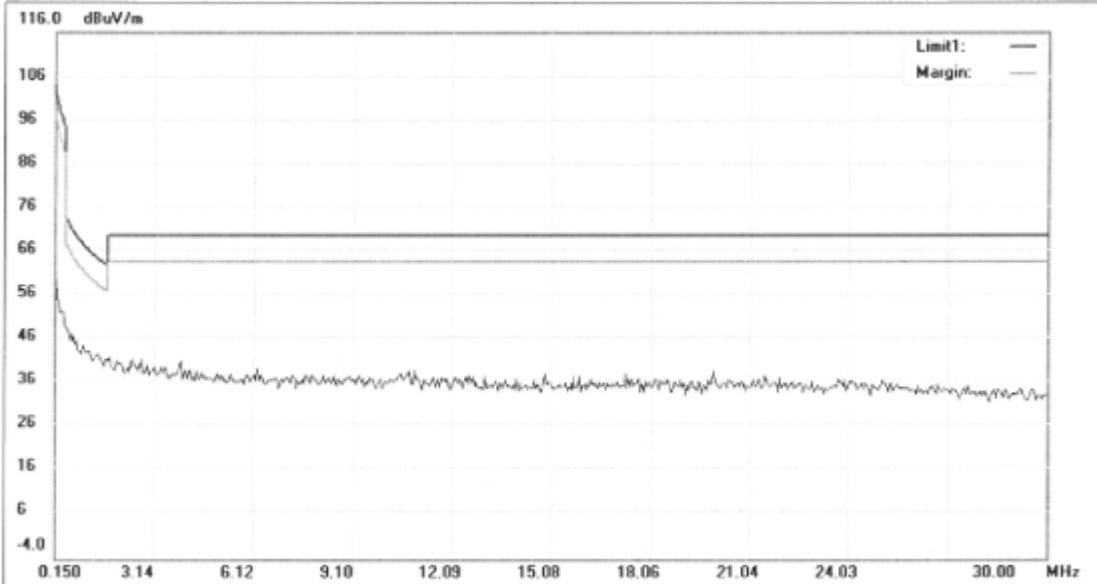


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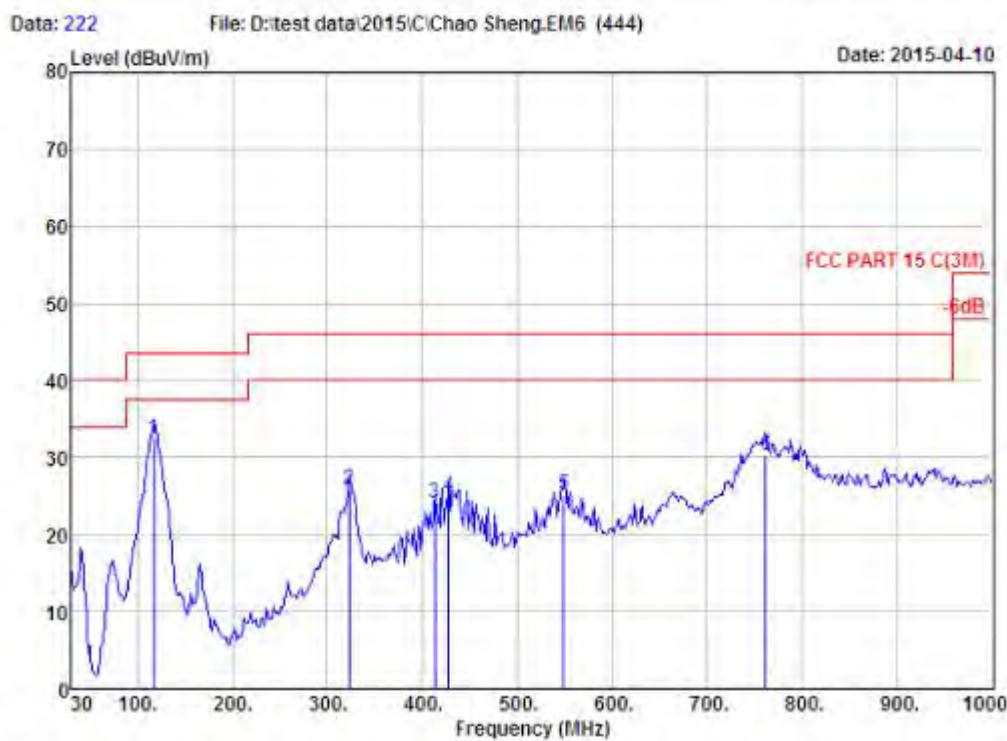
966 (2) Chamber

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:11:09:58
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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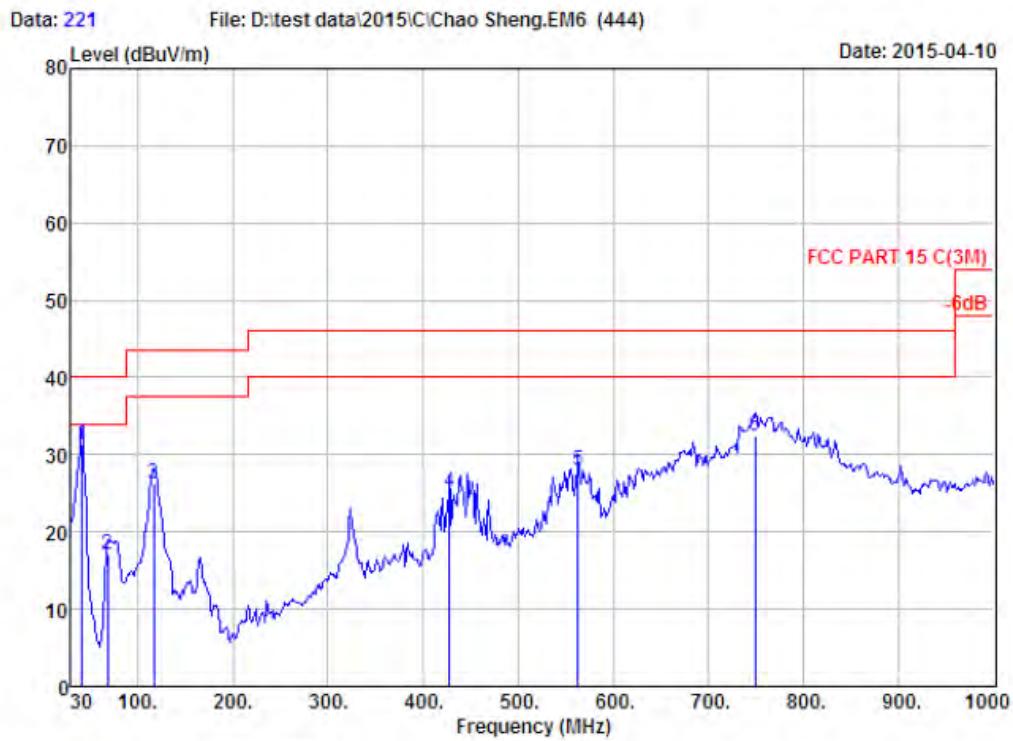
Site no. : 1# 966 chamber Data no. : 222  
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
Limit : FCC PART 15 C(3M)  
Env. / Ins. : Temp:23.6';Humit:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2480MHz

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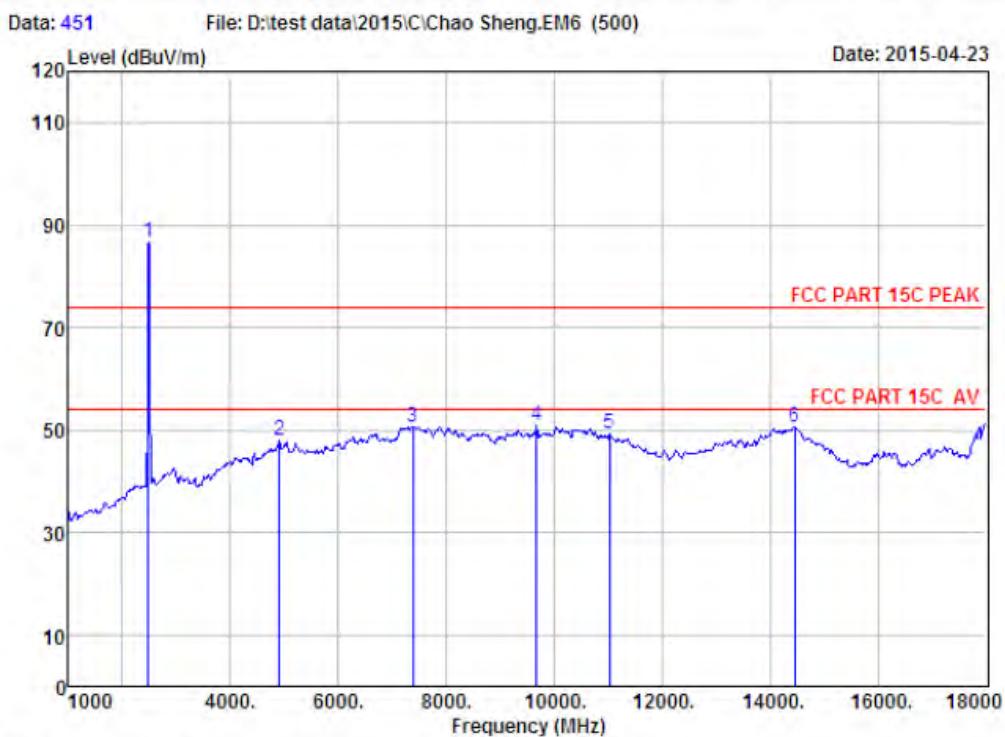
Site no. : 1# 966 chamber Data no. : 221  
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL  
Limit : FCC PART 15 C (3M)  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2480MHz

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

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

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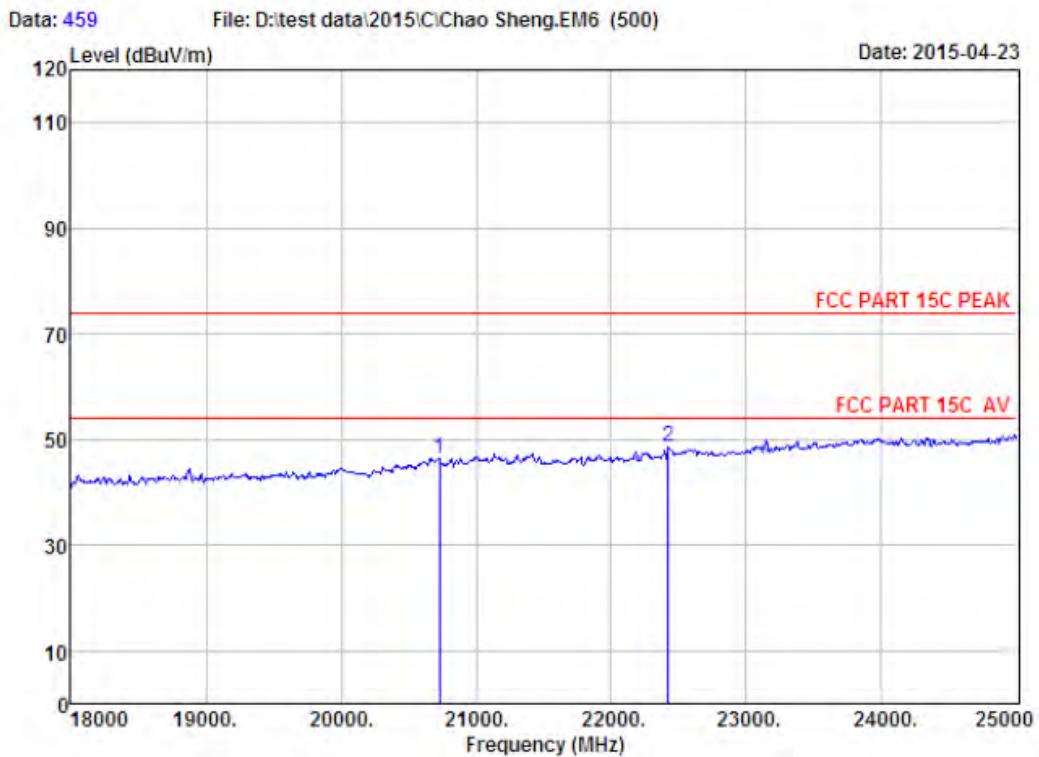
Site no. : 1# 966 chamber Data no. : 451  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2480MHz

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	86.60	86.86	74.00	-12.86	Peak
2 4910.00	31.42	12.22	31.93	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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Site no. : 1# 966 chamber Data no. : 459  
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

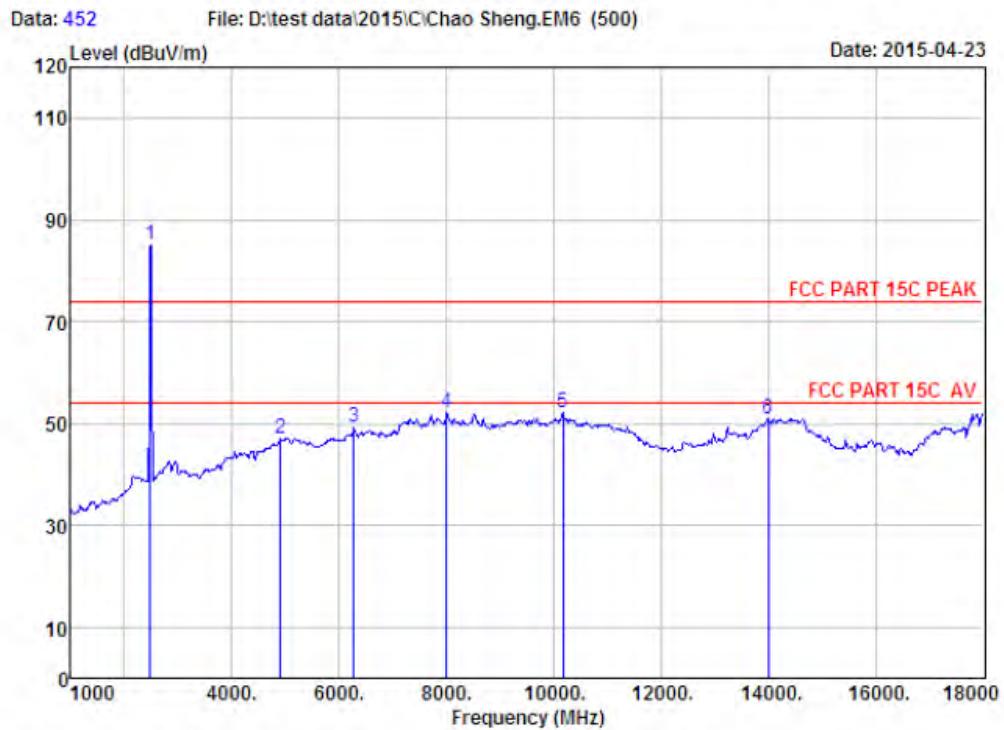
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission			
					Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 20730.00	46.14	20.01	36.05	16.35	46.45	74.00	27.55	Peak
2 22424.00	45.78	20.81	34.45	16.35	48.49	74.00	25.51	Peak

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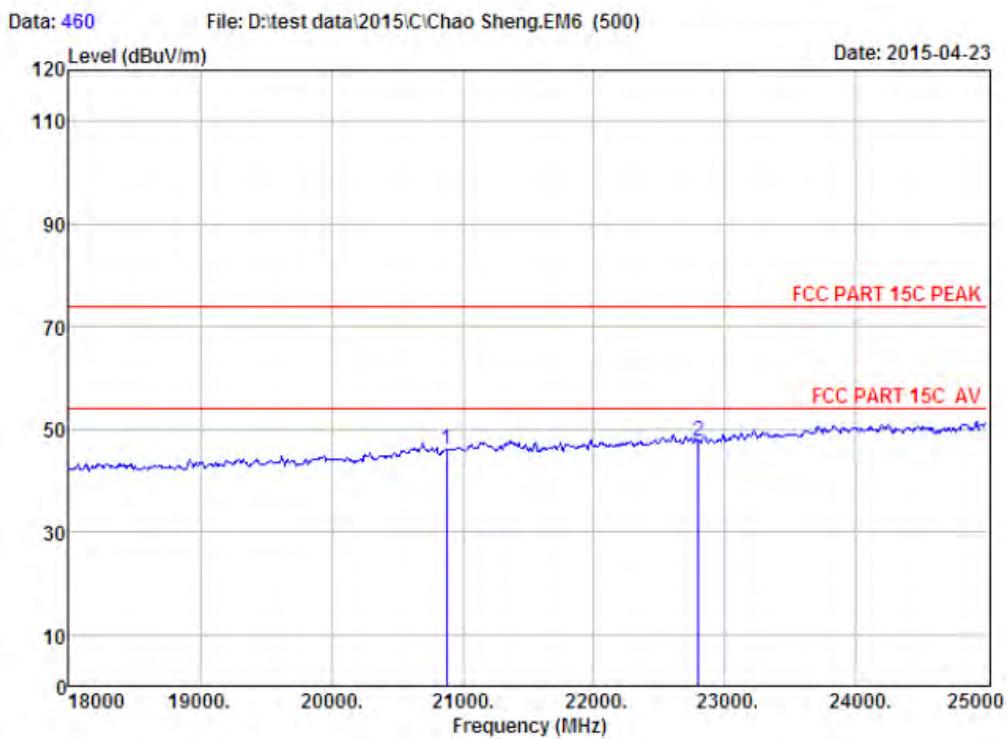
Site no. : 1# 966 chamber Data no. : 452  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2480MHz

	Ant.	Cable	Amp	Emission					
Freq. (MHz)	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	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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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.			Cable			Amp			Emission		
	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	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				

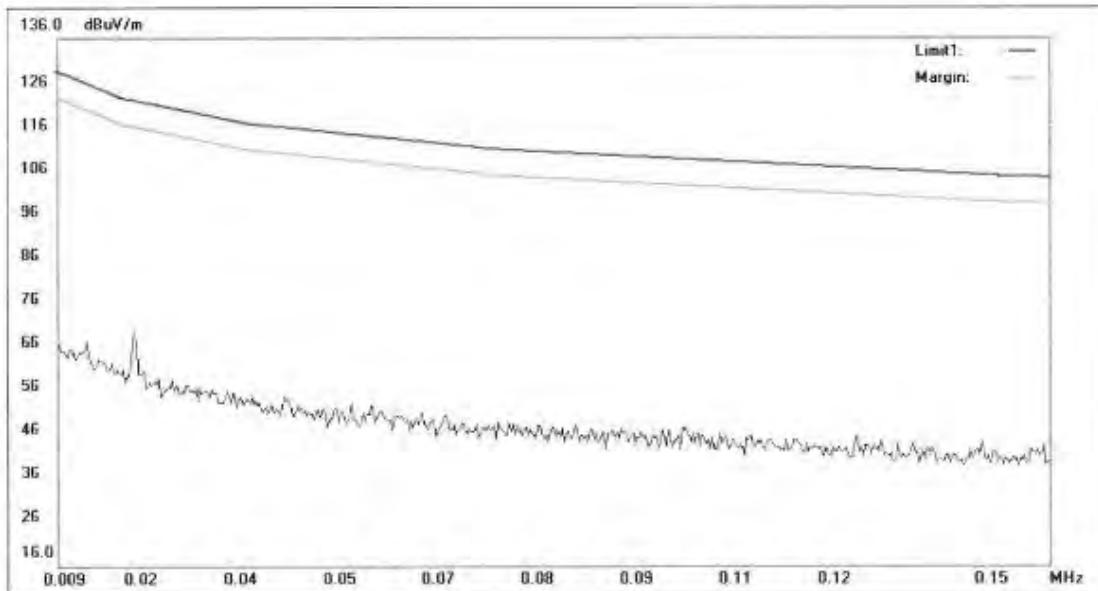
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
2. The emission levels that are 20dB below the official limit are not reported.

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



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



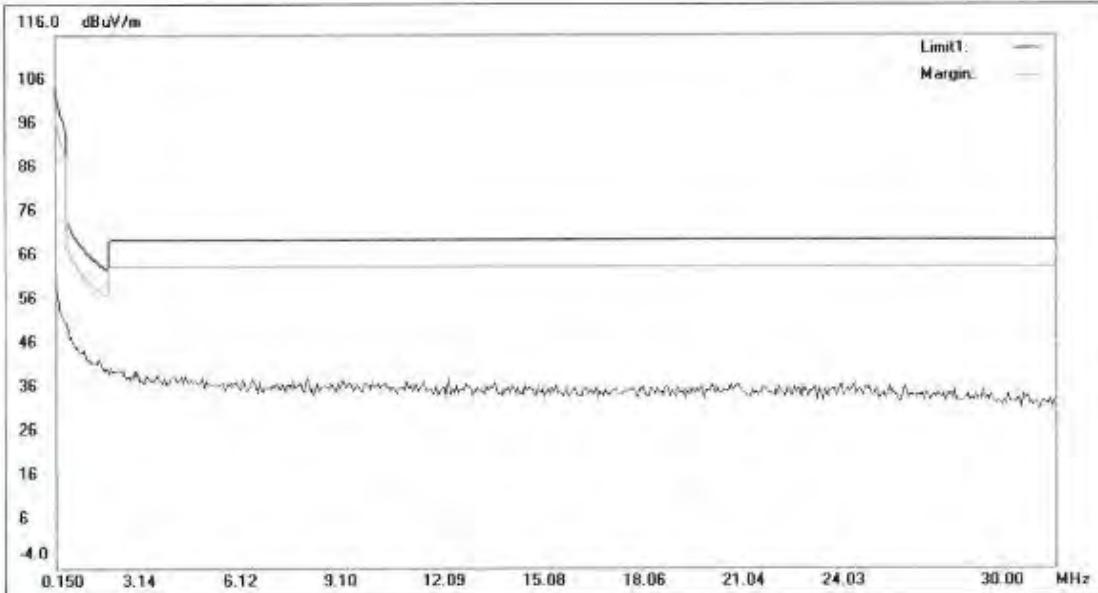


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966 (2) Chamber

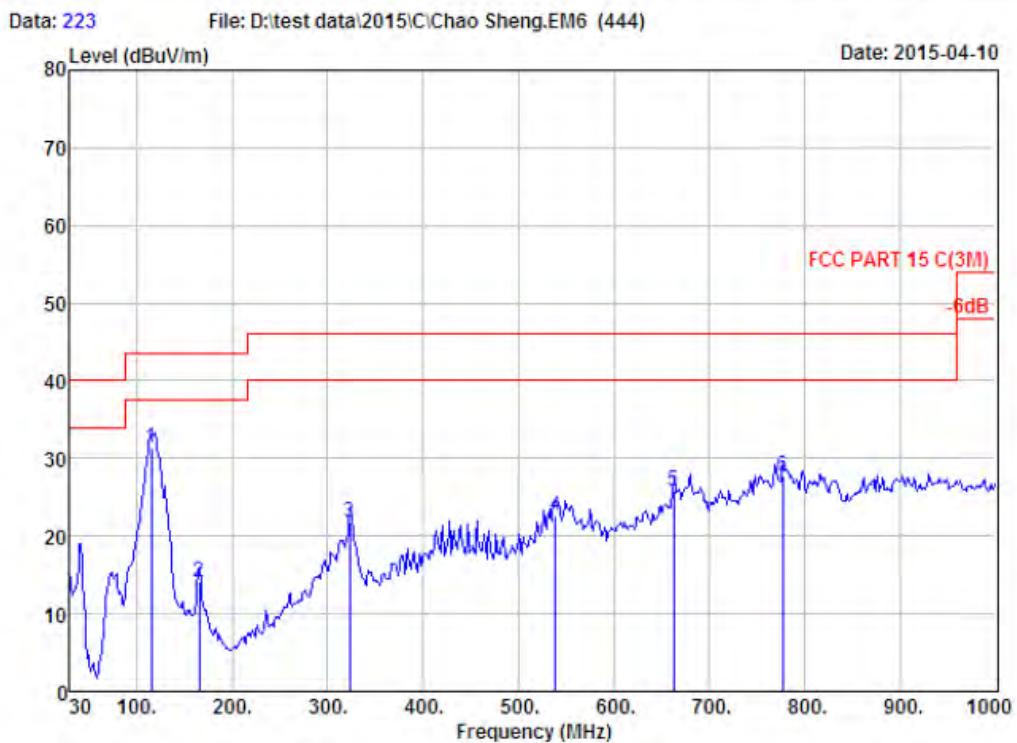
Job No.:	20150427	Aut.Polar.:	
Standard:	FCC PART 15(9K-30M)	Test Distance:	3m
Test item:	Radiated Emission Measurement	Power:	AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27	Time:11:19:40
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	8- DPSK TX 2402MHz		



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

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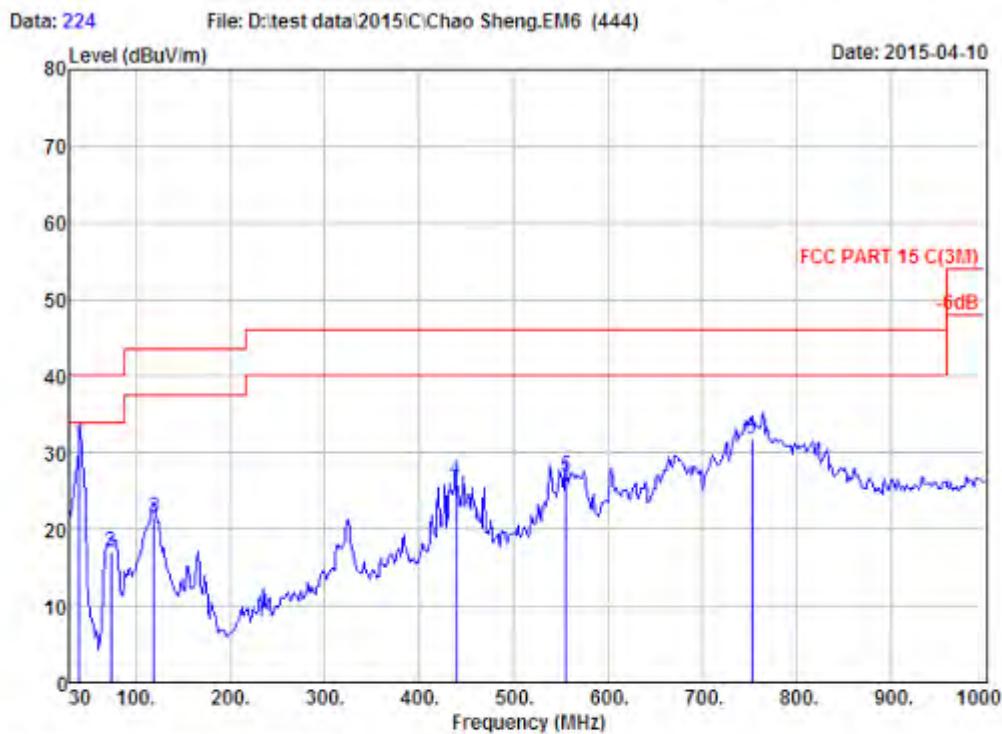


Site no. : 1# 966 chamber Data no. : 223  
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
Limit : FCC PART 15 C(3M)  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : 8-DPSK TX 2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission 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	165.00	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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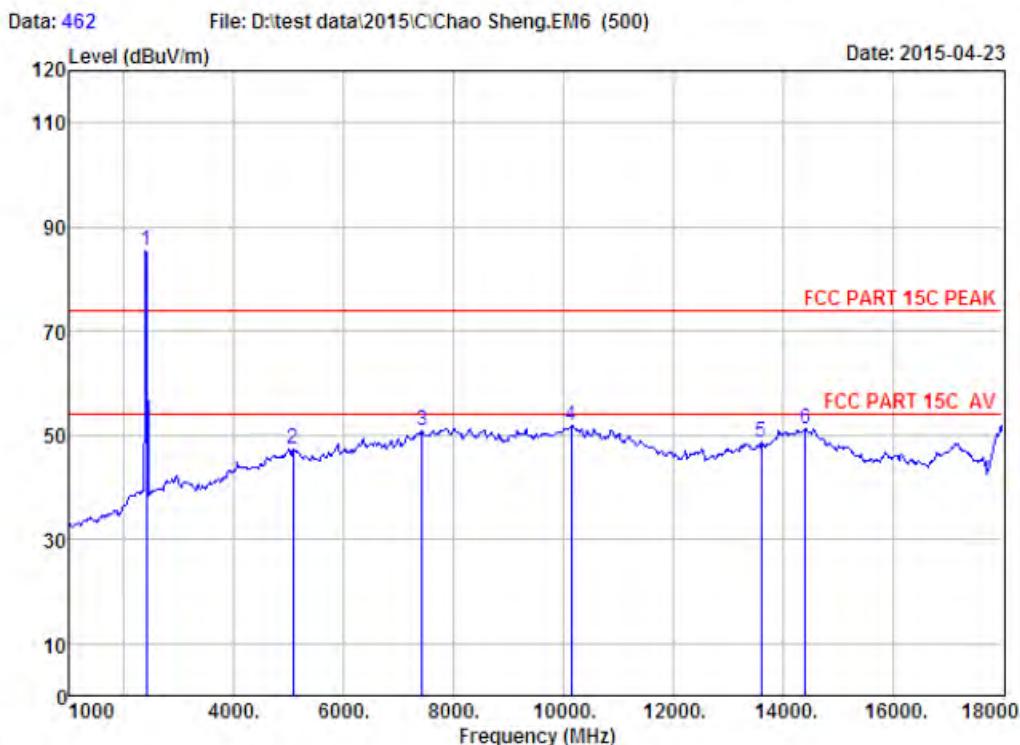
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Site no. : 1# 966 chamber Data no. : 224  
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL  
Limit : FCC PART 15 C(3M)  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : 8-DPSK IX 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	QB
2 73.65	6.22	1.15	9.63	17.00	40.00	23.00	QB
3 119.24	11.11	1.42	8.95	21.48	43.50	22.02	QB
4 439.34	16.23	2.89	7.25	26.37	46.00	19.63	QB
5 555.74	19.61	3.25	4.12	26.98	46.00	19.02	QB
6 752.65	22.15	3.88	5.73	31.76	46.00	14.24	QB

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

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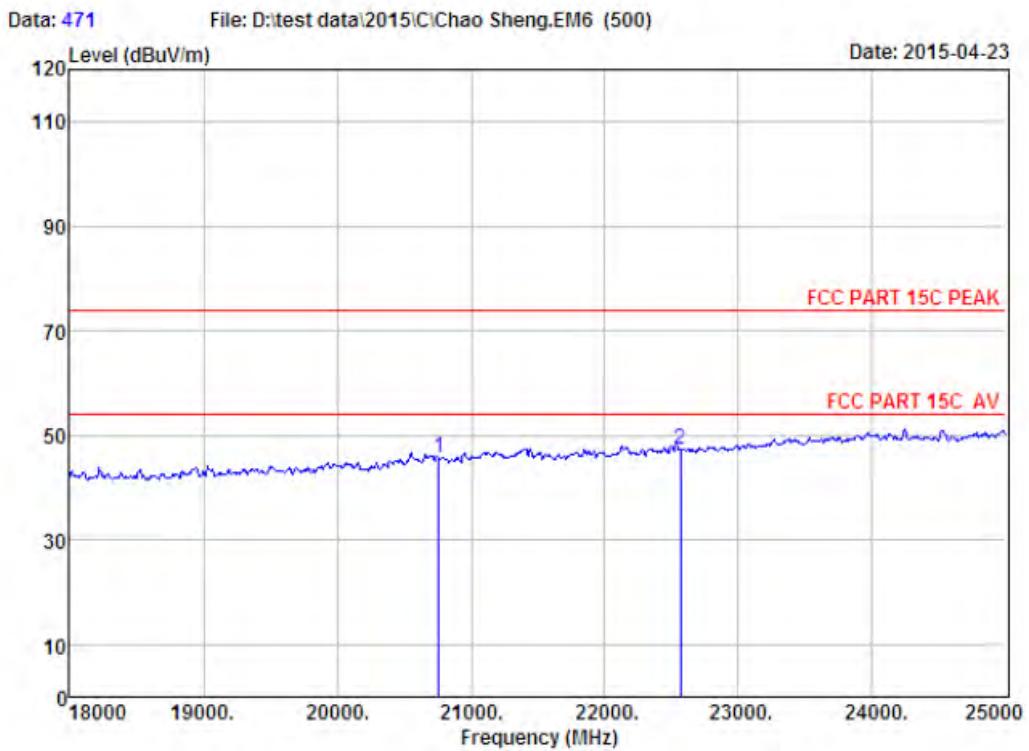
Site no. : 1# 966 chamber Data no. : 462  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : 8-DPSK TX 2402MHz

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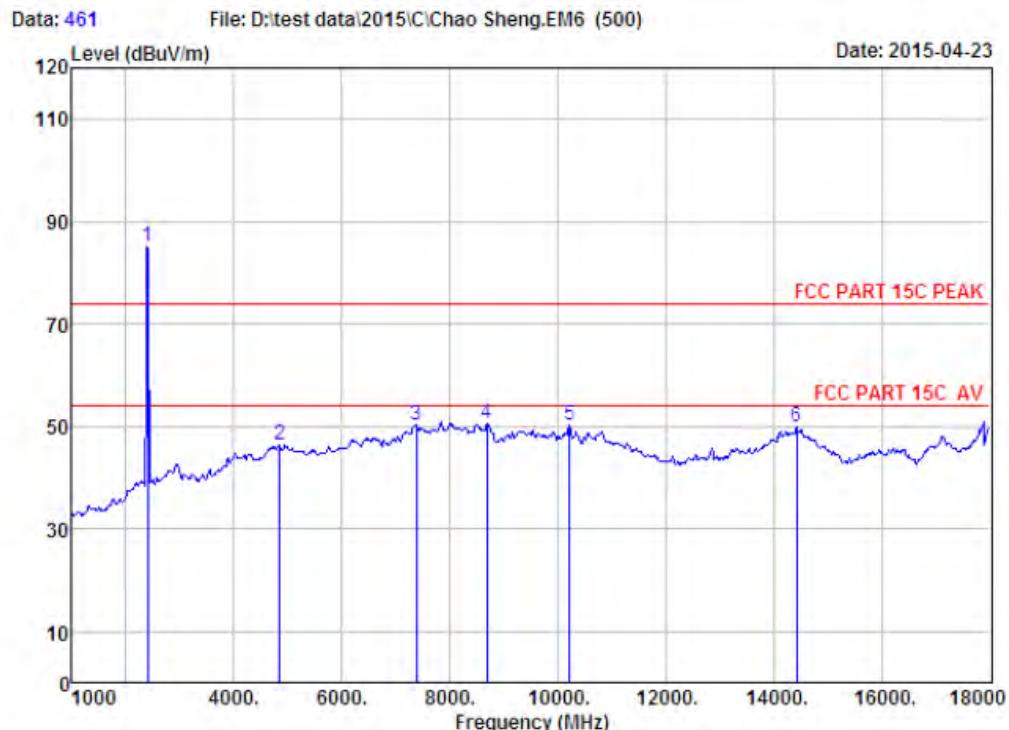
Site no. : 1# 966 chamber Data no. : 471  
Dis. / Ant. : 3m ANT AEVOE 18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : 8-DPSK TX 2402MHz

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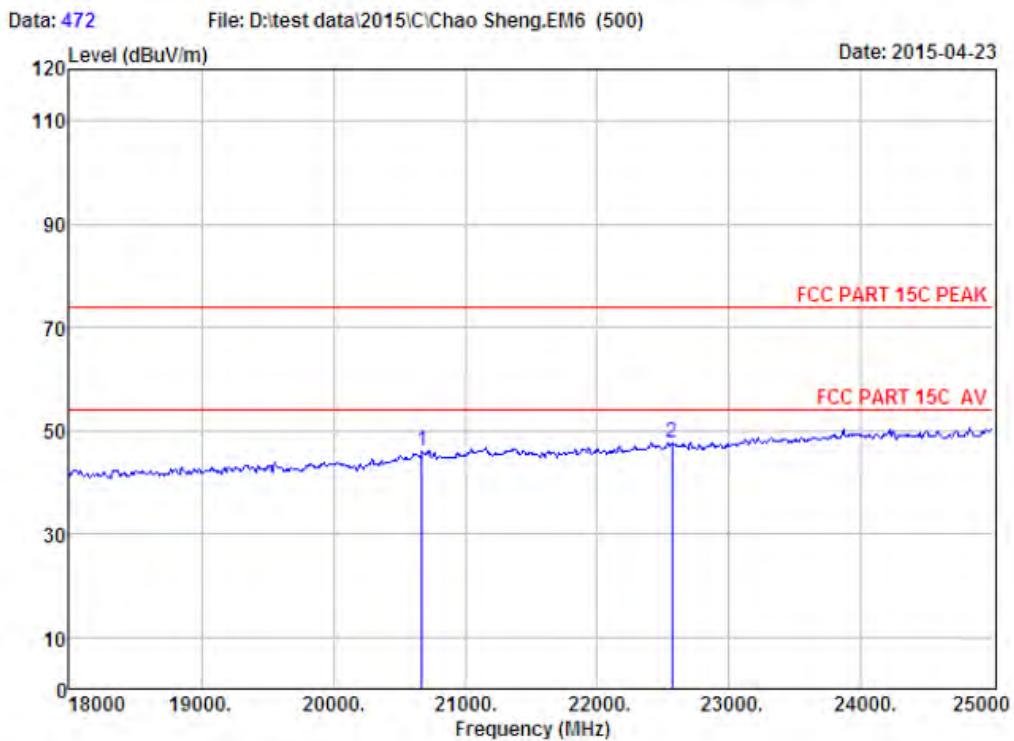
Site no. : 1# 966 chamber Data no. : 461  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : 8-DPSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)			
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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Site no. : 1# 966 chamber Data no. : 472  
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 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)			
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)

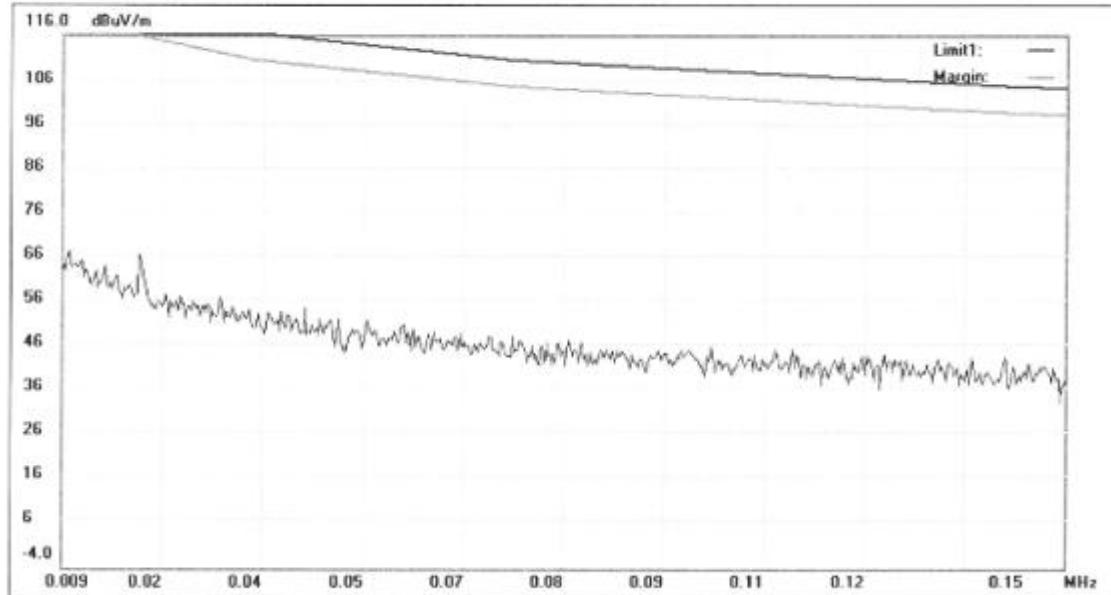


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966 (2) Chamber

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:11:16:00
Company:		EUT:	Bluetooth Speaker
Model:	BeoPlay S3	Test By:	
Test Mode:	8- DPSK TX 2441MHz		



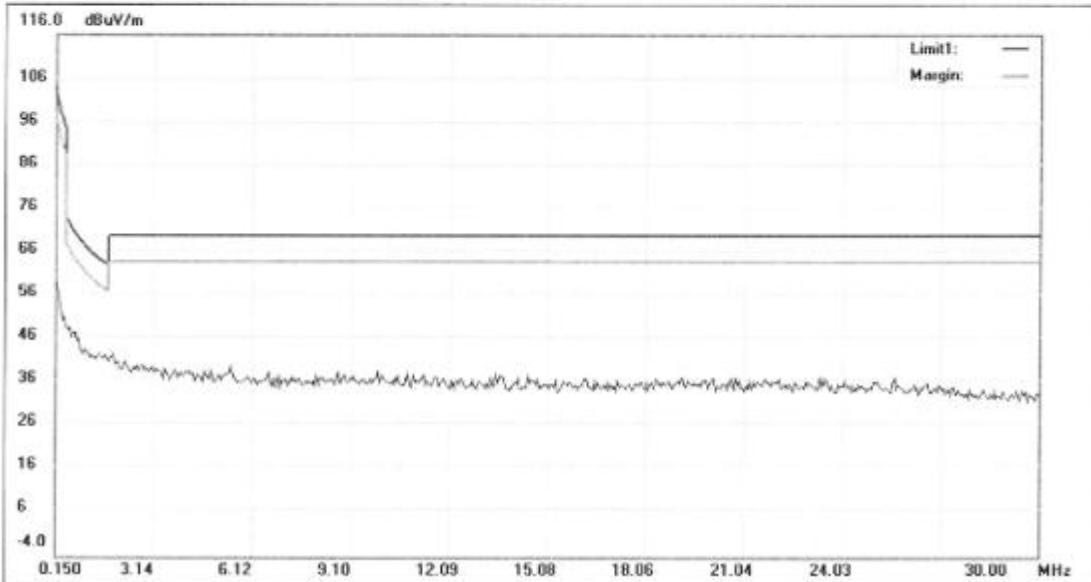


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966 (2) Chamber

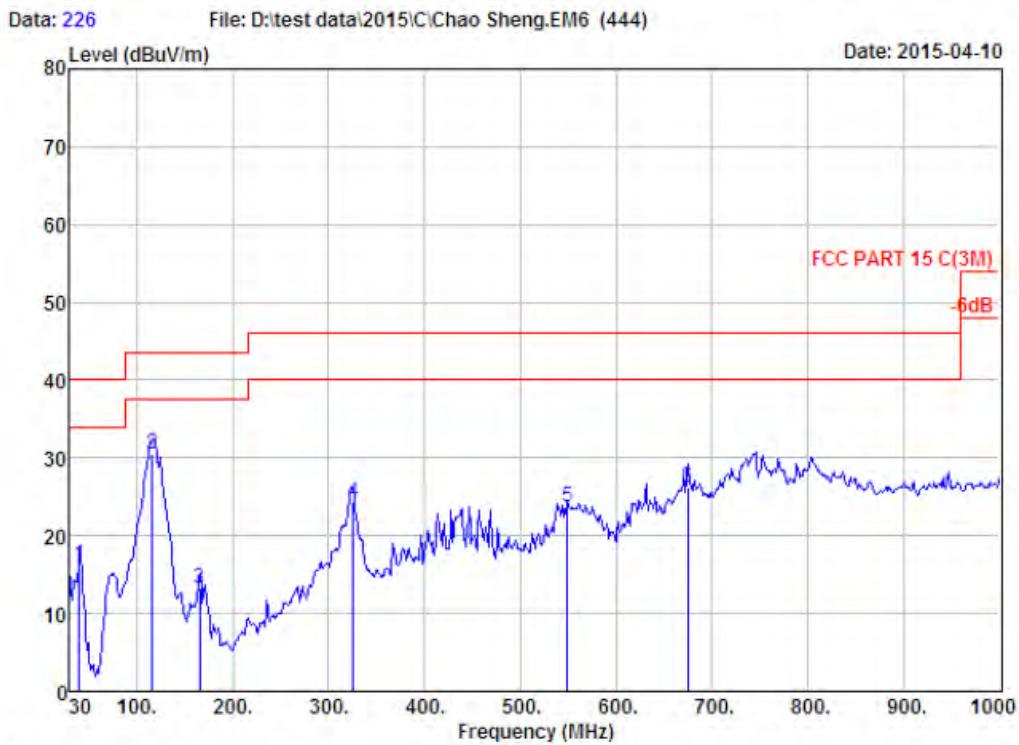
Job No.:	20150427	Ant.Polar.:
Standard:	FCC PART 15(9K-30M)	Test Distance: 3m
Test item:	Radiated Emission Measurement	Power: AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27 Time:11:15:54
Company:		EUT: Bluetooth Speaker
Model:	BeoPlay S3	Test By:
Test Mode:	8- DPSK TX 2441MHz	



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

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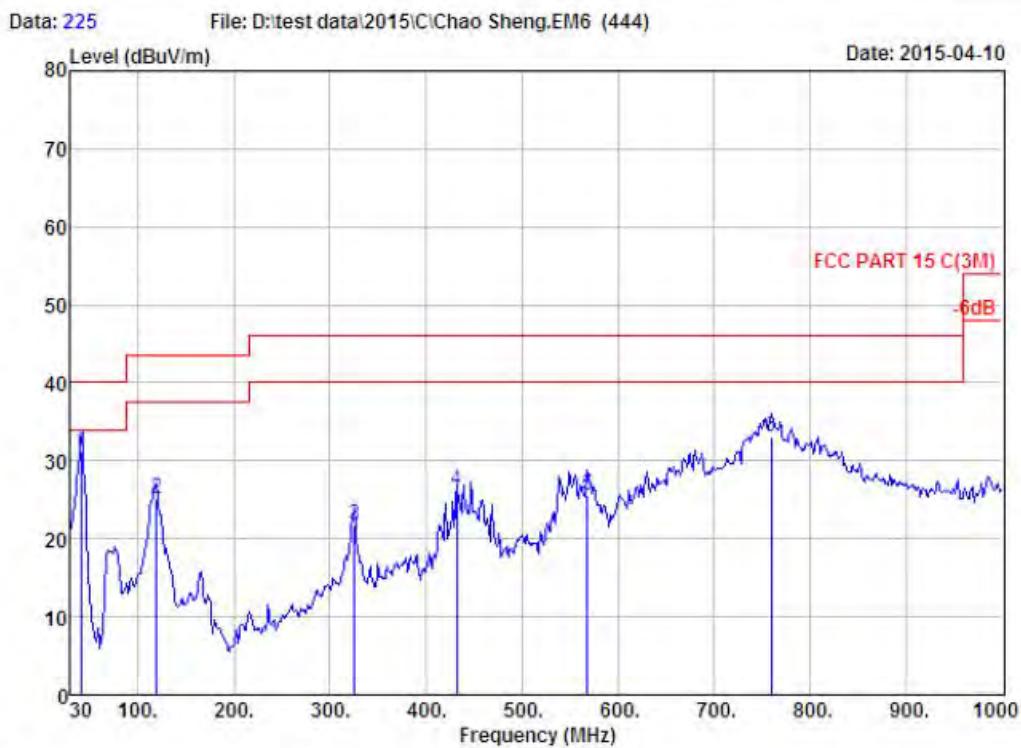
Site no. : 1# 966 chamber Data no. : 226  
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
Limit : FCC PART 15 C(3M)  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : 8-DPSK TX 2441MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	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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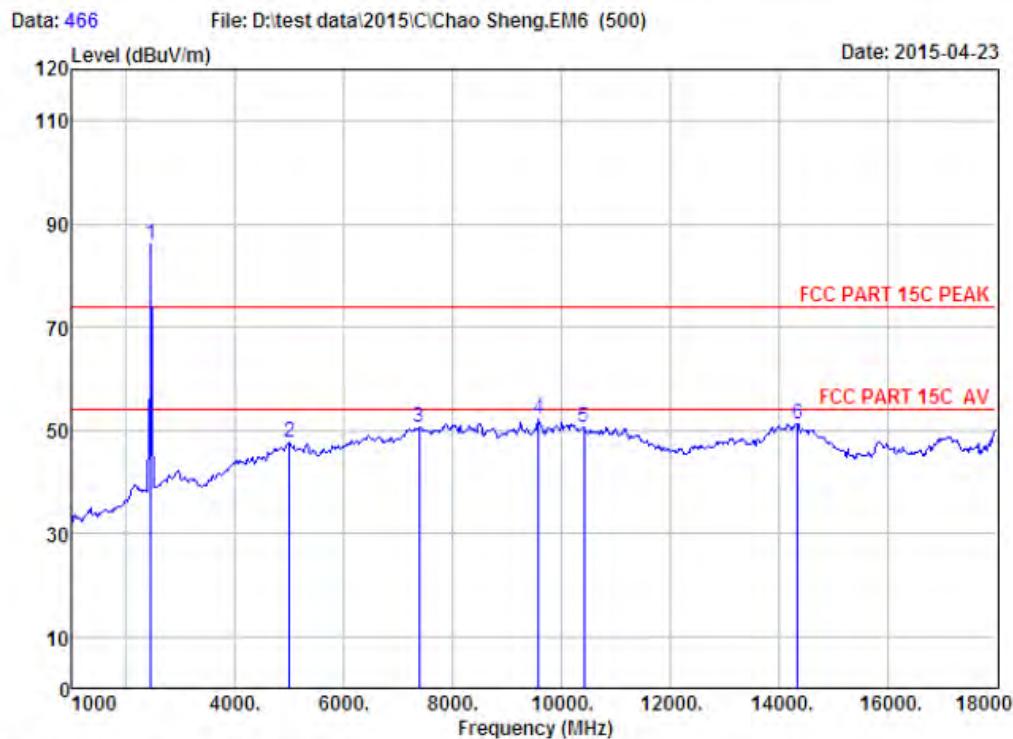


Site no. : 1# 966 chamber Data no. : 225  
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL  
Limit : FCC PART 15 C(3M)  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : 8-DPSK TX 2441MHz

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	0.65	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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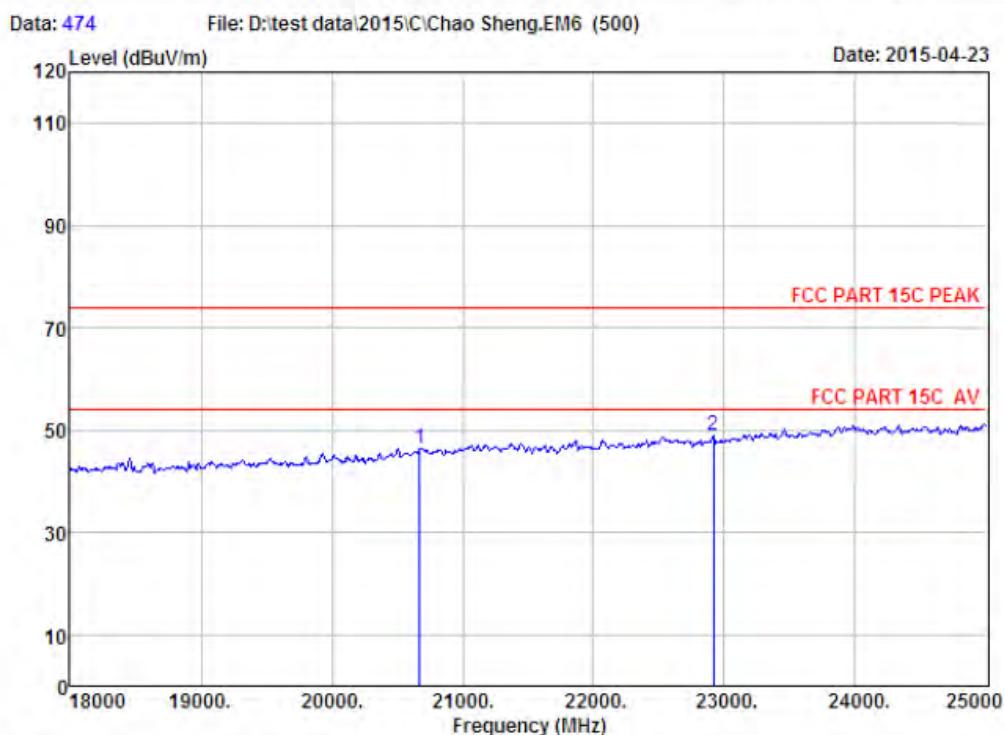
Site no. : 1# 966 chamber Data no. : 466  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : 8-DPSK TX 2441MHz

	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	31.54	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	10416.00	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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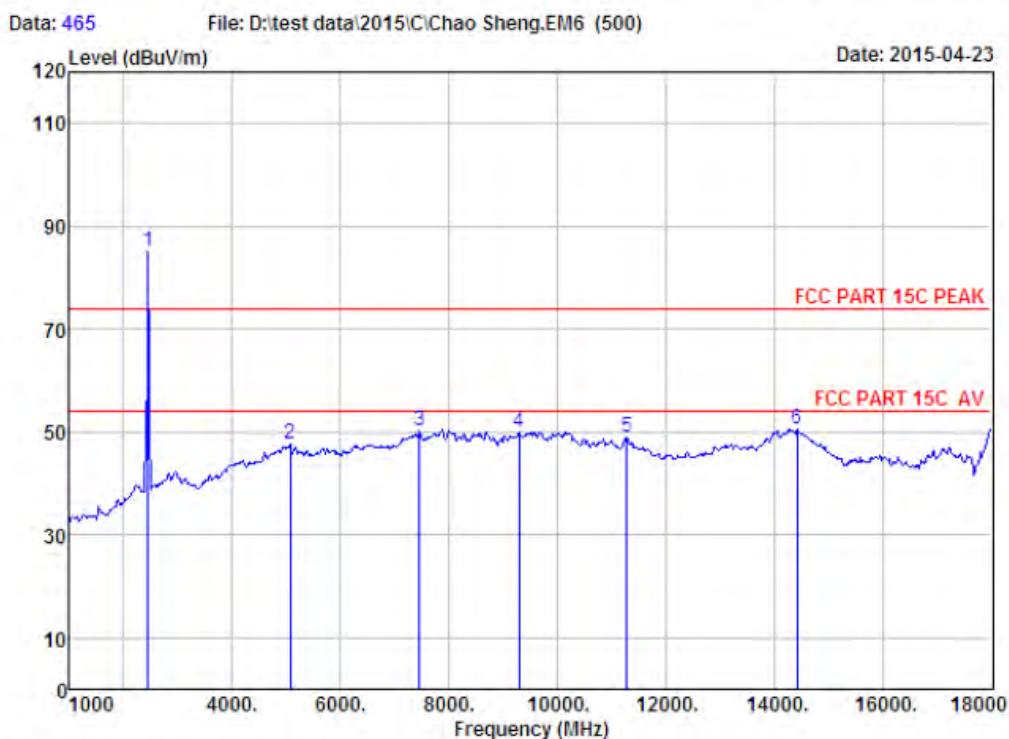
Site no. : 1# 966 chamber Data no. : 474  
Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : 8-DPSK TX 2441MHz

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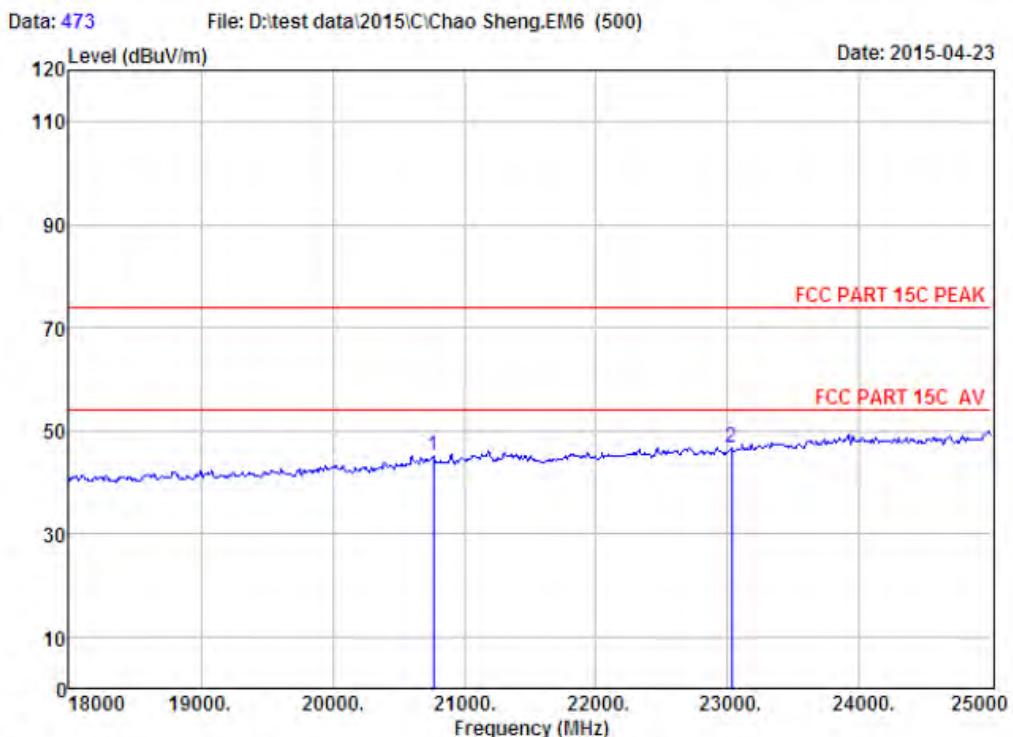
Site no. : 1# 966 chamber      Data no. : 465  
Dis. / Ant. : 3m ANT 1-18G      Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : Beoplay S3  
Test Mode : 8-DPSK TX 2441MHz

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	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	49.91	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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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 IX 2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)			
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	

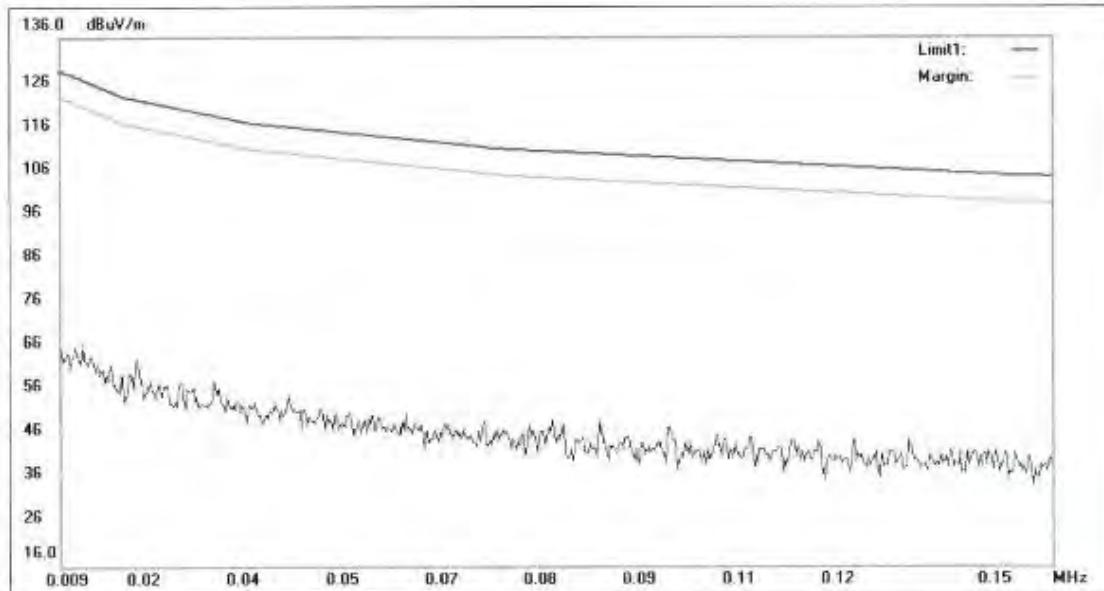
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
2. The emission levels that are 20dB below the official limit are not reported.

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



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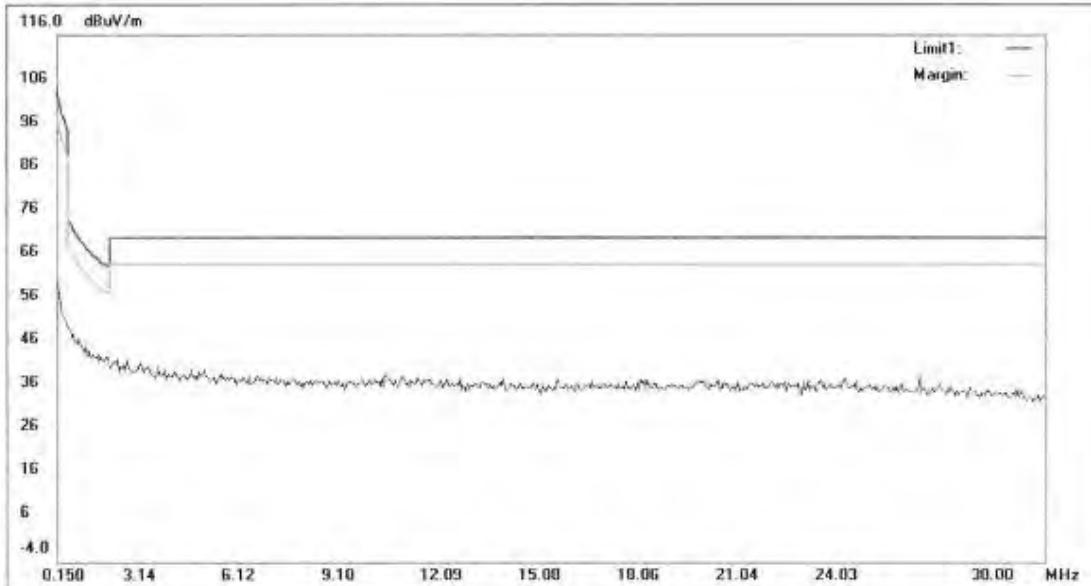
966 (2) Chamber	
Job No.:	20150427
Standard:	FCC PART 15(9K-30M)
Test item:	Radiated Emission Measurement
Temp.(C)/Hum.(%RH):	24(C)/52%RH
Company:	
Model:	BeoPlay S3
Test Mode:	8- DPSK TX 2480MHz
Ant.Polar.:	
Test Distance:	3m
Power:	AC 120V/60Hz
Date:2015-4-27	Time:11:12:29
EUT:	Bluetooth Speaker
Test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





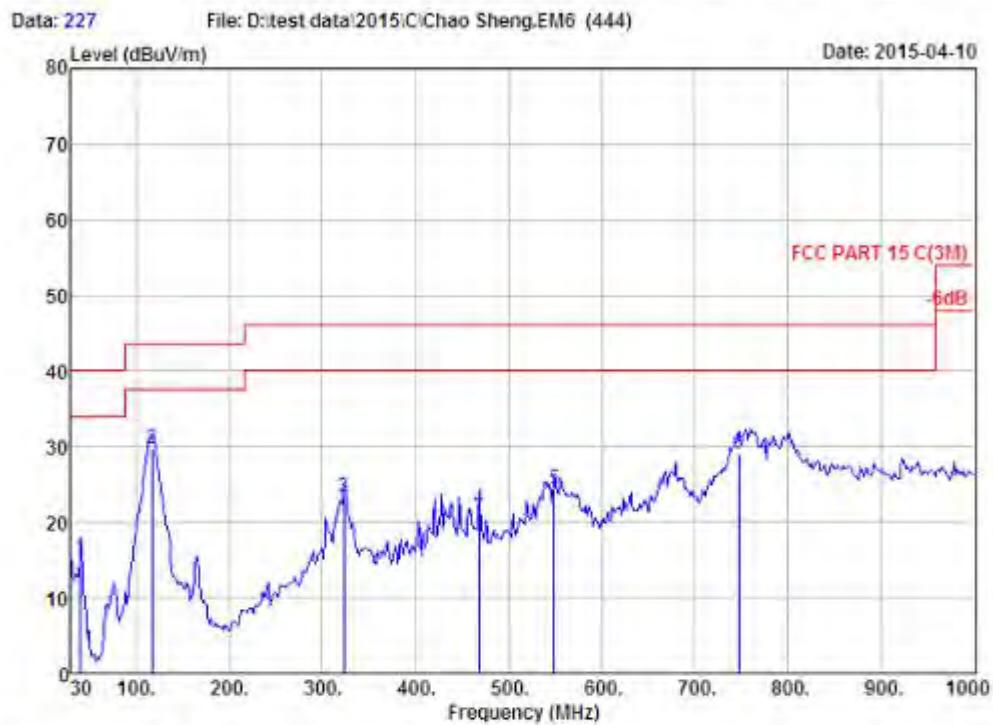
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966 (2) Chamber	
Job No.:	20150427
Standard:	FCC PART 15(9K-30M)
Test item:	Radiated Emission Measurement
Temp.(C)/Hum.(%RH):	24(C)/52%RH
Company:	
Model:	BeoPlay S3
Test Mode:	8- DPSK TX 2480MHz
Ant.Polar.:	
Test Distance:	3m
Power:	AC 120V/60Hz
Date:2015-4-27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



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

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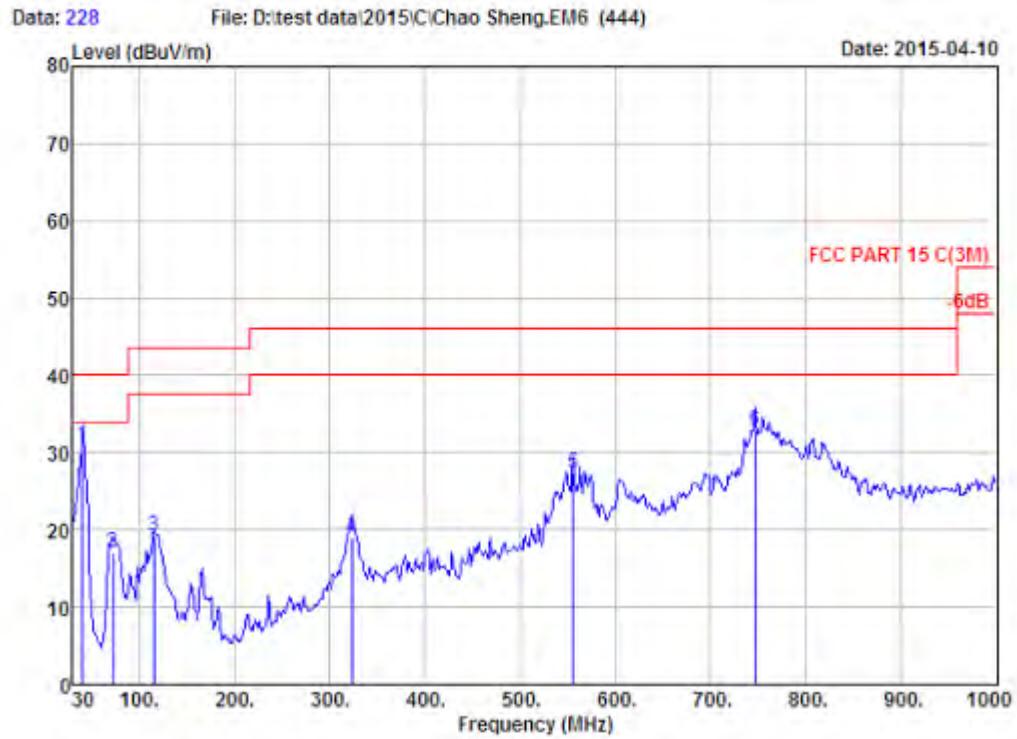
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Site no. : 1# 966 chamber Data no. : 227  
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
Limit : FCC PART 15 C(3M)  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay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

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	39.70	12.90	0.81	1.65	15.36	40.00	24.64	QB
2	117.30	11.02	1.47	17.17	29.66	43.50	13.94	QB
3	322.94	13.65	2.43	7.13	23.21	46.00	22.79	QB
4	468.44	17.14	3.09	1.44	21.67	46.00	24.33	QB
5	548.95	19.45	3.26	1.64	24.35	46.00	21.65	QB
6	747.80	22.22	3.91	2.76	28.91	46.00	17.09	QB

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

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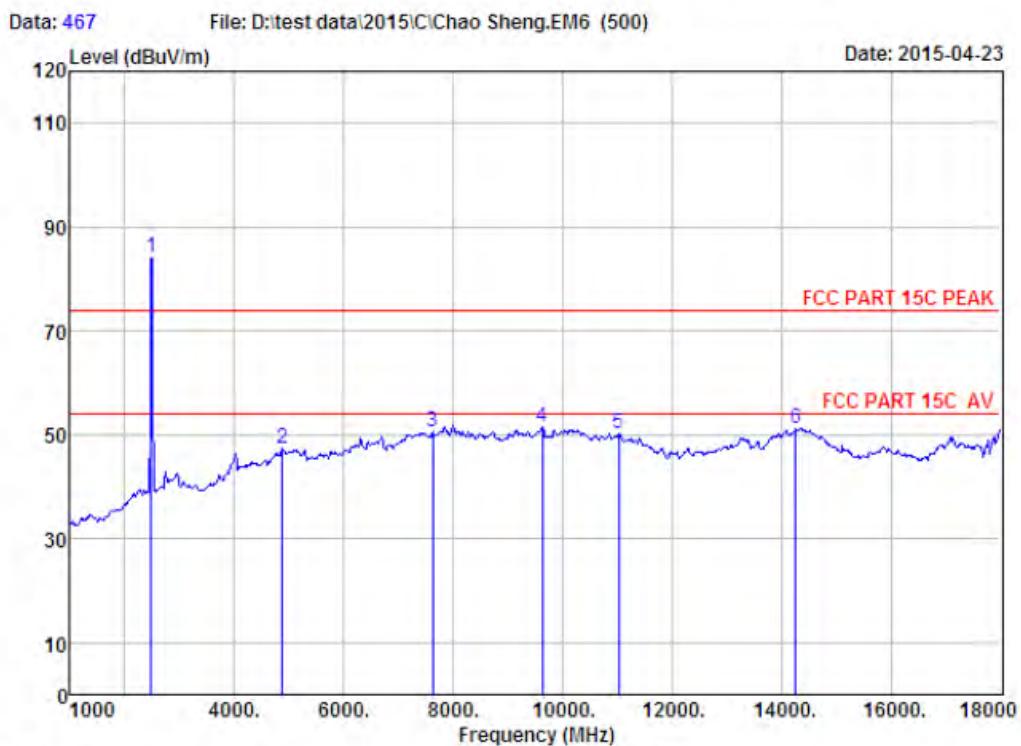
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Site no. : 1# 966 chamber Data no. : 228  
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL  
Limit : FCC PART 15 C(3M)  
Env. / Ins. : Temp:23.6°C;Humid:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay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

Freq. (MHz)	Ant. (dB/m)	Cable (dB)	Emission				
			Factor (dB/m)	Loss (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)
1 39.70	12.90	0.81	17.14	30.05	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
6 747.60	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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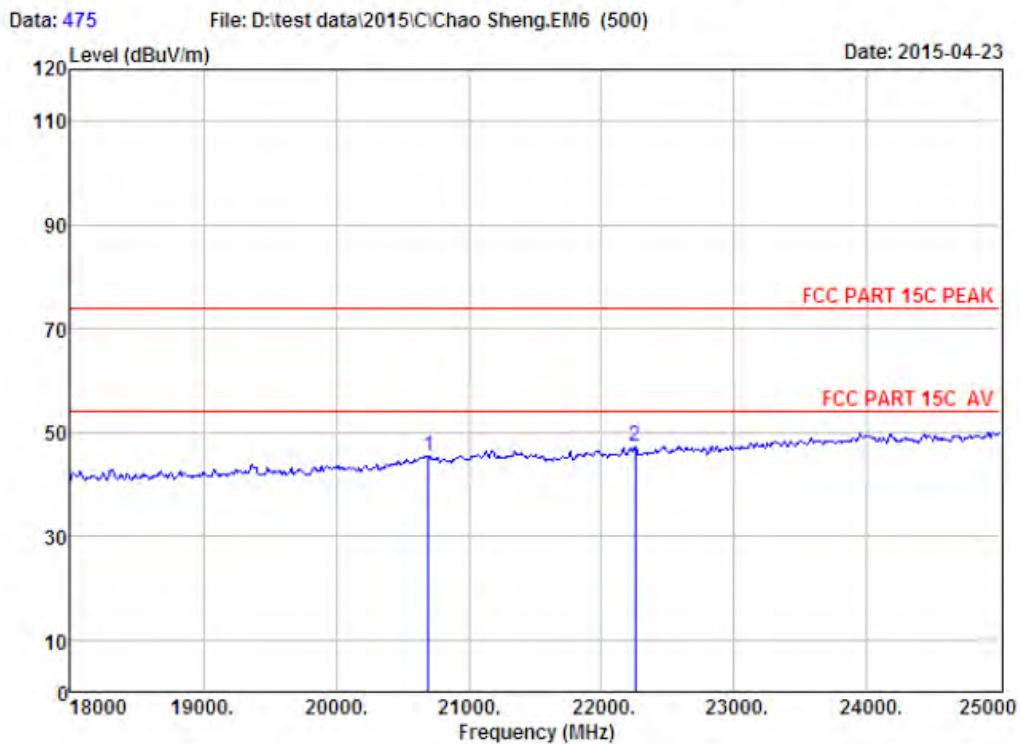
Site no. : 1# 966 chamber Data no. : 467  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : 8-DPSK TX 2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)			
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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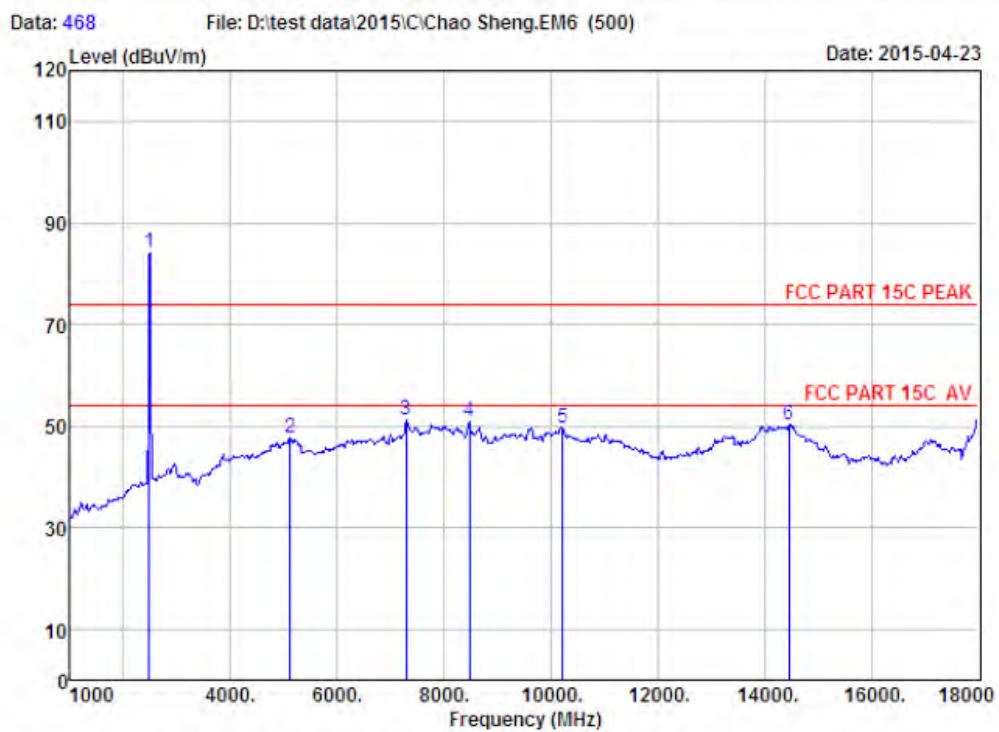
Site no. : 1# 966 chamber Data no. : 475  
Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : 8-DPSK TX 2480MHz

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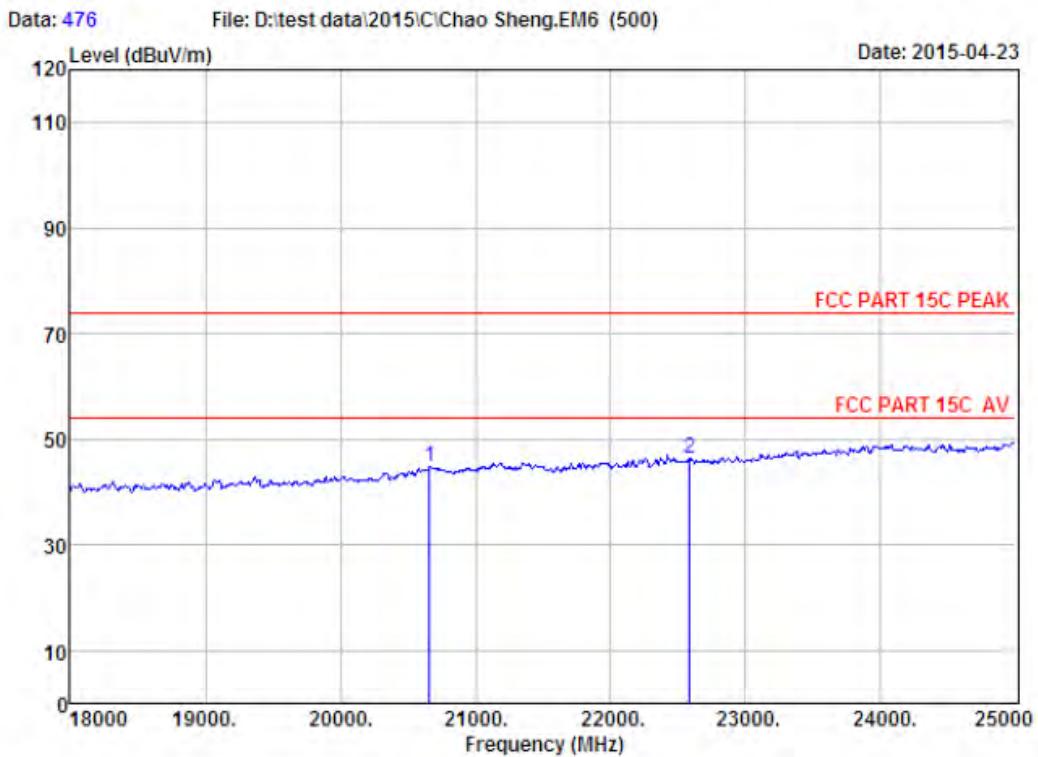
Site no. : 1# 966 chamber Data no. : 468  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : 8-DPSK TX 2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)			
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 Levels = 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. : 476  
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 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)**

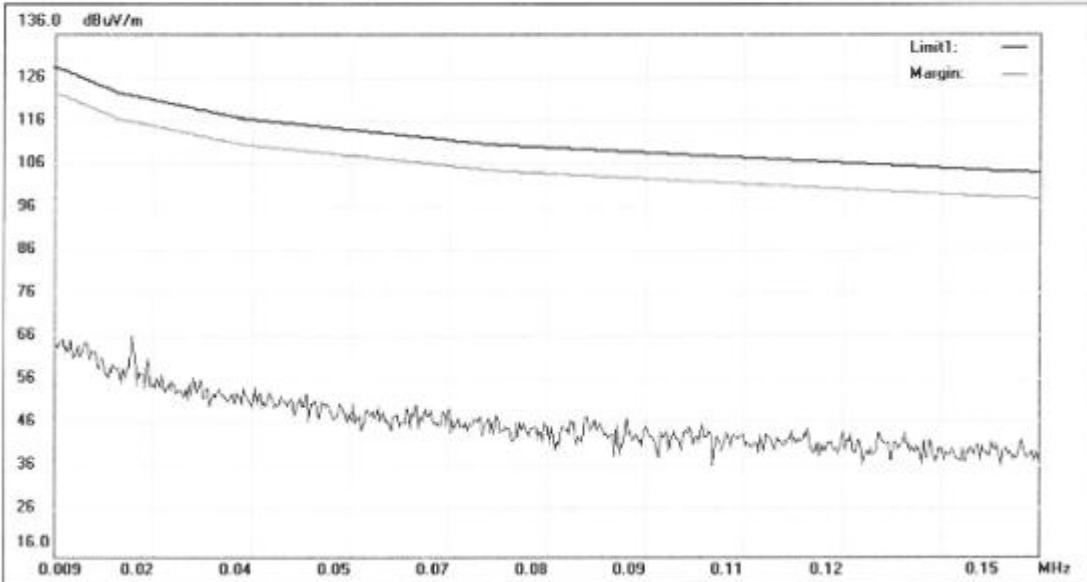


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966 (2) Chamber

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:11:23:01
Company:		EUT: Bluetooth Speaker
Model:	BeoPlay S3	Test By:
Test Mode:	GFSK TX 2402MHz	



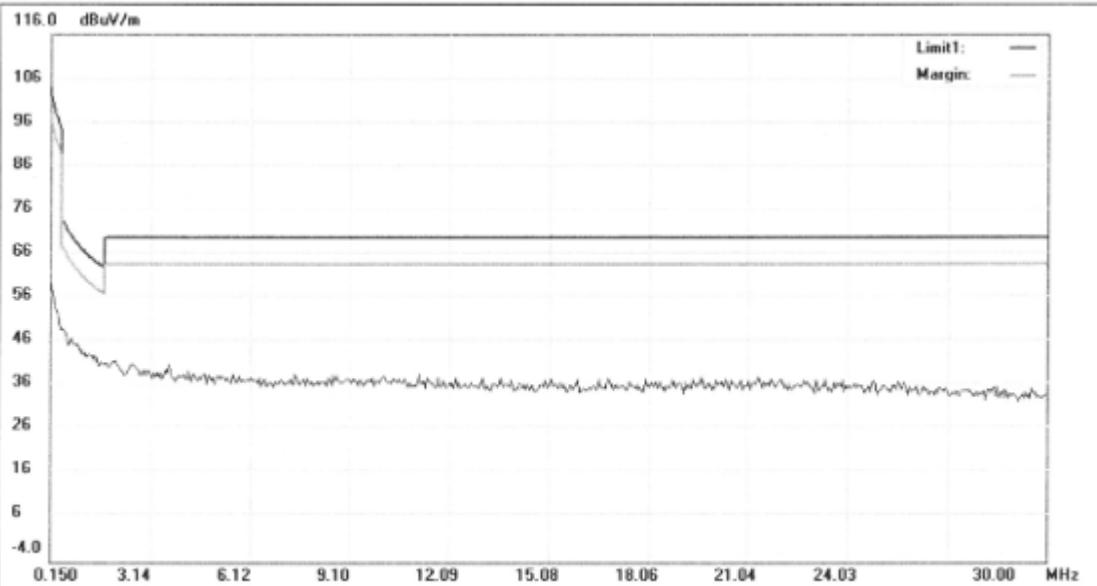


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966 (2) Chamber

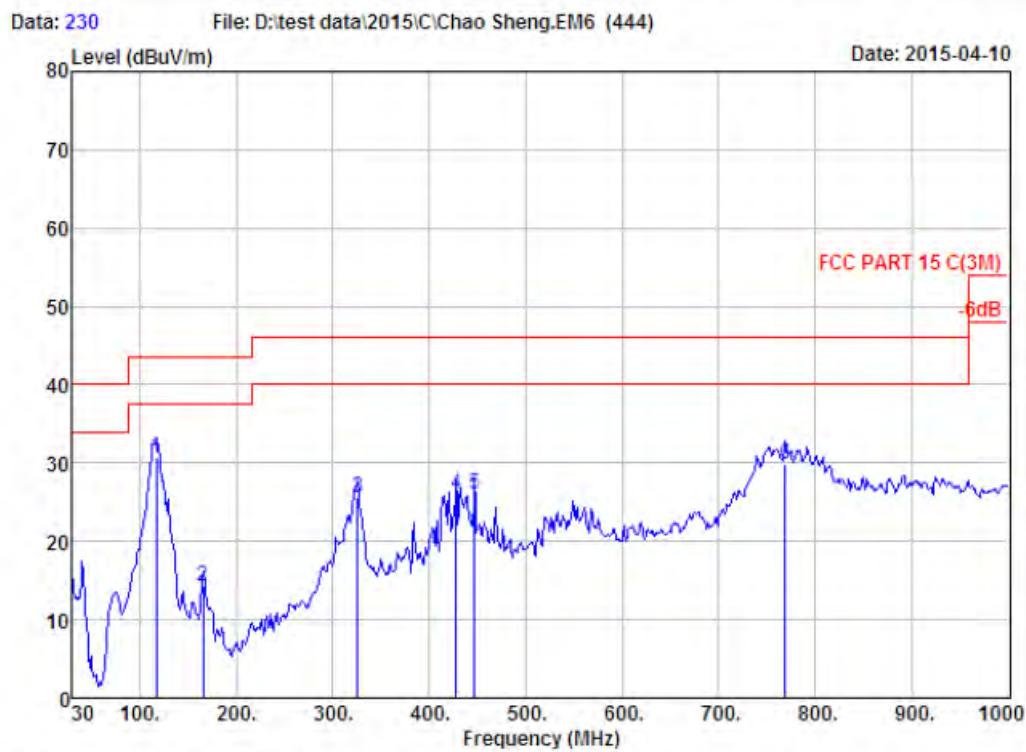
Job No.:	20150427	Ant.Polar.:
Standard:	FCC PART 15(9K-30M)	Test Distance: 3m
Test item:	Radiated Emission Measurement	Power: AC 120V/60Hz
Temp.(C)/Hum.(%RH):	24(C)/52%RH	Date:2015-4-27 Time:11:21:16
Company:		EUT: Bluetooth Speaker
Model:	BeoPlay S3	Test By:
Test Mode:	GFSK TX 2402MHz	



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

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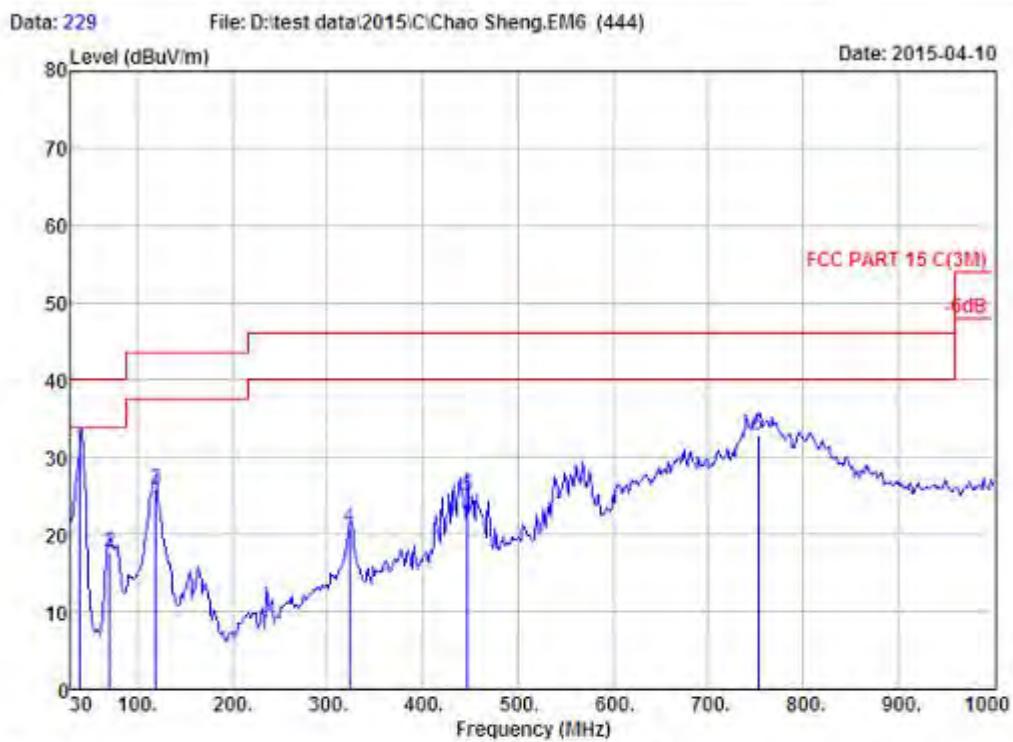
Site no. : 1# 966 chamber Data no. : 230  
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
Limit : FCC PART 15 C(3M)  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission				
			Reading (dBuV)	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**

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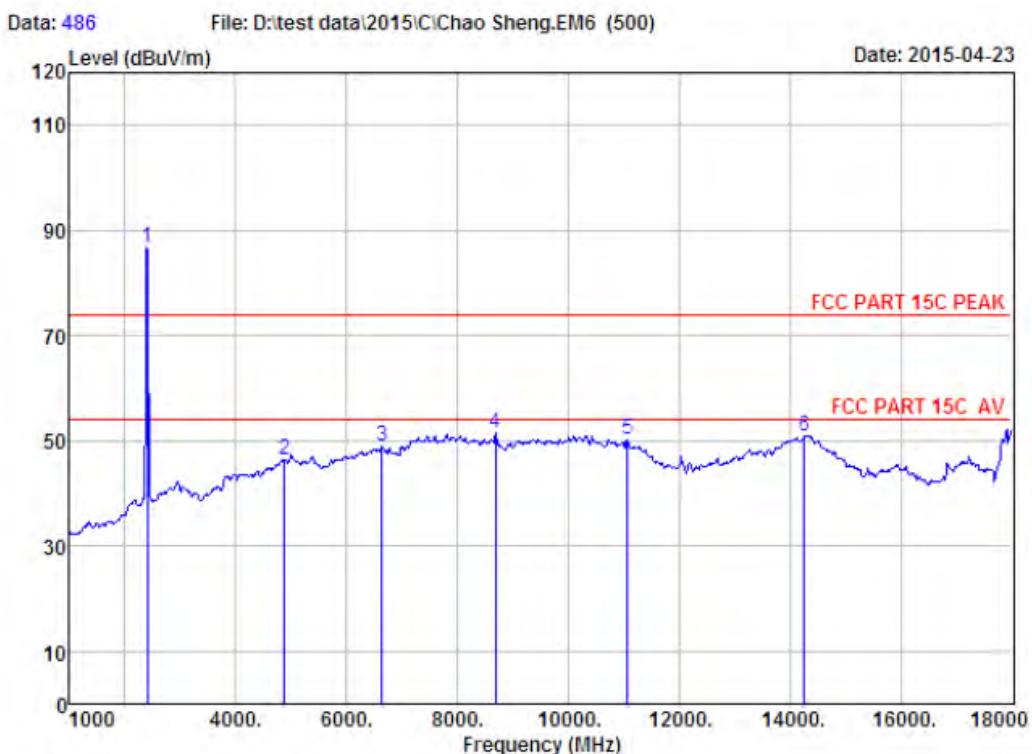
Site no. : 1# 966 chamber Data no. : 229  
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL  
Limit : FCC PART 15 C(3M)  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2402MHz

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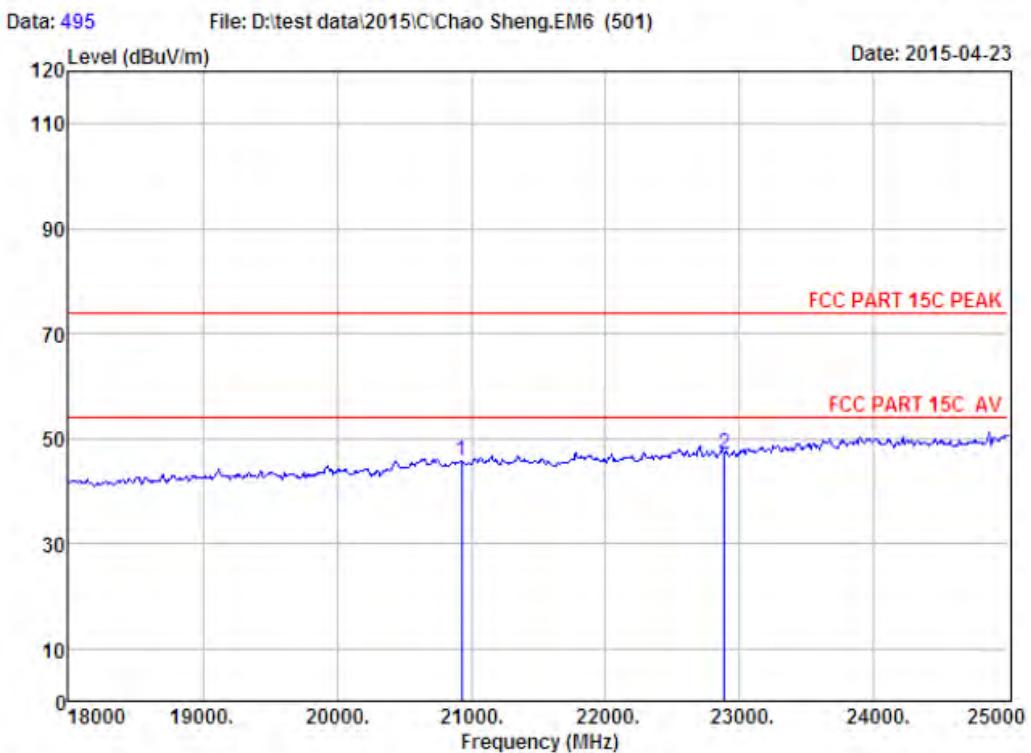
Site no. : 1# 966 chamber Data no. : 486  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)		
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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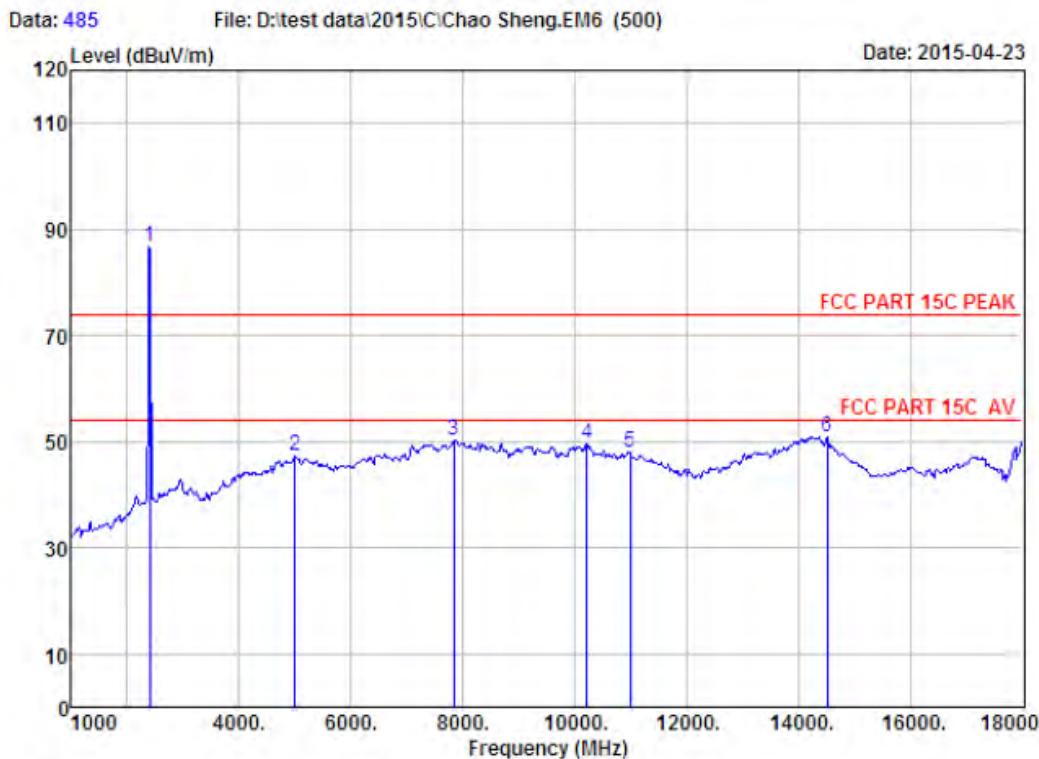
Site no. : 1# 966 chamber Data no. : 495  
Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUI : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission			Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)		
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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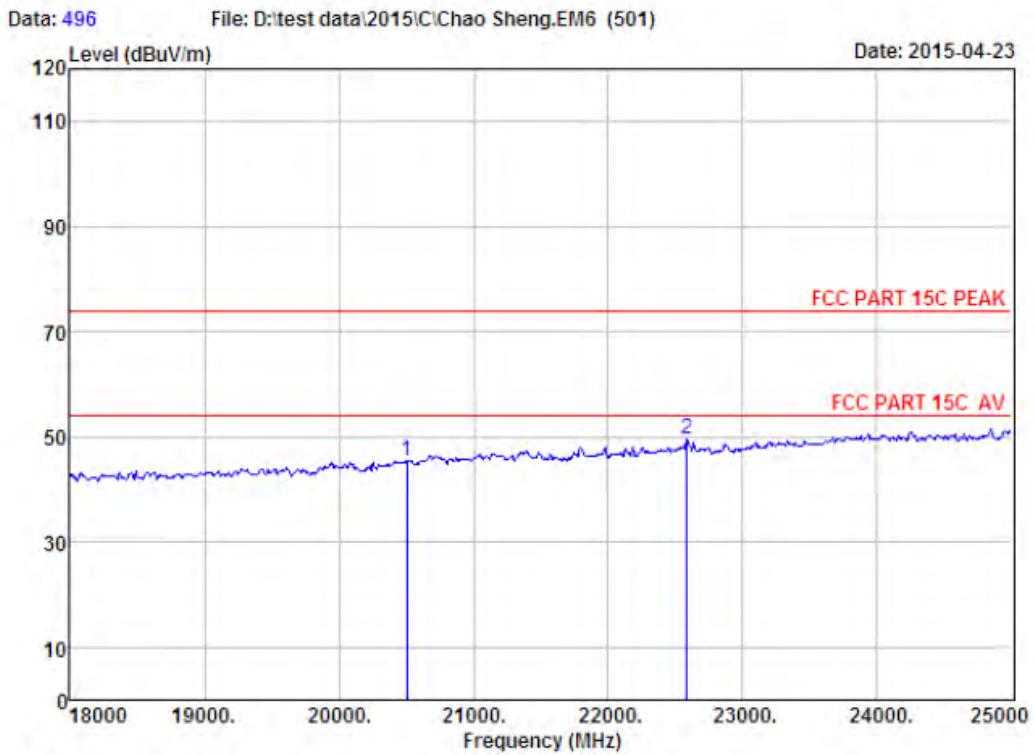
Site no. : 1# 966 chamber Data no. : 485  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2402MHz

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  
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)	Emission				Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)			
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

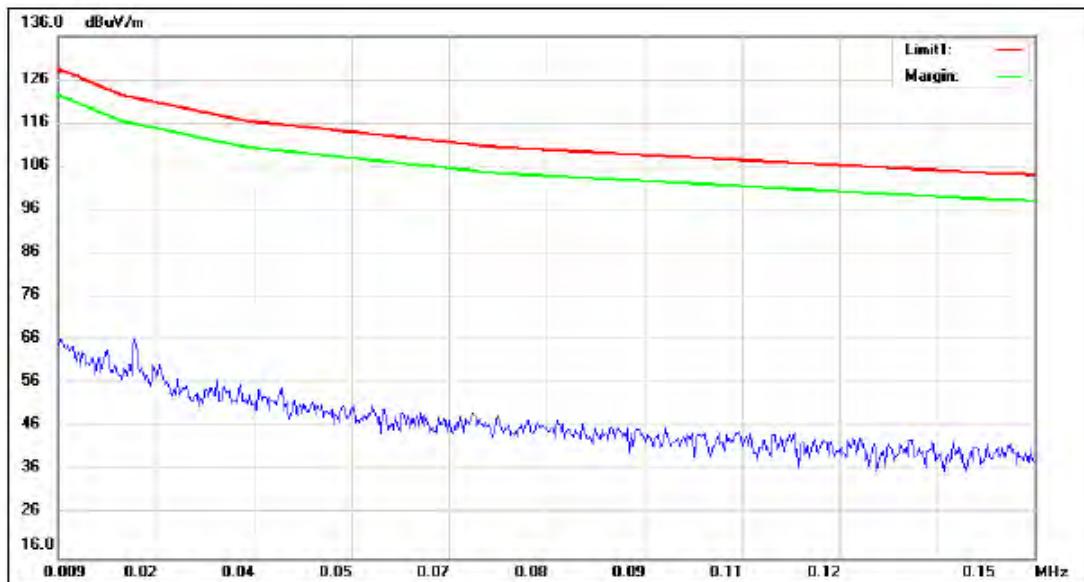
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.  
2. The emission levels that are 20dB below the official limit are not reported.

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



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



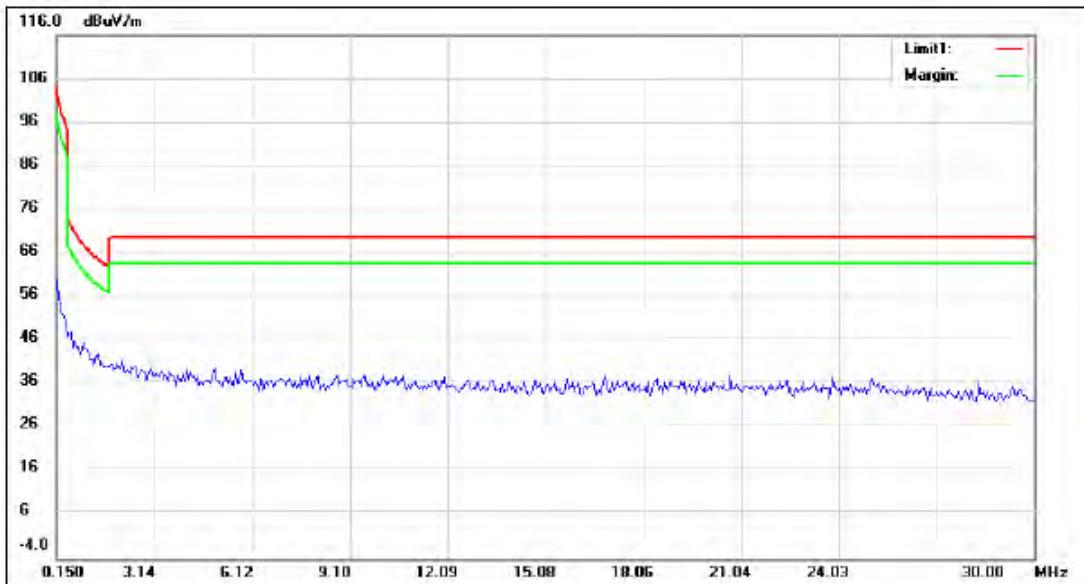


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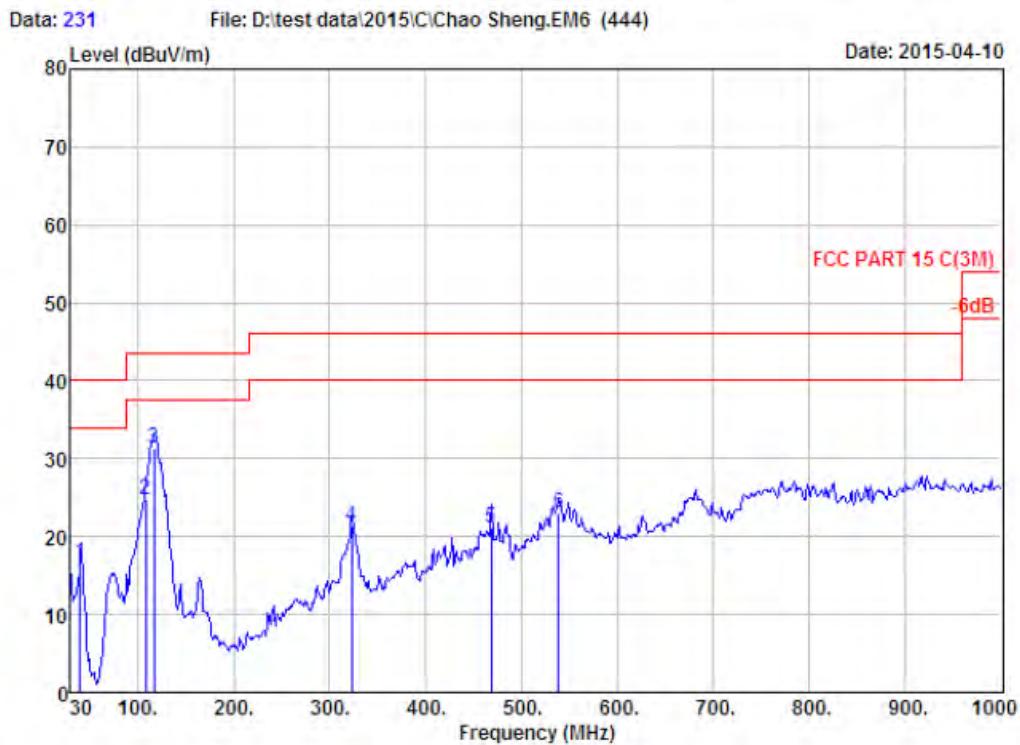
966 (2) Chamber

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:2015-4-17	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	468.44	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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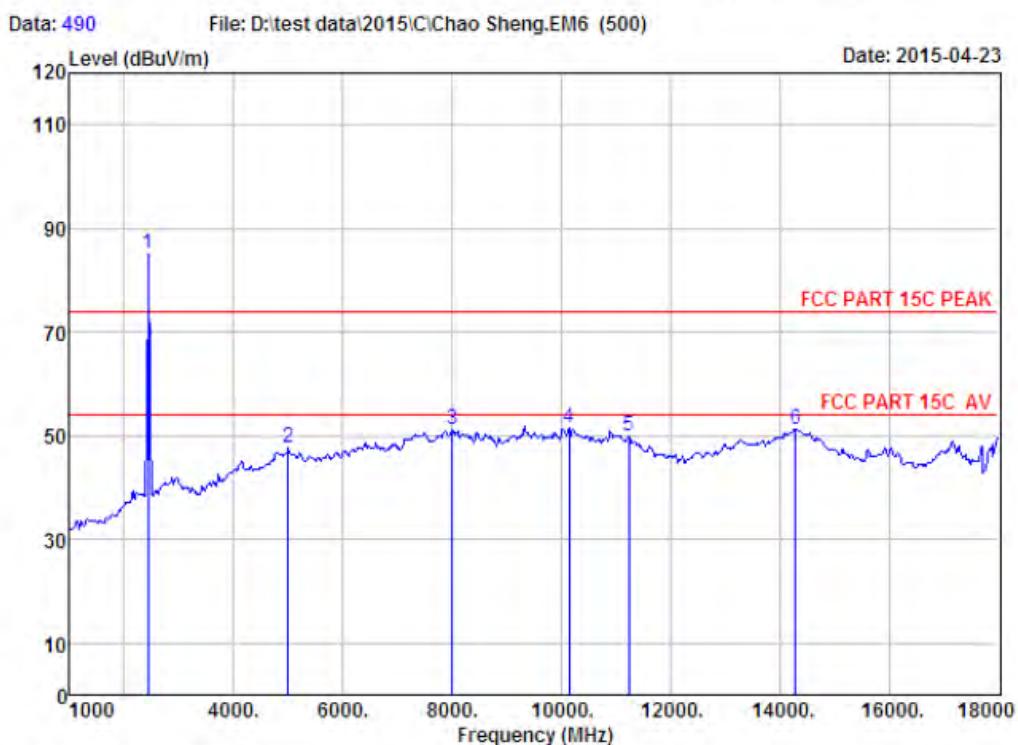
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Fax:+86-769-83081878

Site no. : 1# 966 chamber Data no. : 232  
Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL  
Limit : FCC BART 15 C(3M)  
Env. / Ins. : Temp:23.6';Hum:56%;Press:101.52kPa  
Engineer : Tony  
SUT : Bluetooch 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 41.64	11.75	0.85	18.91	31.51	40.00	8.49	QB
2 73.65	6.22	1.15	10.37	17.74	40.00	22.26	QB
3 117.80	11.02	1.47	12.26	24.75	43.50	18.75	QB
4 165.80	9.66	1.68	3.06	14.40	43.50	29.10	QB
5 322.94	13.65	2.43	4.09	20.17	46.00	25.83	QB
6 439.34	16.23	2.89	6.71	25.83	46.00	20.17	QB

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

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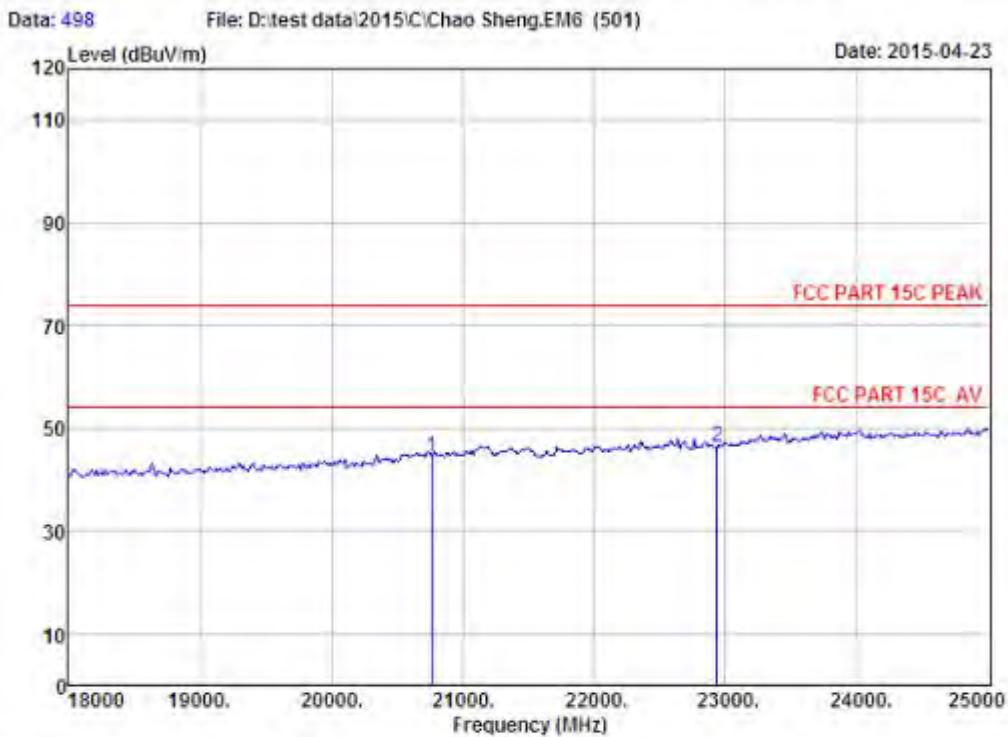
Site no. : 1# 966 chamber Data no. : 490  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2440MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission			Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)		
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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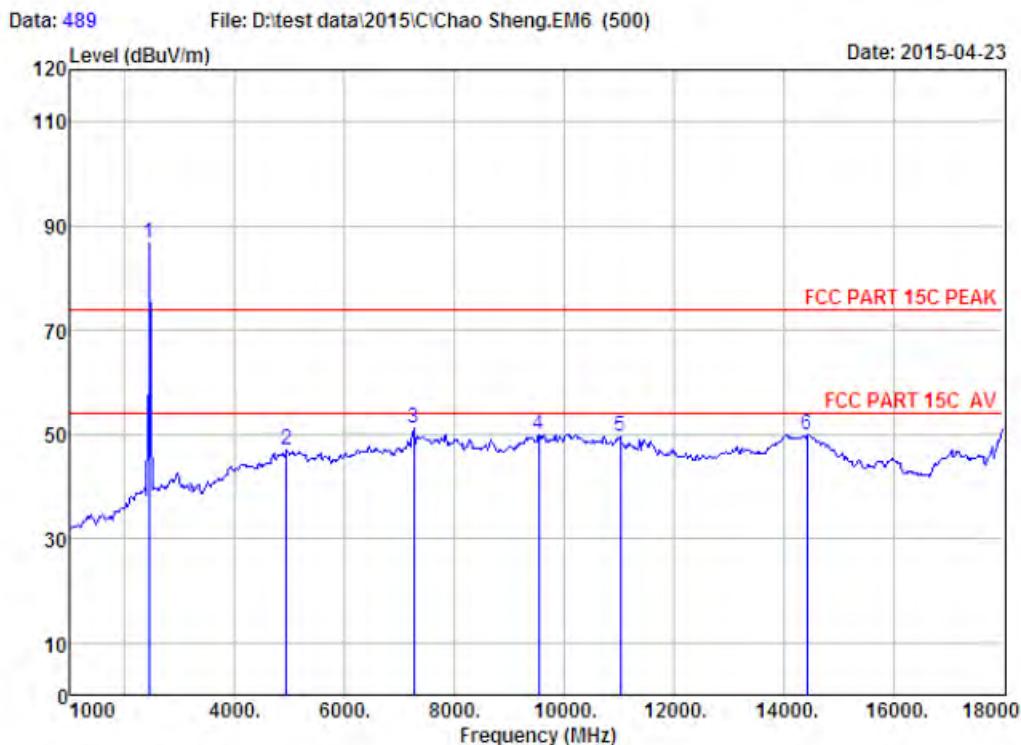
Site no. : 1# 966 chamber Data no. : 498  
Dis. / Ant. : 3m ANT ASVDE 16G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Hum:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2440MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)			
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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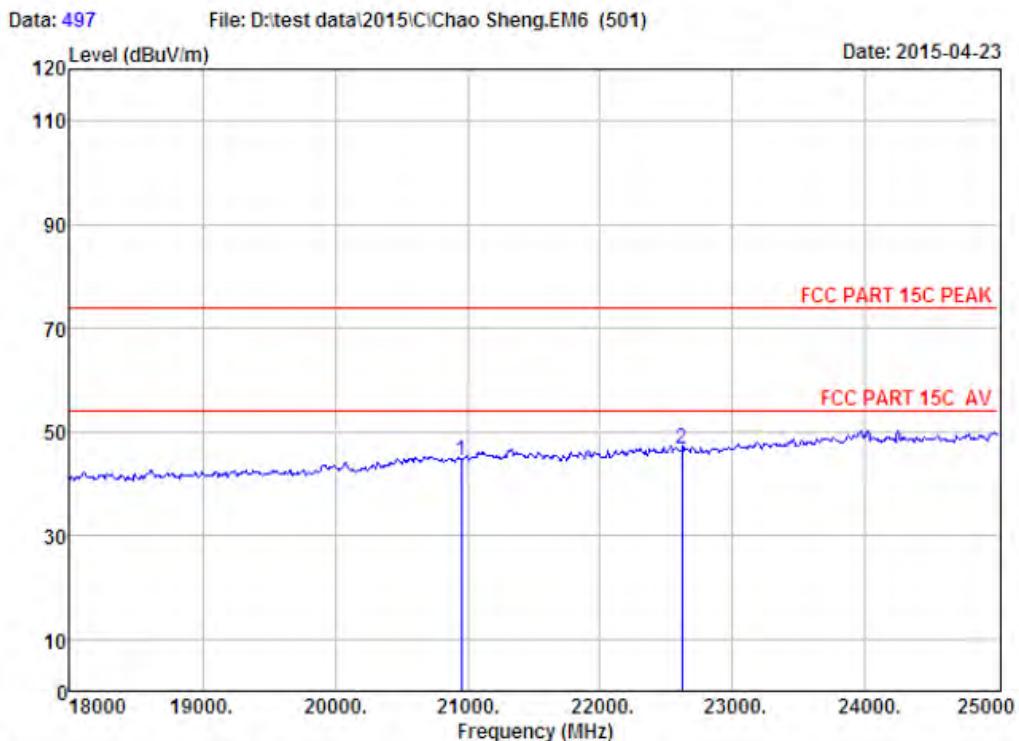
Site no. : 1# 966 chamber Data no. : 489  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2440MHz

Freq. (MHz)	Ant.			Cable		Amp			Emission		Margin (dB)	Remark
	Factor (dB/m)	Loss (dB)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)						
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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Site no. : 1# 966 chamber Data no. : 497  
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 2440MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				Margin (dB)	Remark
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)			
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)

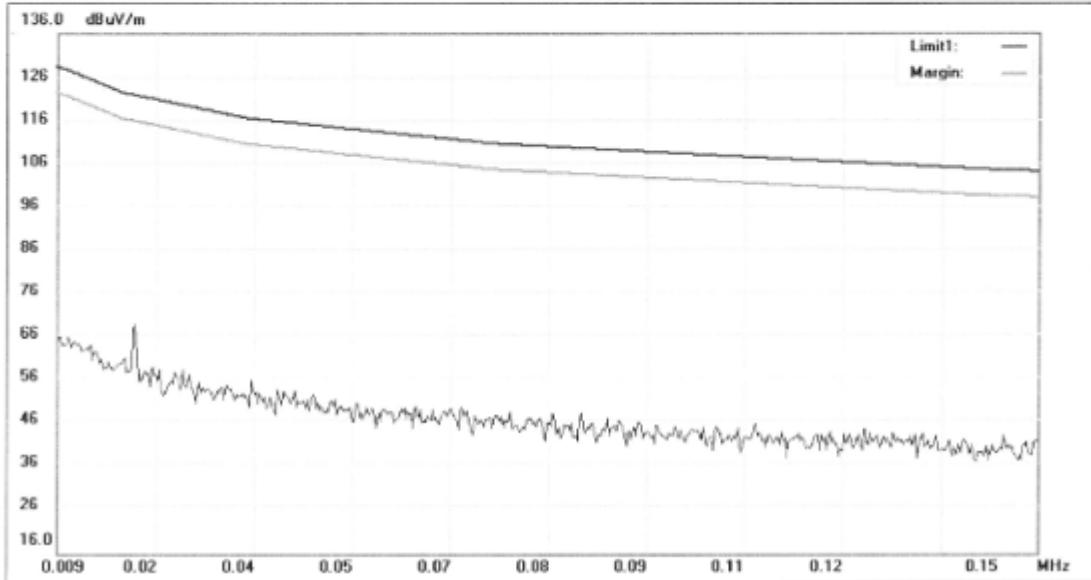


深圳康来士标准测试技术有限公司  
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966 (2) Chamber

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:11:31:05
Company:		EUT: Bluetooth Speaker
Model:	BeoPlay S3	Test By:
Test Mode:	GFSK TX 2480MHz	



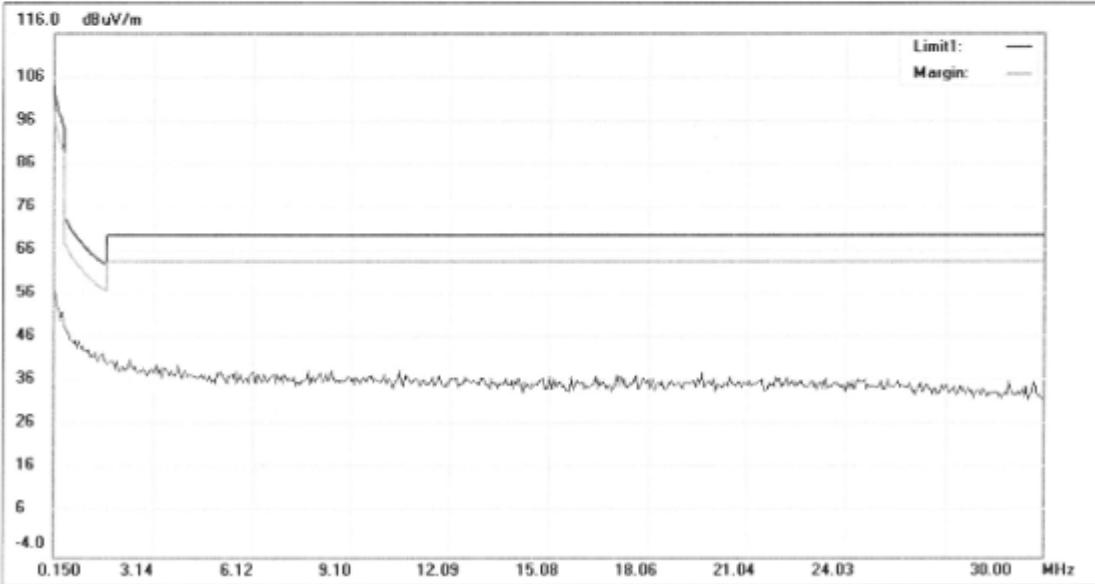


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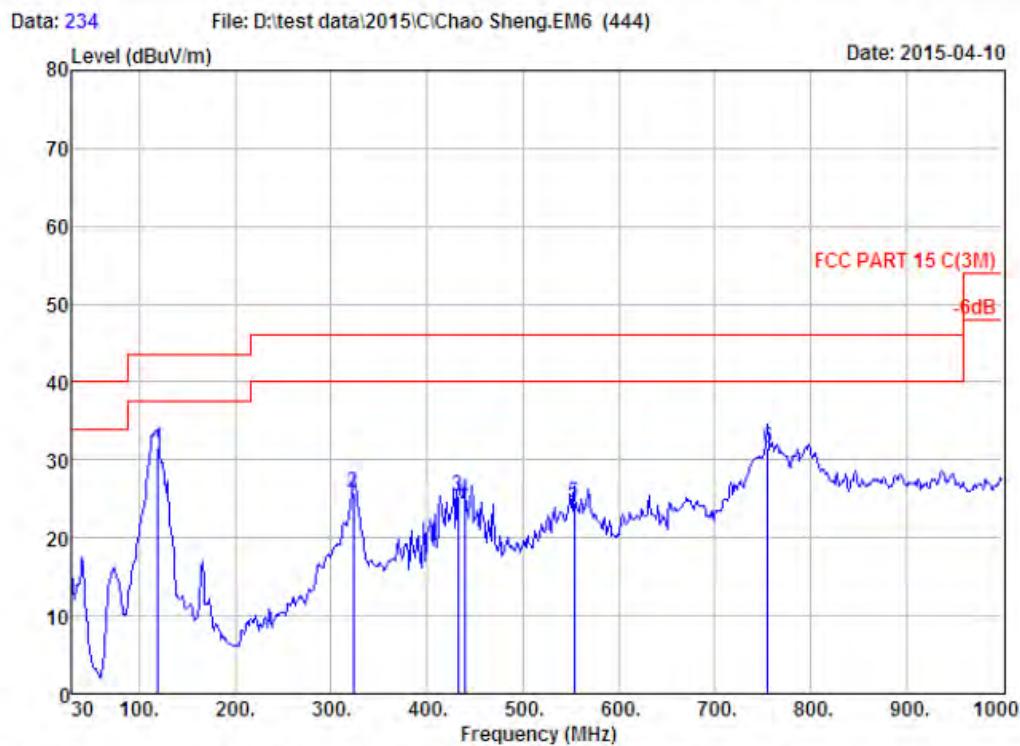
966 (2) Chamber

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:11:29:17
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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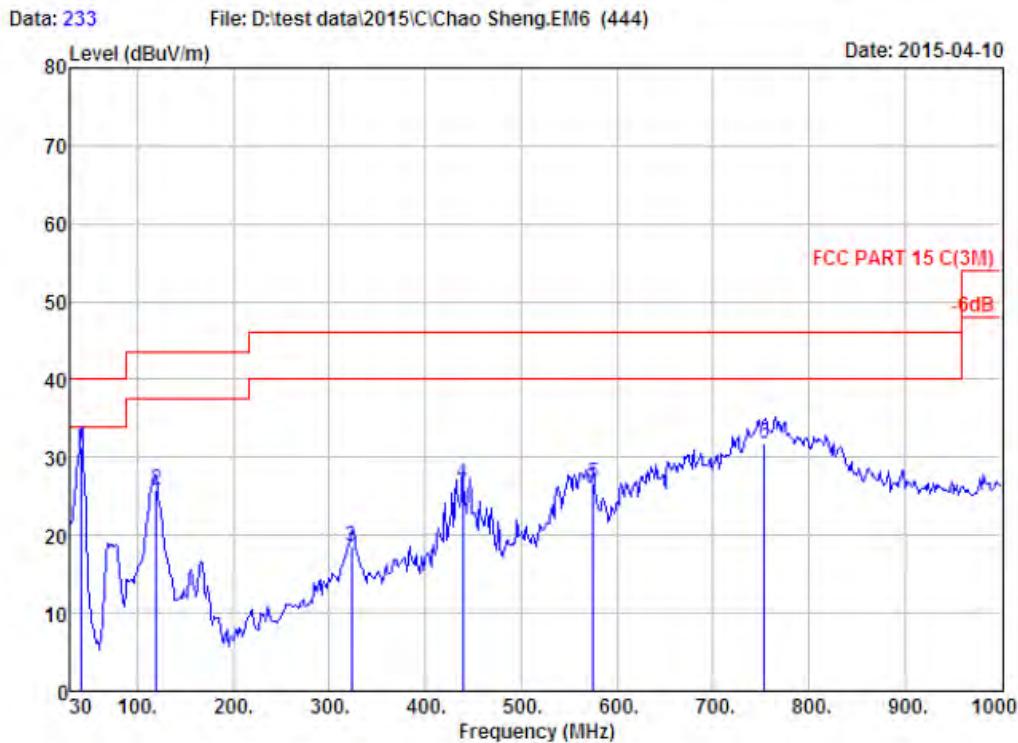
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Houjie, Dongguan, Guangdong, China  
Tel: +86-769-83081888  
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Site no. : 1# 966 chamber Data no. : 234  
Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
Limit : FCC PART 15 C(3M)  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 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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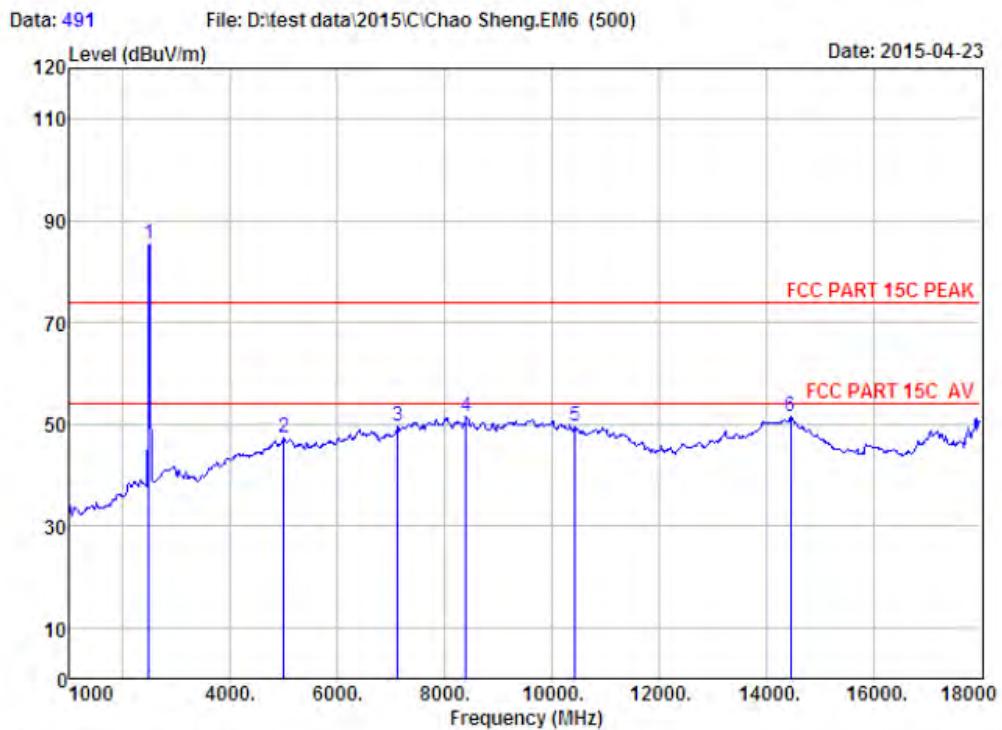
Chilingxiang, Qishantou, Santun,  
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Fax:+86-769-83081878

Site no. : 1# 966 chamber Data no. : 233  
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	18.83	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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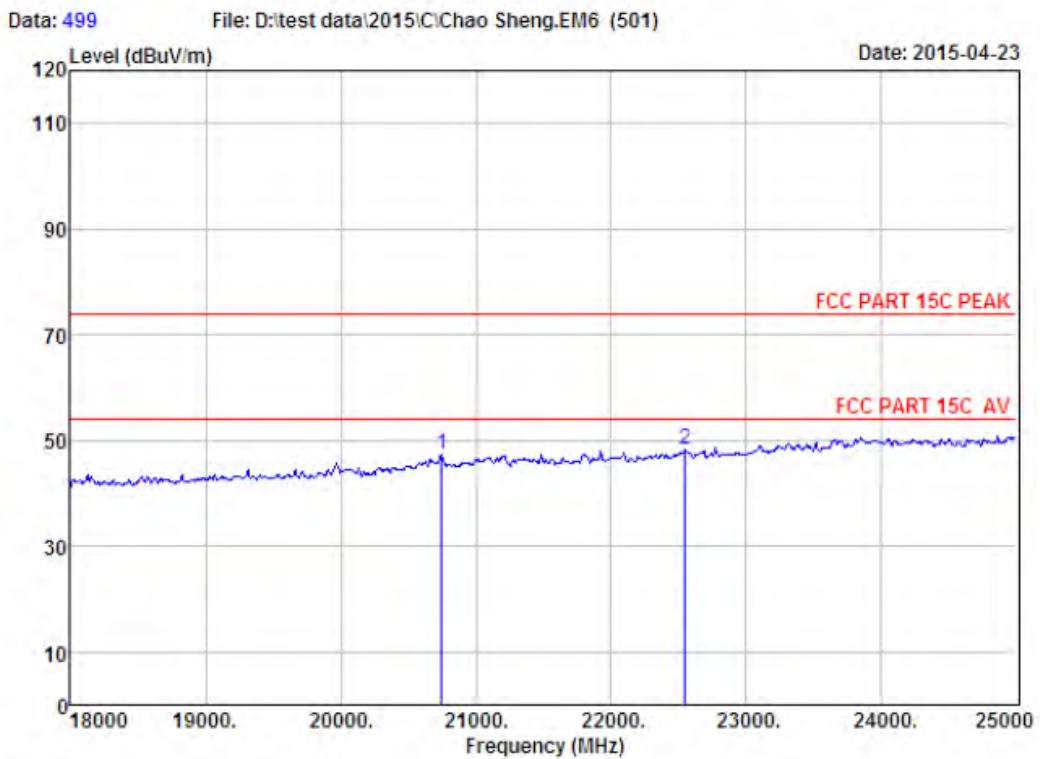
Site no. : 1# 966 chamber Data no. : 491  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2480MHz

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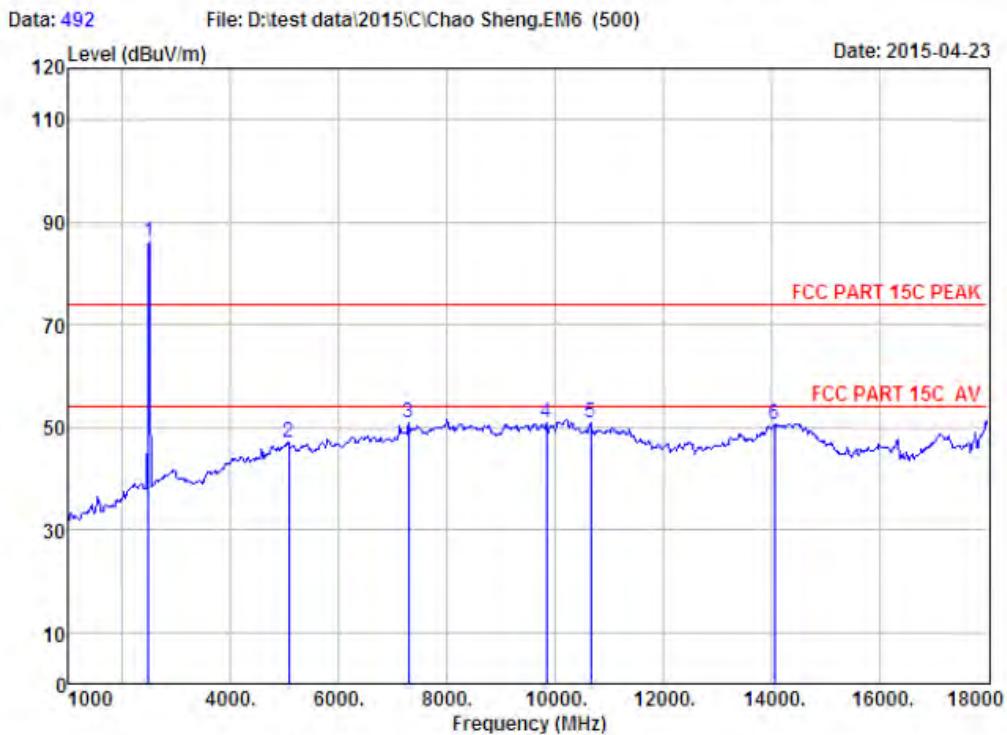
Site no. : 1# 966 chamber Data no. : 499  
Dis. / Ant. : 3m ANT ABVOE 18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2480MHz

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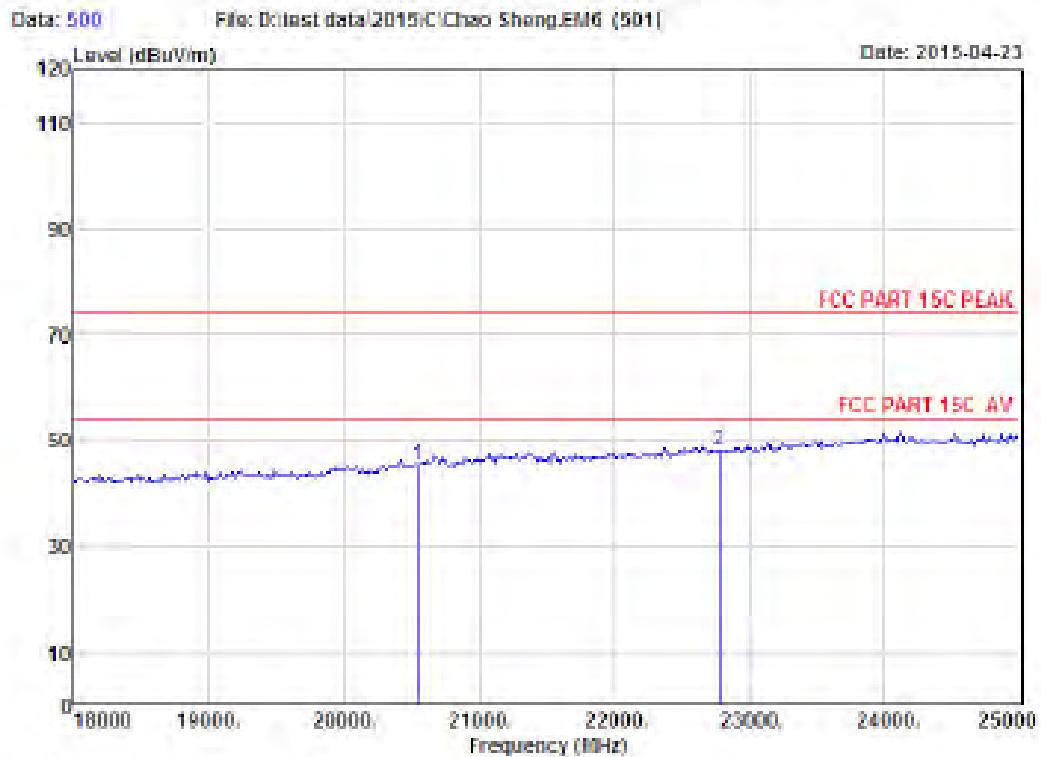
Site no. : 1# 966 chamber Data no. : 492  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2480MHz

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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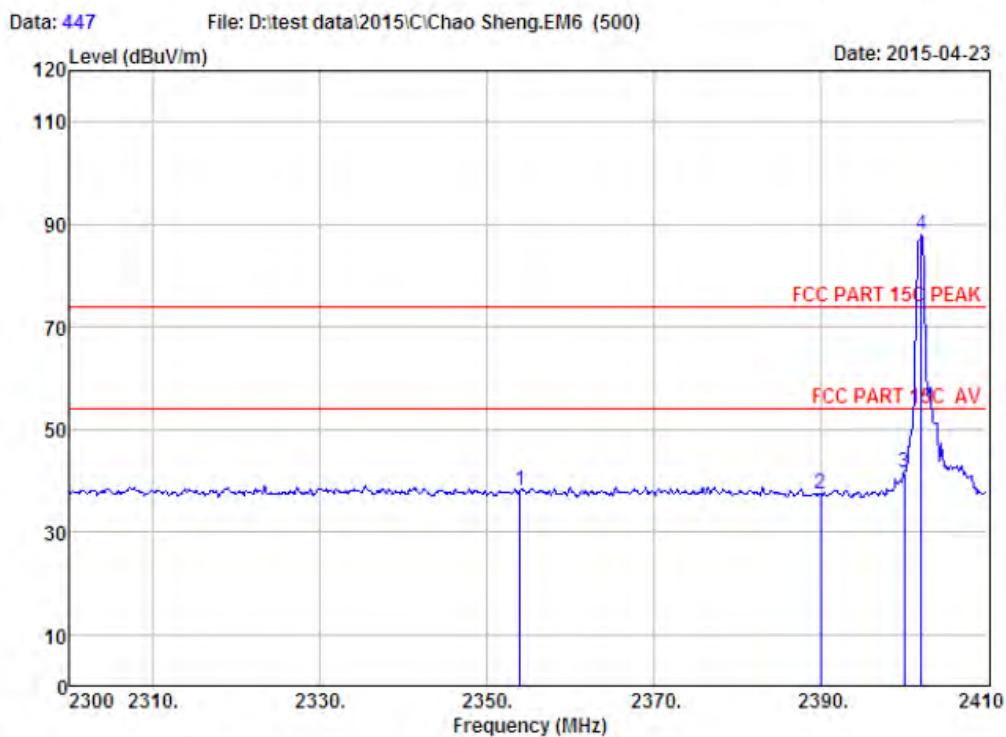
Site no. : L+ 966 chamber Data no. : 500  
Dis. / Ant. : 3m ANT ABOVE LEG Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Inc. : Temp:18.6'/Bar:100kPa/Press:101.3kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120W/60Hz  
N/M : EcoPlay 38  
Test Mode : GPSW TX 2490MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBdV)	Emission				Margin (dB)	Remark
					Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Margin (dB)		
20548.00	46.03	19.93	36.21	15.43	45.23	74.00	28.77	26.16	Peak	Peak
22751.00	45.69	21.02	34.03	15.23	47.35	74.00	26.16	26.16	Peak	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 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)

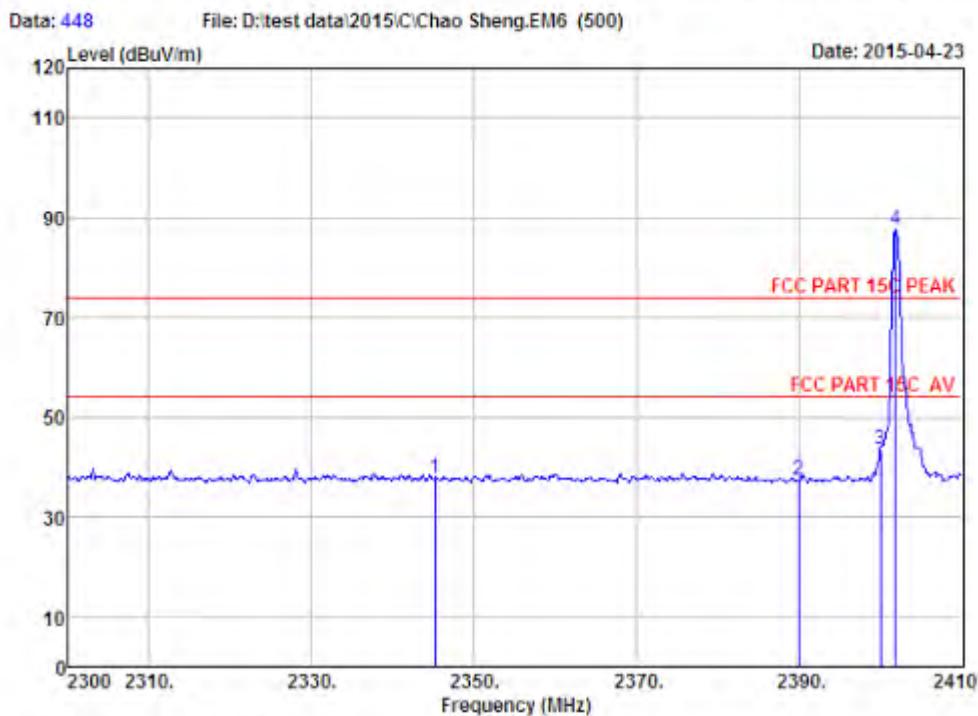
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission			
					Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2354.01	27.70	6.58	34.22	38.07	38.13	74.00	35.87	Peak
2 2390.00	27.64	6.62	34.19	37.47	37.54	74.00	36.46	Peak
3 2400.00	27.61	6.62	34.18	41.66	41.71	74.00	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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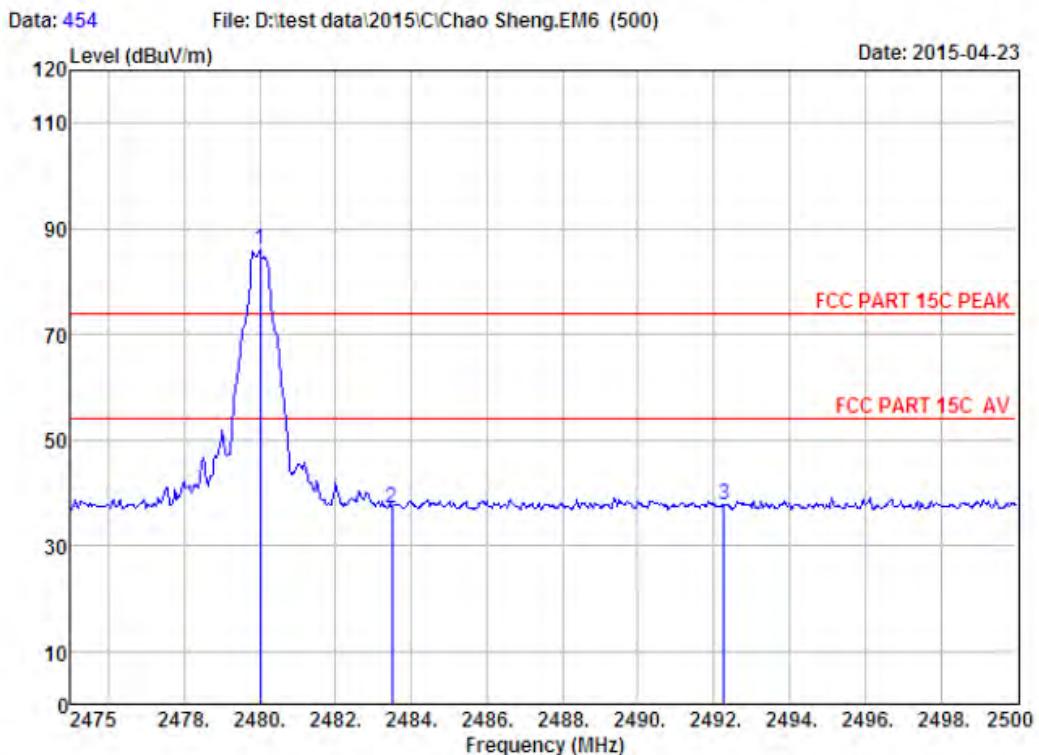
Site no. : 1# 966 chamber Data no. : 448  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUI : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2402MHz(No Hopping)

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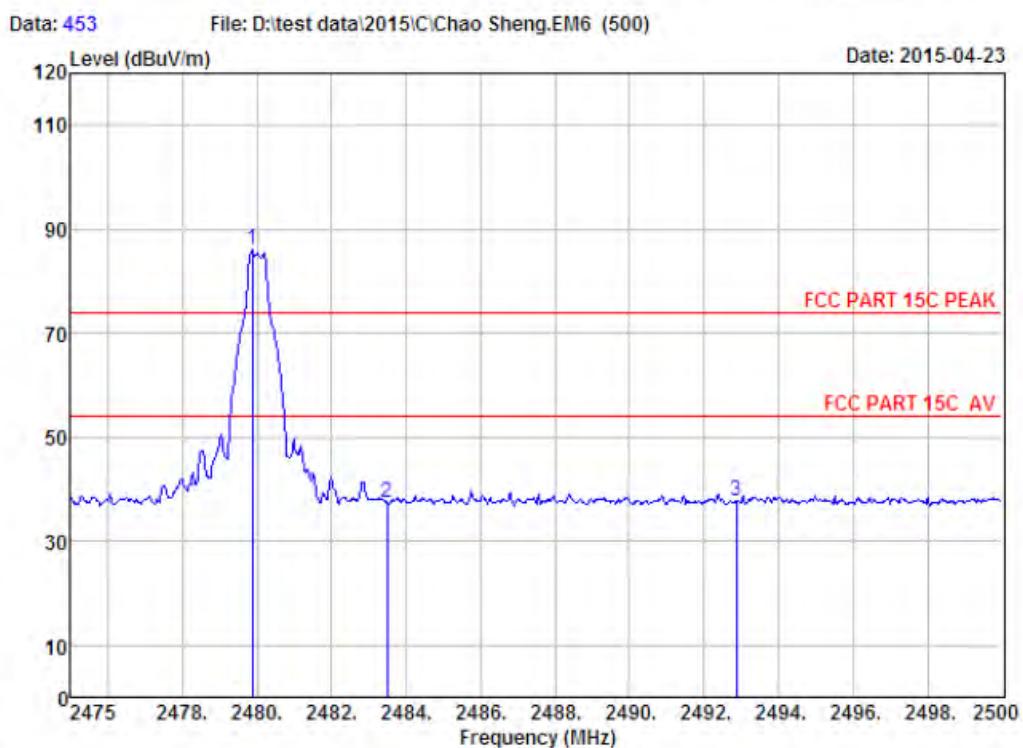
Site no. : 1# 966 chamber Data no. : 454  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2480MHz(No Hopping)

	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	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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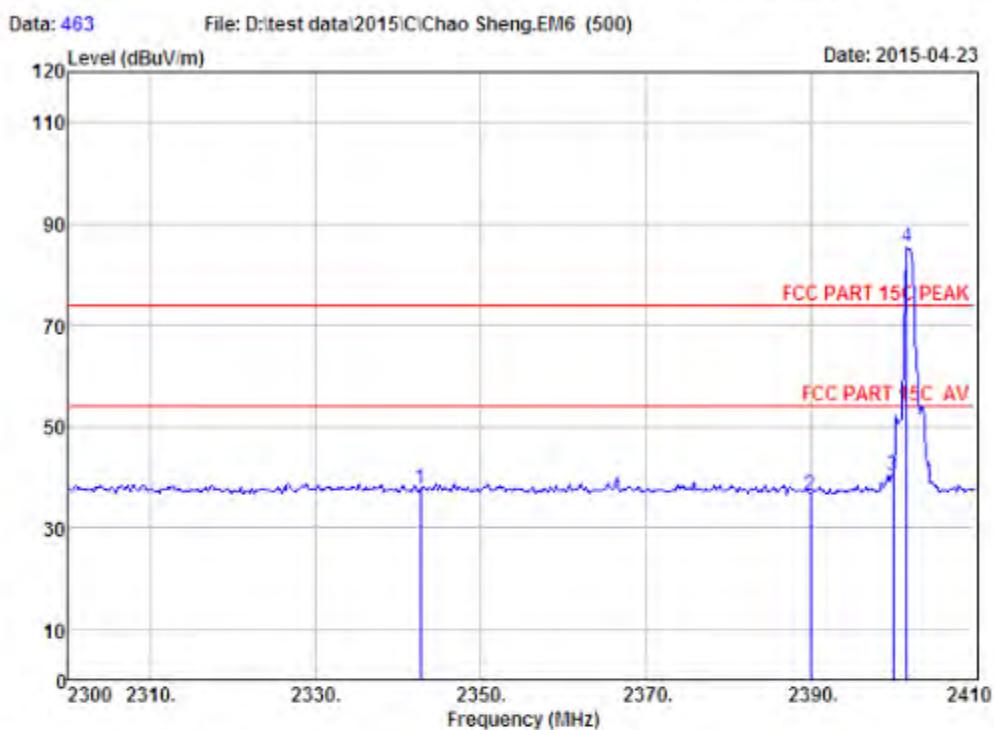
Site no. : 1# 966 chamber Data no. : 453  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2480MHz(No Hopping)

	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	2492.08	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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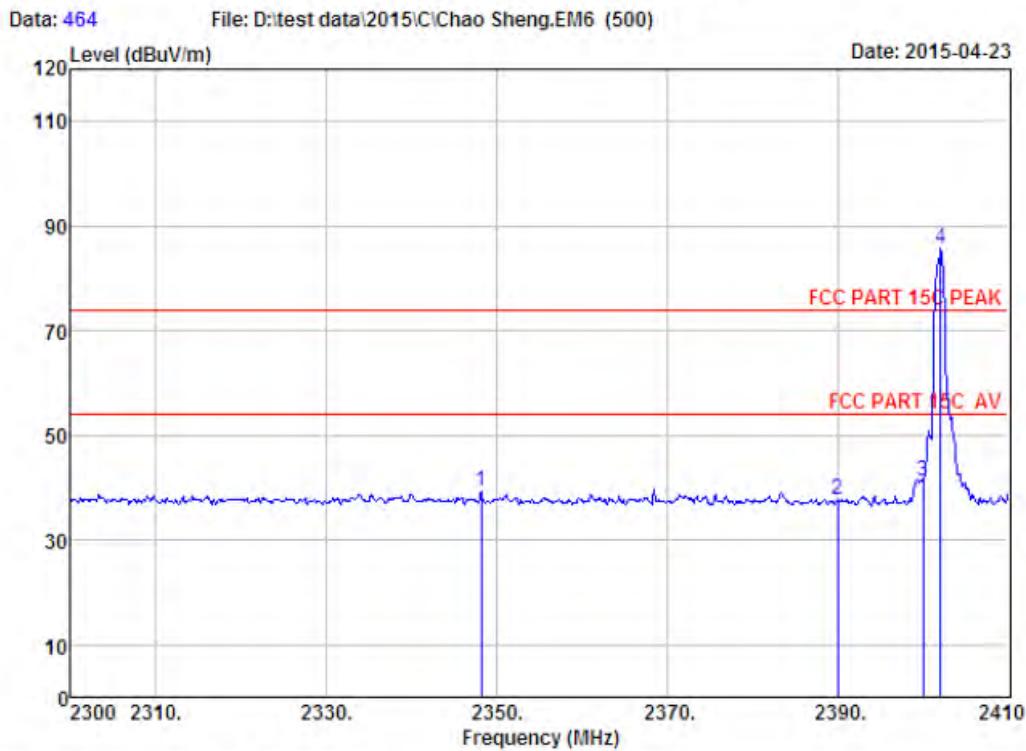
Site no. : 1# 966 chamber Data no. : 463  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : SecPlay S3  
Test Mode : 2-DPSK IX 2402MHz(No Hopping)

	Freq. (MHz)	Ant. (dB/m)	Cable (dB)	Amp (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2342.68	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)

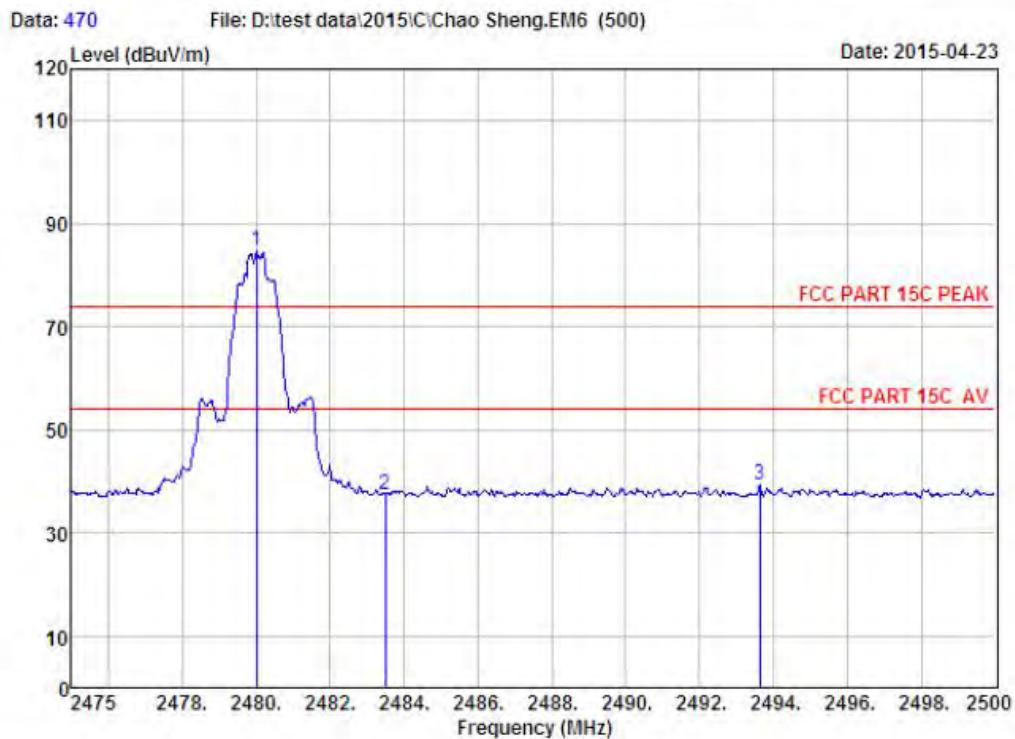
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission			
					Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2348.18	27.70	6.56	34.22	39.41	39.45	74.00	34.55	Peak
2 2390.00	27.64	6.62	34.19	37.65	37.72	74.00	36.28	Peak
3 2400.00	27.61	6.62	34.18	41.30	41.35	74.00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

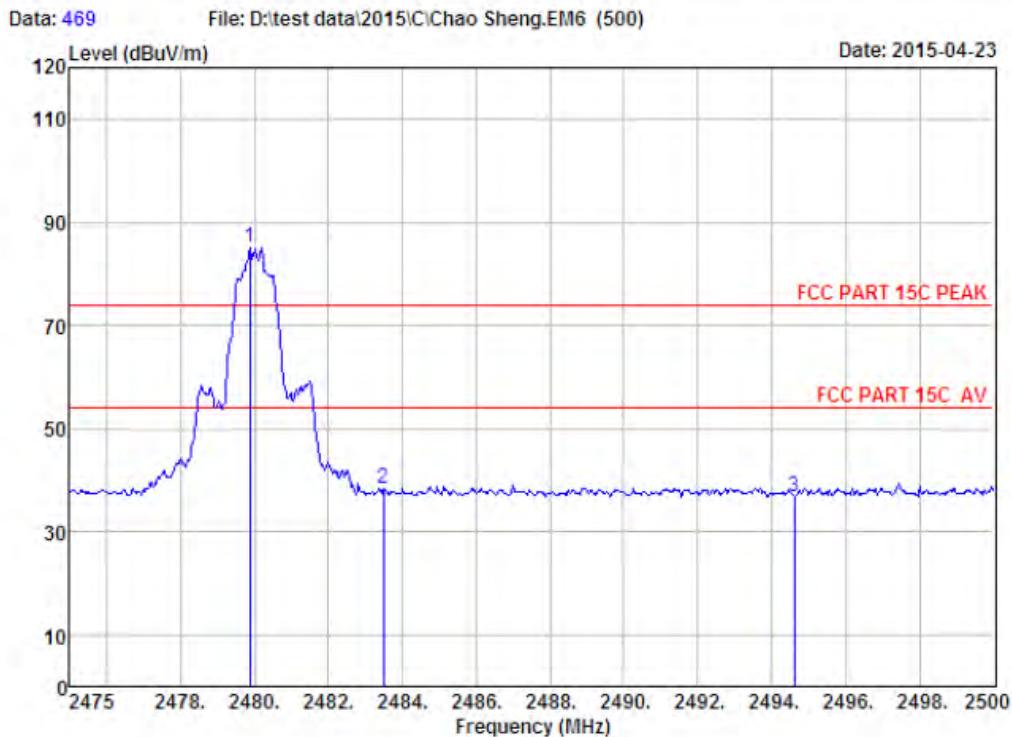
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2480.00	27.58	6.71	34.03	84.58	84.84	74.00	-10.84	Peak
2 2483.50	27.58	6.71	34.03	37.22	37.48	74.00	36.52	Peak
3 2493.63	27.58	6.73	34.03	39.14	39.42	74.00	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  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : 8-DPSK TX 2480MHz(No Hopping)

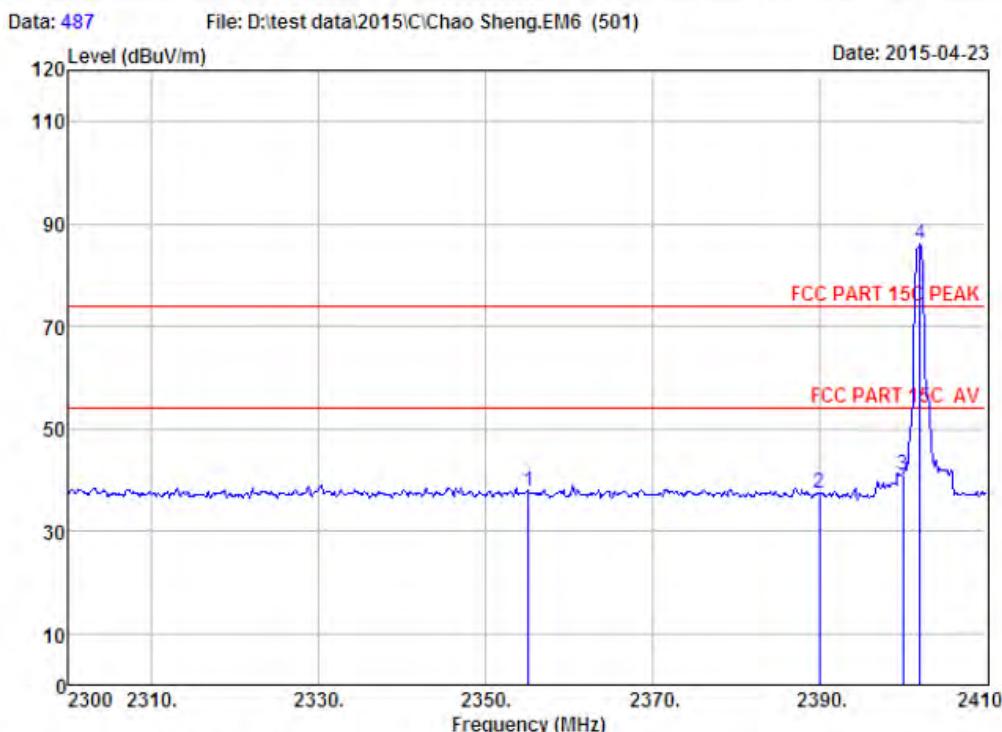
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission				Remark
					Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)		
1	2479.88	27.58	6.71	34.03	84.91	85.17	74.00	-11.17	Peak
2	2483.50	27.58	6.71	34.03	37.98	38.24	74.00	35.76	Peak
3	2494.60	27.57	6.73	34.00	36.66	36.96	74.00	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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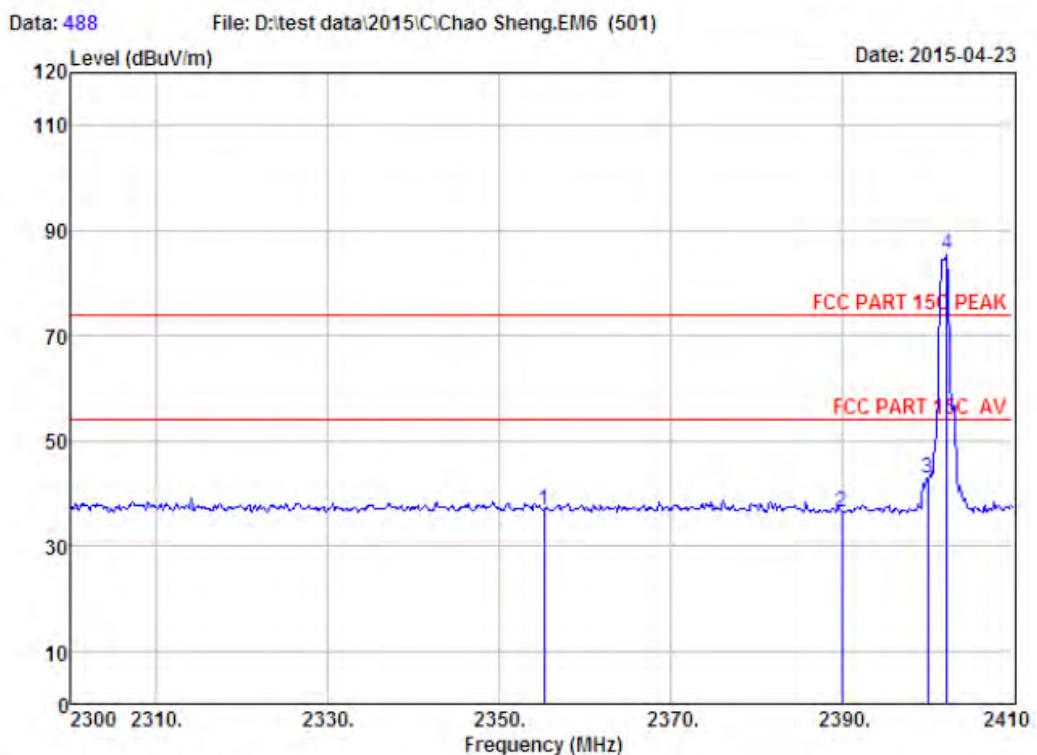
Site no. : 1# 966 chamber Data no. : 487  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2402MHz

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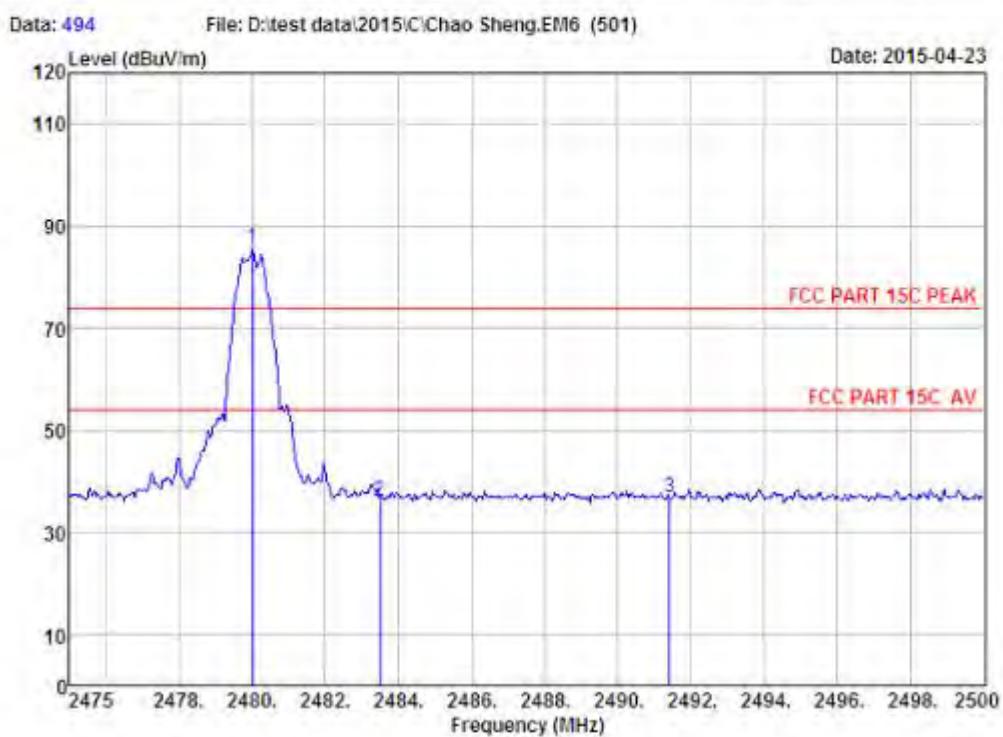
Site no. : 1# 966 chamber Data no. : 488  
Dis. / Ant. : 3m ANT 1-18G Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2402MHz

	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	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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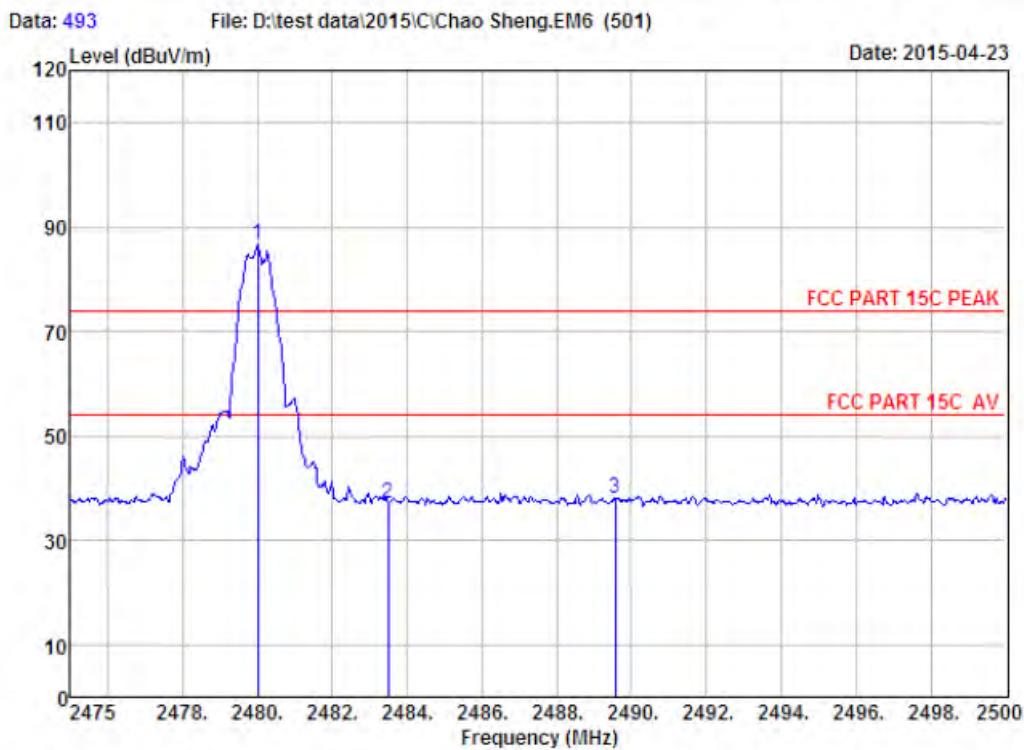
Site no. : 1# 966 chamber Data no. : 494  
Dis. / Ant. : 3m ANT 1-16G Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : Temp:23.6';Humi:56%;Press:101.52kPa  
Engineer : Tony  
EUT : Bluetooth Speaker  
Power : AC 120V/50Hz  
M/N : BeoPlay S3  
Test Mode : GFSK IX 2480MHz

	Freq.	Ant. (MHz)	Cable (dB/m)	Amp (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  
EUT : Bluetooth Speaker  
Power : AC 120V/60Hz  
M/N : BeoPlay S3  
Test Mode : GFSK TX 2480MHz

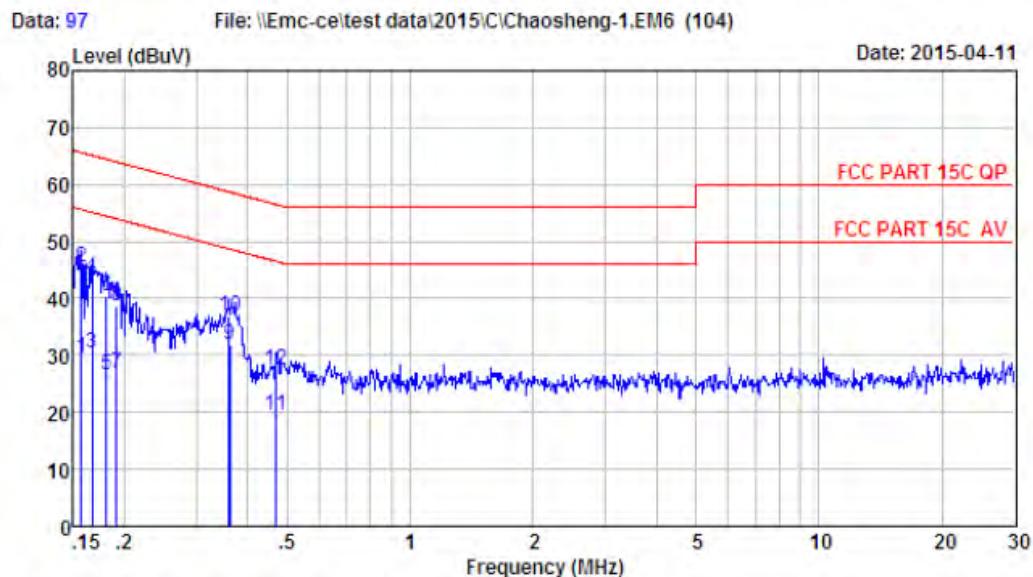
Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission			
					Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	34.03	86.50	86.76	74.00	-12.76 Peak
2	2483.50	27.58	6.71	34.03	36.71	36.97	74.00	37.03 Peak
3	2489.58	27.58	6.73	34.03	37.83	38.11	74.00	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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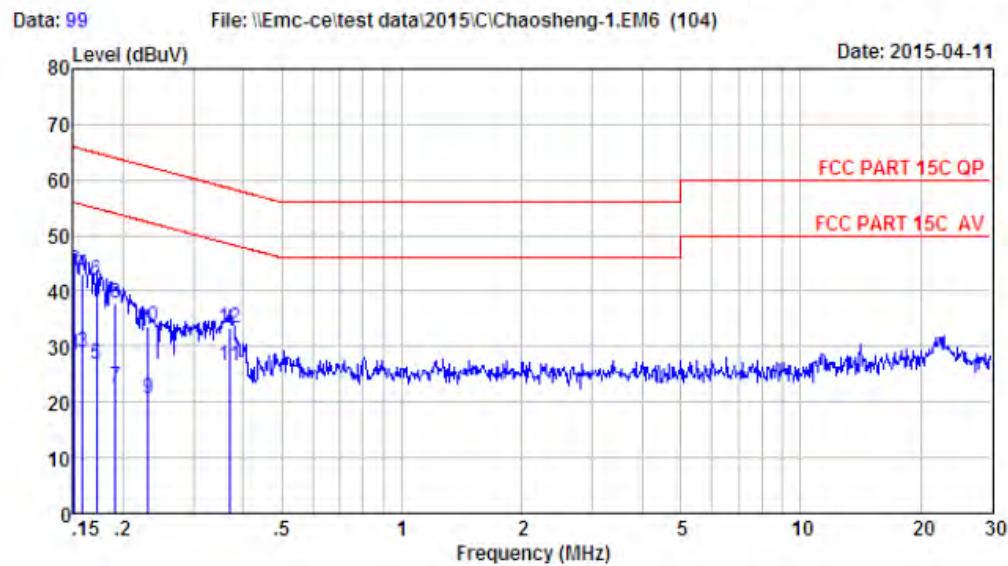
Site no : 844 Shield Room  
Env. / Ins. : Temp:23.6';Hum:56%;Press:101.52kPa LINE  
Limit : FCC PART 15C QP  
Engineer : Tony  
EUT : Bluetooth Speaker  
M/N : AC 120V/60Hz  
Power : BeoPlay S3  
Test Mode : TX Mode

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	29.40	55.65	26.25	Average
2	0.16	9.61	9.81	25.98	45.40	20.25	QP
3	0.17	9.61	9.81	11.13	30.55	24.57	Average
4	0.17	9.61	9.81	24.13	43.55	21.57	QP
5	0.18	9.61	9.80	7.09	26.50	27.96	Average
6	0.18	9.61	9.80	21.09	40.50	23.96	QP
7	0.19	9.61	9.80	7.37	26.78	27.20	Average
8	0.19	9.61	9.80	19.37	38.78	25.20	QP
9	0.36	9.61	9.82	12.42	31.85	16.84	Average
10	0.36	9.61	9.82	17.42	36.85	21.84	QP
11	0.47	9.61	9.81	0.02	19.44	27.05	Average
12	0.47	9.61	9.81	8.02	27.44	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 : TX Mode

	LISN	Cable	Emission					
Freq. (MHz)	Factor (dB/m)	Loss (dB)	Reading (dBuV)	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