
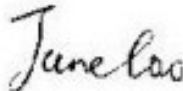
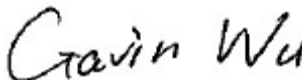




### TEST REPORT

<b>Report No.:</b>	<b>EM201300517-8</b>	<b>Application No.:</b>	<b>ZJ00032392</b>
<b>Client:</b>	Harman International Industries, Incorporated		
<b>Address:</b>	8500 Balboa Blvd, Northridge, CA 91329, United States		
<b>Sample Description:</b>	Bluetooth headset		
<b>Model:</b>	J46BT		
<b>Adding Model:</b>	/		
<b>FCC ID</b>	APIJ46BT		
<b>Test Specification:</b>	FCC Part 15,Subpart C:2012 (Section 15.247)		
<b>Test Date:</b>	2013-07-27 to 2013-08-07		
<b>Issue Date:</b>	2013-08-08		
<b>Test Result:</b>	<i>Pass.</i>		
<b>Prepared By:</b>	<b>Reviewed By:</b>	<b>Approved By:</b>	
Lynn Xiao / Test Engineer	Jane Cao / Test Engineer	Gavin Wu / Manager	
			
Date:2013-08-08	Date:2013-08-08	Date:2013-08-08	
<b>Other Aspects:</b>			
/			
<b>Abbreviations:</b> ok / P = passed; fail / F = failed; n.a. / N = not applicable			
<b>The test result in this test report refers exclusively to the presented test sample. This report shall not be reproduced except in full, without the written approval of GRGT.</b>			

## **DIRECTIONS OF TEST**

1. This station carries out test task according to the national regulation of verifications which can be traced to National Primary Standards and BIPM.
2. The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test result without the written permission of the test laboratory.
3. If there is any objection concerning the test, the client should inform the laboratory within 15 days from the date of receiving the test report.

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**1. TEST RESULT SUMMARY**

<b>Section B of FCC Part 15.247:2013</b>			
<b>Standard</b>	<b>Item</b>	<b>Limit / Severity</b>	<b>Result</b>
FCC Part 15,Subpart C (15.247)	Antenna Requirement	Section 15.247 (c)	PASS
	Occupied Bandwidth	Section 15.247 (a1)	PASS
	Carrier Frequencies Separated	Section 15.247(a)(1)	PASS
	Hopping Channel Number	Section 15.247(a)(1)(iii)	PASS
	Dwell Time	Section 15.247(a)(1)(iii)	PASS
	Maximum Peak Output Power	Section 15.247(b)(1)	PASS
	Conducted Emission	Section 15.207	N/A
	Conducted Spurious Emission (30MHz to 25GHz)	Section 15.209 &15.247(d)	PASS
	Radiated Spurious Emission (30MHz to 25GHz)	Section 15.209 &15.247(d)	PASS
Band Edges Measurement	Section 15.247 (d) &15.205	PASS	

## 2. GENERAL DESCRIPTION OF EUT

### 2.1 APPLICANT

Name: Harman International Industries, Incorporated  
Address: 8500 Balboa Blvd, Northridge, CA 91329, United States

### 2.2 MANUFACTURER

Name: Harman International Industries, Incorporated  
Address: 8500 Balboa Blvd, Northridge, CA 91329, United States

### 2.3 BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Equipment: Bluetooth headset  
Model No.: J46BT  
Trade Name: JBL  
Power supply: DC USB 5V  
Frequency Range: 2402MHz~2480MHz  
Type of Modulation: GFSK  
Channels: Channels with 2MHz step  
Antenna Type: Ceramic antenna

### 3. LABORATORY AND ACCREDITATIONS

#### 3.1 LABORATORY

The tests and measurements refer to this report were performed by Guangzhou GRG Metrology and Test CO., LTD.

Add. : 163 Pingyun Rd, West of Huangpu Ave, Guangzhou, 510656, P. R. China

Telephone: +86-20-38699959, 38699960, 38699961

Fax : +86-20-38695185

#### 3.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

<b>USA</b>	FCC Listed Lab (No. 688188)
<b>China</b>	CNAS (No.L0446)
<b>China</b>	DILAC (No.DL175)
<b>Canada</b>	Registration No.:8355A-1

#### 3.3 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

<b>Measurement</b>		<b>Frequency</b>	<b>Uncertainty</b>
Radiated Emission	Horizontal	30MHz~1000MHz	4.2dB
		1GHz~26.5GHz	4.2dB
	Vertical	30MHz~1000MHz	4.4dB
		1GHz~26.5GHz	4.4dB
Conducted Emission		9kHz~30MHz	3.1 dB

This uncertainty represents an expanded uncertainty factor of  $k=2$  and the Confidence Level is 95%.

### 3.4 LIST OF USED TEST EQUIPMENT AT GRGT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
<b>6 dB bandwidth/ carrier frequencies separated/ hopping channel number/ dwell time/ maximum peak output power/100kHz bandwidth of frequency band edge/ Spurious Emissions at Antenna Port/ Restricted Bands</b>				
Receiver	R&S	ESU40	100106	2014-01-24
<b>Conducted Emissions</b>				
EMI Receiver	R&S	ESU40	100529	2014-01-24
L.I.S.N	SCHWARZBECK	NSLK 8127	8127450	2013-08-05
<b>Radiated Spurious Emissions</b>				
Receiver	R&S	ESU40	100106	2014-01-24
Loop antenna	R&S	HFH2-Z2	881058/58	2014-05-26
Biconical Log-periodic Antenna	ETS.LINDGREN	3142C	00075971	2014-05-26
Horn antenna	SCHWARZBECK	BBHA9120D	D752	2013-10-14
Horn antenna	SCHWARZBECK	BBHA 9170	411	2014-11-21
Pre-amplifier	SCHWARZBECK	9742	332	2013-09-20
Pre-amplifier	Decentest	DC7110EMA	001	2013-10-10

## 4. TEST RESULTS

### 4.1 E.U.T. TEST CONDITIONS

**Type of antenna:** Integral

**Temperature:** 22.0 °C

**Humidity:** 54 % RH

**Atmospheric Pressure:** 1011 mbar

**Test frequencies:** According to the 15.31(m) Measurements on intentional radiators or receivers, other than TV broadcast receivers, shall be performed and, if required, reported for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table:

Frequency range over which device operates	Number of frequencies	Location in the range of operation
1 MHz or less	1	Middle
1 to 10 MHz	2	1 near top and 1 near bottom
More than 10 MHz	3	1 near top, 1 near middle and 1 near bottom

#### EUT channels and frequencies list:

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

Test frequency is the lowest channel: 0 channel(2402MHz), middle channel: 19 channel(2440MHz) and highest channel: 39 channel(2480MHz)

## **4.2 ANTENNA REQUIREMENT**

The EUT antenna is ceramic antenna. Antenna gain is 2dBi .which accordance 15.203 is considered sufficient to comply with the provisions of this section.

## 5. CONDUCTED EMISSION MEASUREMENT

### 5.1 LIMITS

Frequency range	Limits (dB $\mu$ V)	
	Quasi-peak	Average
150kHz ~ 0.5MHz	66~56	56~46
0.5 MHz ~ 5 MHz	56	46
5 MHz ~ 30 MHz	60	50

**NOTE:** (1) The lower limit shall apply at the transition frequencies.

(2) The limit decreases in line with the logarithm of the frequency in the range of 150 kHz to 0.5MHz.

### 5.2 TEST PROCEDURES

#### Procedure of Preliminary Test

Test procedures follow ANSI C63.4:2009.

For measurement of the disturbance voltage the equipment under test (EUT) is connected to the power supply mains and any other extended network via one or more artificial network(s). An EUT, whether intended to be grounded or not, and which is to be used on a table is configured as follows:

- Either the bottom or the rear of the EUT shall be at a controlled distance of 40 cm from a reference ground plane. This ground plane is normally the wall or floor of a shielded room. It may also be a grounded metal plane of at least 2 m by 2 m. This is physically accomplished as follows:

- 1) place the EUT on a table of non-conducting material which is at least 80 cm high. Place the EUT so that it is 40 cm from the wall of the shielded room, or

- 2) place the EUT on a table of non-conducting material which is 40 cm high so that the bottom of the EUT is 40 cm above the ground plane;

- All other conductive surfaces of the EUT shall be at least 80 cm from the reference ground plane;

- The EUT are placed on the floor that one side of the housings is 40 cm from the vertical reference ground plane and other metallic parts;

- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth forming a bundle 30 cm to 40 cm long, hanging approximately in the middle between the ground plane and the table.

- I/O cables that are connected to a peripheral shall be bundled in the centre. The end of the cable may be terminated if required using correct terminating impedance. The total length shall not exceed 1 m.

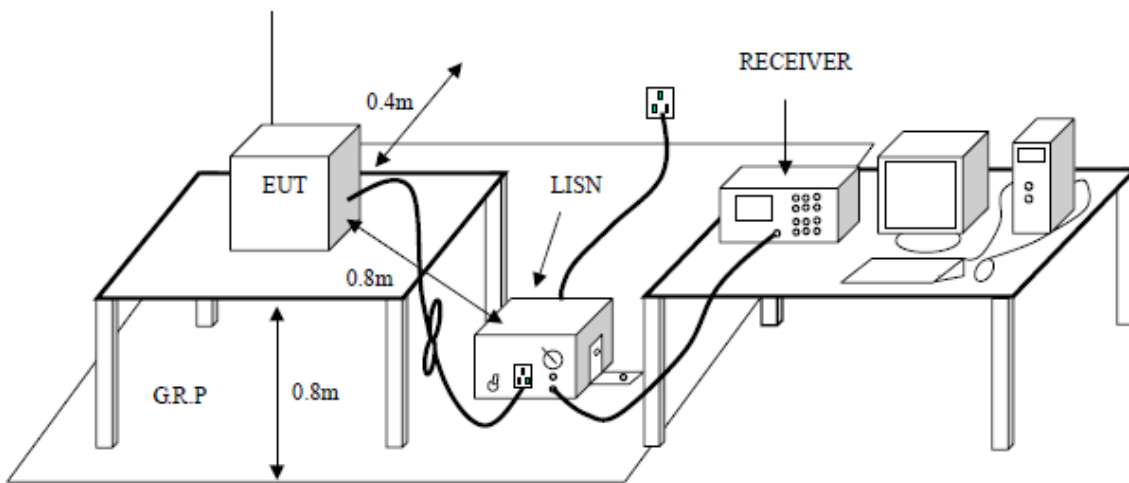
The test mode(s) described in Item 2.4 were scanned during the preliminary test. After the preliminary scan, we found the test mode described in Item 2.4 producing the highest emission level. The EUT configuration and cable configuration of the above highest emission levels were recorded for reference of the final test.

#### Procedure of Final Test

EUT and support equipment were set up on the test bench as per the configuration with

highest emission level in the preliminary test. A scan was taken on both power lines, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. The test data of the worst-case condition(s) was recorded.

### 5.3 TEST SETUP



## **5.4 TEST RESULTS**

The EUT's power is DC 5V. This item is not applicable.

## 6. RADIATED ELECTROMAGNETIC DISTURBANCE

### 6.1 LIMITS

Frequency (MHz)	Quasi-peak(dB $\mu$ V/m)
30 ~ 88	40
88~216	43.5
216 ~ 960	46
Above 960	54

NOTE: (1) The lower limit shall apply at the transition frequencies.

Frequency (GHz)	Quasi-peak(dB $\mu$ V/m)
1 ~ 26.5	74
1~ 26.5	54

### 6.2 TEST PROCEDURES

Test procedures follow ANSI C63.10:2009

#### Procedure of Preliminary Test

Radiated emission tests shall be made with the receive or transmit antenna located at a horizontal distance of 3 m plus half of the maximum width of the EUT being tested, measured from the centre of the EUT. The tests shall be performed with the equipment configured as closely as possible to its typical, practical operation. Unless stated otherwise, cables and wiring shall be as specified by the manufacturer and the equipment shall be in its housing (or cabinet) with all covers and access panels in place. Any deviation from normal EUT operating conditions shall be included in the test report.

The EUT (on a non-conductive support structure, where applicable) shall be placed on a remotely operated turntable, to allow the EUT to be rotated. The height of the EUT above the ground plane shall be according to the following requirements.

- Table-top equipment is placed on a non-conductive set-up table with height  $0,8\text{ m} \pm 0,01\text{ m}$ , ANSI C63.10:2009 specifies the method to determine the impact of the non-conductive set-up table on test results.
- Floor-standing equipment is placed on a non-conductive support, as specified in the applicable product standard. If there are no EUT height placement requirements in the product standard, the EUT shall be placed on a non-conductive support at a height of 5 cm to 15 cm above the ground plane.

Interface cables, loads, and devices should be connected to at least one of each type of the interface ports of the EUT and, where practical, each cable shall be terminated in a device typical for its actual use. Where there are multiple interface ports of the same type, a typical number of these devices shall be connected to devices or loads. It is sufficient to connect only one of the loads, provided that it can be shown, for example by preliminary testing, that the connection of further ports would not significantly increase the level of disturbance (that is, more than 2 dB) or significantly degrade the immunity level.

The test mode(s) described in Item 2.4 were scanned during the preliminary test. After the preliminary scan, we found the test mode described in Item 2.4 producing the highest emission level. The EUT and cable configuration, antenna position, polarization and turntable

position of the above highest emission level were recorded for the final test.

**Procedure of Final Test**

EUT and support equipment were set up on the turntable as per the configuration with highest emission level in the preliminary test. The Analyzer / Receiver scanned from 30MHz to 1000MHz. Emissions were scanned and measured rotating the EUT to 360 degrees, varying cable placement and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level. Record at least six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit and only QP reading is presented. The test data of the worst-case condition(s) was recorded.

**Procedure of Final Test**

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test. A scan was taken on both power lines, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. The test data of the worst-case condition(s) was recorded.

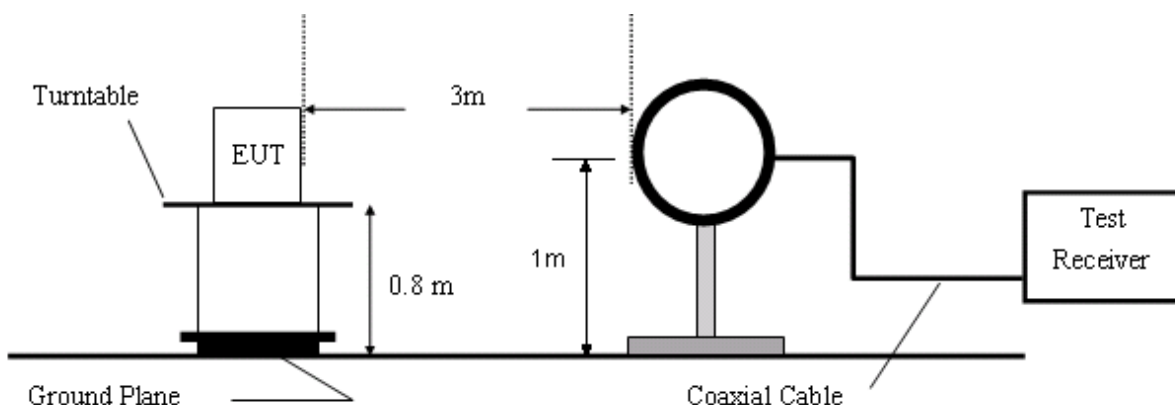
Below 1GHz Set the spectrum analyzer: RBW =100KHz VBW >= RBW , Span = enough to catch the trace. Sweep = auto; Detector Function = Peak. Trace = Max,hold.

Above 1GHz Set the spectrum analyzer: RBW =1MHz VBW >= RBW , Span = enough to catch the trace. Sweep = auto; Detector Function = Peak. Trace = Max,hold.

Pre-test for EUT in three axes and find the X axe is the worst case.

**The worst case emissions were reported.**

**6.3 TEST SETUP**



**Figure 1. 9KHz to 30MHz radiated emissions test configuration**

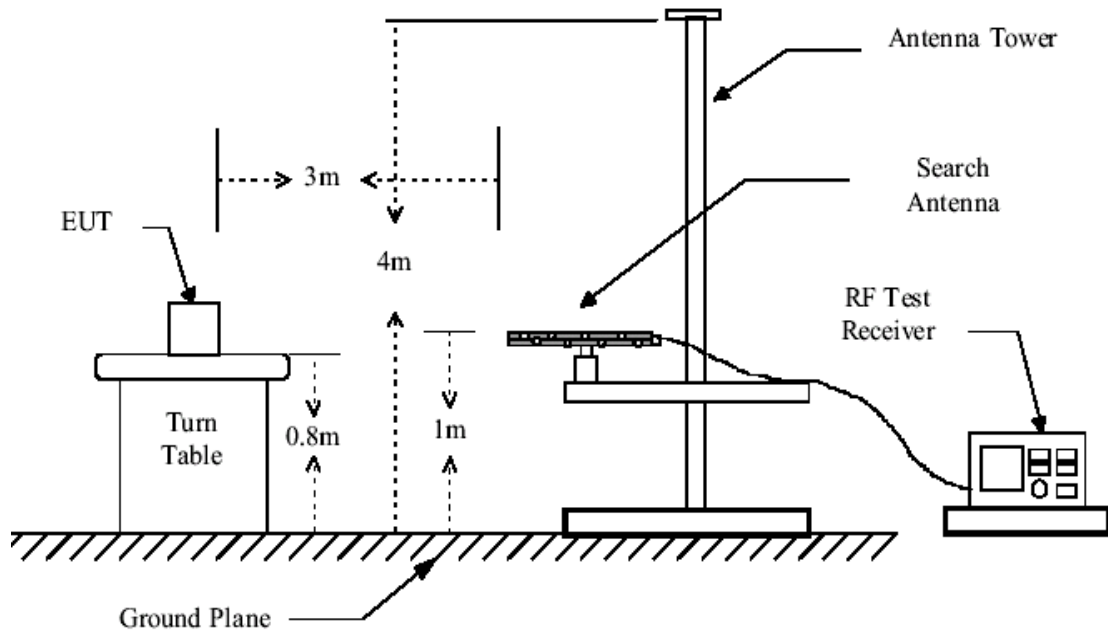


Figure 2. 30MHz to 1GHz radiated emissions test configuration

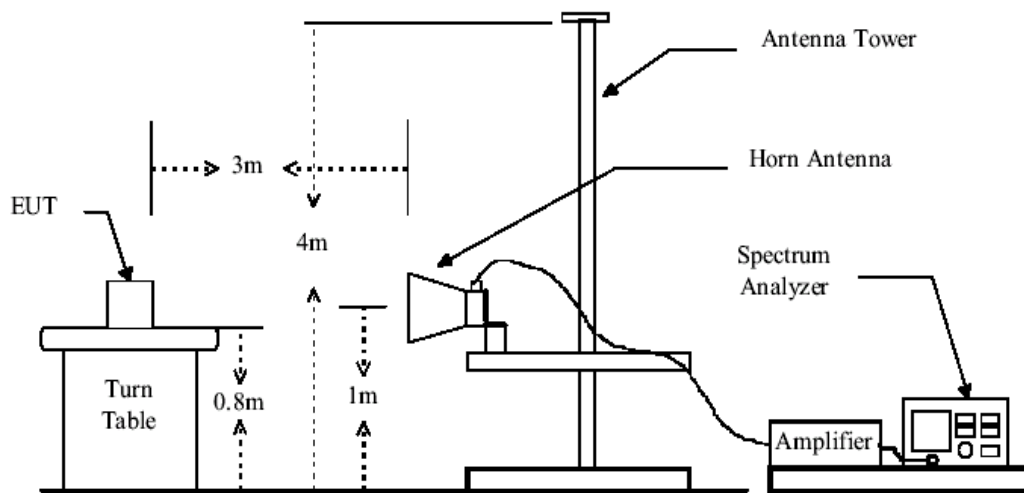
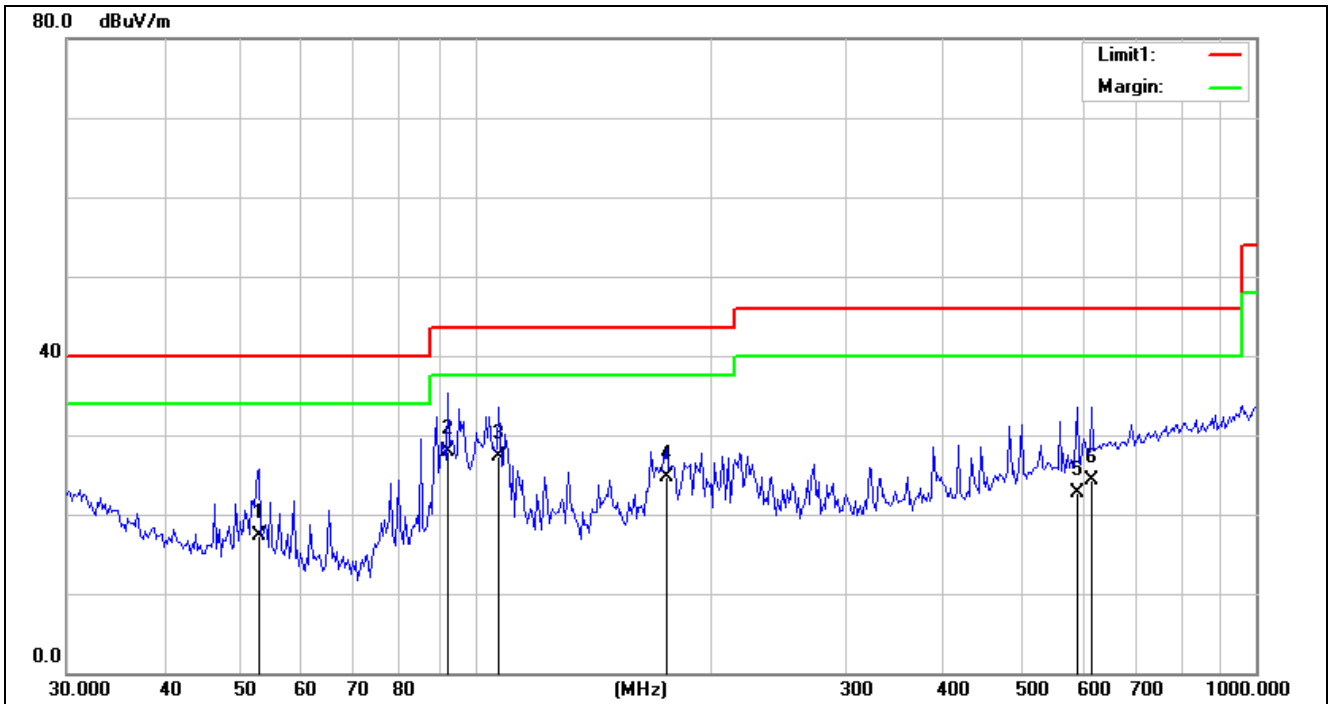


Figure 3. Above 1GHz radiated emissions test configuration

### 6.4 TEST RESULTS

<b>Project No.:</b>	<b>ZJ00032392</b>	<b>Polarization:</b>	<b>Vertical</b>
<b>Standard:</b>	<b>(RE)FCC PART 15 class B 3m</b>	<b>Power Source:</b>	<b>DC 5V</b>
<b>Test item:</b>	<b>Radiation Test</b>	<b>Date:</b>	<b>2013-8-6</b>
<b>Temp./Hum.(%RH):</b>	<b>20/54%RH</b>	<b>Time:</b>	<b>17:37:01</b>
<b>EUT:</b>	<b>BLUETOOTH HEADSET</b>	<b>Distance:</b>	<b>3m</b>
<b>Model:</b>	<b>J46BT</b>	<b>Test Result:</b>	<b>Pass</b>
<b>Note:</b>	<b>GFSK-2402(4.0)</b>		

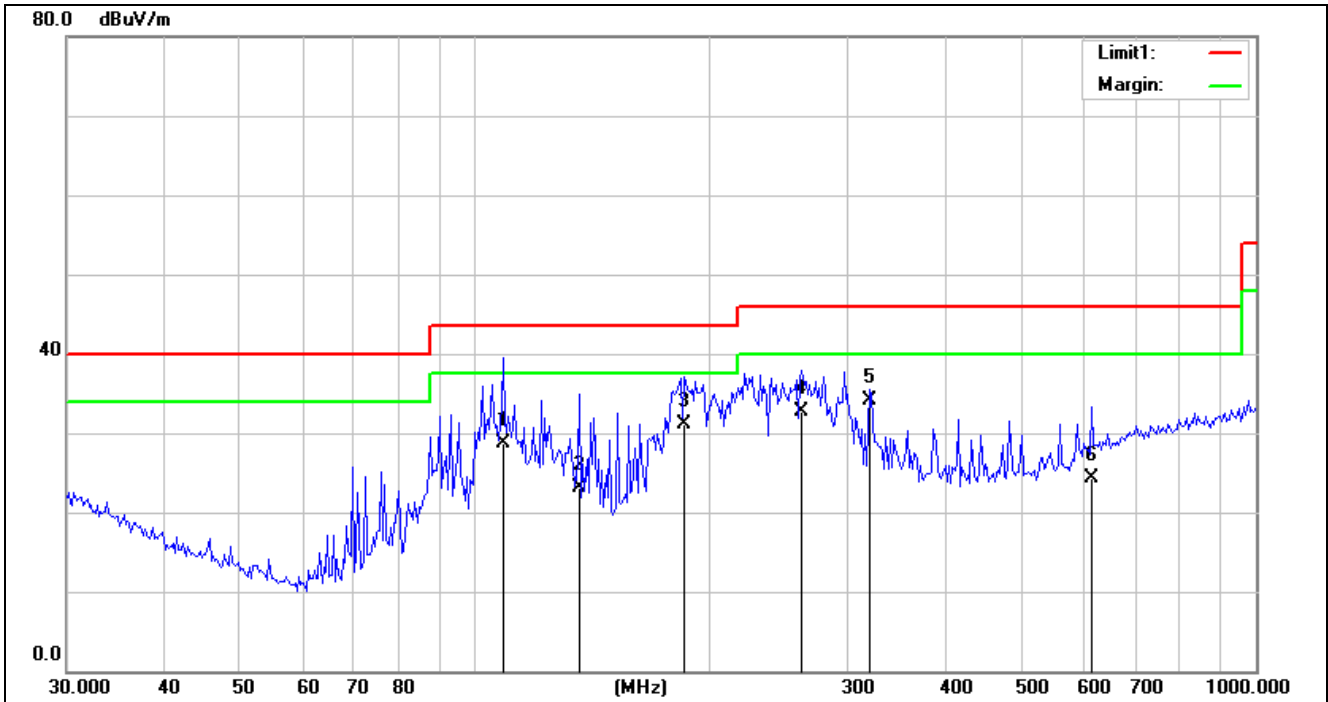


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	52.9191	8.16	9.24	17.40	40.00	-22.60	QP
2	92.3046	18.20	9.70	27.90	43.50	-15.60	QP
3	107.4279	17.68	9.62	27.30	43.50	-16.20	QP
4	176.1498	13.86	10.84	24.70	43.50	-18.80	QP
5	589.6468	0.87	21.83	22.70	46.00	-23.30	QP
6	616.7597	1.77	22.63	24.40	46.00	-21.60	QP

Emission above 1GHz:

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1056.095	42.37	5.46	47.83	74.00	-26.17	peak
2	1056.095	15.34	5.46	20.80	54.00	-33.20	AVG
3	2437.229	35.40	16.60	52.00	74.00	-22.00	peak
4	2437.229	10.60	16.60	27.20	54.00	-26.80	AVG
5	2901.306	27.95	22.43	50.38	74.00	-23.62	peak
6	2932.117	7.23	22.87	30.10	54.00	-23.90	AVG
7	14223.794	27.04	30.51	57.55	74.00	-16.45	peak
8	14223.794	7.89	30.51	38.40	54.00	-15.60	AVG
9	16139.315	28.64	33.42	62.06	74.00	-11.94	peak
10	16139.315	10.18	33.42	43.60	54.00	-10.40	AVG
11	16946.684	28.42	35.54	63.96	74.00	-10.04	peak
12	16946.684	11.36	35.54	46.90	54.00	-7.10	AVG

<b>Project No.:</b>	<b>ZJ00032392</b>	<b>Polarization:</b>	<b>Horizontal</b>
<b>Standard:</b>	<b>(RE)FCC PART 15 class B 3m</b>	<b>Power Source:</b>	<b>DC 5V</b>
<b>Test item:</b>	<b>Radiation Test</b>	<b>Date:</b>	<b>2013-8-6</b>
<b>Temp./Hum.(%RH):</b>	<b>20/54%RH</b>	<b>Time:</b>	<b>17:44:57</b>
<b>EUT:</b>	<b>BLUETOOTH HEADSET</b>	<b>Distance:</b>	<b>3m</b>
<b>Model:</b>	<b>J46BT</b>	<b>Test Result:</b>	<b>Pass</b>
<b>Note:</b>	<b>GFSK-2402(4.0)</b>		

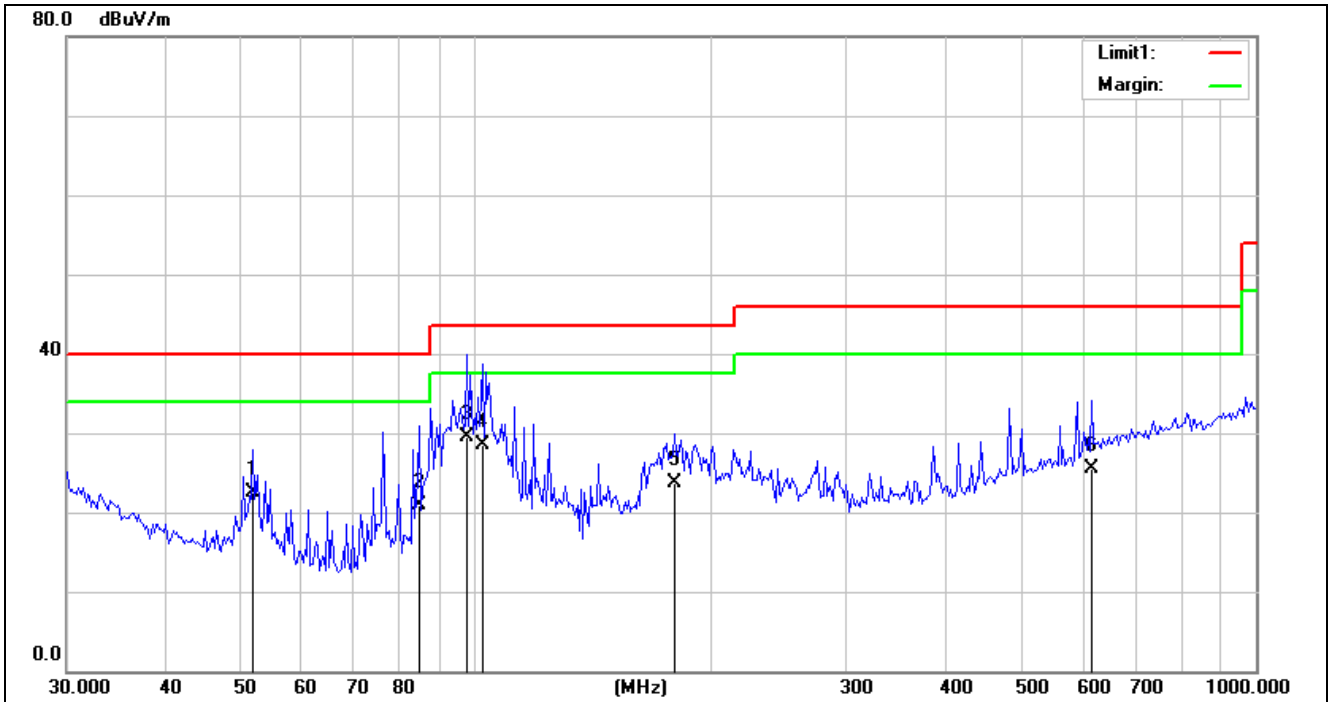


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	108.6421	19.13	9.57	28.70	43.50	-14.80	QP
2	136.0250	14.12	8.98	23.10	43.50	-20.40	QP
3	185.2878	19.91	11.29	31.20	43.50	-12.30	QP
4	262.5176	18.72	13.98	32.70	46.00	-13.30	QP
5	319.5776	17.90	16.20	34.10	46.00	-11.90	QP
6	616.7597	1.67	22.63	24.30	46.00	-21.70	QP

Emission above 1GHz:

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1063.559	38.43	5.54	43.97	74.00	-30.03	peak
2	1063.559	15.36	5.54	20.90	54.00	-33.10	AVG
3	2015.198	33.98	14.15	48.13	74.00	-25.87	peak
4	2015.198	11.95	14.15	26.10	54.00	-27.90	AVG
5	2901.306	28.88	22.43	51.31	74.00	-22.69	peak
6	2932.117	8.43	22.87	31.30	54.00	-22.70	AVG
7	4804.358	31.99	16.10	48.09	74.00	-25.91	peak
8	4804.358	12.80	16.10	28.90	54.00	-25.10	AVG
9	8032.579	30.06	23.32	53.38	74.00	-20.62	peak
10	8032.579	8.98	23.32	32.30	54.00	-21.70	AVG
11	16898.092	30.30	35.33	65.63	74.00	-8.37	peak
12	16898.092	8.27	35.33	43.60	54.00	-10.40	AVG

<b>Project No.:</b>	<b>ZJ00032392</b>	<b>Polarization:</b>	<b>Vertical</b>
<b>Standard:</b>	<b>(RE)FCC PART 15 class B 3m</b>	<b>Power Source:</b>	<b>DC 5V</b>
<b>Test item:</b>	<b>Radiation Test</b>	<b>Date:</b>	<b>2013-8-6</b>
<b>Temp./Hum.(%RH):</b>	<b>20/54%RH</b>	<b>Time:</b>	<b>17:53:25</b>
<b>EUT:</b>	<b>BLUETOOTH HEADSET</b>	<b>Distance:</b>	<b>3m</b>
<b>Model:</b>	<b>J46BT</b>	<b>Test Result:</b>	<b>Pass</b>
<b>Note:</b>	<b>GFSK-2440(4.0)</b>		

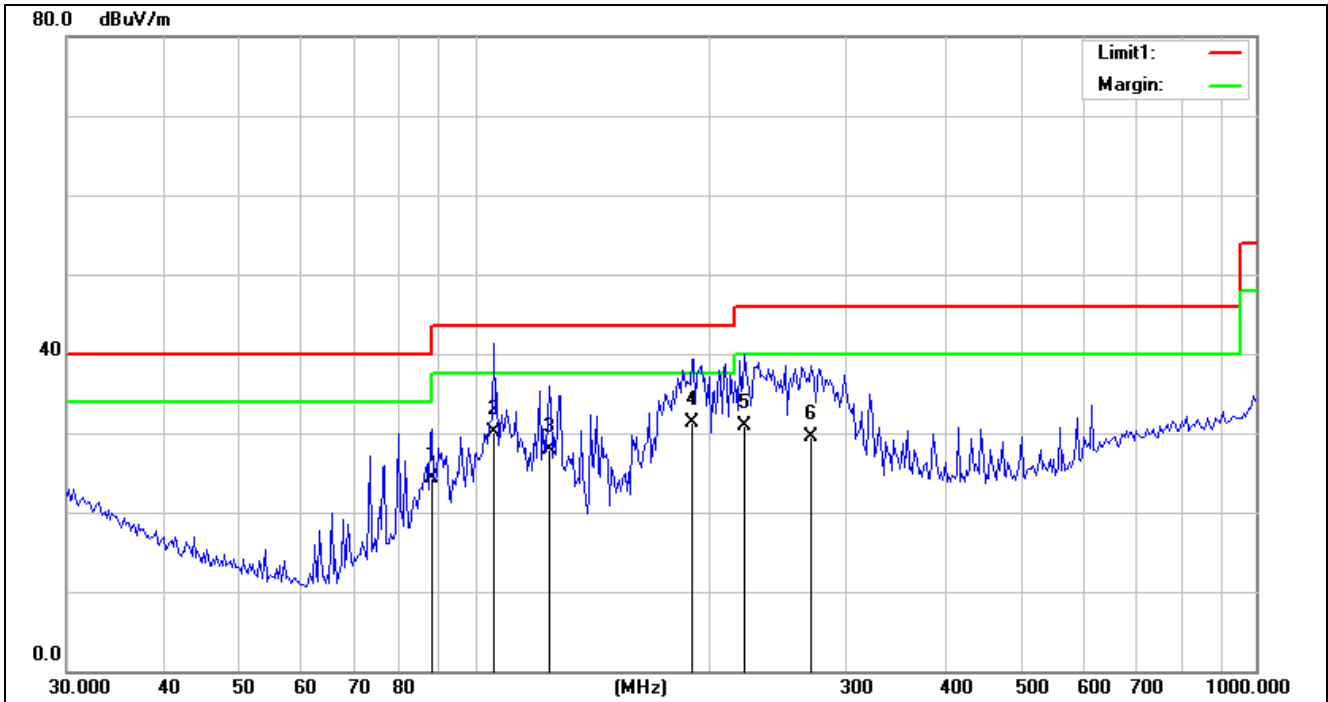


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	52.0345	13.11	9.39	22.50	40.00	-17.50	QP
2	84.8429	11.82	9.08	20.90	40.00	-19.10	QP
3	97.6402	19.67	9.93	29.60	43.50	-13.90	QP
4	102.1298	18.72	9.88	28.60	43.50	-14.90	QP
5	180.1541	12.72	11.08	23.80	43.50	-19.70	QP
6	616.7597	2.87	22.63	25.50	46.00	-20.50	QP

Emission above 1GHz:

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1594.497	31.90	12.14	44.04	74.00	-29.96	peak
2	1594.497	12.26	12.14	24.40	54.00	-29.60	AVG
3	2018.749	40.37	14.17	54.54	74.00	-19.46	peak
4	2018.749	18.33	14.17	32.50	54.00	-21.50	AVG
5	2932.117	27.76	22.87	50.63	74.00	-23.37	peak
6	2932.117	7.73	22.87	30.60	54.00	-23.40	AVG
7	9299.379	28.65	24.60	53.25	74.00	-20.75	peak
8	9299.379	10.60	24.60	35.20	54.00	-18.80	AVG
9	10049.025	27.84	25.58	53.42	74.00	-20.58	peak
10	10049.025	11.82	25.58	37.40	54.00	-16.60	AVG
11	17044.285	28.74	35.73	64.47	74.00	-9.53	peak
12	17044.285	11.37	35.73	47.10	54.00	-6.90	AVG

<b>Project No.:</b>	<b>ZJ00032392</b>	<b>Polarization:</b>	<b>Horizontal</b>
<b>Standard:</b>	<b>(RE)FCC PART 15 class B 3m</b>	<b>Power Source:</b>	<b>DC 5V</b>
<b>Test item:</b>	<b>Radiation Test</b>	<b>Date:</b>	<b>2013-8-6</b>
<b>Temp./Hum.(%RH):</b>	<b>20/54%RH</b>	<b>Time:</b>	<b>17:59:51</b>
<b>EUT:</b>	<b>BLUETOOTH HEADSET</b>	<b>Distance:</b>	<b>3m</b>
<b>Model:</b>	<b>J46BT</b>	<b>Test Result:</b>	<b>Pass</b>
<b>Note:</b>	<b>GFSK-2440(4.0)</b>		

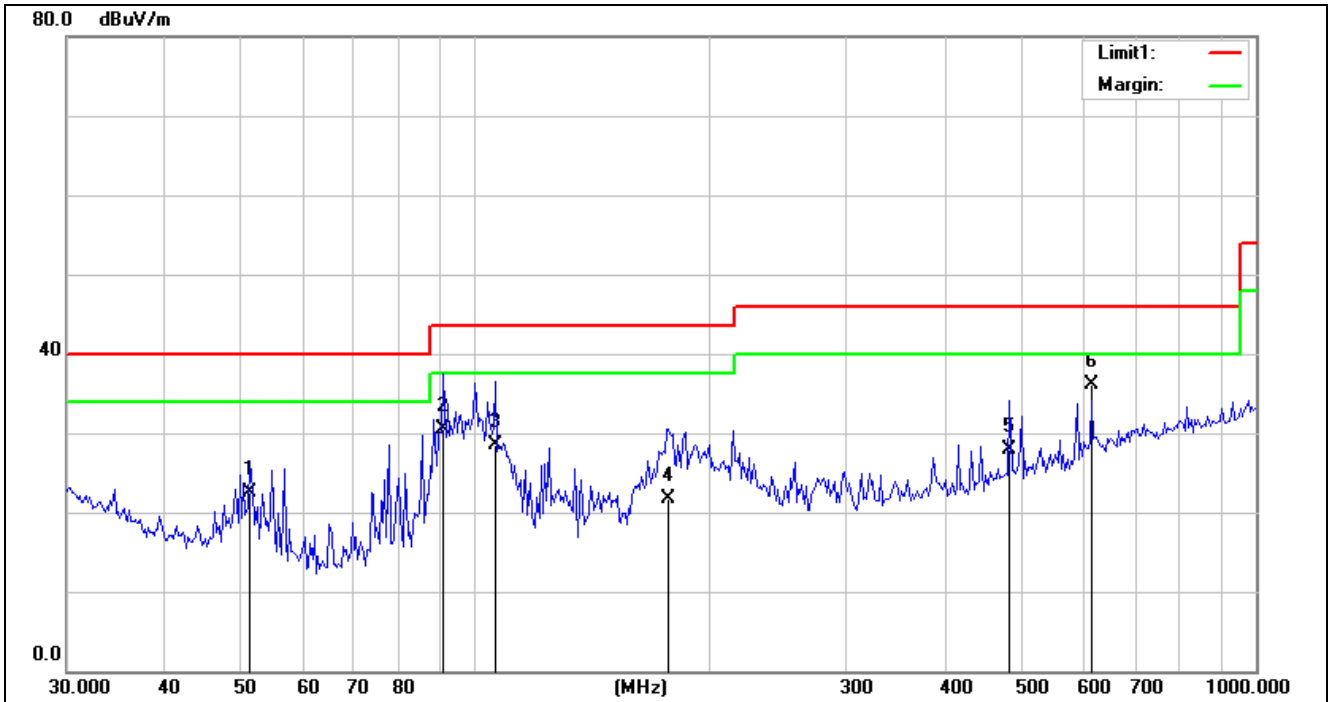


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	88.2469	14.96	9.44	24.40	43.50	-19.10	QP
2	105.6320	20.49	9.71	30.20	43.50	-13.30	QP
3	124.3284	19.13	8.77	27.90	43.50	-15.60	QP
4	189.4997	19.85	11.45	31.30	43.50	-12.20	QP
5	221.7906	18.32	12.58	30.90	46.00	-15.10	QP
6	269.9983	15.35	14.15	29.50	46.00	-16.50	QP

Emission above 1GHz:

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1332.394	37.24	8.82	46.06	74.00	-27.94	peak
2	1332.394	14.78	8.82	23.60	54.00	-30.40	AVG
3	2015.198	38.81	14.15	52.96	74.00	-21.04	peak
4	2015.198	16.75	14.15	30.90	54.00	-23.10	AVG
5	2921.810	27.66	22.73	50.39	74.00	-23.61	peak
6	2921.810	7.57	22.73	30.30	54.00	-23.70	AVG
7	9764.580	28.50	25.31	53.81	74.00	-20.19	peak
8	9764.580	11.49	25.31	36.80	54.00	-17.20	AVG
9	17044.285	28.44	35.73	64.17	74.00	-9.83	peak
10	17044.285	10.97	35.73	46.70	54.00	-7.30	AVG
11	17948.389	28.41	36.10	64.51	74.00	-9.49	peak
12	17948.389	9.70	36.10	45.80	54.00	-8.20	AVG

<b>Project No.:</b>	<b>ZJ00032392</b>	<b>Polarization:</b>	<b>Vertical</b>
<b>Standard:</b>	<b>(RE)FCC PART 15 class B 3m</b>	<b>Power Source:</b>	<b>DC 5V</b>
<b>Test item:</b>	<b>Radiation Test</b>	<b>Date:</b>	<b>2013-8-6</b>
<b>Temp./Hum.(%RH):</b>	<b>20/54%RH</b>	<b>Time:</b>	<b>18:04:05</b>
<b>EUT:</b>	<b>BLUETOOTH HEADSET</b>	<b>Distance:</b>	<b>3m</b>
<b>Model:</b>	<b>J46BT</b>	<b>Test Result:</b>	<b>Pass</b>
<b>Note:</b>	<b>GFSK-2480(4.0)</b>		

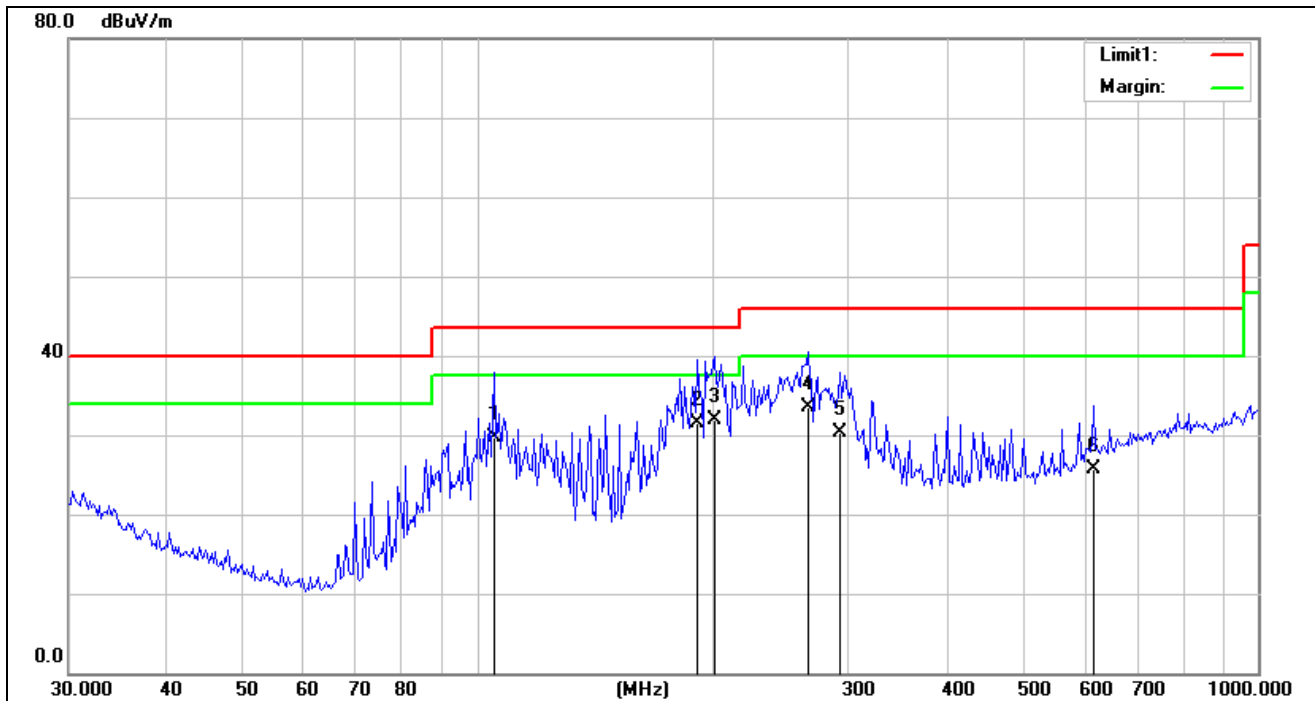


No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	51.4530	13.02	9.48	22.50	40.00	-17.50	QP
2	91.2730	20.84	9.66	30.50	43.50	-13.00	QP
3	106.2273	18.81	9.69	28.50	43.50	-15.00	QP
4	177.1425	10.90	10.90	21.80	43.50	-21.70	QP
5	484.3665	8.05	19.95	28.00	46.00	-18.00	QP
6	616.7597	13.57	22.63	36.20	46.00	-9.80	QP

Emission above 1GHz:

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1057.956	39.59	5.48	45.07	74.00	-28.93	peak
2	1057.956	15.82	5.48	21.30	54.00	-32.70	AVG
3	2018.749	35.98	14.17	50.15	74.00	-23.85	peak
4	2018.749	10.73	14.17	24.90	54.00	-29.10	AVG
5	2143.282	33.30	14.89	48.19	74.00	-25.81	peak
6	2143.282	9.61	14.89	24.50	54.00	-29.50	AVG
7	12607.817	27.16	26.80	53.96	74.00	-20.04	peak
8	12607.817	8.90	26.80	35.70	54.00	-18.30	AVG
9	14021.041	27.43	30.14	57.57	74.00	-16.43	peak
10	14021.041	9.46	30.14	39.60	54.00	-14.40	AVG
11	16946.684	28.52	35.54	64.06	74.00	-9.94	peak
12	16946.684	11.76	35.54	47.30	54.00	-6.70	AVG

<b>Project No.:</b>	<b>ZJ00032392</b>	<b>Polarization:</b>	<b>Horizontal</b>
<b>Standard:</b>	<b>(RE)FCC PART 15 class B 3m</b>	<b>Power Source:</b>	<b>DC 5V</b>
<b>Test item:</b>	<b>Radiation Test</b>	<b>Date:</b>	<b>2013-8-6</b>
<b>Temp./Hum.(%RH):</b>	<b>20/54%RH</b>	<b>Time:</b>	<b>18:05:40</b>
<b>EUT:</b>	<b>BLUETOOTH HEADSET</b>	<b>Distance:</b>	<b>3m</b>
<b>Model:</b>	<b>J46BT</b>	<b>Test Result:</b>	<b>Pass</b>
<b>Note:</b>	<b>GFSK-2480(4.0)</b>		



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	105.0401	20.05	9.75	29.80	43.50	-13.70	QP
2	191.6416	20.05	11.45	31.50	43.50	-12.00	QP
3	201.5832	20.44	11.46	31.90	43.50	-11.60	QP
4	265.4847	19.45	14.05	33.50	46.00	-12.50	QP
5	292.0977	15.49	14.81	30.30	46.00	-15.70	QP
6	616.7597	3.17	22.63	25.80	46.00	-20.20	QP

Emission above 1GHz:

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1030.383	39.95	5.16	45.11	74.00	-28.89	peak
2	1030.383	14.34	5.16	19.50	54.00	-34.50	AVG
3	1501.850	34.38	11.39	45.77	74.00	-28.23	peak
4	1501.850	9.01	11.39	20.40	54.00	-33.60	AVG
5	2015.198	34.25	14.15	48.40	74.00	-25.60	peak
6	2015.198	7.15	14.15	21.30	54.00	-32.70	AVG
7	14892.515	26.60	31.21	57.81	74.00	-16.19	peak
8	14892.515	7.69	31.21	38.90	54.00	-15.10	AVG
9	15909.257	27.02	33.03	60.05	74.00	-13.95	peak
10	15909.257	10.17	33.03	43.20	54.00	-10.80	AVG
11	17142.449	28.99	35.68	64.67	74.00	-9.33	peak
12	17142.449	11.42	35.68	47.10	54.00	-6.90	AVG

## 7. 6dB BANDWIDTH TESTING

### 7.1 LIMITS

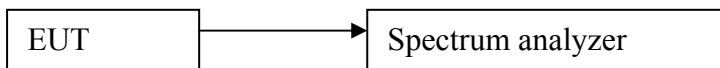
Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

### 7.2 TEST PROCEDURES

Test procedures follow ANSI C63.4:2009 and KDB 558074 D01 DTS Measurement Guidance v03r01.

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Set resolution bandwidth (RBW) = 100kHz. Set the video bandwidth (VBW)  $\geq 3 \times$  RBW. Detector = Peak. Trace mode = max hold. Sweep = auto couple. Allow the trace to stabilize.
4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission. Compare the resultant bandwidth with the RBW setting of the analyzer.
5. Repeat above procedures until all frequencies measured were complete.

### 7.3 TEST SETUP



### 7.4 TEST RESULTS

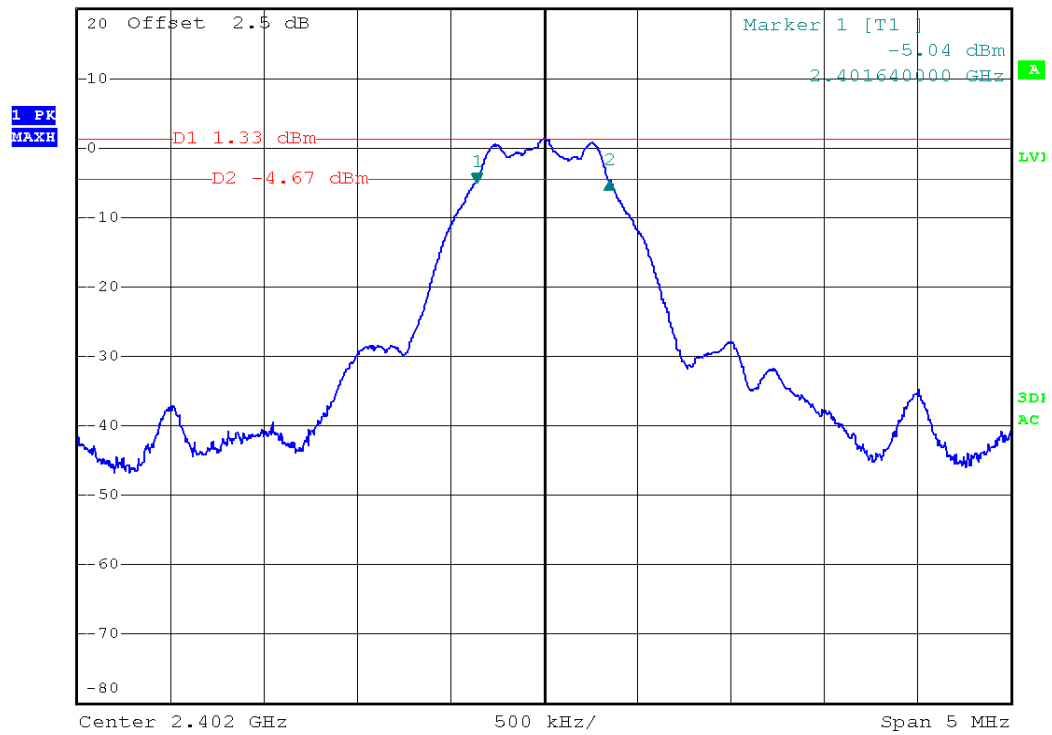
Channel	Channel Frequency (MHz)	6dB Bandwidth (KHz)	Limit (kHz)
Low Channel	2402	710.00	> 500
Middle Channel	2442	700.00	> 500
High Channel	2480	710.00	> 500

Channel 02402MHz



\*RBW 100 kHz Delta 2 [T1 ]  
\*VBW 300 kHz 0.36 dB  
SWT 5 ms 710.00000000 kHz

Ref 20 dBm \*Att 40 dB

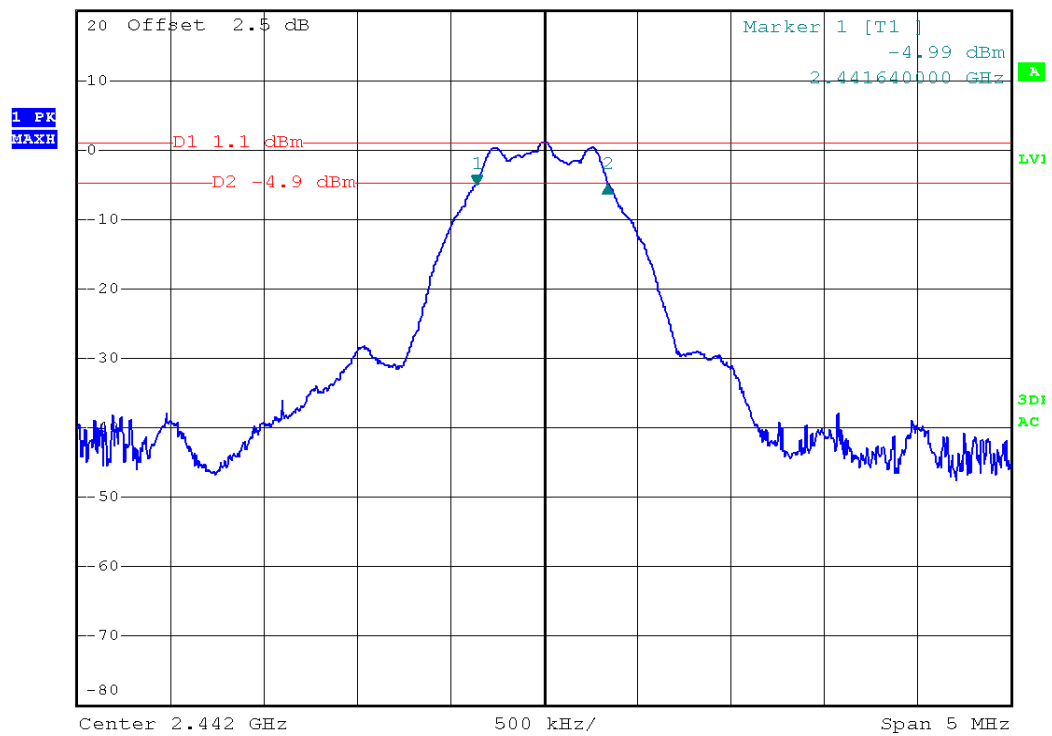


Channel 21 2442MHz



\*RBW 100 kHz Delta 2 [T1 ]  
\*VBW 300 kHz 0.04 dB  
SWT 5 ms 700.00000000 kHz

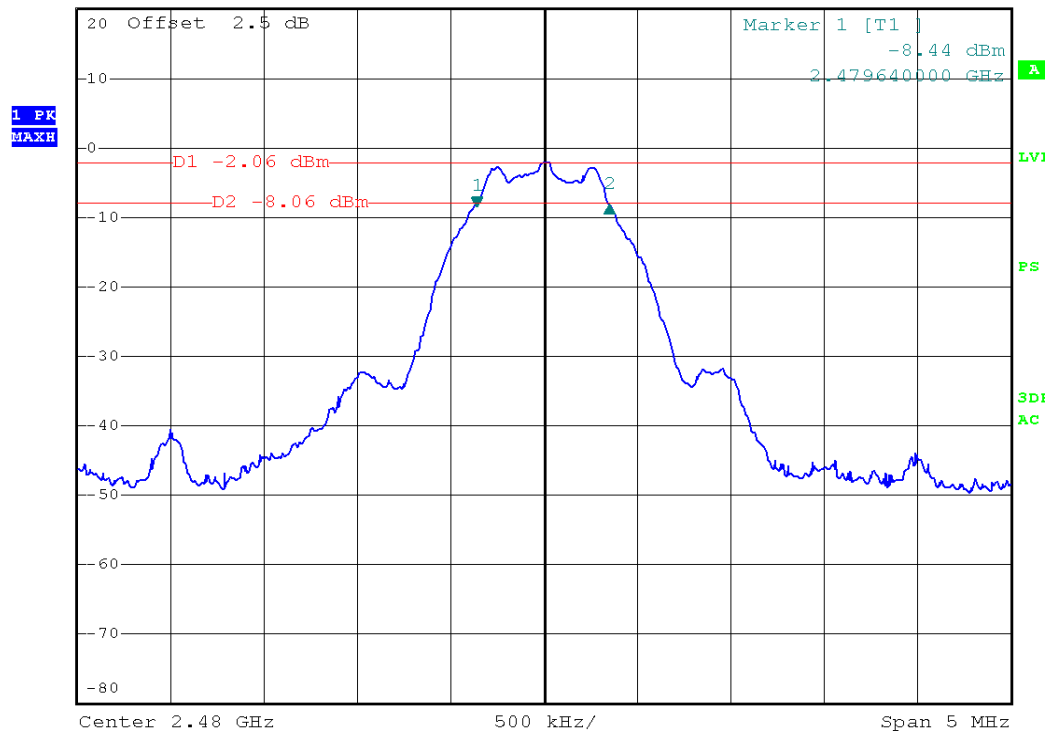
Ref 20 dBm \*Att 40 dB



Channel 39 2480MHz



Ref 20 dBm      \*Att 40 dB      RBW 100 kHz      Delta 2 [T1 ]  
VBW 300 kHz      0.22 dB  
SWT 2.5 ms      710.000000000 kHz



## 8. MAXIMUM PEAK OUTPUT POWER

### 8.1 LIMITS

The maximum Peak output power measurement is 1W

### 8.2 TEST PROCEDURES

Test procedures follow KDB 558074 D01 DTS Measurement Guidance v03r01.

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to an EMI Test Receiver.
3. The spectrum analyzer resolution bandwidth that is  $\leq$ EBW. So we test the Maximum Conducted Output Power
4. Set the analyzer span  $\geq$  1.5 x DTS bandwidth. Set the RBW = 3 MHz. Set the VBW  $\geq$  3 MHz. Sweep time = auto couple. Detector = peak. Allow trace to fully stabilize.

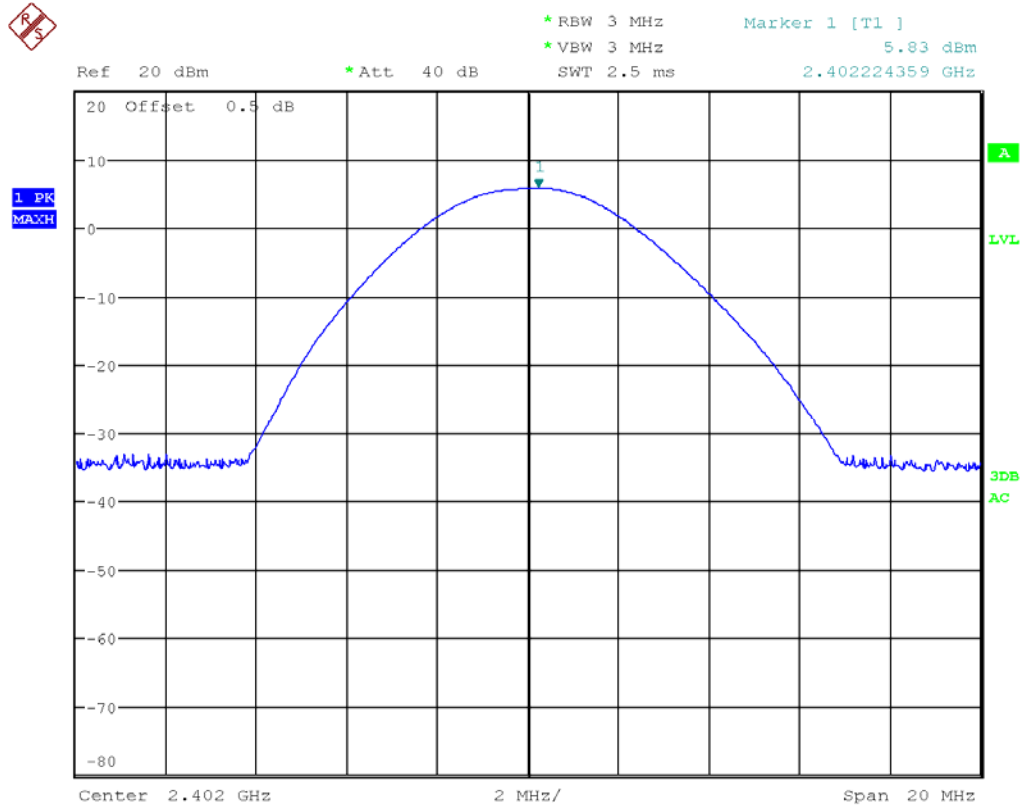
### 8.3 TEST SETUP



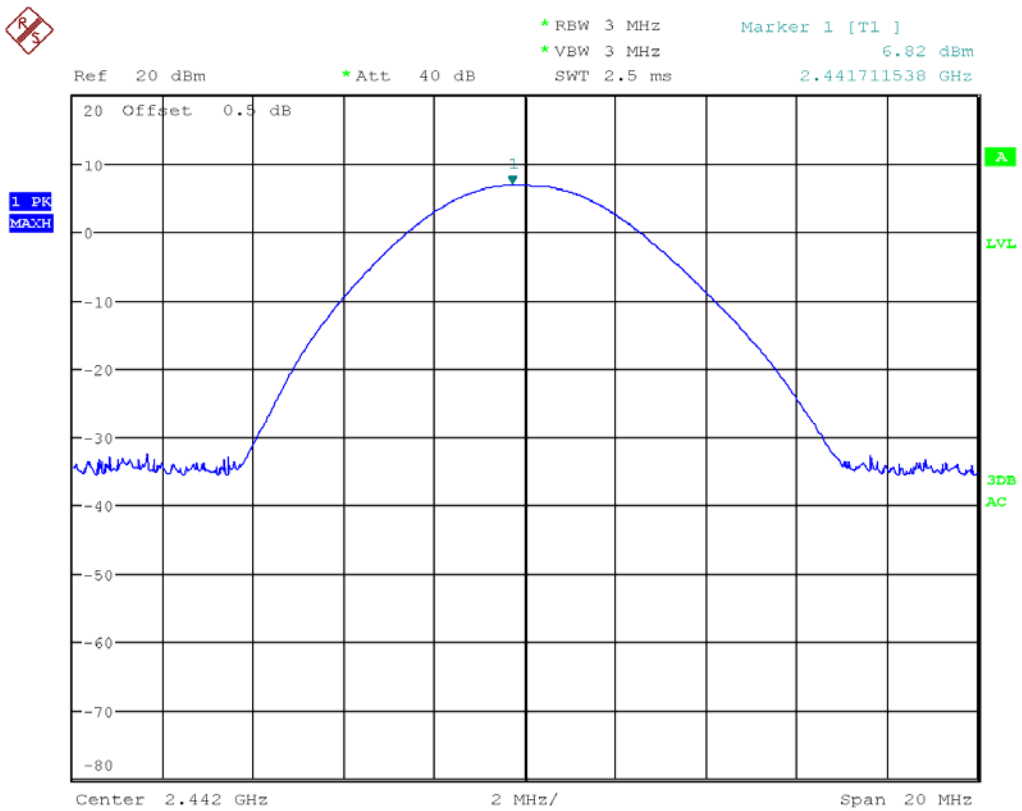
### 8.4 TEST RESULTS

Test Channel	Fundamental Frequency (GHz)	Max Output Power(dBm)	Limit (dBm)	Pass/Fail
Lowest	2.402	5.83	30.0	Pass
Middle	2.442	6.82	30.0	Pass
Highest	2.480	6.57	30.0	Pass

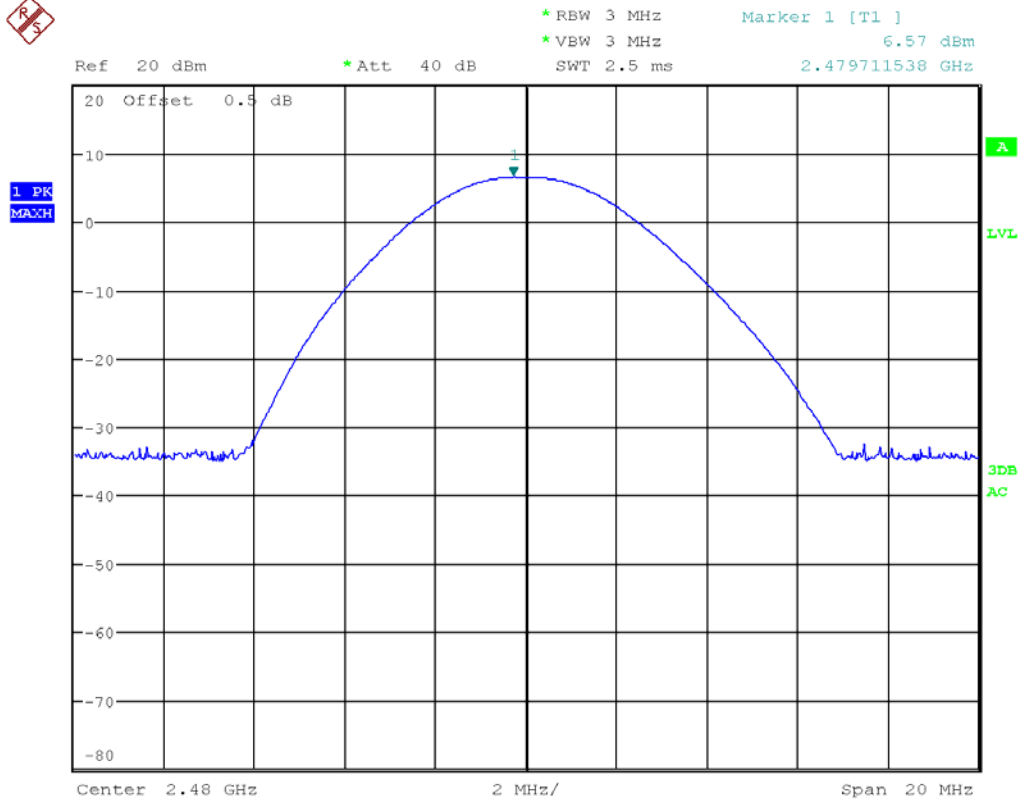
GFSK Lowest Channel:



GFSK Middle Channel:



GFSK Highest Channel:



## 9. POWER SPECTRAL DENSITY

### 9.1 LIMITS

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

### 9.2 TEST PROCEDURES

Test procedures follow KDB 558074 D01 DTS Measurement Guidance v03r01.

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT was set without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set the analyzer span to 1.5 times the DTS bandwidth. Set the RBW = 3 kHz. Set the VBW  $\geq 3$  RBW. Detector = peak. Ensure that the number of measurement points in the sweep  $\geq 2 \times \text{span/RBW}$  (use of a greater number of measurement points than this minimum requirement is recommended).
4. Repeat above procedures until all frequencies measured were complete.

### 9.3 TEST SETUP



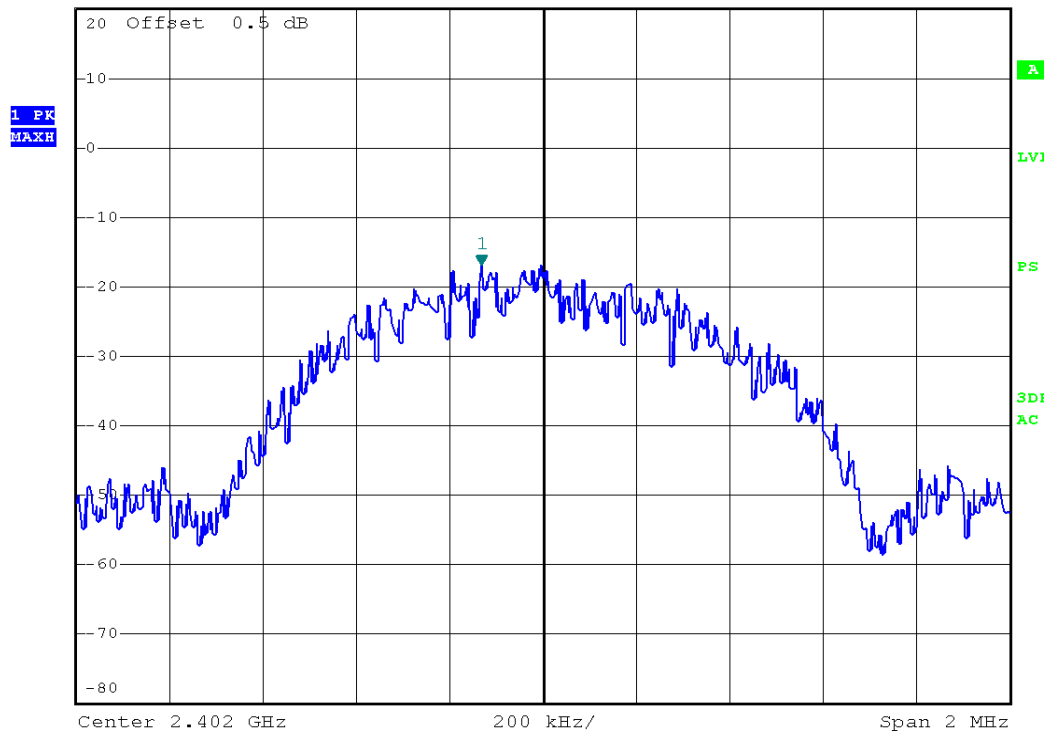
### 9.4 TEST RESULTS

Channel No.	Frequency (MHz)	Mode	PSD (dBm/3KHz)	Limit	Result
0	2402	BLE	-16.90	8dBm/3KHz	Pass
20	2442		-17.34		Pass
39	2480		-20.59		Pass

Channel 0 2402MHz



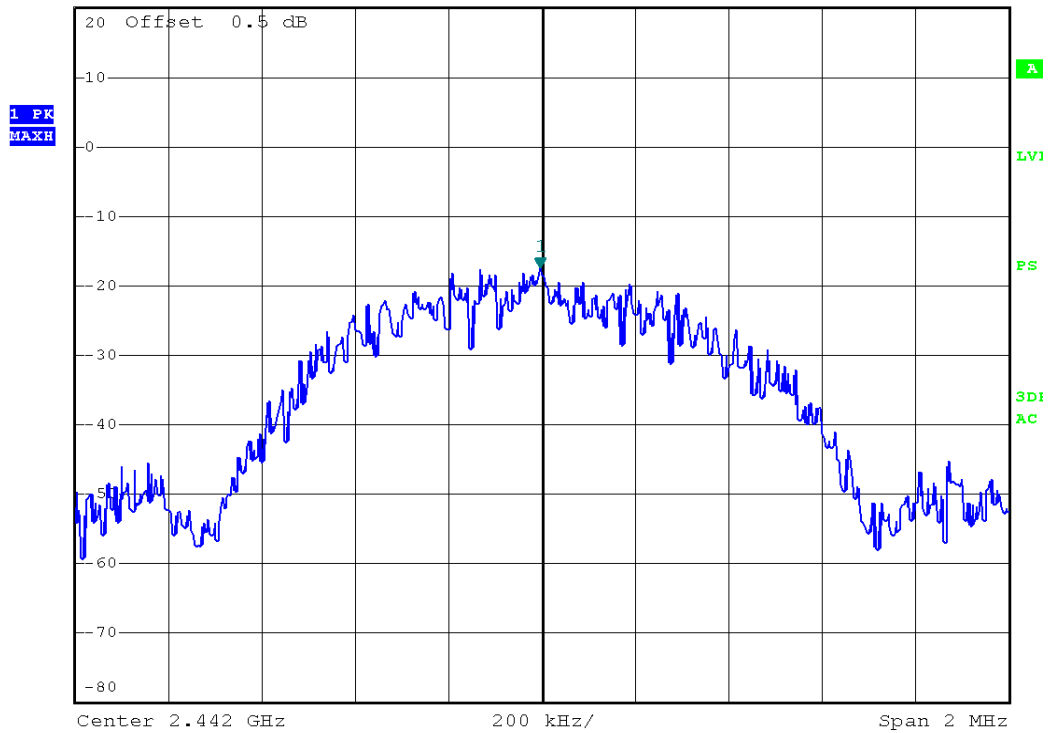
\*RBW 3 kHz      Marker 1 [T1 ]  
 \*VBW 10 kHz      -16.90 dBm  
 Ref 20 dBm      \*Att 40 dB      SWT 225 ms      2.401868000 GHz



Channel 21 2442MHz



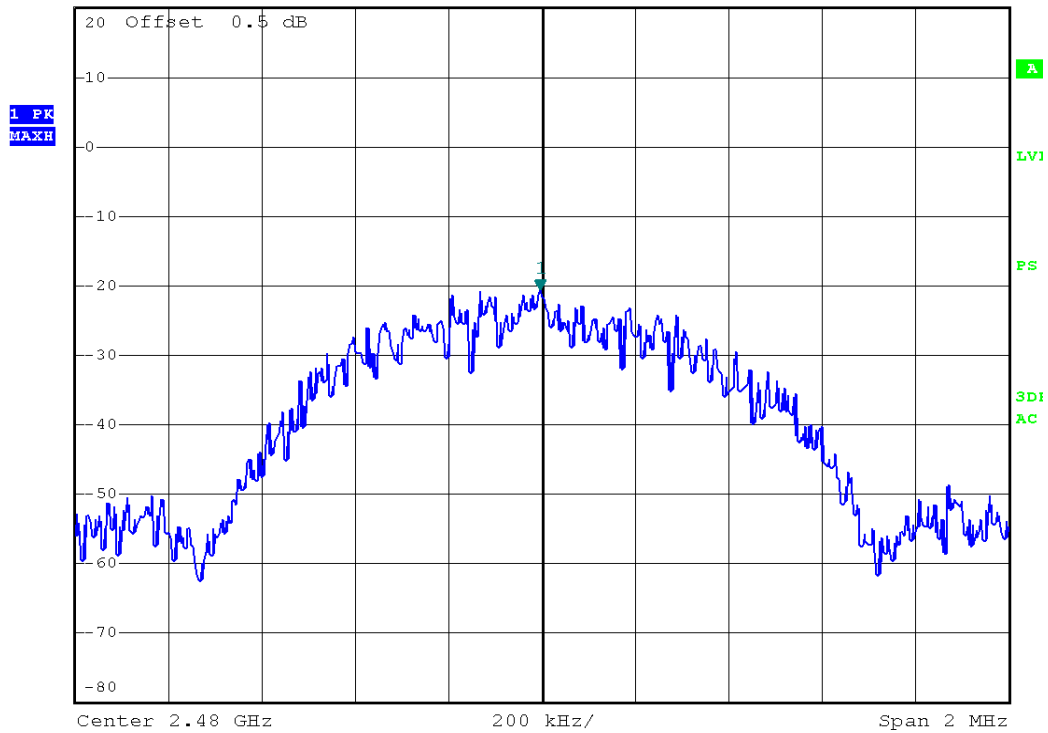
\*RBW 3 kHz    Marker 1 [T1 ]  
\*VBW 10 kHz    -17.34 dBm  
Ref 20 dBm    \*Att 40 dB    SWT 225 ms    2.441996000 GHz



Channel 39 2480MHz



\*RBW 3 kHz    Marker 1 [T1 ]  
\*VBW 10 kHz    -20.59 dBm  
Ref 20 dBm    \*Att 40 dB    SWT 225 ms    2.479996000 GHz



## 10. EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS

### 10.1 LIMITS

FCC 15.247(d) & 15.209

### 10.2 TEST PROCEDURES

Test procedures follow KDB 558074 D01 DTS Measurement Guidance v03r01.

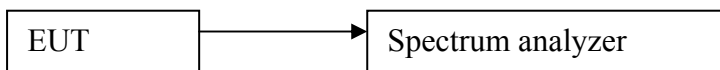
Remove the antenna from the EUT and then connect a low attenuation cable from the antenna port to the spectrum.

1. Reference level measurement

Below 1GHz Set the spectrum analyzer: RBW =100KHz VBW >= 3\*RBW, Set the span to ≥ 1.5 times the DTS bandwidth. Sweep = auto; Detector Function = peak. Trace = Max-hold. Allow the trace to stabilize.

2. Set the spectrum analyzer: RBW =100KHz VBW >= 3\*RBW, Set the span to ≥ 1.5 times the DTS bandwidth. Sweep = auto; Detector Function = peak. Trace = Max-hold. Allow the trace to stabilize.

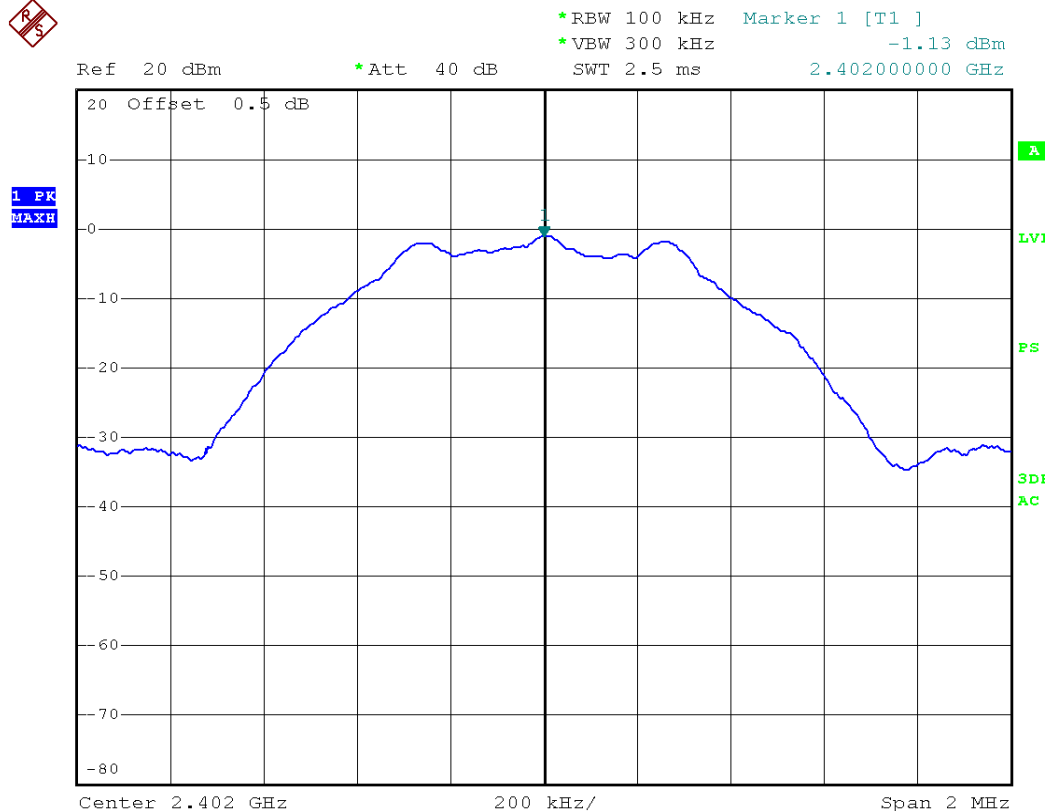
### 10.3 TEST SETUP



### 10.4 TEST RESULTS

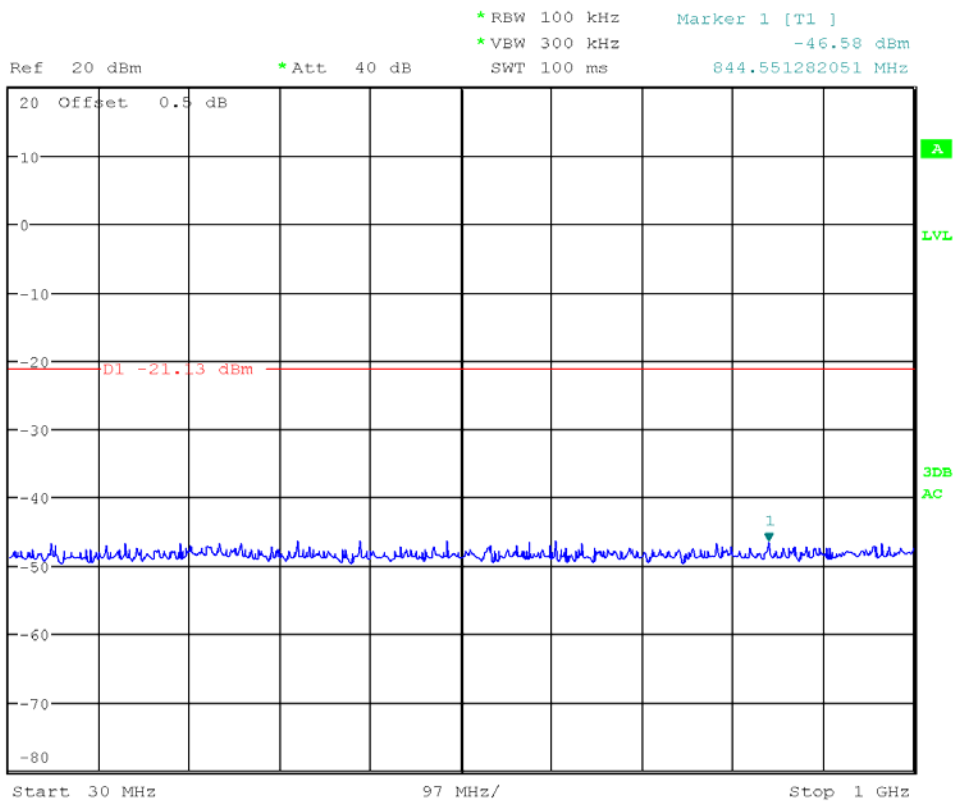
Channel 0 2402MHz

reference level:

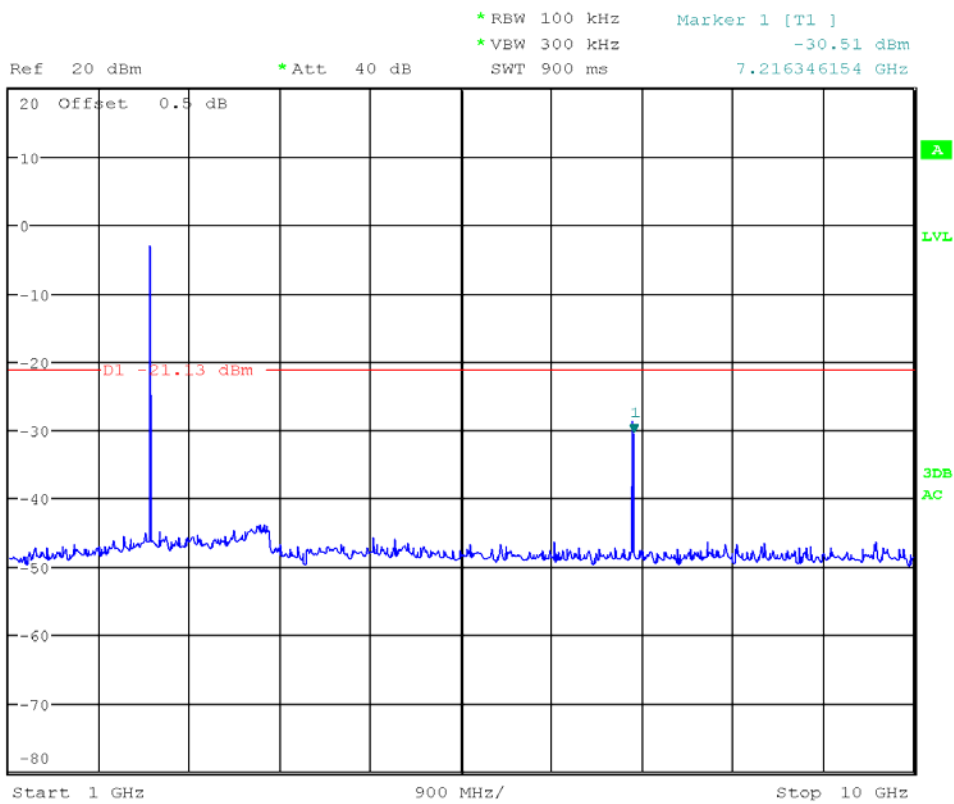


So limit is -21.13dBm

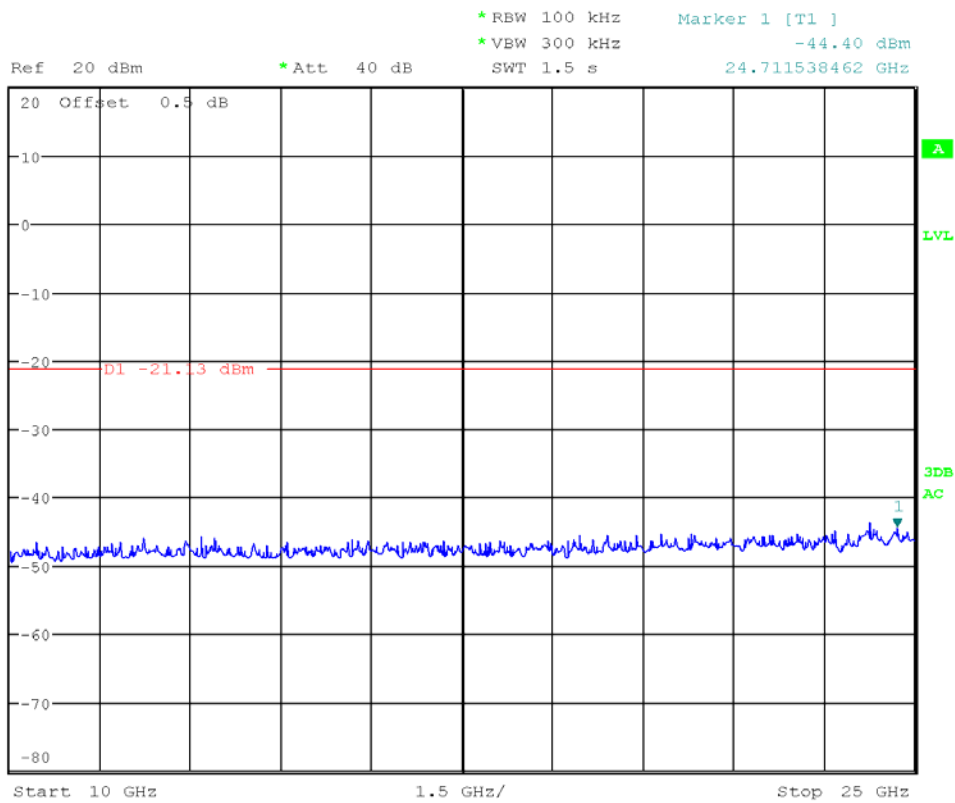
### 30M-1G



### 1G-10G

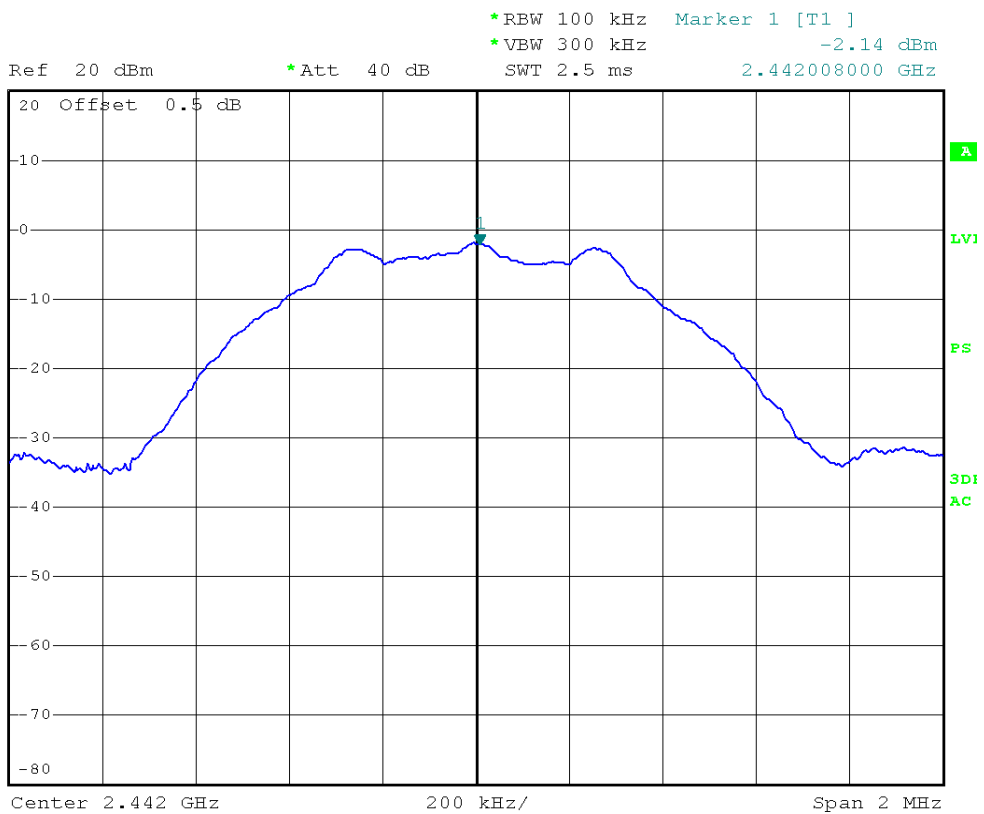


### 10G-25G



### Channel 21 2442MHz

#### Reference level

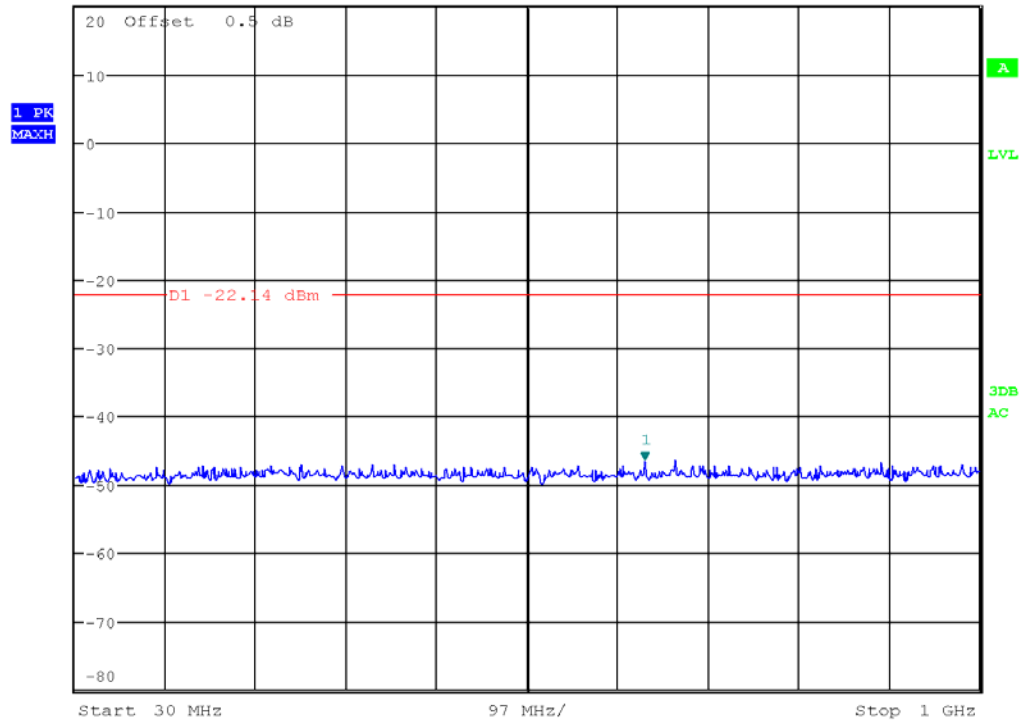


So the limit is -22.14dBm

### 30M-1G



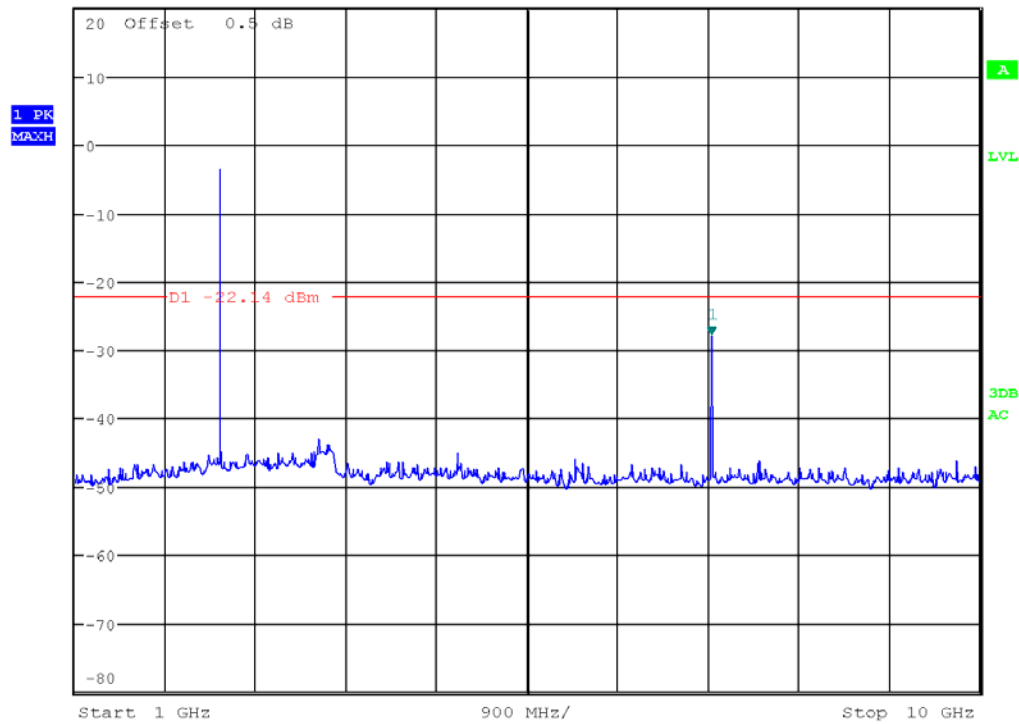
Ref 20 dBm      \*Att 40 dB      \*RBW 100 kHz      Marker 1 [T1]      -46.51 dBm  
\*VW 300 kHz      640.913461538 MHz  
SWT 100 ms



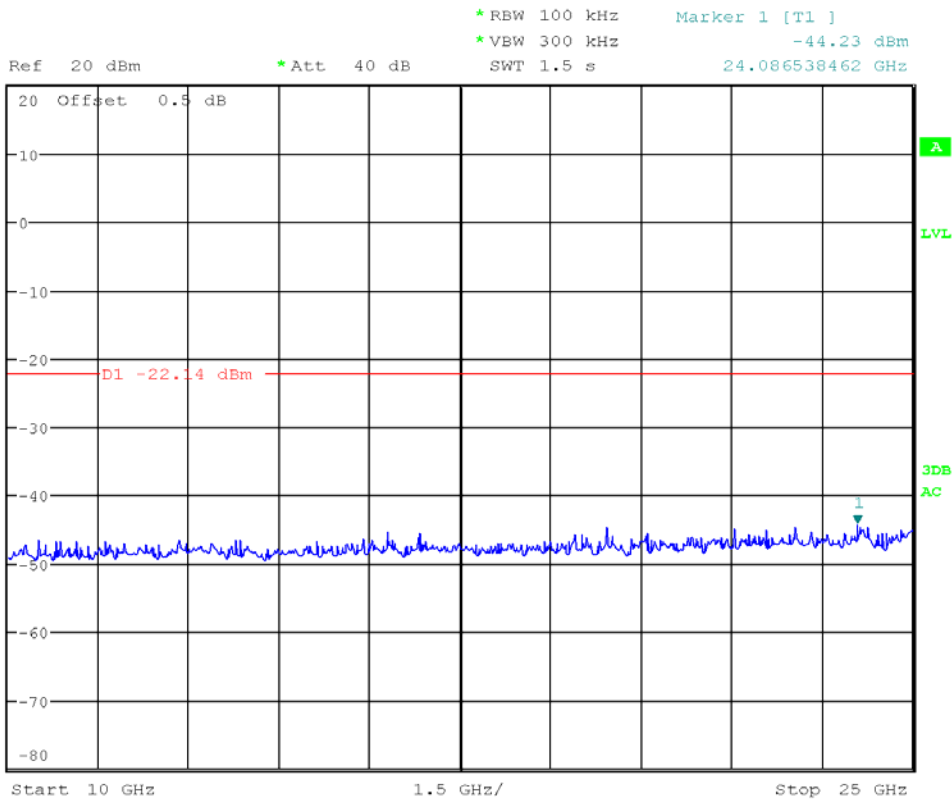
### 1G-10G



Ref 20 dBm      \*Att 40 dB      \*RBW 100 kHz      Marker 1 [T1]      -27.73 dBm  
\*VW 300 kHz      7.331730769 GHz  
SWT 900 ms

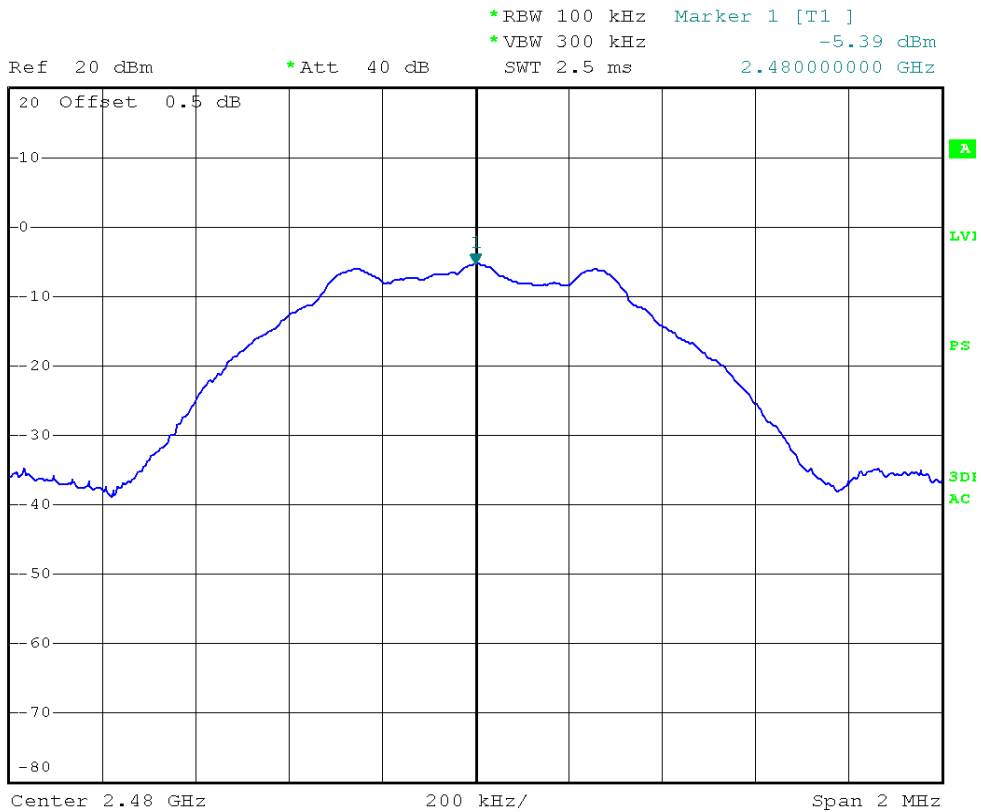


### 10G-25GHz



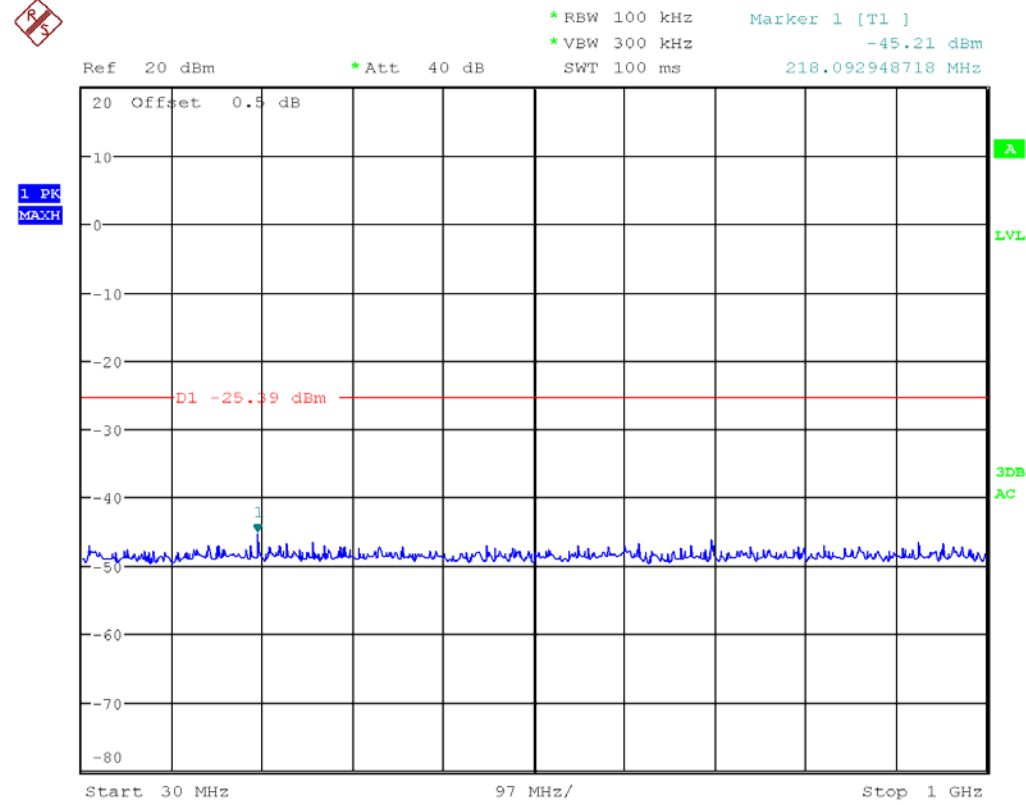
### Channel 39 2480MHz

#### Reference level

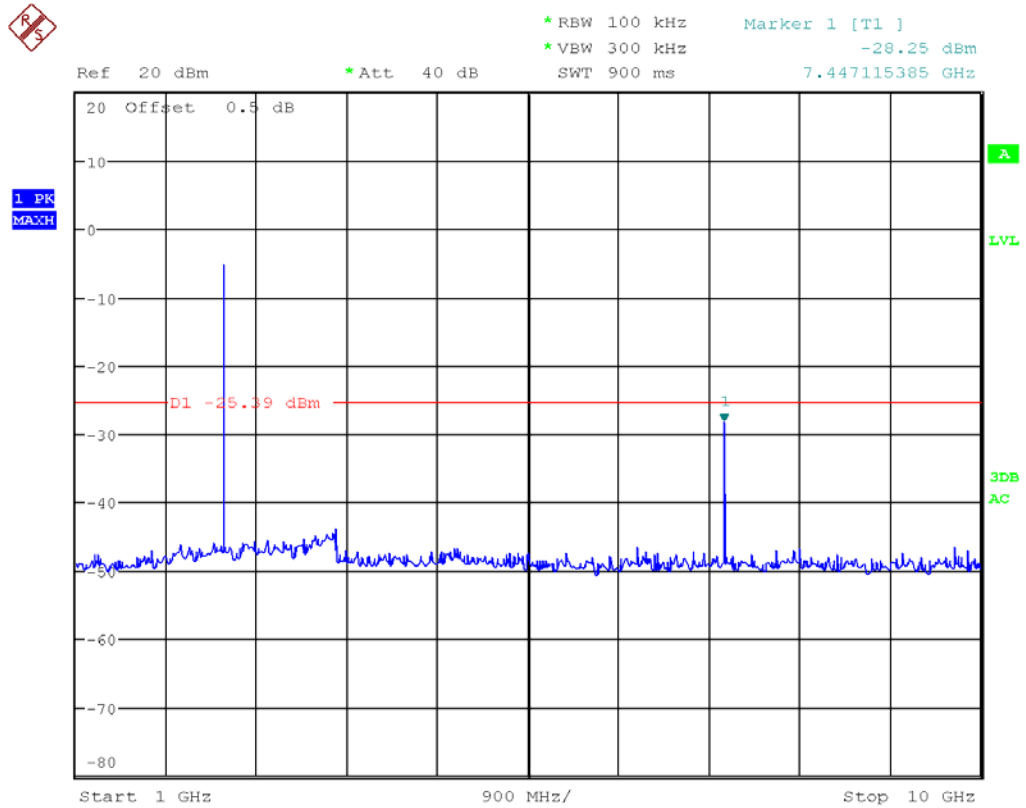


So the limit is -25.39dBm

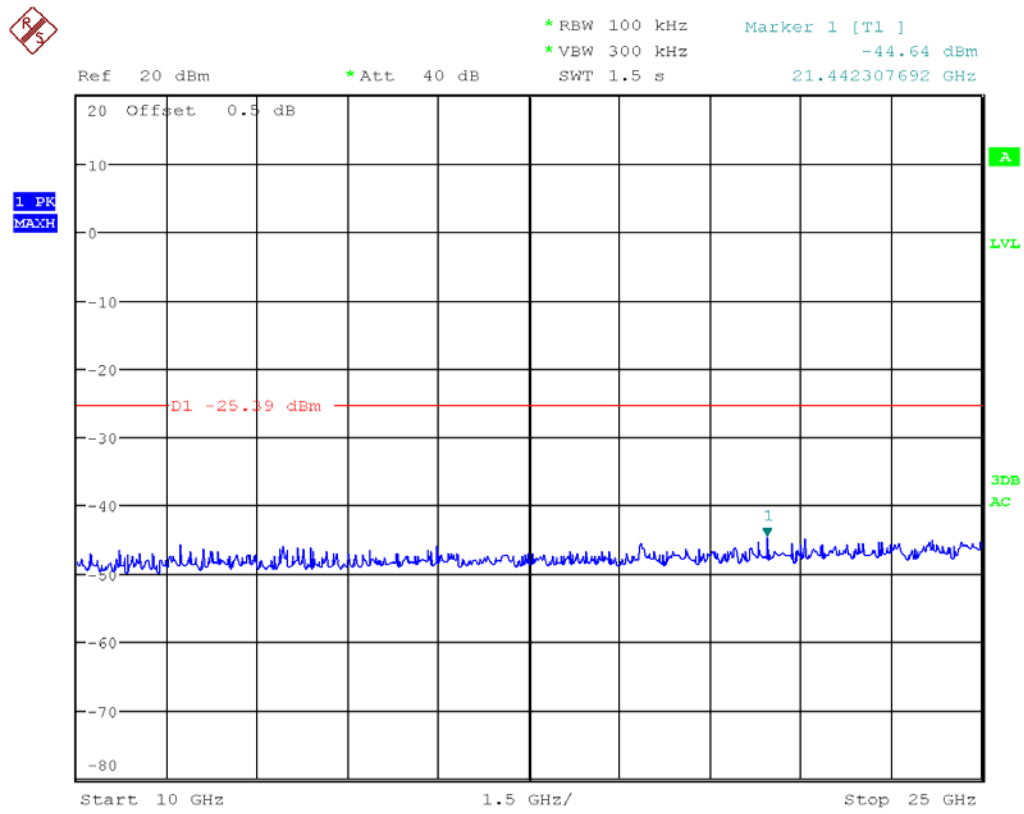
### 30M-1G



### 1G-10G



### 10G-25G



## 11. EMISSIONS IN RESTRICTED FREQUENCY BANDS

### 11.1 LIMITS

The DTS rules specify that emissions which fall into restricted frequency bands shall comply with the general radiated emission limits..

### 11.2 TEST PROCEDURES

Test procedures follow KDB 558074 D01 DTS Meas Guidance v03r01.

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set the analyzer span to encompass the entire unwanted emission bandwidth above the measurement system noise level.
4. When Detector = peak, Set the RBW = 1 MHz. Set the VBW  $\geq$  3 MHz. Ensure that the number of measurement points in the sweep  $\geq$  2 x (span/RBW). Set sweep time = auto couple. When Detector = average. Set the RBW = 1 MHz. Set the VBW = 10Hz. Ensure that the number of measurement points in the sweep  $\geq$  2 x (span/RBW). Set sweep time = auto couple. Employ trace averaging over a minimum of 100 traces.
5. Use the peak marker function to determine the maximum average power level in any 1 MHz of the unwanted emission.
6. Repeat above procedures until all measured frequencies were complete.

### 11.3 TEST SETUP

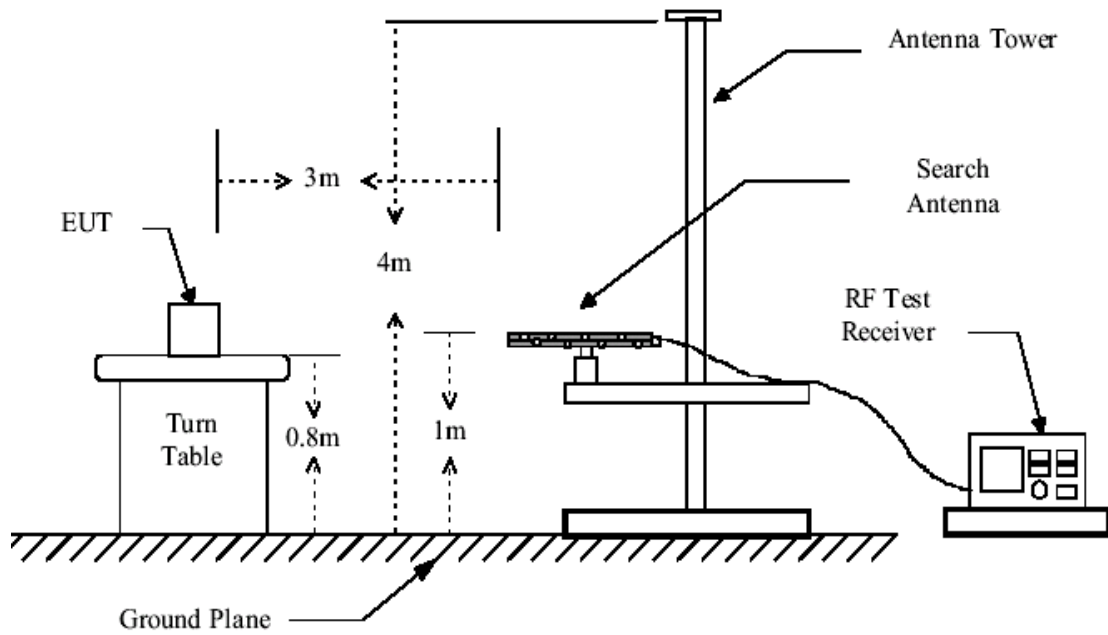


Figure 1. 30MHz to 1GHz radiated emissions test configuration

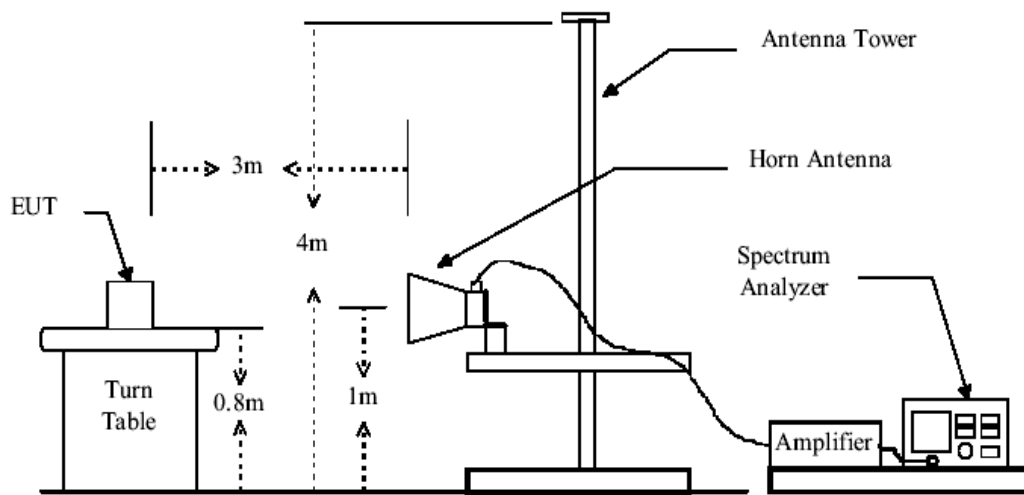
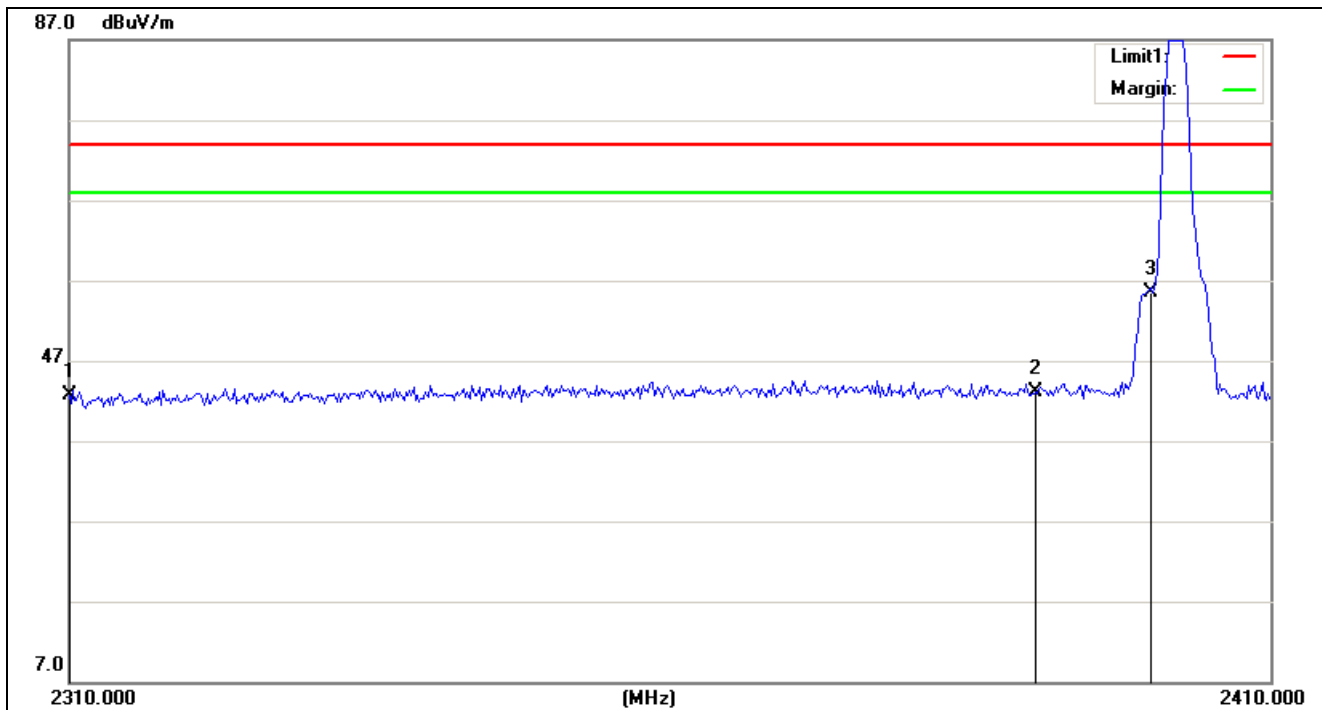


Figure 2. Above 1GHz radiated emissions test configuration

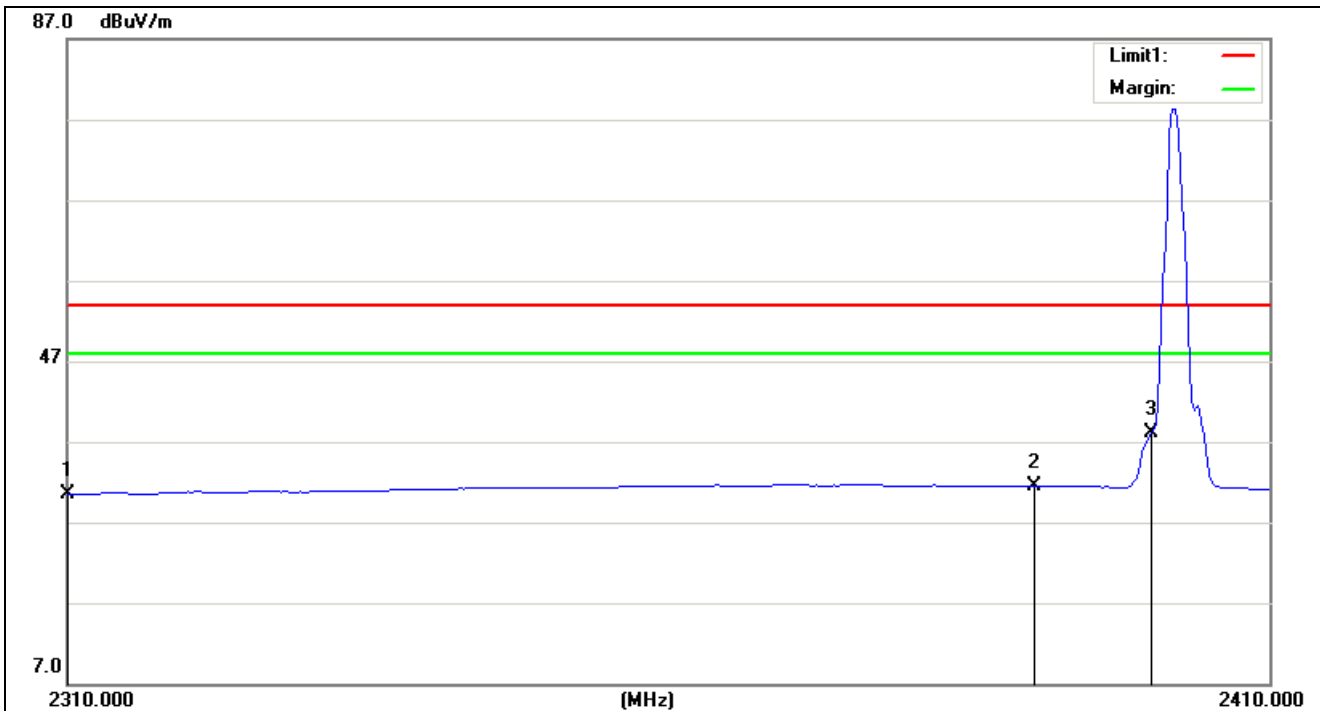
### 11.4 TEST RESULTS

<b>Project No.:</b>	<b>ZJ00032392</b>	<b>Polarziation:</b>	<b>Vertical</b>
<b>Standard:</b>	<b>(RE)FCC PART 15 class B 3m_PEAk</b>	<b>Power Source:</b>	<b>DC 5V</b>
<b>Test item:</b>	<b>Radiation Test</b>	<b>Date:</b>	<b>2013-8-2</b>
<b>Temp./Hum.(%RH):</b>	<b>21/56%RH</b>	<b>Time:</b>	<b>12:50:32</b>
<b>EUT:</b>	<b>BLUETOOTH HEADSET</b>	<b>Distance:</b>	<b>3m</b>
<b>Model:</b>	<b>J46BT</b>	<b>Test Result:</b>	<b>Pass</b>
<b>Note:</b>			



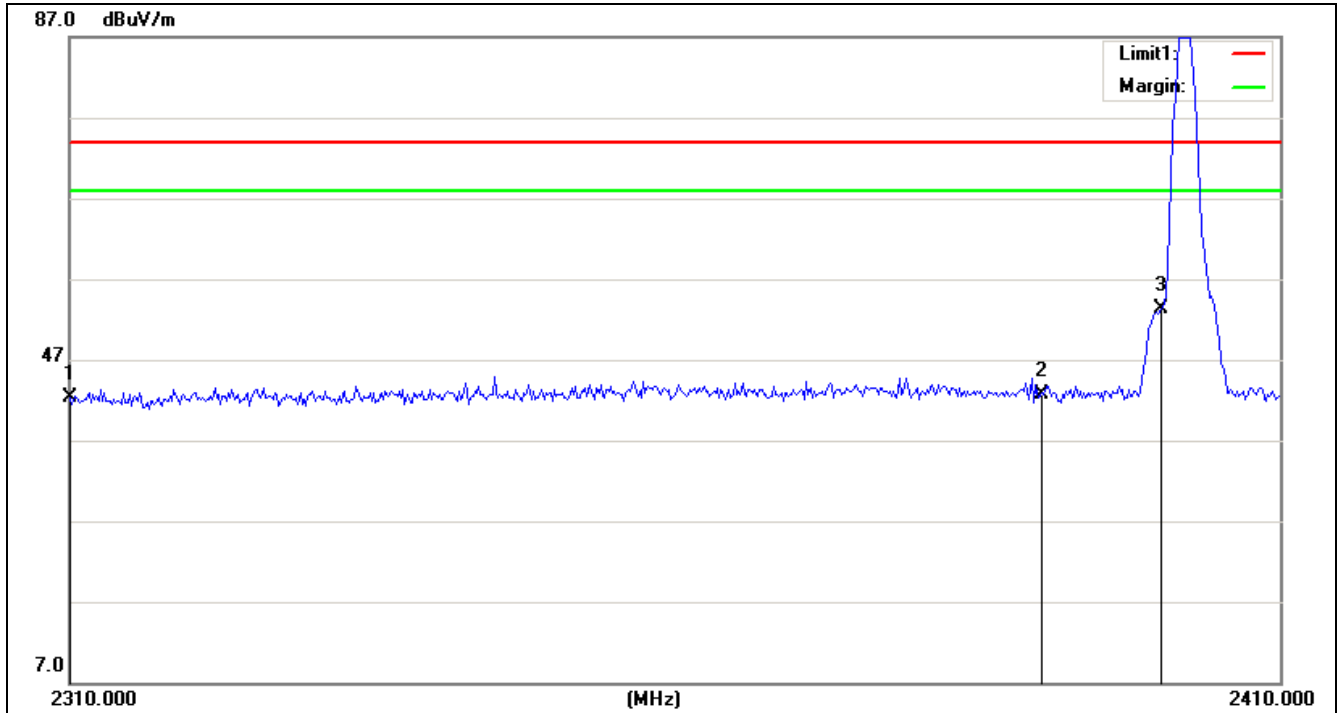
No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	26.77	15.85	42.62	74.00	-31.38	peak
2	2390.000	26.86	16.32	43.18	74.00	-30.82	peak
3	2400.000	39.16	16.38	55.54	74.00	-18.46	peak

<b>Project No.:</b>	<b>ZJ00032392</b>	<b>Polarziation:</b>	<b>Vertical</b>
<b>Standard:</b>	<b>(RE)FCC PART 15 class B 3m_AVG</b>	<b>Power Source:</b>	<b>DC 5V</b>
<b>Test item:</b>	<b>Radiation Test</b>	<b>Date:</b>	<b>2013-8-2</b>
<b>Temp./Hum.(%RH):</b>	<b>21/56%RH</b>	<b>Time:</b>	<b>11:52:46</b>
<b>EUT:</b>	<b>BLUETOOTH HEADSET</b>	<b>Distance:</b>	<b>3m</b>
<b>Model:</b>	<b>J46BT</b>	<b>Test Result:</b>	<b>Pass</b>
<b>Note:</b>			



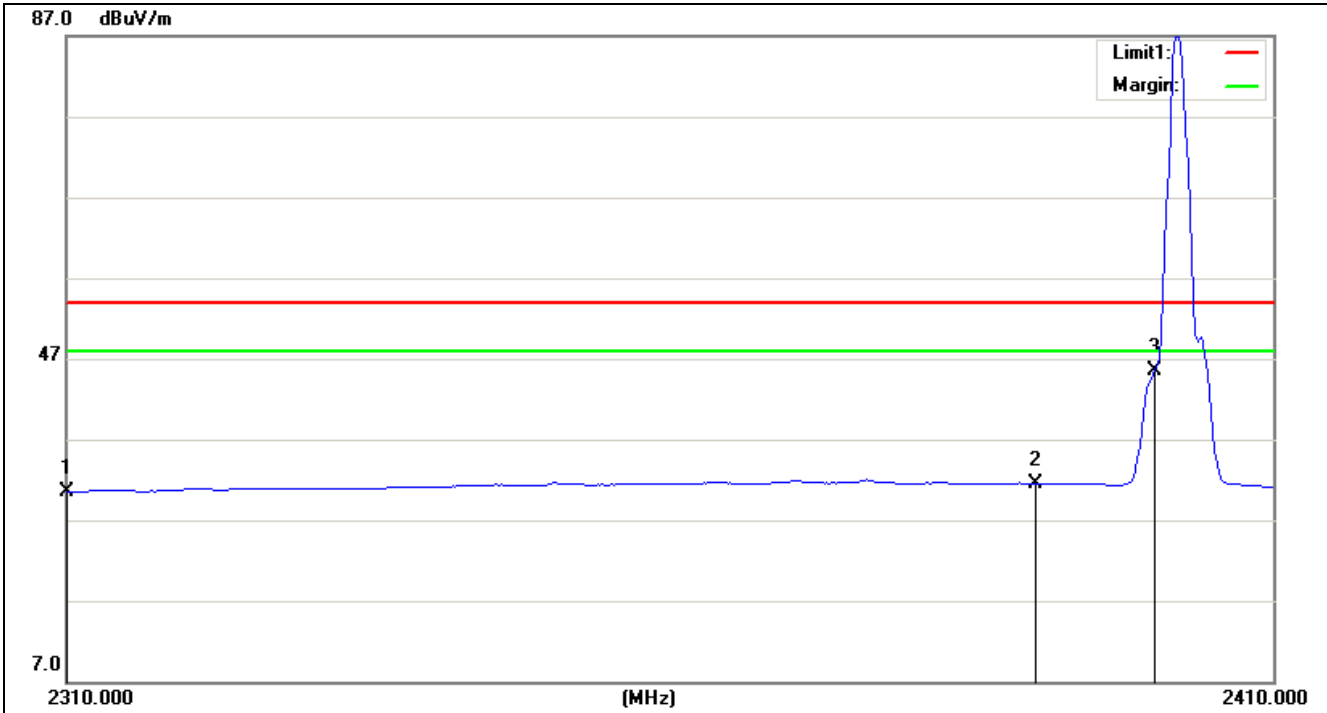
No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	14.68	15.85	30.53	54.00	-23.47	AVG
2	2390.000	15.24	16.32	31.56	54.00	-22.44	AVG
3	2400.000	21.70	16.38	38.08	54.00	-15.92	AVG

<b>Project No.:</b>	<b>ZJ00032392</b>	<b>Polarziation:</b>	<b>Horizontal</b>
<b>Standard:</b>	<b>(RE)FCC PART 15 class B 3m_PEAK</b>	<b>Power Source:</b>	<b>DC 5V</b>
<b>Test item:</b>	<b>Radiation Test</b>	<b>Date:</b>	<b>2013-8-2</b>
<b>Temp./Hum.(%RH):</b>	<b>21/56%RH</b>	<b>Time:</b>	<b>12:52:34</b>
<b>EUT:</b>	<b>BLUETOOTH HEADSET</b>	<b>Distance:</b>	<b>3m</b>
<b>Model:</b>	<b>J46BT</b>	<b>Test Result:</b>	<b>Pass</b>
<b>Note:</b>			



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	26.51	15.85	42.36	74.00	-31.64	peak
2	2390.000	26.46	16.32	42.78	74.00	-31.22	peak
3	2400.000	36.94	16.38	53.32	74.00	-20.68	peak

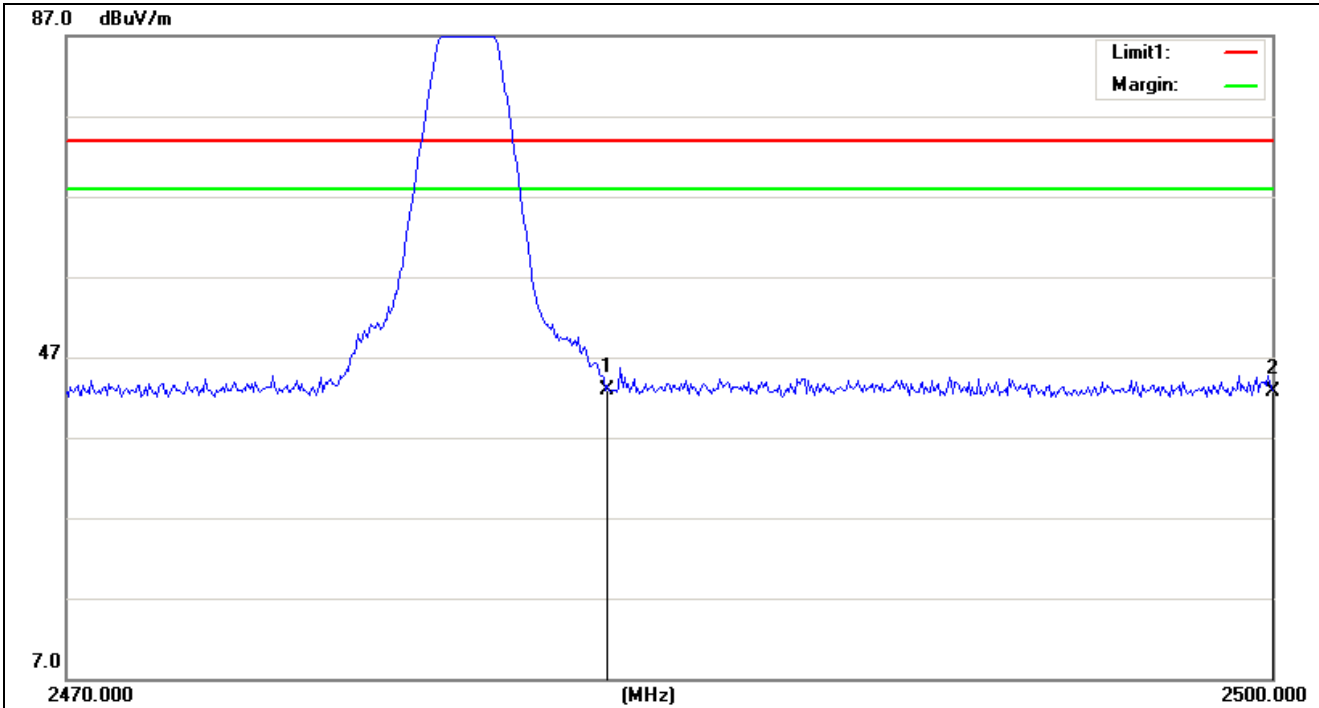
<b>Project No.:</b>	<b>ZJ00032392</b>	<b>Polarziation:</b>	<b>Horizontal</b>
<b>Standard:</b>	<b>(RE)FCC PART 15 class B 3m_AVG</b>	<b>Power Source:</b>	<b>DC 5V</b>
<b>Test item:</b>	<b>Radiation Test</b>	<b>Date:</b>	<b>2013-8-2</b>
<b>Temp./Hum.(%RH):</b>	<b>21/56%RH</b>	<b>Time:</b>	<b>12:37:08</b>
<b>EUT:</b>	<b>BLUETOOTH HEADSET</b>	<b>Distance:</b>	<b>3m</b>
<b>Model:</b>	<b>J46BT</b>	<b>Test Result:</b>	<b>Pass</b>
<b>Note:</b>			



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	14.70	15.85	30.55	54.00	-23.45	AVG
2	2390.000	15.22	16.32	31.54	54.00	-22.46	AVG
3	2400.000	29.20	16.38	45.58	54.00	-8.42	AVG

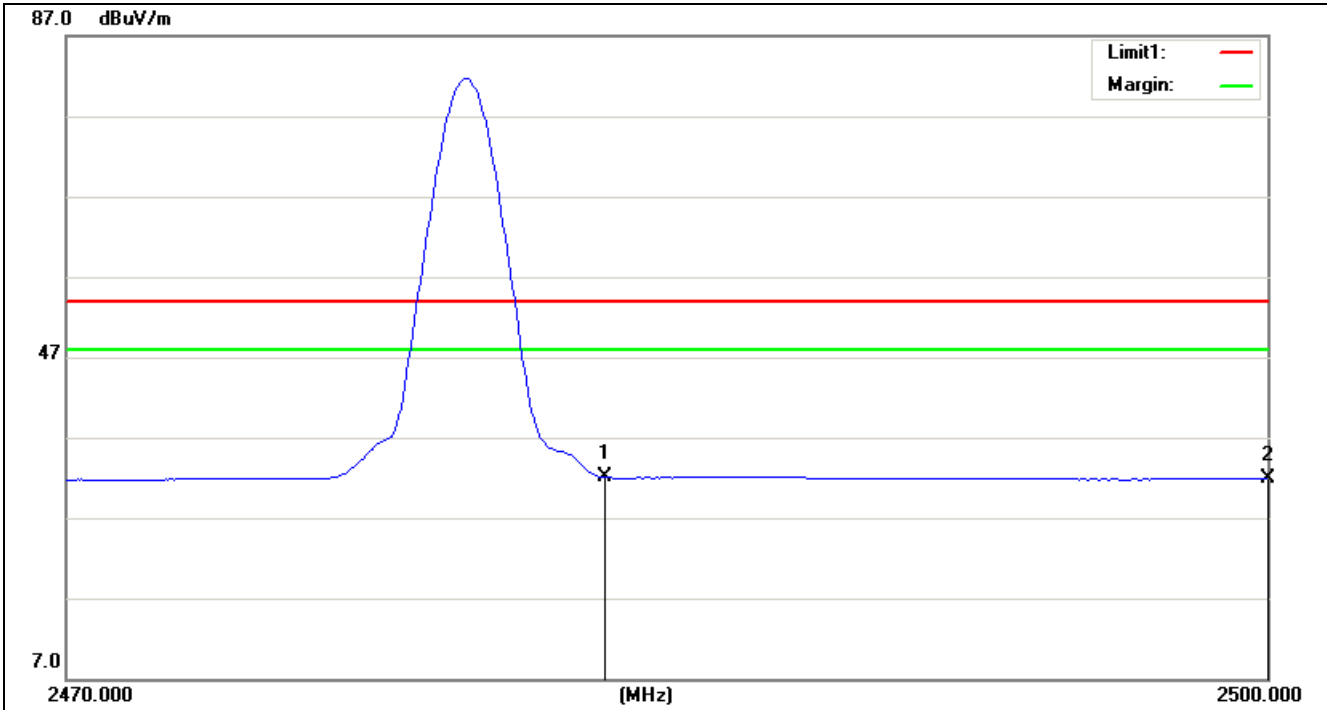
<b>Project No.:</b>	<b>ZJ00032392</b>	<b>Polarziation:</b>	<b>Vertical</b>
<b>Standard:</b>	<b>(RE)FCC PART 15 class B 3m_PEAk</b>	<b>Power Source:</b>	<b>DC 5V</b>
<b>Test item:</b>	<b>Radiation Test</b>	<b>Date:</b>	<b>2013-8-2</b>
<b>Temp./Hum.(%RH):</b>	<b>21/56%RH</b>	<b>Time:</b>	<b>12:54:53</b>
<b>EUT:</b>	<b>BLUETOOTH HEADSET</b>	<b>Distance:</b>	<b>3m</b>
<b>Model:</b>	<b>J46BT</b>	<b>Test Result:</b>	<b>Pass</b>

Note:



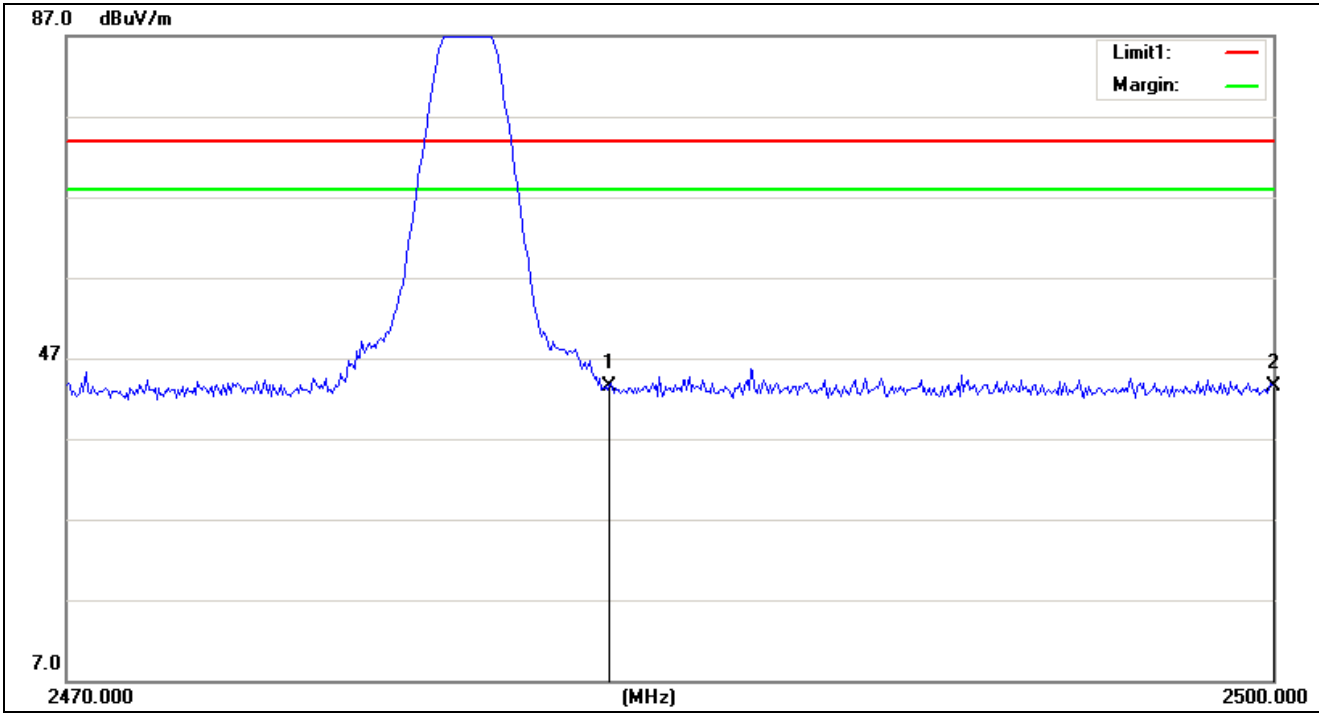
No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	26.11	16.87	42.98	74.00	-31.02	peak
2	2500.000	25.65	16.97	42.62	74.00	-31.38	peak

<b>Project No.:</b>	<b>ZJ00032392</b>	<b>Polarziation:</b>	<b>Vertical</b>
<b>Standard:</b>	<b>(RE)FCC PART 15 class B 3m_AVG</b>	<b>Power Source:</b>	<b>DC 5V</b>
<b>Test item:</b>	<b>Radiation Test</b>	<b>Date:</b>	<b>2013-8-2</b>
<b>Temp./Hum.(%RH):</b>	<b>21/56%RH</b>	<b>Time:</b>	<b>12:47:24</b>
<b>EUT:</b>	<b>BLUETOOTH HEADSET</b>	<b>Distance:</b>	<b>3m</b>
<b>Model:</b>	<b>J46BT</b>	<b>Test Result:</b>	<b>Pass</b>
<b>Note:</b>			



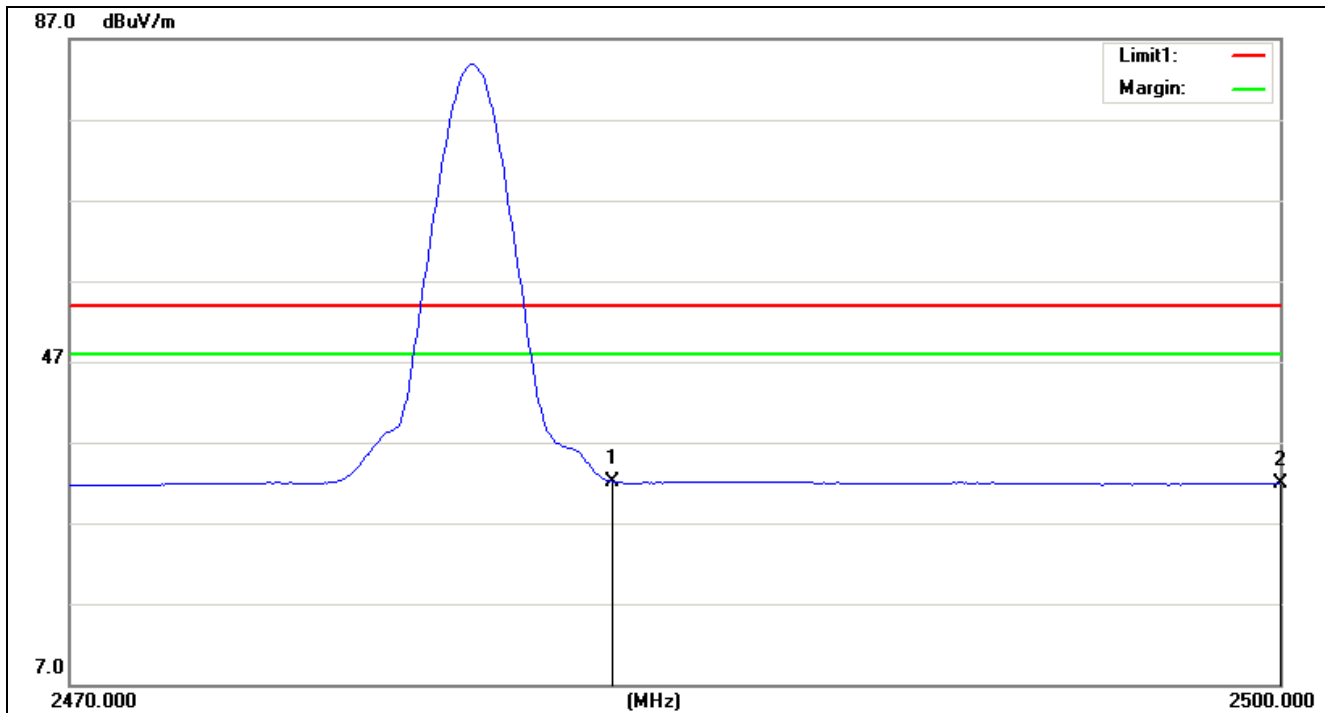
No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	15.17	16.87	32.04	54.00	-21.96	AVG
2	2500.000	14.89	16.97	31.86	54.00	-22.14	AVG

<b>Project No.:</b>	<b>ZJ00032392</b>	<b>Polarziation:</b>	<b>Horizontal</b>
<b>Standard:</b>	<b>(RE)FCC PART 15 class B 3m_PEAk</b>	<b>Power Source:</b>	<b>DC 5V</b>
<b>Test item:</b>	<b>Radiation Test</b>	<b>Date:</b>	<b>2013-8-2</b>
<b>Temp./Hum.(%RH):</b>	<b>21/56%RH</b>	<b>Time:</b>	<b>12:55:28</b>
<b>EUT:</b>	<b>BLUETOOTH HEADSET</b>	<b>Distance:</b>	<b>3m</b>
<b>Model:</b>	<b>J46BT</b>	<b>Test Result:</b>	<b>Pass</b>
<b>Note:</b>			



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	26.64	16.87	43.51	74.00	-30.49	peak
2	2500.000	26.54	16.97	43.51	74.00	-30.49	peak

<b>Project No.:</b>	<b>ZJ00032392</b>	<b>Polarziation:</b>	<b>Horizontal</b>
<b>Standard:</b>	<b>(RE)FCC PART 15 class B 3m_AVG</b>	<b>Power Source:</b>	<b>DC 5V</b>
<b>Test item:</b>	<b>Radiation Test</b>	<b>Date:</b>	<b>2013-8-2</b>
<b>Temp./Hum.(%RH):</b>	<b>21/56%RH</b>	<b>Time:</b>	<b>12:48:05</b>
<b>EUT:</b>	<b>BLUETOOTH HEADSET</b>	<b>Distance:</b>	<b>3m</b>
<b>Model:</b>	<b>J46BT</b>	<b>Test Result:</b>	<b>Pass</b>
<b>Note:</b>			



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	15.24	16.87	32.11	54.00	-21.89	AVG
2	2500.000	14.90	16.97	31.87	54.00	-22.13	AVG

## 12. BAND-EDGE MEASUREMENTS

### 12.1 LIMITS

FCC 15.247(d) & 15.209

### 12.2 TEST PROCEDURES

Test procedures follow KDB 558074 D01 DTS Measurement Guidance v03r01.

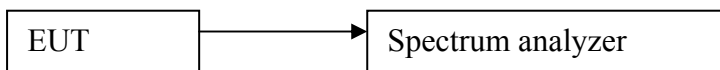
Remove the antenna from the EUT and then connect a low attenuation cable from the antenna port to the spectrum.

1. Reference level measurement

Below 1GHz Set the spectrum analyzer: RBW =100KHz VBW  $\geq$  3\*RBW, Set the span to  $\geq$  1.5 times the DTS bandwidth. Sweep = auto; Detector Function = peak. Trace = Max-hold. Allow the trace to stabilize.

2. Set the spectrum analyzer: RBW =100KHz VBW  $\geq$  3\*RBW, Set the span to  $\geq$  1.5 times the DTS bandwidth. Sweep = auto; Detector Function = peak. Trace = Max-hold. Allow the trace to stabilize.

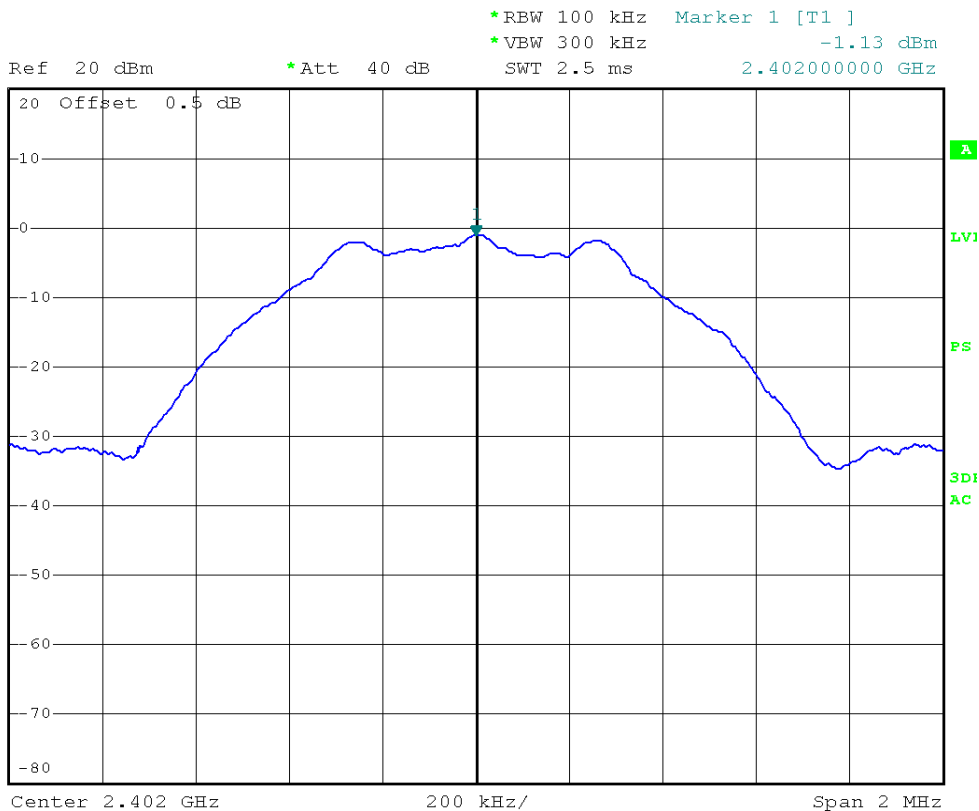
### 12.3 TEST SETUP



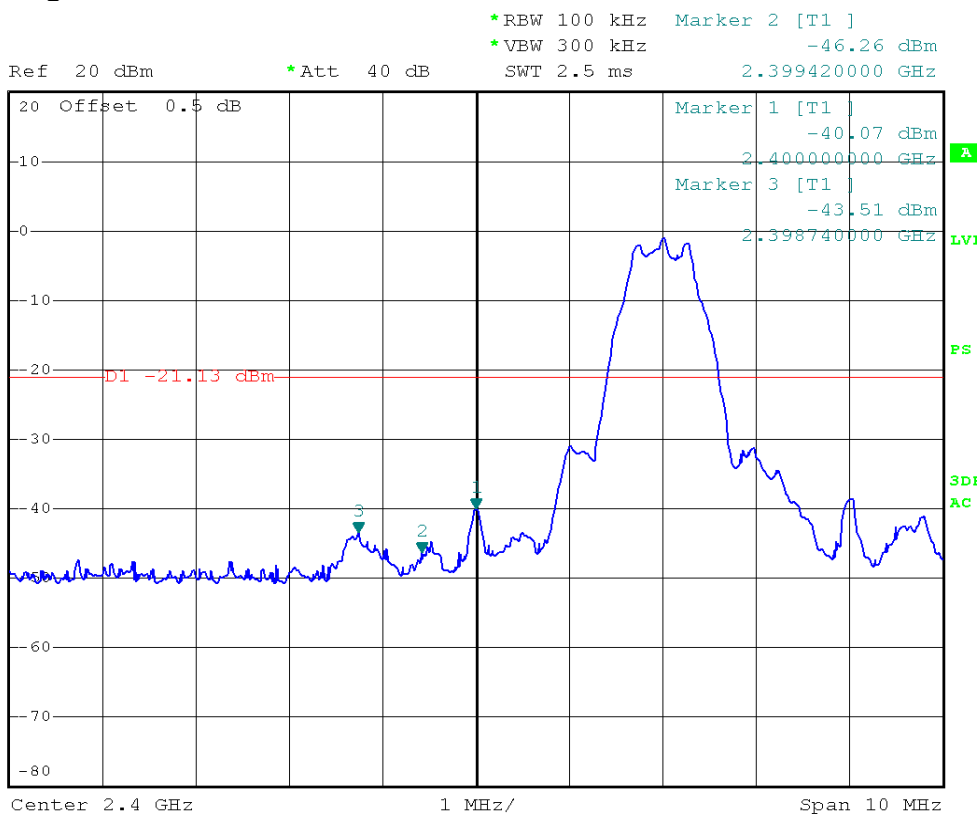
### 12.4 TEST RESULTS

### Channel 0 2402MHz

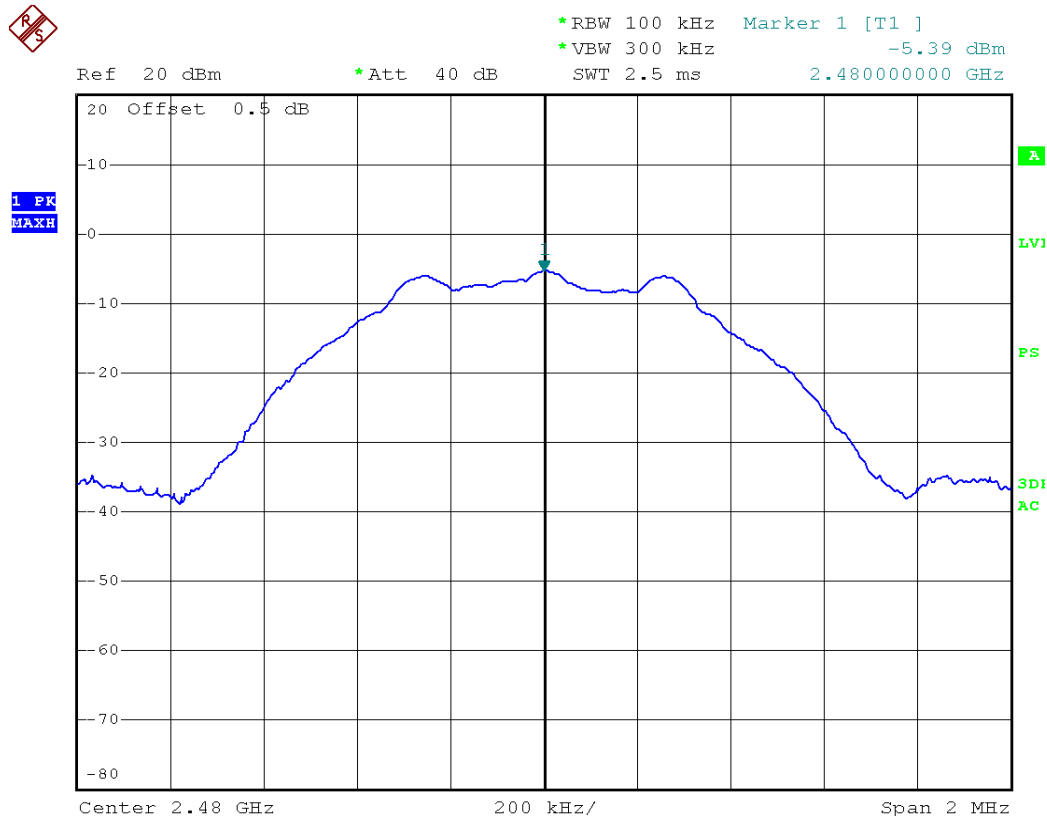
reference level:



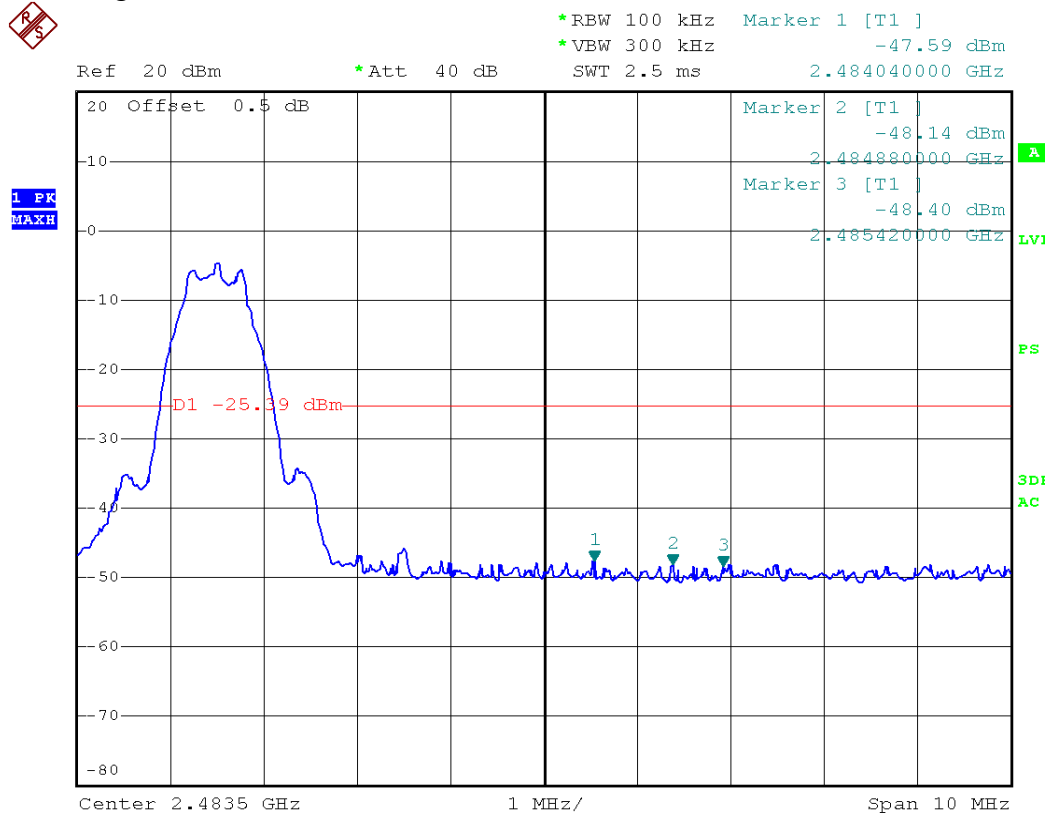
### Band edge:



### Channel 39 2480MHz reference level:



### Band edge:



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