



## Test Report

Product Name : BLUETOOTH Watch  
Model No. : 8471\_41\_01\_50  
FCC ID. : RGQ-PEBBLE-WATCH

Applicant : Pebble Technology Corporation  
Address : 639 High St, Palo Alto, CA 94301, United States

Date of Receipt : 2012/11/15  
Issued Date : 2012/12/11  
Report No. : 12B259R-RFUSP43V01  
Report Version : V1.0



The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

# Test Report Certification

Issued Date : 2012/12/11

Report No. : 12B259R-RFUSP43V01



Product Name : BLUETOOTH Watch  
 Applicant : Pebble Technology Corporation  
 Address : 639 High St, Palo Alto, CA 94301, United States  
 Manufacturer : Fugang Electronic(Dongguan) Co., LTD  
 Address : Industry Street, Dong Keng, Dong Guan, Guang Dong, China.  
 zip code: 523455  
 Model No. : 8471\_41\_01\_50  
 FCC ID. : RGQ-PEBBLE-WATCH  
 EUT Voltage : DC 3.7V (Power by Battery)  
 Trade Name : Pebble  
 Applicable Standard : FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2011  
 ANSI C63.4: 2009  
 Test Result : Complied

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

Documented By : *Demi Chang*  
 ( Demi Chang / Engineering Adm. Specialist )  
 Tested By : *Quale Tang*  
 ( Quale Tang / Engineer )  
 Approved By : *Roy Wang*  
 ( Roy Wang / Manager )

**Laboratory Information**

We, **QuieTek Corporation**, are an independent RF consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted (audited or listed) by the following related bodies in compliance with ISO 17025 specified testing scopes:

<b>Taiwan R.O.C.</b>	<b>:</b>	<b>TAF, Accreditation Number: 1313</b>
<b>Germany</b>	<b>:</b>	<b>TUV Rheinland, Certificate No.: 10011438-2-2010</b>
<b>USA</b>	<b>:</b>	<b>FCC, Registration Number: 365520</b>
<b>Canada</b>	<b>:</b>	<b>IC, Submission No: 150981</b>

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site:<http://www.quietek.com/tw/ctg/cts/accreditations.htm>

The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>

If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

**HsinChu Testing Laboratory:**

No.75-2, 3rd Lin, Wangye Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan, R.O.C.  
TEL:+886-3-592-8858 / FAX:+886-3-592-8859 E-Mail : [service@quietek.com](mailto:service@quietek.com)

**LinKou Testing Laboratory:**

No.5-22, Ruishukeng, Linkou Dist., New Taipei City 24451, Taiwan, R.O.C.  
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : [service@quietek.com](mailto:service@quietek.com)

**Suzhou Testing Laboratory:**

No. 99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech Development Zone., Suzhou,China.  
TEL : +86-512-6251-5088 / FAX : +86-512-6251-5098 E-Mail : [service@quietek.com](mailto:service@quietek.com)

## TABLE OF CONTENTS

Description	Page
1. General Information.....	6
1.1. EUT Description .....	6
1.2. Operational Description.....	8
1.3. Test Mode .....	9
1.4. Tested System Details .....	10
1.5. Configuration of tested System .....	11
1.6. EUT Exercise Software .....	11
1.7. Test Facility.....	12
2. Peak Power Output .....	13
2.1. Test Equipment.....	13
2.2. Test Setup .....	13
2.3. Test procedures .....	13
2.4. Limits .....	13
2.5. Test Specification.....	13
2.6. Test Result.....	14
3. Radiated Emission .....	23
3.1. Test Equipment.....	23
3.2. Test Setup .....	23
3.3. Limits .....	24
3.4. Test Procedure .....	24
3.5. Test Specification.....	24
3.6. Test Result.....	25
3.7. Test Photo .....	33
4. RF antenna conducted test .....	35
4.1. Test Equipment.....	35
4.2. Test Setup .....	35
4.3. Limits .....	36
4.4. Test Procedure .....	36
4.5. Test Specification.....	36
4.6. Test Result.....	37
5. Band Edge.....	49
5.1. Test Equipment.....	49
5.2. Test Setup .....	49
5.3. Limits .....	50
5.4. Test Procedure .....	50
5.5. Test Specification.....	50
5.6. Test Result.....	51
6. Number of hopping frequency .....	67
6.1. Test Equipment.....	67
6.2. Test Setup .....	67
6.3. Limits .....	68
6.4. Test Procedures .....	68

---

6.5.	Test Specification.....	68
6.6.	Test Result.....	69
7.	Carrier Frequency Separation .....	73
7.1.	Test Equipment.....	73
7.2.	Test Setup .....	73
7.3.	Limits .....	73
7.4.	Test Procedures .....	73
7.5.	Test Specification.....	73
7.6.	Test Result.....	74
8.	Occupied Bandwidth .....	83
8.1.	Test Equipment.....	83
8.2.	Test Setup .....	83
8.3.	Limits .....	84
8.4.	Test Procedures .....	84
8.5.	Test Specification.....	84
8.6.	Test Result.....	85
9.	Dwell Time.....	94
9.1.	Test Equipment.....	94
9.2.	Test Setup .....	94
9.3.	Limits .....	95
9.4.	Test Procedures .....	95
9.5.	Test Specification.....	95
9.6.	Test Result.....	96
Attachement.....		98
	EUT Photograph.....	98

## 1. General Information

### 1.1. EUT Description

Product Name	BLUETOOTH Watch
Trade Name	Pebble
Model No.	8471_41_01_50
Frequency Range	2402~2480MHz
Channel Number	79
Type of Modulation	Frequency Hopping Spread Spectrum
Data Speed	1, 2, 3Mbps
Channel Control	Auto
Antenna Type	PIFA
Antenna Gain	6.2dBi

Component	
USB Cable	Shielded, 1m

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 00	2402 MHz	Channel 20	2422 MHz	Channel 40	2442 MHz	Channel 60	2462 MHz
Channel 01	2403 MHz	Channel 21	2423 MHz	Channel 41	2443 MHz	Channel 61	2463 MHz
Channel 02	2404 MHz	Channel 22	2424 MHz	Channel 42	2444 MHz	Channel 62	2464 MHz
Channel 03	2405 MHz	Channel 23	2425 MHz	Channel 43	2445 MHz	Channel 63	2465 MHz
Channel 04	2406 MHz	Channel 24	2426 MHz	Channel 44	2446 MHz	Channel 64	2466 MHz
Channel 05	2407 MHz	Channel 25	2427 MHz	Channel 45	2447 MHz	Channel 65	2467 MHz
Channel 06	2408 MHz	Channel 26	2428 MHz	Channel 46	2448 MHz	Channel 66	2468 MHz
Channel 07	2409 MHz	Channel 27	2429 MHz	Channel 47	2449 MHz	Channel 67	2469 MHz
Channel 08	2410 MHz	Channel 28	2430 MHz	Channel 48	2450 MHz	Channel 68	2470 MHz
Channel 09	2411 MHz	Channel 29	2431 MHz	Channel 49	2451 MHz	Channel 69	2471 MHz
Channel 10	2412 MHz	Channel 30	2432 MHz	Channel 50	2452 MHz	Channel 70	2472 MHz
Channel 11	2413 MHz	Channel 31	2433 MHz	Channel 51	2453 MHz	Channel 71	2473 MHz
Channel 12	2414 MHz	Channel 32	2434 MHz	Channel 52	2454 MHz	Channel 72	2474 MHz
Channel 13	2415 MHz	Channel 33	2435 MHz	Channel 53	2455 MHz	Channel 73	2475 MHz
Channel 14	2416 MHz	Channel 34	2436 MHz	Channel 54	2456 MHz	Channel 74	2476 MHz
Channel 15	2417 MHz	Channel 35	2437 MHz	Channel 55	2457 MHz	Channel 75	2477 MHz
Channel 16	2418 MHz	Channel 36	2438 MHz	Channel 56	2458 MHz	Channel 76	2478 MHz
Channel 17	2419 MHz	Channel 37	2439 MHz	Channel 57	2459 MHz	Channel 77	2479 MHz
Channel 18	2420 MHz	Channel 38	2440 MHz	Channel 58	2460 MHz	Channel 78	2480 MHz
Channel 19	2421 MHz	Channel 39	2441 MHz	Channel 59	2461 MHz		

The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

Frequency hopping spread spectrum systems are not required to employ all available hopping channels during each transmission. The transmitter is presented with a continuous data stream. In addition, a system employing short transmission bursts must comply with the definition of a frequency hopping system and must distribute its 79 channels and over the minimum number of hopping channels (75 channels).

The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hop sets to avoid hopping on occupied channels is permitted. The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.

**Note:**

1. This device is a BLUETOOTH Watch including a 2.4GHz receiving function, and transmitting function.
2. These test results on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.247 for spread spectrum devices.
3. Regards to the frequency band operation; the lowest , middle and highest frequency of channel were selected to perform the test, and then shown on this report.
4. This device has three modulation types (GFSK,  $\pi/4$ -DQPSK, 8DPSK). We measured and found the worst case of these three modulation types. Only the worst case was measured in all test items.
5. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.
6. This device is a composite device in accordance with Part 15 regulations. The function receiving was measured and made a test report that the report number is 12B259R-RFUSP37V02 under Declaration of Conformity.

**1.3. Test Mode**

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Pre-Test Mode	
EMI	Mode 1: Transmit
Final Test Mode	
EMI	Mode 1: Transmit

Emission	Mode
Conducted Emission	No
Peak Power Output	Yes
Radiated Emission	Yes
RF antenna conducted test	Yes
Band Edge	Yes
Number of hopping Frequency	Yes
Carrier Frequency Separation	Yes
Occupied Bandwidth	Yes
Dwell Time	Yes

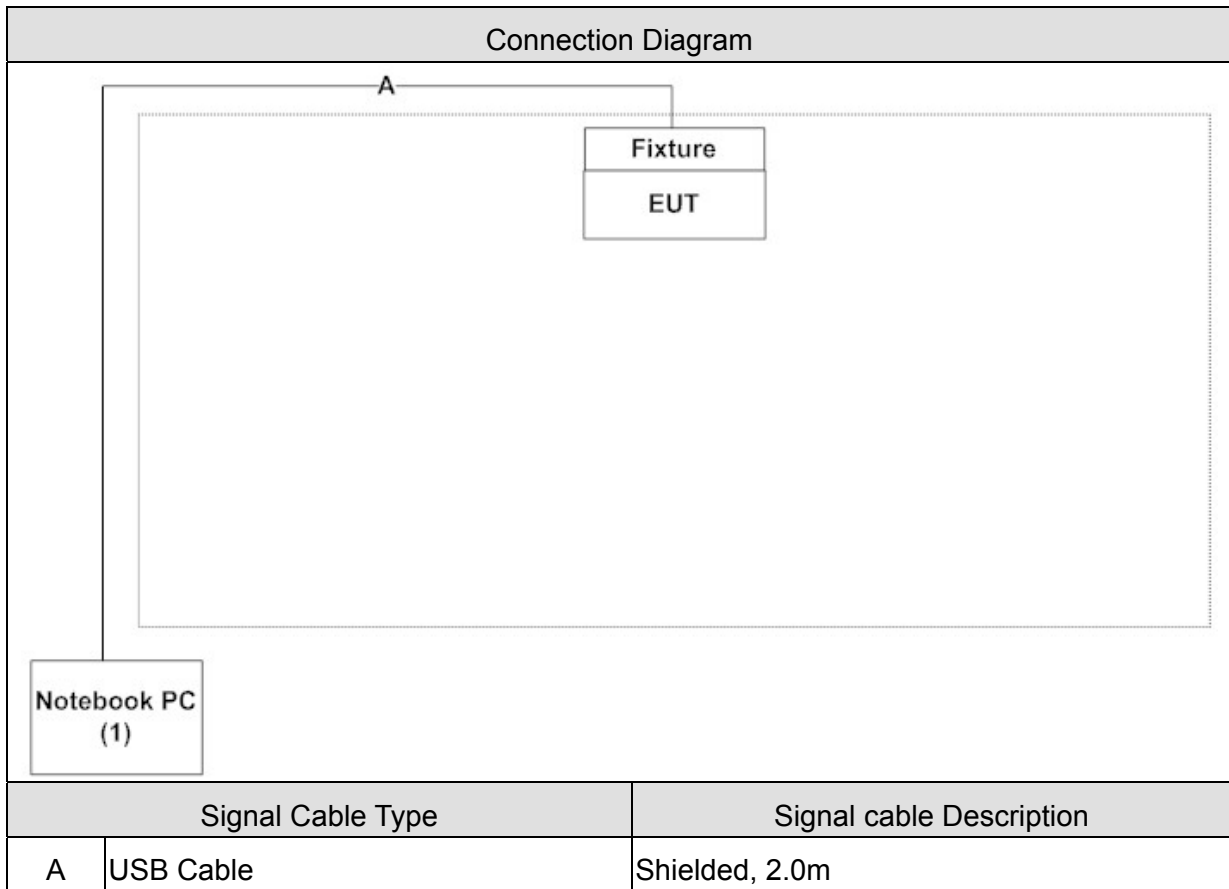


**1.4. Tested System Details**

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1 Notebook PC	DELL	PP26L	66TLZ1S	DoC	Non-Shielded, 1.8m

**1.5. Configuration of tested System**



**1.6. EUT Exercise Software**

1	Setup the EUT as shown in Section 1.5
2	Execute the Telnet which is installed on the Notebook
3	Configure the test mode, the test channel to start the continuous Transmitter
4	Verify that the EUT works properly.

**1.7. Test Facility**

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual
Temperature (°C)	FCC PART 15 C 15.247 Peak Power Output (FHSS)	15 - 35	23
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Radiated Emission (FHSS)	15 - 35	25
Humidity (%RH)		25 - 75	54
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Band Edge (FHSS)	15 - 35	25
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Number of hopping Frequency (FHSS)	15 - 35	23
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Carrier Frequency Separation (FHSS)	15 - 35	23
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Occupied Bandwidth (FHSS)	15 - 35	24
Humidity (%RH)		25 - 75	48
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Dwell Time (FHSS)	15 - 35	23
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000

**2. Peak Power Output**

**2.1. Test Equipment**

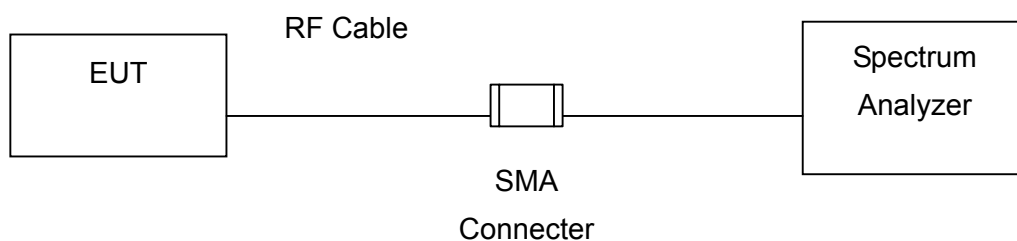
The following test equipment is used during the test:

Peak Power Output / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2013/02/19

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

**2.2. Test Setup**



**2.3. Test procedures**

The EUT was setup according to ANSI C63.4, 2009 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements

**2.4. Limits**

For frequency hopping systems operating in the 902-928 MHz band: 1 Watt for systems employing at least 50 hopping channels; and, 0.25 Watts for systems employing less than 50 hopping channels.

For frequency hopping systems in the 2400-2483.5 MHz band employing at least 75 hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1Watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 Watt.

**2.5. Test Specification**

According to FCC Part 15 Subpart C Paragraph 15.247: 2011

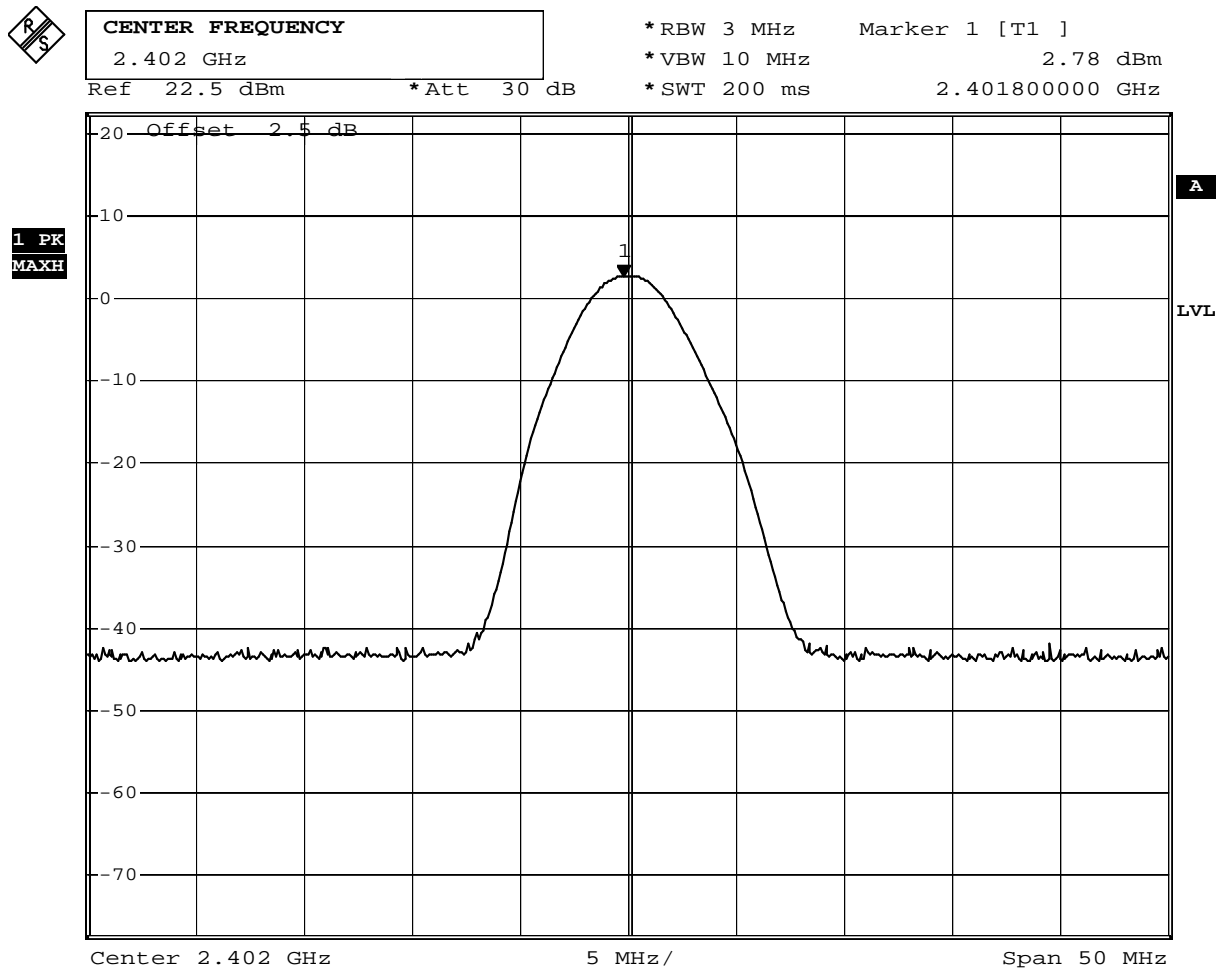
2.6. Test Result

Product	BLUETOOTH Watch		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

GFSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	2.78	29.8	Pass

Channel 00



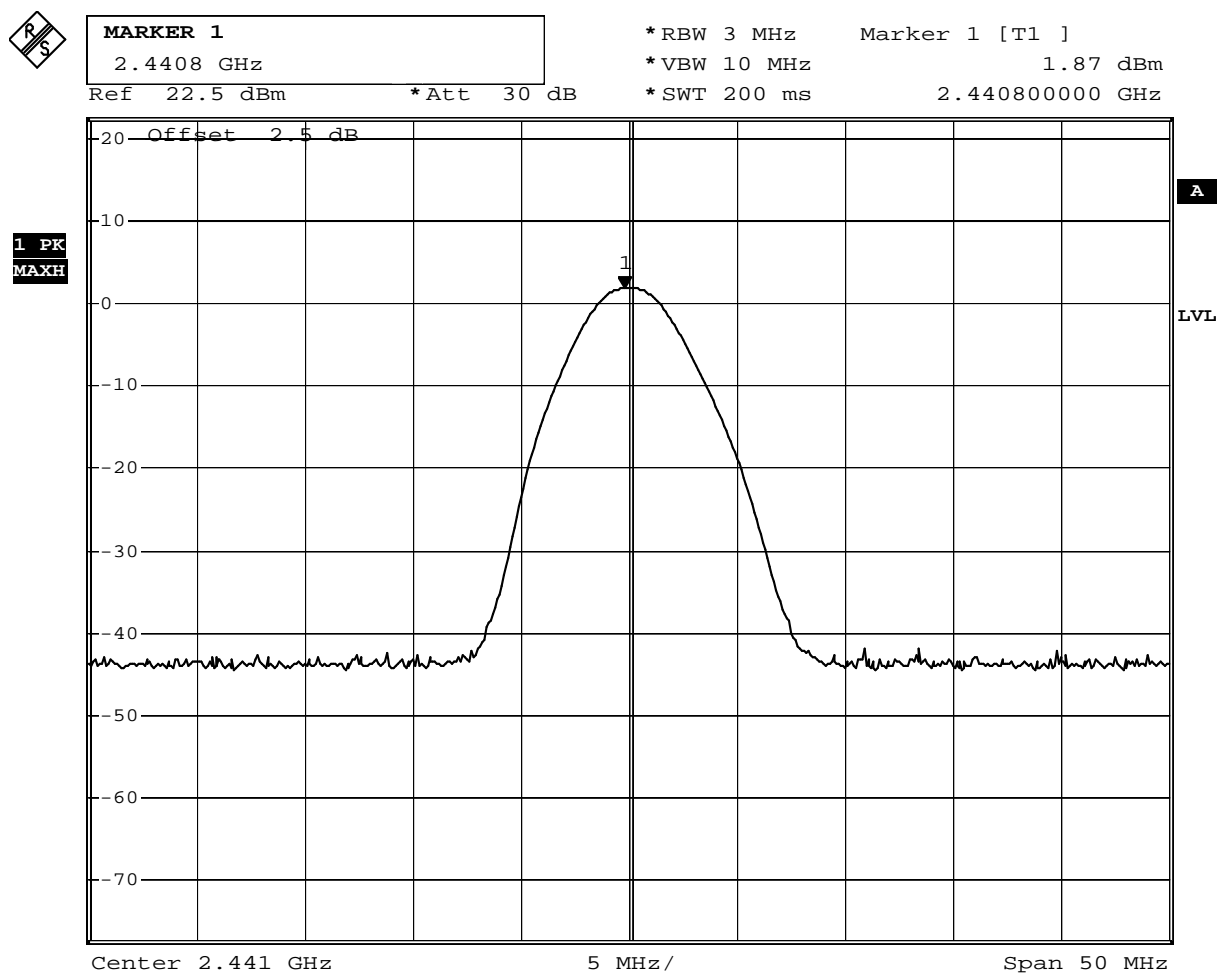
Comment: A:\2  
 Date: 23.NOV.2012 14:57:52

Product	BLUETOOTH Watch		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

## GFSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
39	2441	1.87	29.8	Pass

### Channel 39



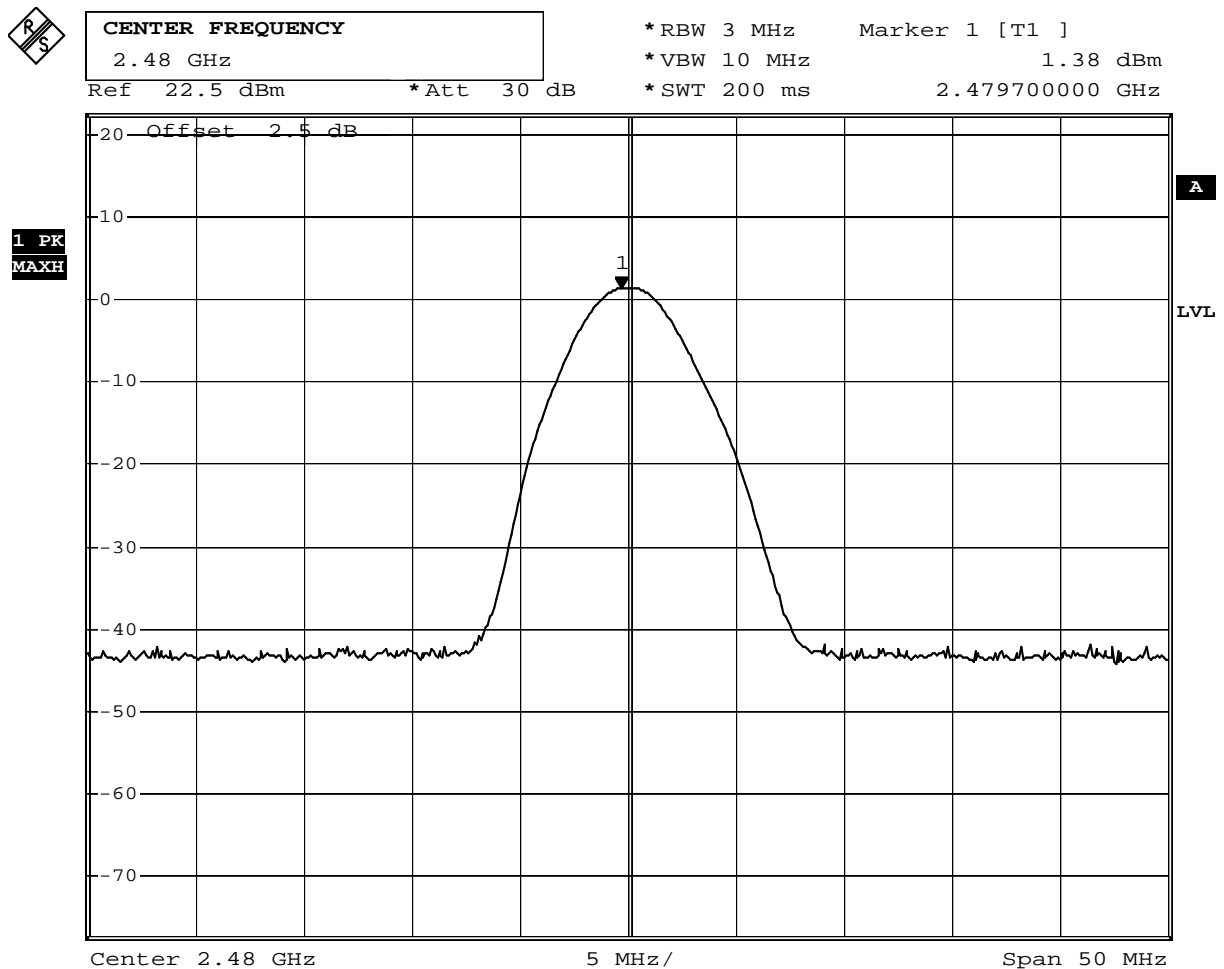
Comment: A:\2  
 Date: 23.NOV.2012 15:02:06

Product	BLUETOOTH Watch		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

## GFSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
78	2480	1.38	29.8	Pass

### Channel 78



Comment: A:\2

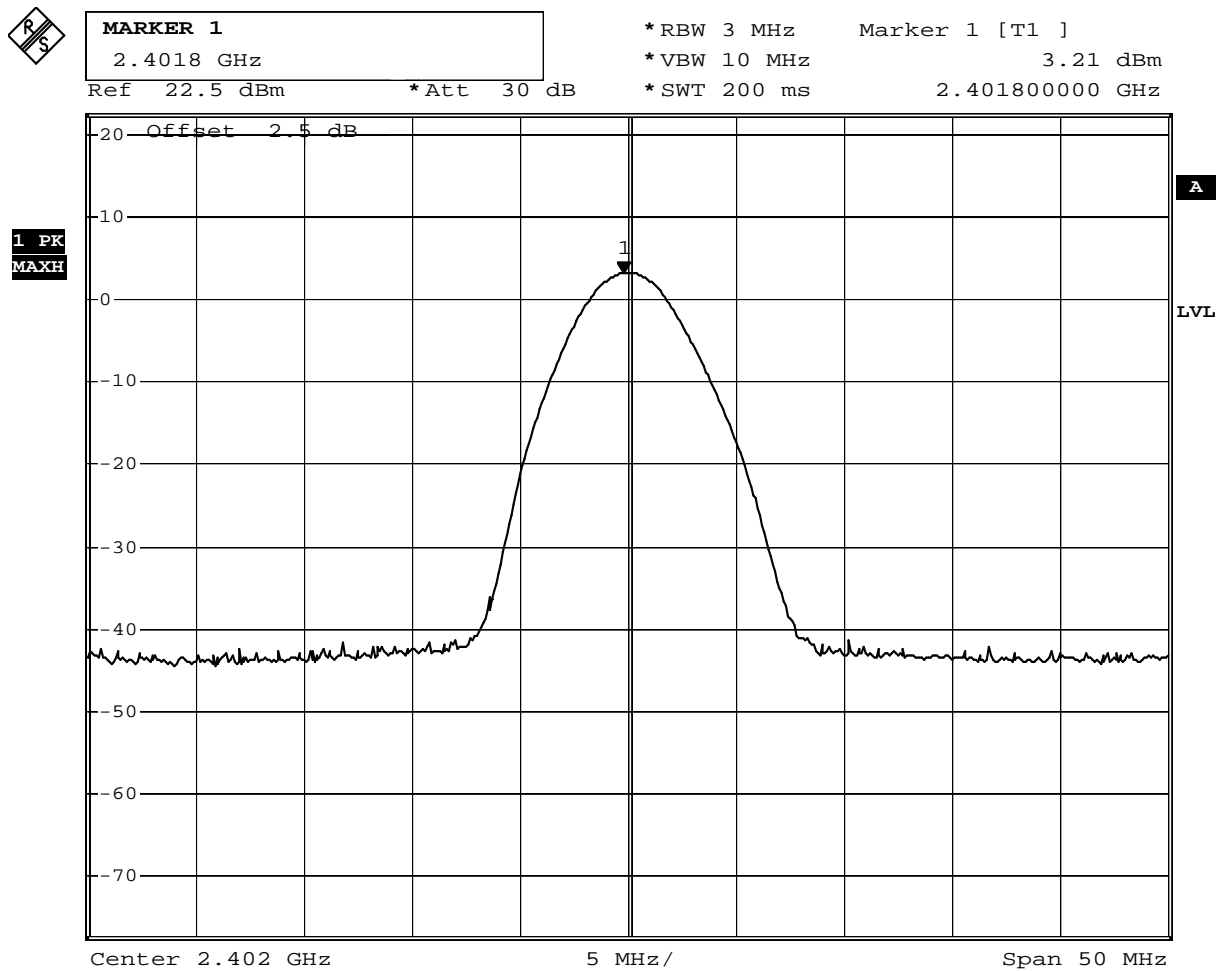
Date: 23.NOV.2012 15:00:51

Product	BLUETOOTH Watch		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

### $\pi/4$ -DQPSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	3.21	29.8	Pass

### Channel 00



Comment: A:\2

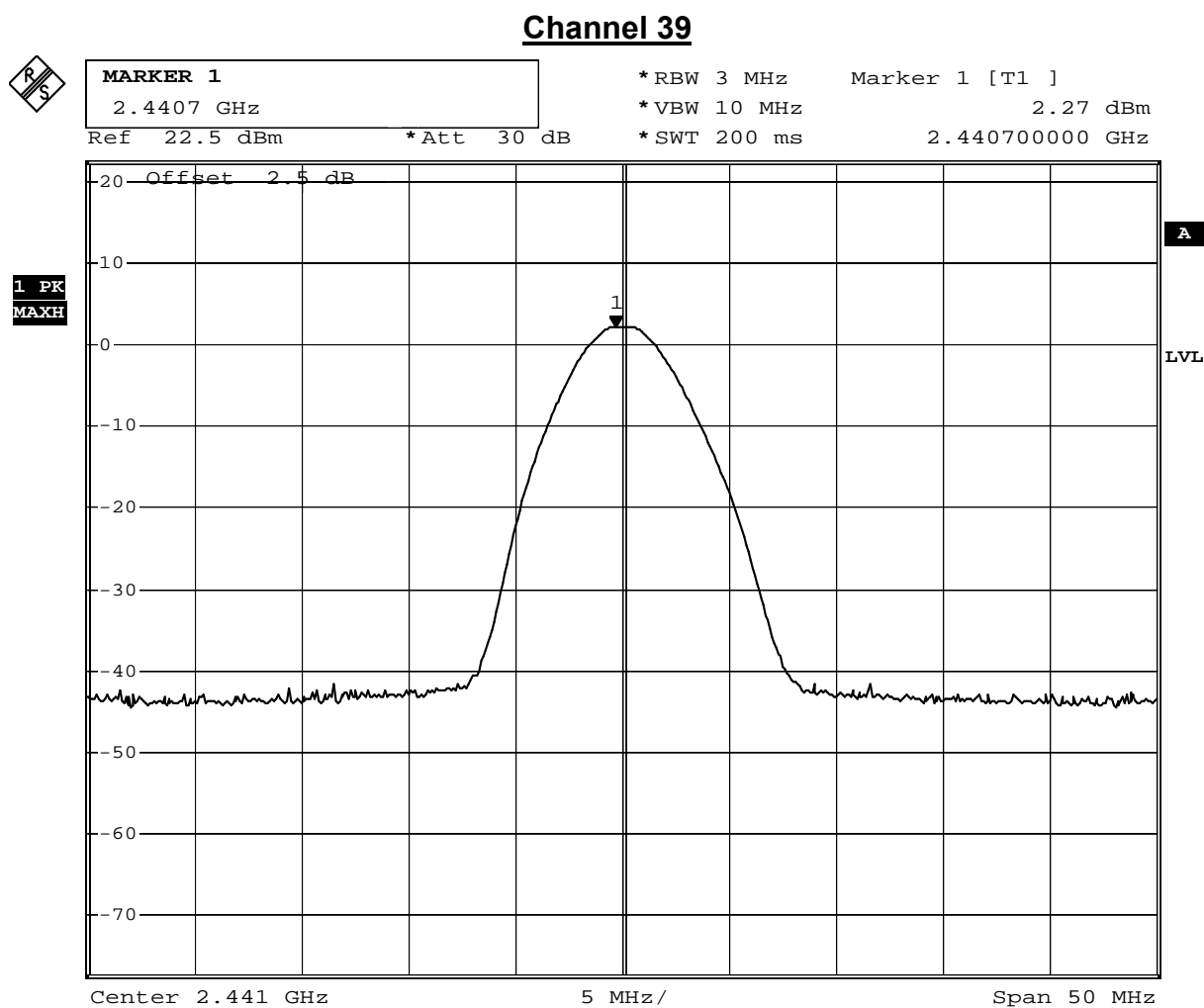
Date: 23.NOV.2012 15:02:55



Product	BLUETOOTH Watch		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

### $\pi/4$ -DQPSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
39	2441	2.27	29.8	Pass



Comment: A:\2

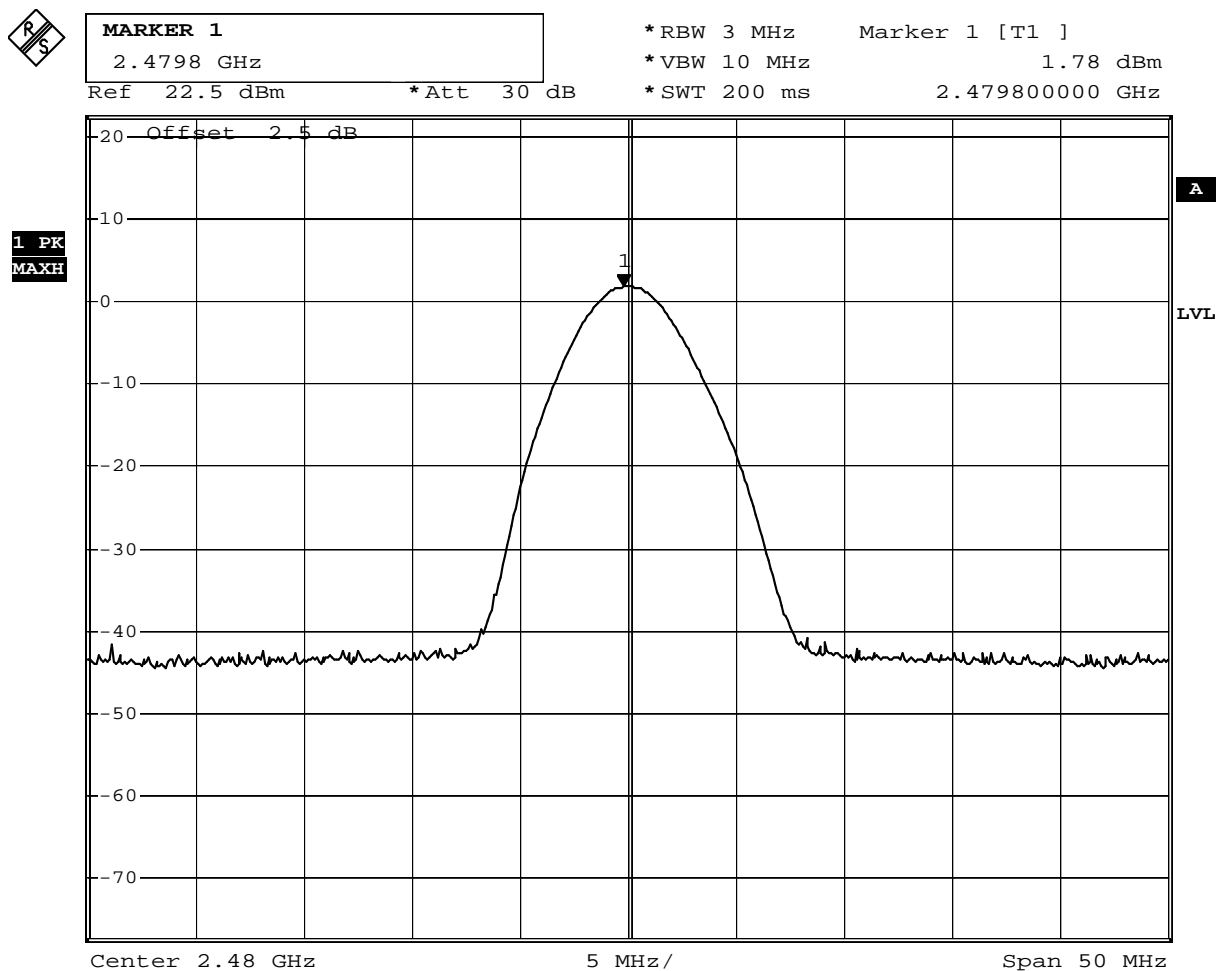
Date: 23.NOV.2012 15:03:32

Product	BLUETOOTH Watch		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

### $\pi/4$ -DQPSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
78	2480	1.78	29.8	Pass

### Channel 78



Comment: A:\2

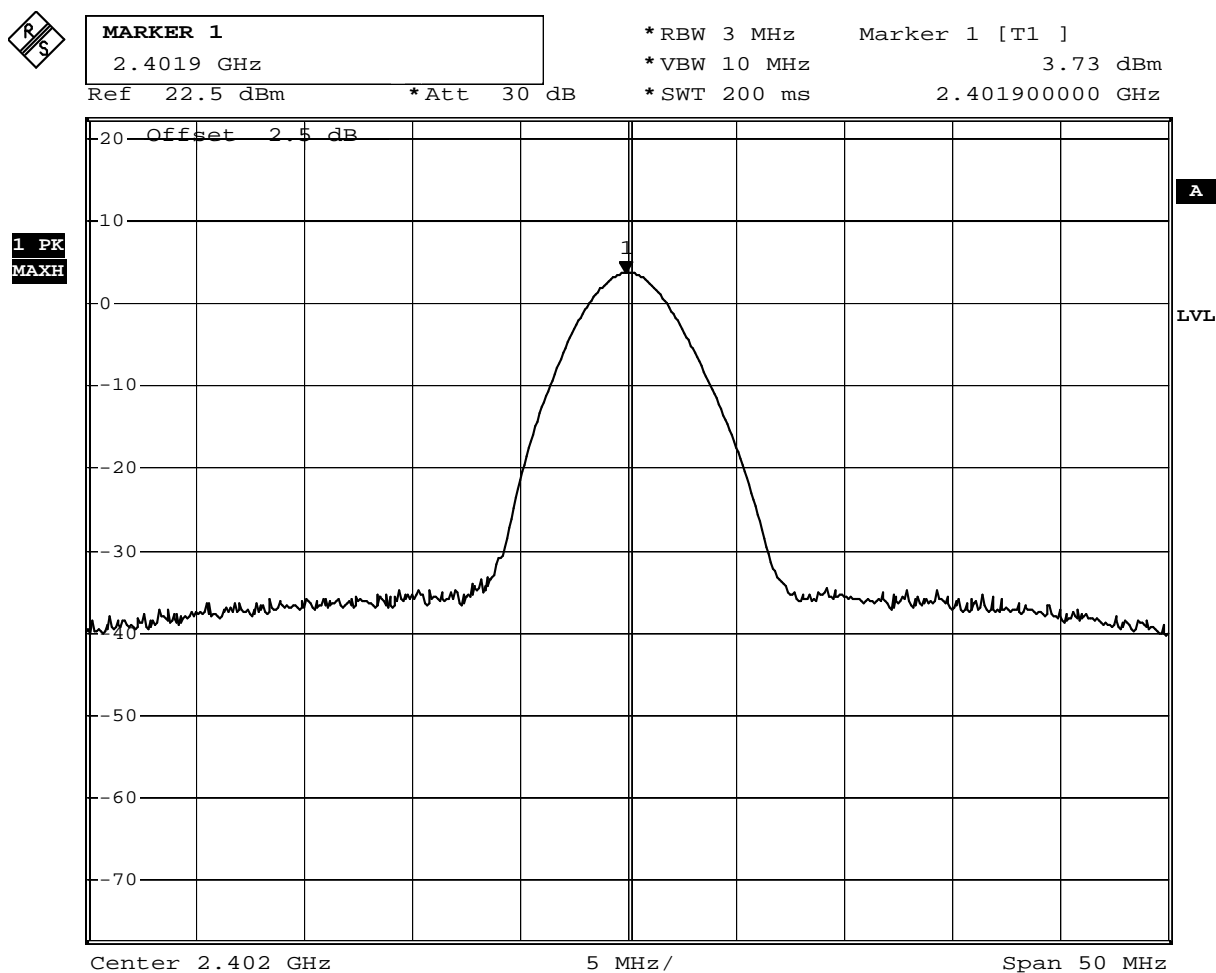
Date: 23.NOV.2012 15:04:09

Product	BLUETOOTH Watch		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

## 8-DPSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	3.73	29.8	Pass

### Channel 00



Comment: A:\2

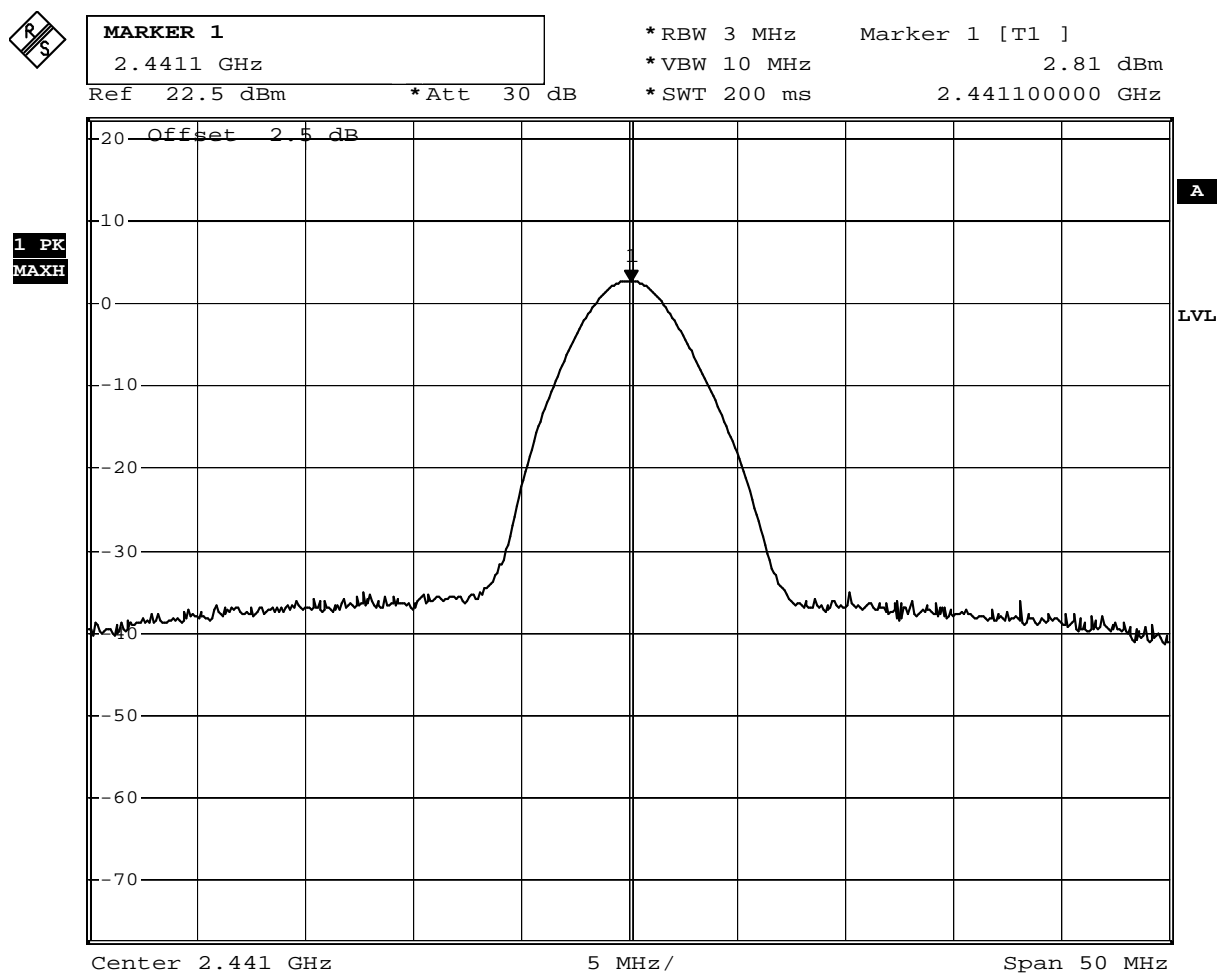
Date: 23.NOV.2012 15:05:06

Product	BLUETOOTH Watch		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

## 8-DPSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
39	2441	2.81	29.8	Pass

### Channel 39



Comment: A:\2

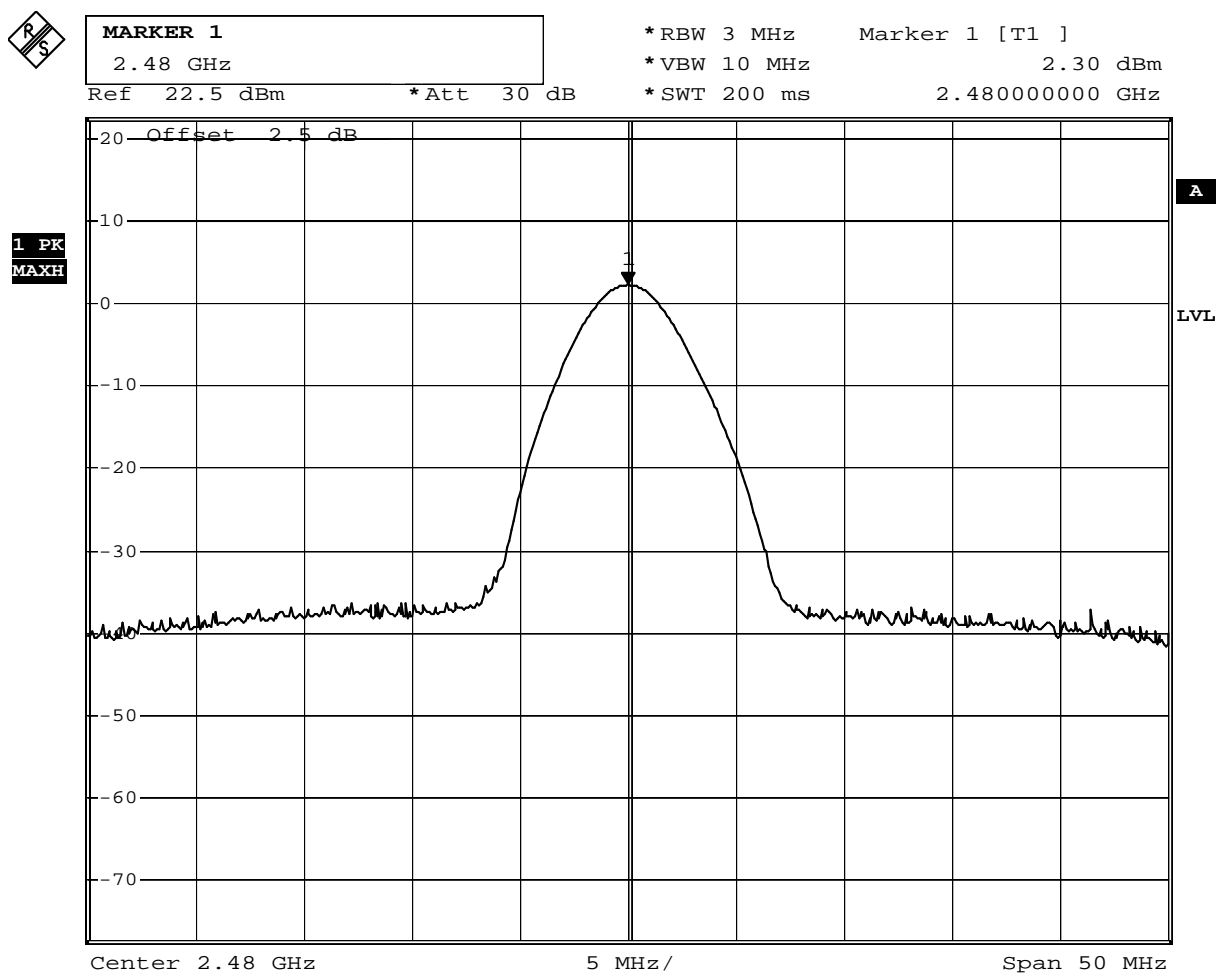
Date: 23.NOV.2012 15:05:55

Product	BLUETOOTH Watch		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

## 8-DPSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
78	2480	2.30	29.8	Pass

### Channel 78



Comment: A:\2

Date: 23.NOV.2012 15:07:16

**3. Radiated Emission**

**3.1. Test Equipment**

The following test equipments are used during the test:

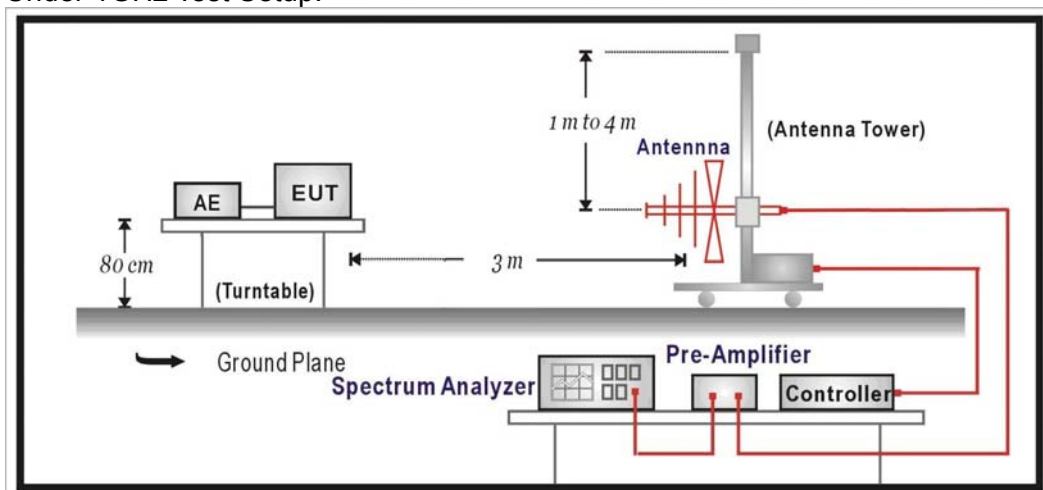
Radiated Emission / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Bilog Antenna	SCHAFFNER	CBL6112B	2895	2013/08/14
Double Ridged Guide Horn Antenna	Schwarzback	BBHA 9120	D743	2013/02/02
Pre-Amplifier	MITEQ	AMF-4D-005180-24-10P	888003	2013/12/02
Pre-Amplifier	QuieTek	AP-025C	CHM-0706049	2013/03/01
Spectrum Analyzer	Agilent	E4440A	MY46187335	2013/02/07
Coaxial Cable	Huber+Suhner AG	Sucoflex 102	25623/2	2013/03/04

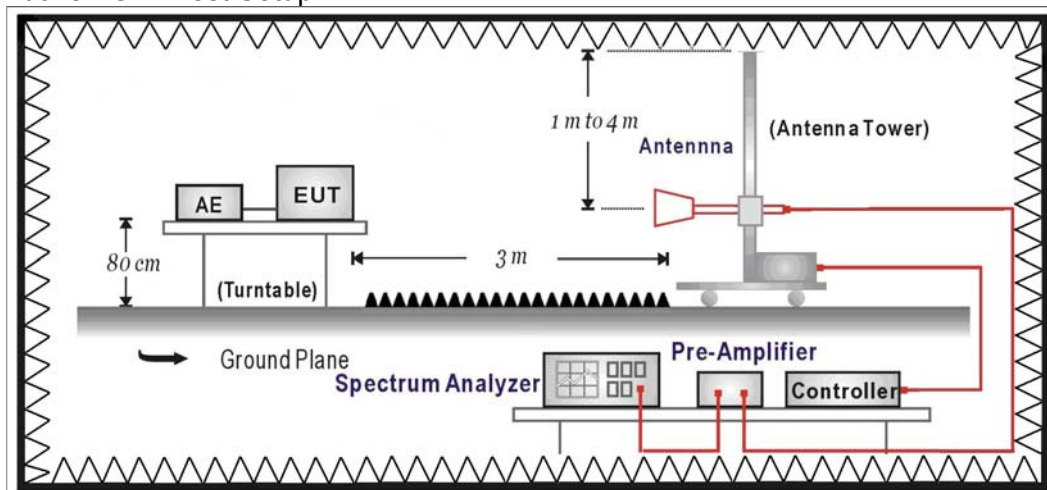
Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

**3.2. Test Setup**

Under 1GHz Test Setup:



Above 1GHz Test Setup:



**3.3. Limits**

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

<b>FCC Part 15 Subpart C Paragraph 15.209 Limits</b>		
Frequency MHz	uV/m	dBuV/m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

- Remarks :
1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
  2. In the Above Table, the tighter limit applies at the band edges.
  3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

**3.4. Test Procedure**

The EUT was setup according to ANSI C63.4, 2009 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2009 on radiated measurement.

On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit. The bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

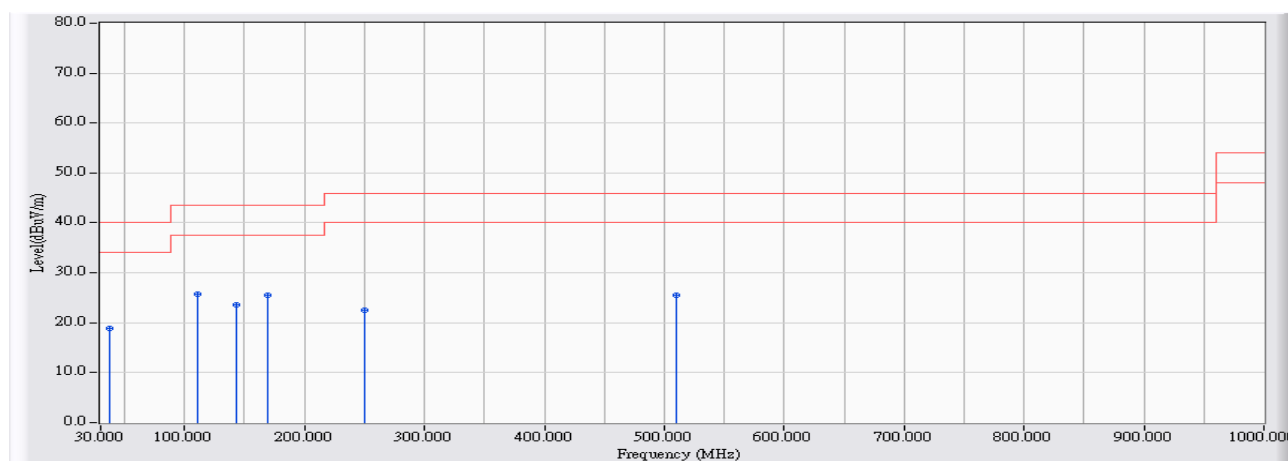
**3.5. Test Specification**

According to FCC Part 15 Subpart C Paragraph 15.247: 2011

### 3.6. Test Result

#### 30MHz-1GHz Spurious

Site : CB1	Time : 2012/12/04 - 19:45
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB1_FCC_EFS_30-1G-2_1011 - HORIZONTAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2441MHz



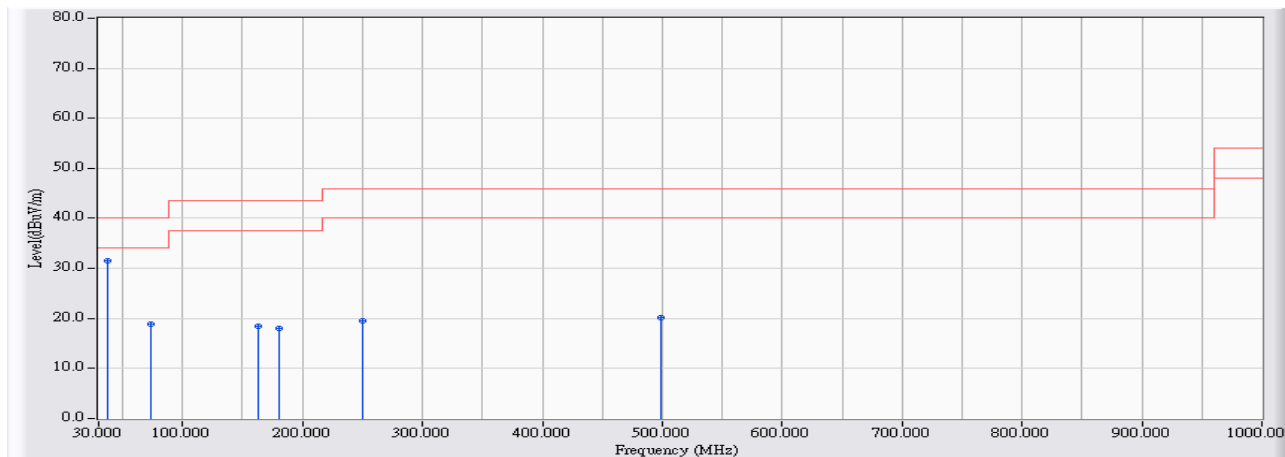
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	38.083	-11.121	30.033	18.913	-21.087	40.000	QUASPEAK
2	* 110.833	-12.250	38.000	25.750	-17.750	43.500	QUASPEAK
3	143.167	-12.713	36.236	23.523	-19.977	43.500	QUASPEAK
4	169.033	-14.011	39.535	25.524	-17.976	43.500	QUASPEAK
5	249.867	-10.938	33.524	22.586	-23.414	46.000	QUASPEAK
6	510.150	-5.065	30.508	25.443	-20.557	46.000	QUASPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor



Site : CB1	Time : 2012/12/04 - 19:48
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB1_FCC_EFS_30-1G-2_1011 - VERTICAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2441MHz



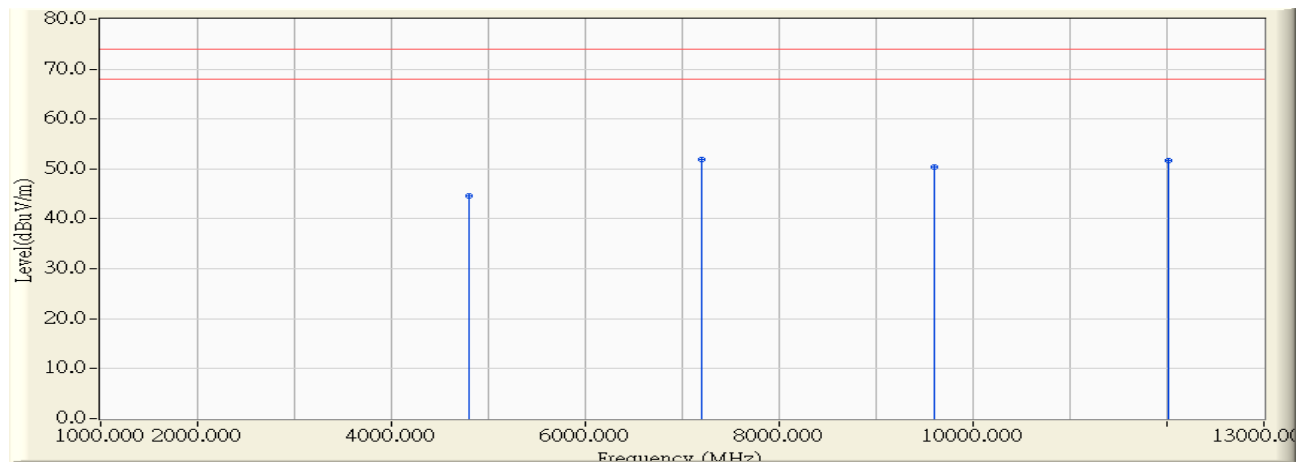
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	38.083	-11.121	42.743	31.623	-8.377	40.000	QUASIPeAK
2		73.650	-16.740	35.713	18.974	-21.026	40.000	QUASIPeAK
3		162.567	-13.711	32.119	18.408	-25.092	43.500	QUASIPeAK
4		180.350	-14.522	32.528	18.006	-25.494	43.500	QUASIPeAK
5		249.867	-10.938	30.438	19.500	-26.500	46.000	QUASIPeAK
6		498.833	-5.118	25.261	20.143	-25.857	46.000	QUASIPeAK

**Note:**

1. All Reading Levels are Quasi-Peak value.
2. “ \* ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

### Harmonic & Spurious:

Site : CB1	Time : 2012/11/30 - 19:57
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2402MHz

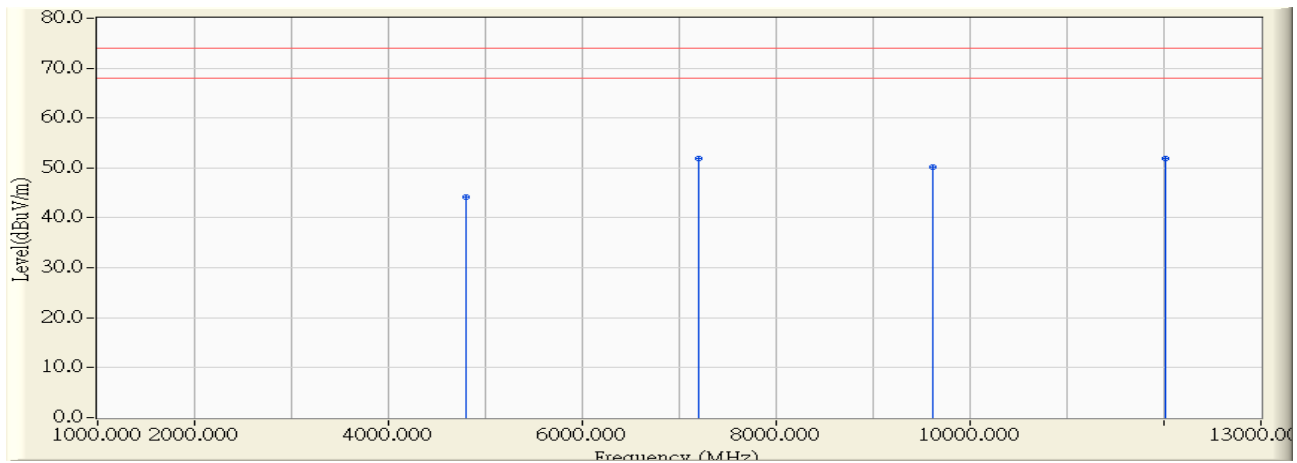


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	4803.170	-0.857	45.440	44.582	-29.418	74.000	PEAK
2	* 7206.770	5.427	46.550	51.976	-22.024	74.000	PEAK
3	9606.750	8.933	41.400	50.332	-23.668	74.000	PEAK
4	12008.040	11.546	40.190	51.735	-22.265	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2012/11/30 - 20:06
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2402MHz

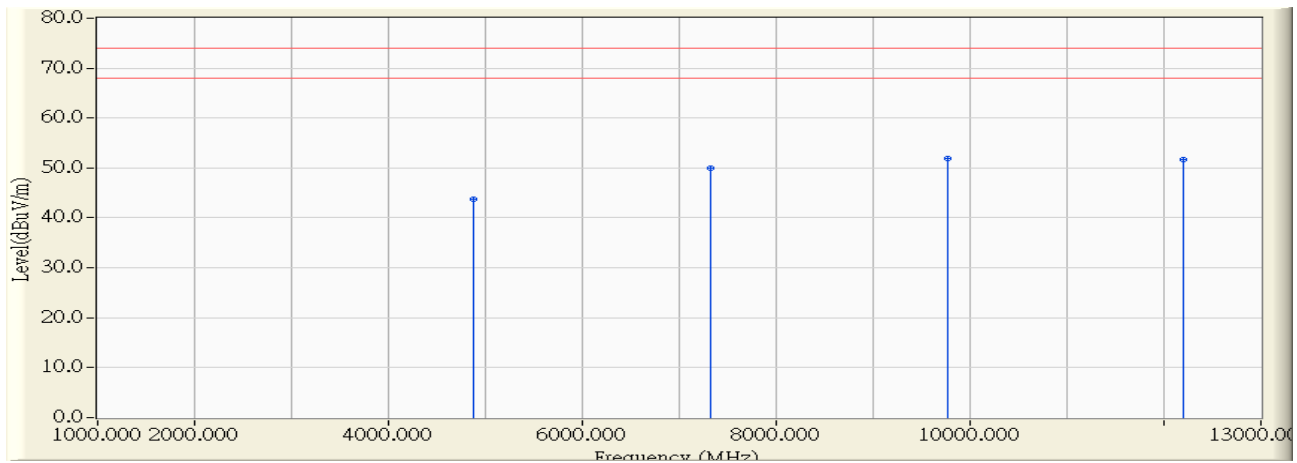


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	4804.250	-0.854	44.970	44.115	-29.885	74.000	PEAK
2	* 7205.110	5.422	46.470	51.892	-22.108	74.000	PEAK
3	9608.080	8.941	41.160	50.101	-23.899	74.000	PEAK
4	12008.450	11.545	40.280	51.825	-22.175	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2012/11/30 - 20:14
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2441MHz

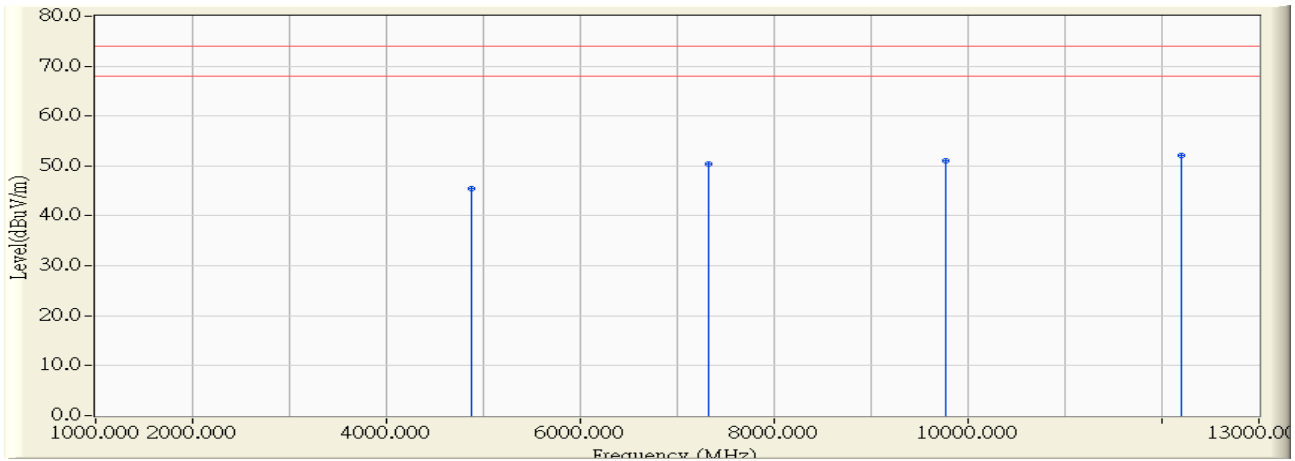


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	4882.480	-0.651	44.380	43.730	-30.270	74.000	PEAK
2	7322.570	5.705	44.220	49.925	-24.075	74.000	PEAK
3	* 9765.210	10.080	41.870	51.950	-22.050	74.000	PEAK
4	12205.450	11.473	40.260	51.734	-22.266	74.000	PEAK
5	12205.480	11.473	40.260	51.734	-22.266	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2012/11/30 - 20:16
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2441MHz

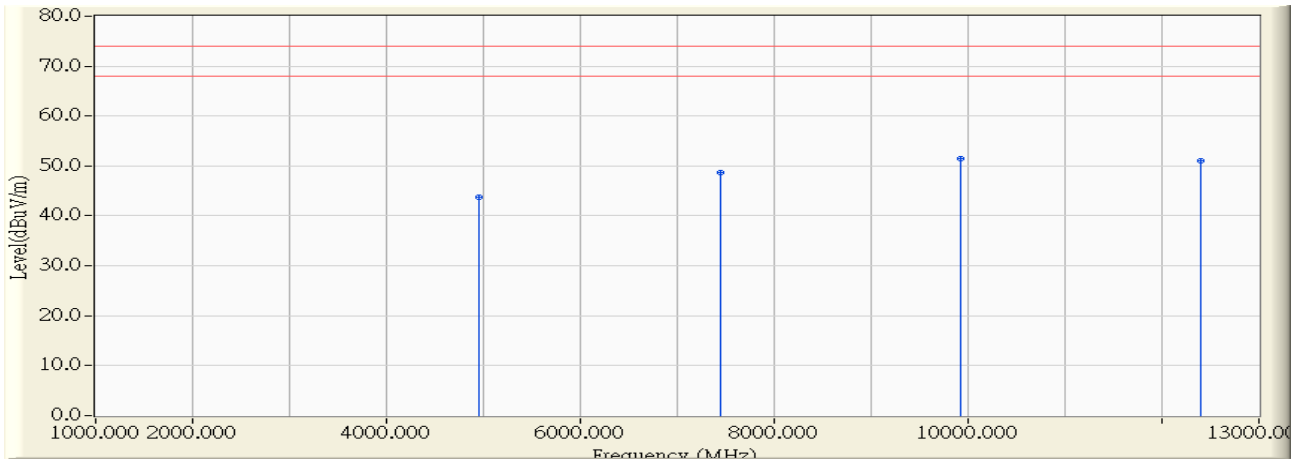


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	4881.810	-0.652	46.220	45.569	-28.431	74.000	PEAK
2	7322.470	5.706	44.620	50.325	-23.675	74.000	PEAK
3	9762.270	10.059	40.910	50.969	-23.031	74.000	PEAK
4	* 12205.950	11.474	40.620	52.094	-21.906	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2012/11/30 - 20:26
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2480MHz

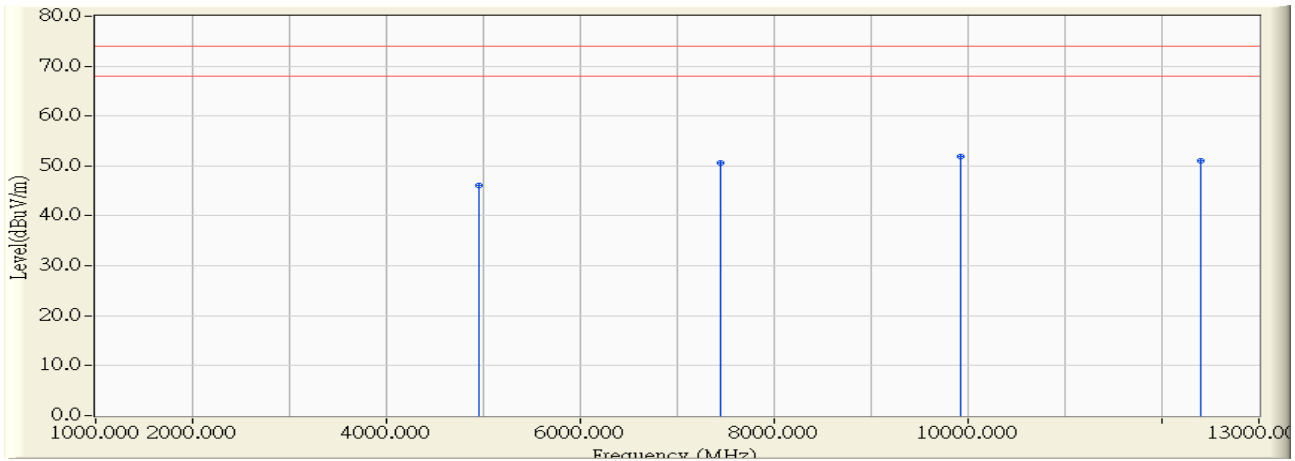


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	4960.390	-0.445	44.240	43.795	-30.205	74.000	PEAK
2	7439.650	5.987	42.670	48.658	-25.342	74.000	PEAK
3	* 9920.490	11.205	40.340	51.546	-22.454	74.000	PEAK
4	12400.170	11.405	39.680	51.085	-22.915	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2012/11/30 - 20:31
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2480MHz



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	4960.140	-0.446	46.620	46.174	-27.826	74.000	PEAK
2	7439.720	5.987	44.730	50.718	-23.282	74.000	PEAK
3	* 9919.350	11.198	40.600	51.797	-22.203	74.000	PEAK
4	12402.050	11.405	39.690	51.095	-22.905	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

**4. RF antenna conducted test**

**4.1. Test Equipment**

The following test equipment is used during the test:

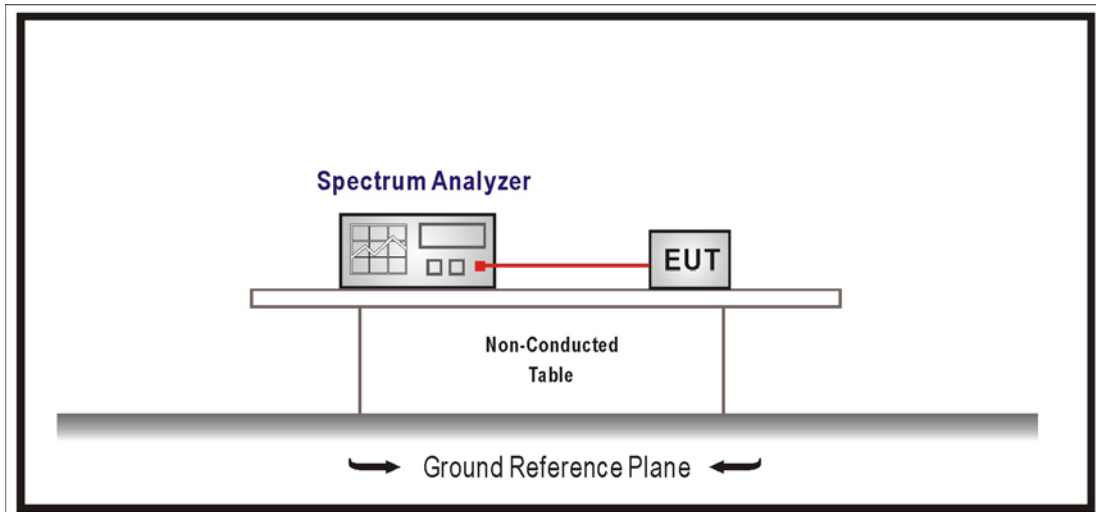
RF antenna conducted test / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2013/02/19

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

**4.2. Test Setup**

RF Conducted Measurement:





### 4.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on an RF conducted or radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

### 4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2009 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements

Set RBW = 100 kHz, Set VBW > RBW, scan up through 10th harmonic.

### 4.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2011

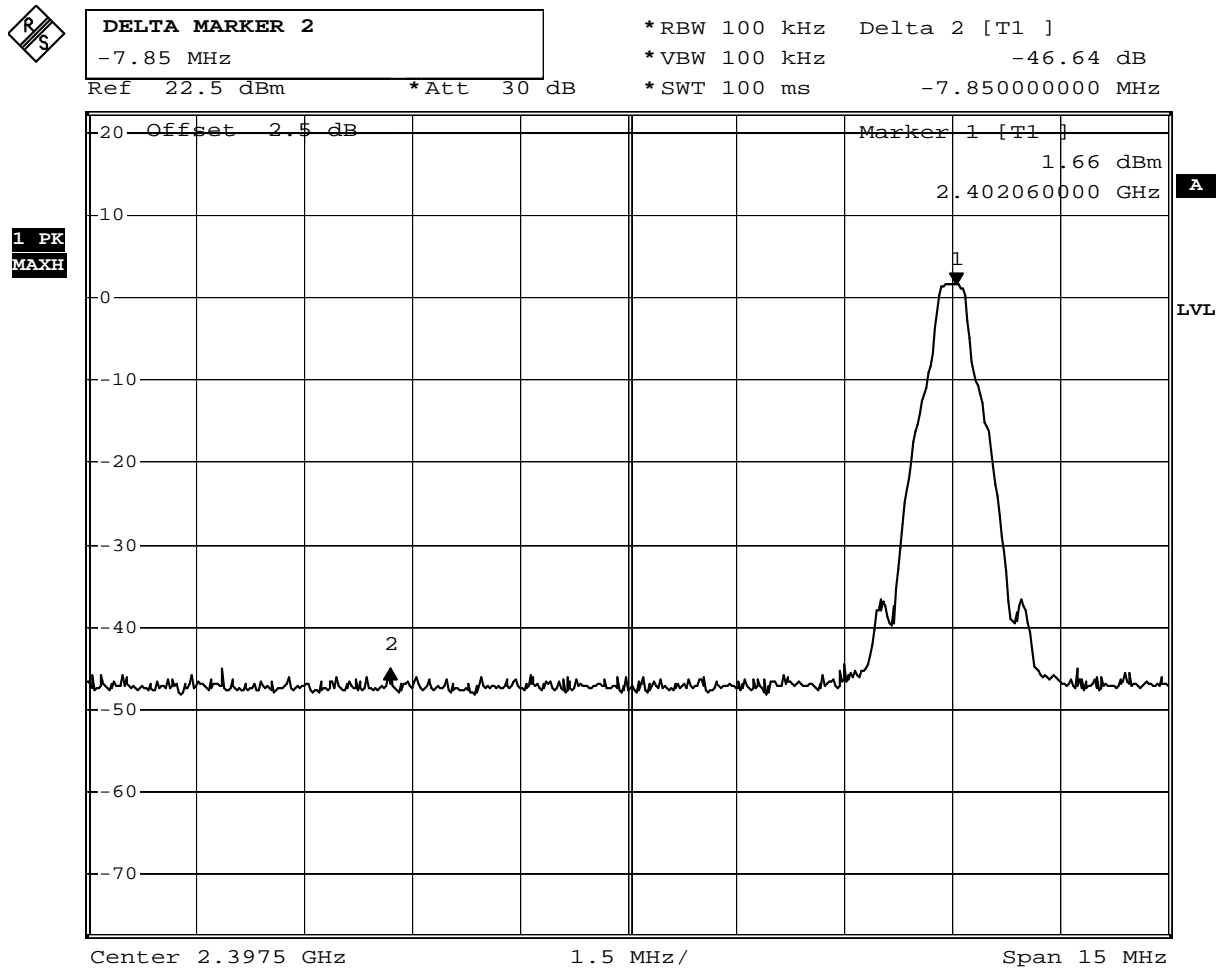
## 4.6. Test Result

Product	BLUETOOTH Watch		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

### GFSK

Channel No.	Frequency (MHz)	Measurement Level (dBc)	Required Limit (dBc)	Result
00	2402	46.64	≥ 20	Pass

### Channel 00



Comment: A:\2

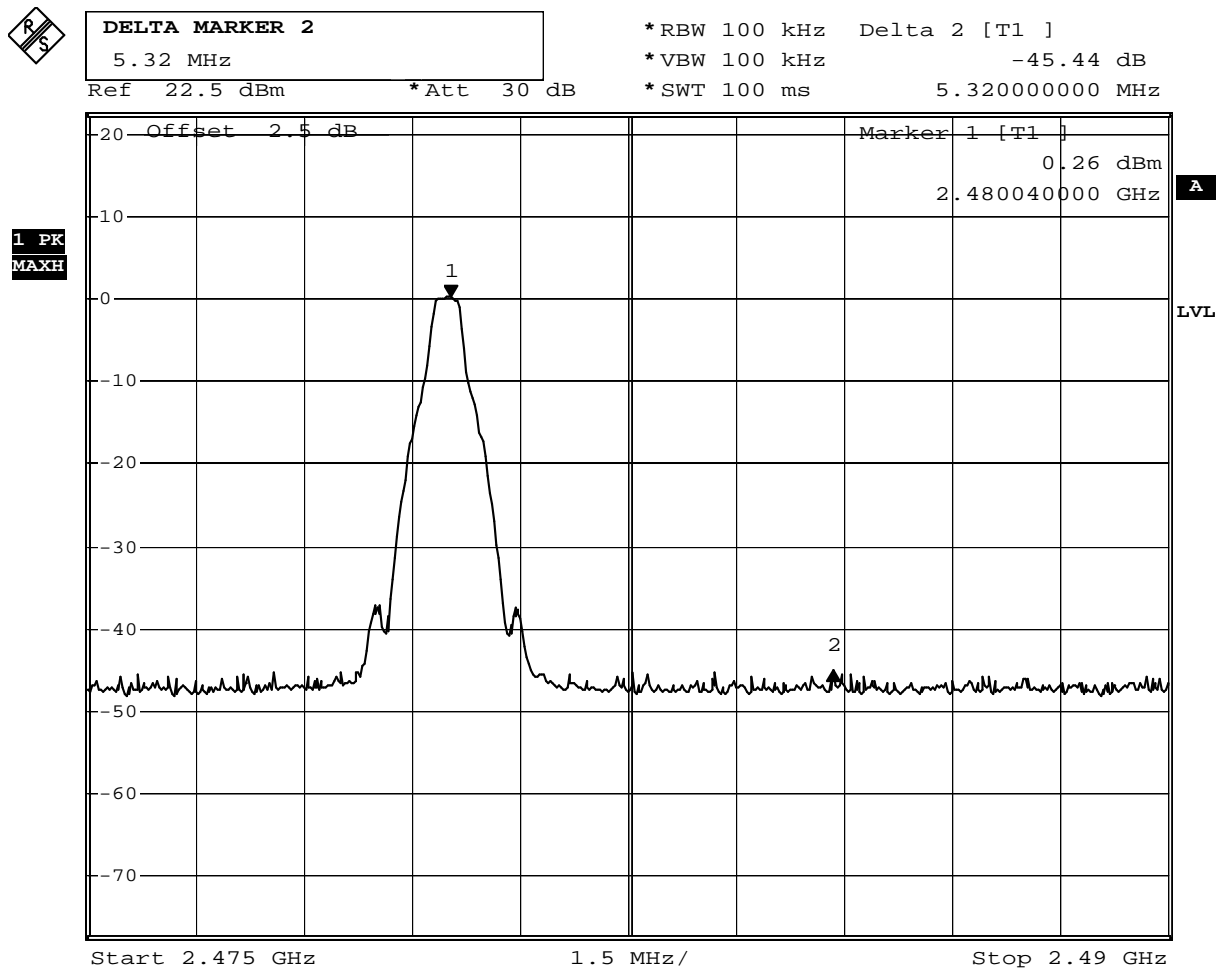
Date: 23.NOV.2012 15:16:54

Product	BLUETOOTH Watch		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

### GFSK

Channel No.	Frequency (MHz)	Measurement Level (dBc)	Required Limit (dBc)	Result
78	2480	45.44	≥ 20	Pass

### Channel 78



Comment: A:\2

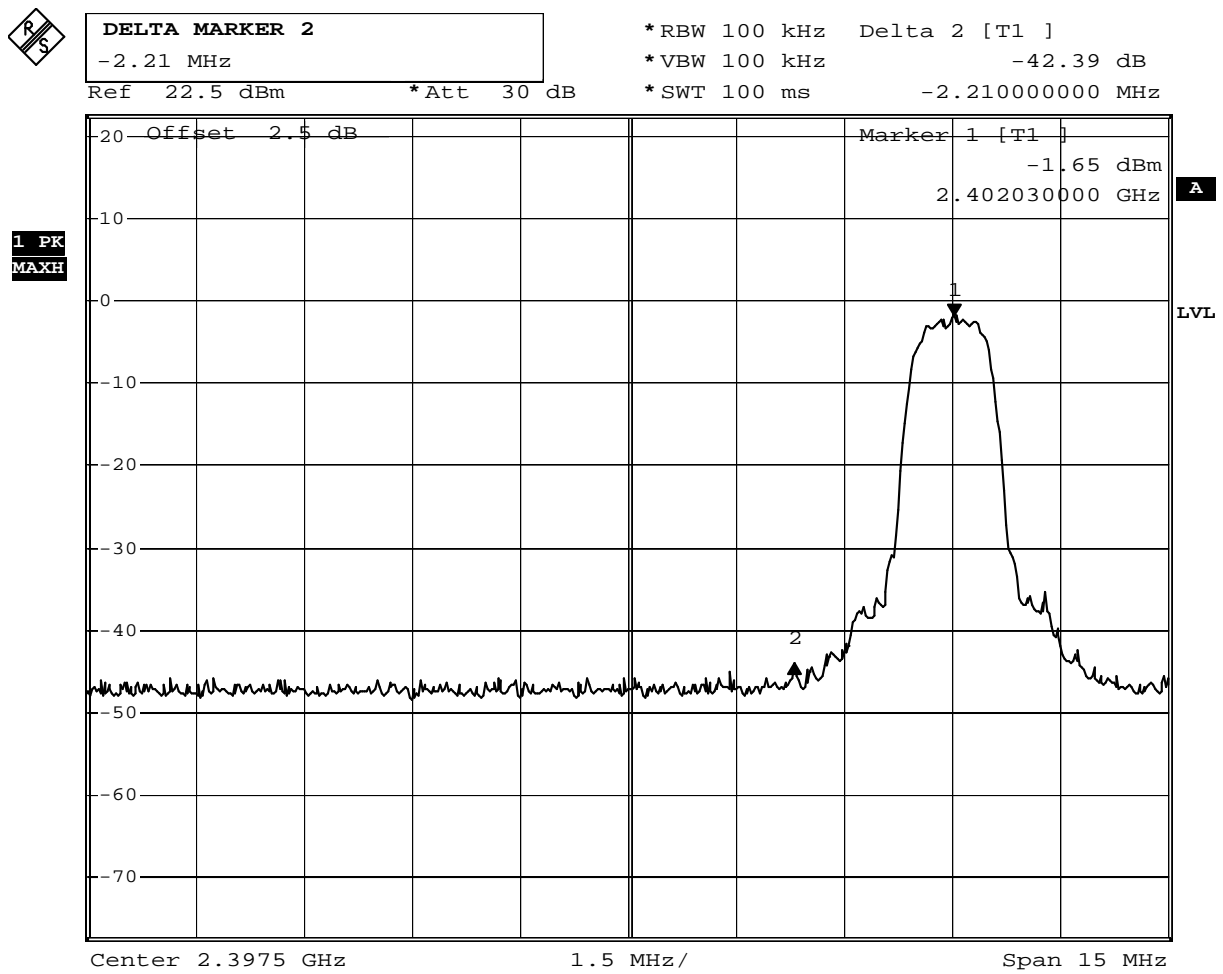
Date: 23.NOV.2012 15:12:56

Product	BLUETOOTH Watch		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

### $\pi/4$ -DQPSK

Channel No.	Frequency (MHz)	Measurement Level (dBc)	Required Limit (dBc)	Result
00	2402	42.39	$\geq 20$	Pass

### Channel 00



Comment: A:\2

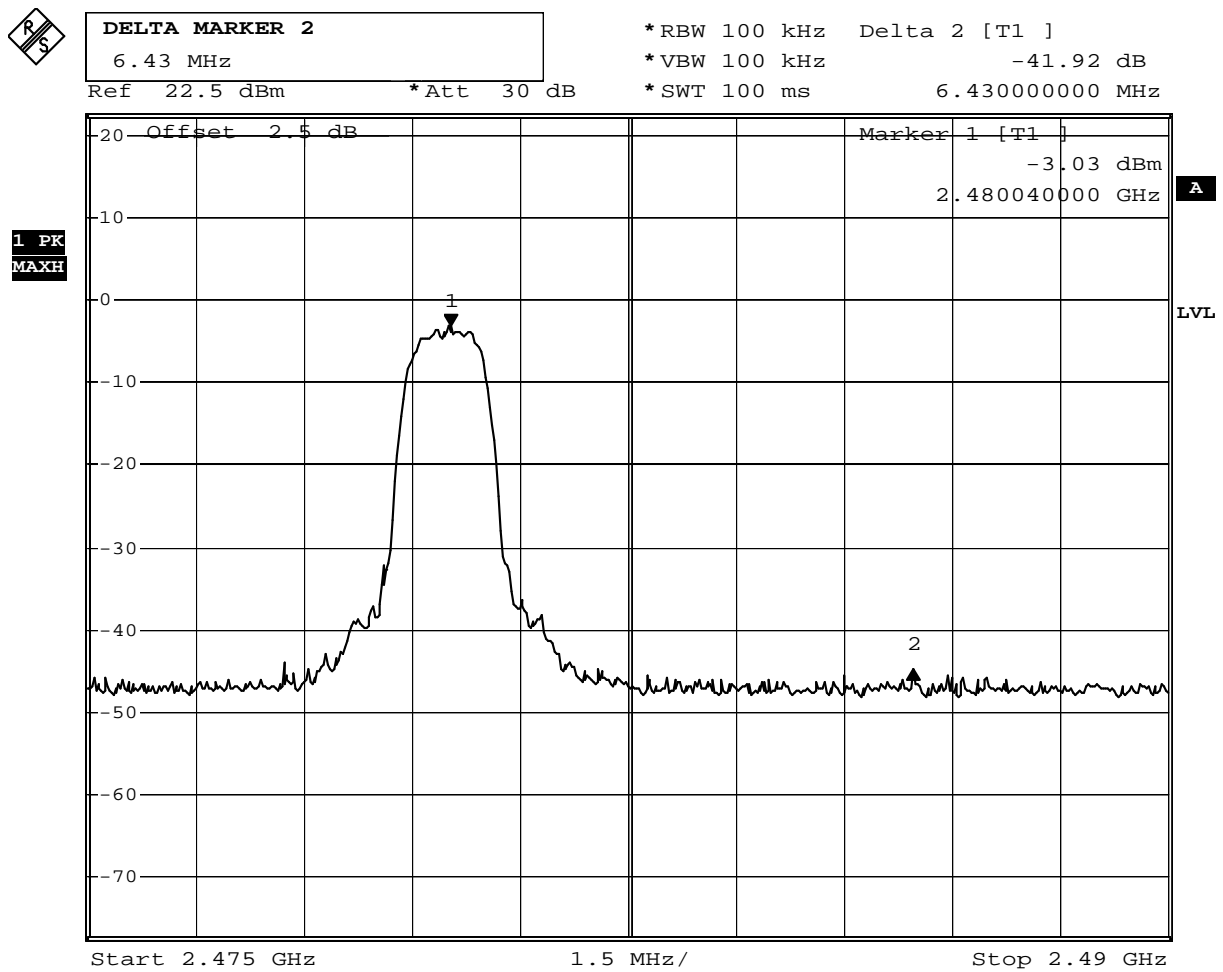
Date: 23.NOV.2012 15:17:57

Product	BLUETOOTH Watch		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

### $\pi/4$ -DQPSK

Channel No.	Frequency (MHz)	Measurement Level (dBc)	Required Limit (dBc)	Result
78	2480	41.92	$\geq 20$	Pass

### Channel 78

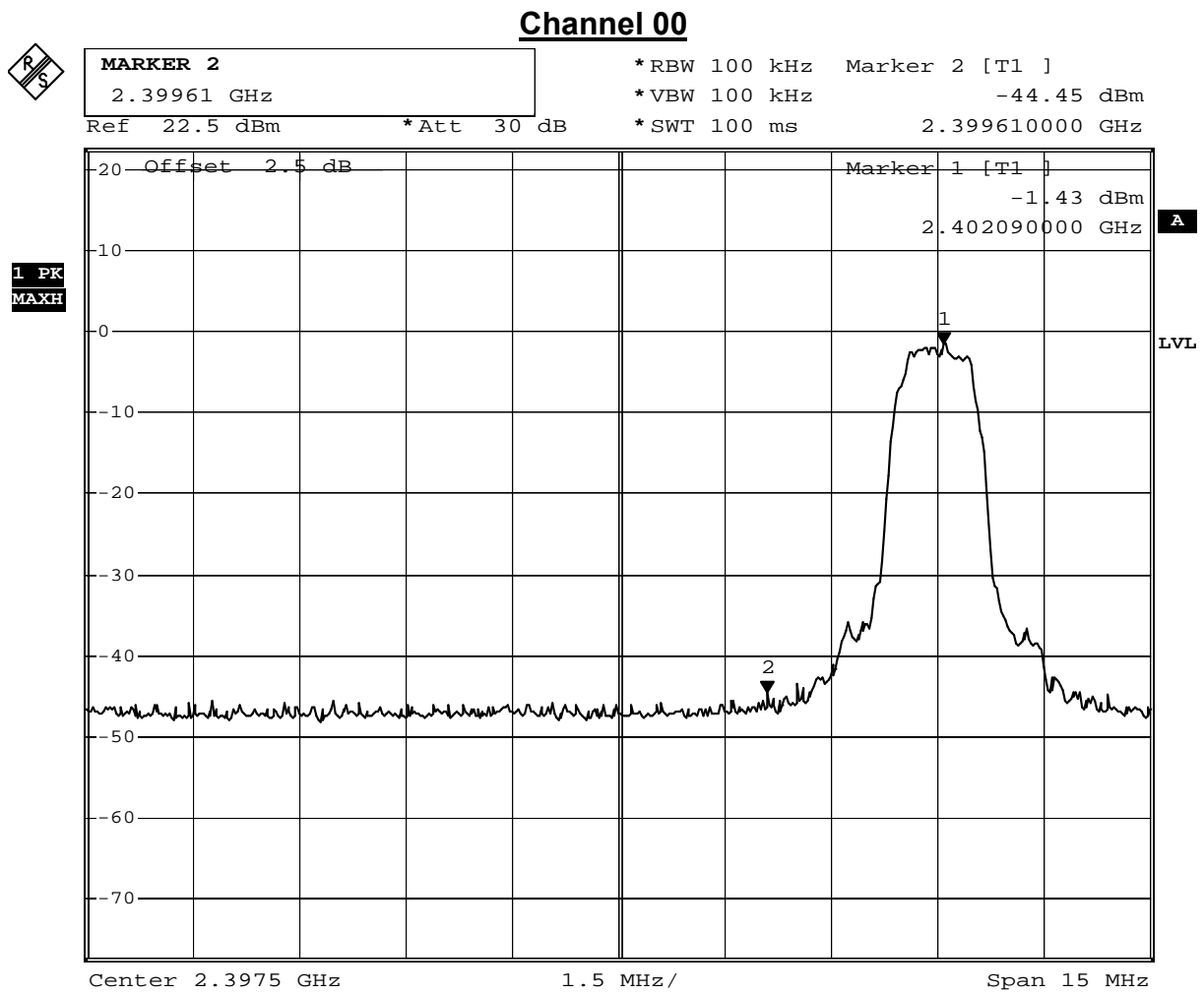


Comment: A:\2  
Date: 23.NOV.2012 15:13:47

Product	BLUETOOTH Watch		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

## 8-DPSK

Channel No.	Frequency (MHz)	Measurement Level (dBc)	Required Limit (dBc)	Result
00	2402	44.45	$\geq 20$	Pass



Comment: A:\2

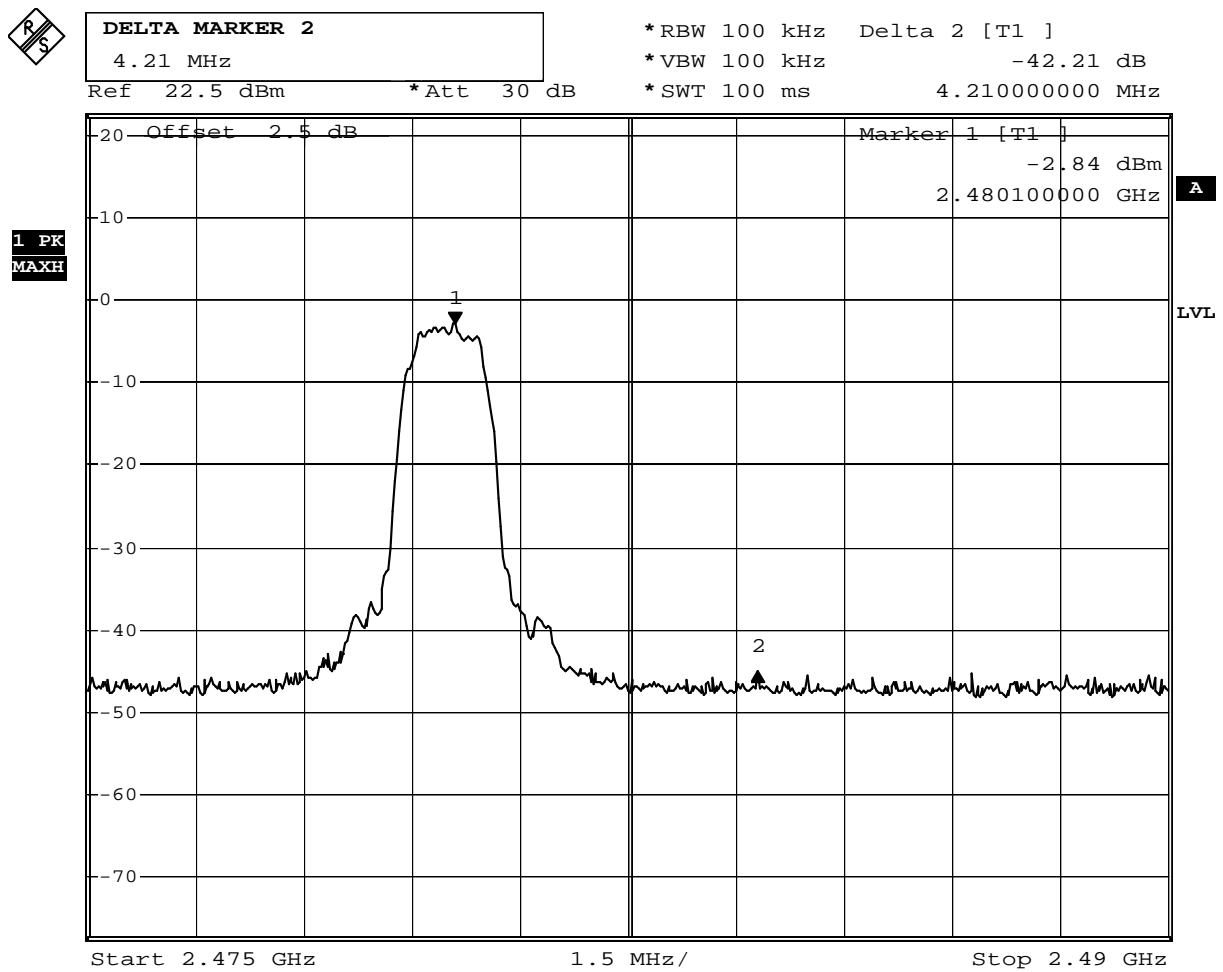
Date: 23.NOV.2012 15:18:52

Product	BLUETOOTH Watch		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

## 8-DPSK

Channel No.	Frequency (MHz)	Measurement Level (dBc)	Required Limit (dBc)	Result
78	2480	42.21	$\geq 20$	Pass

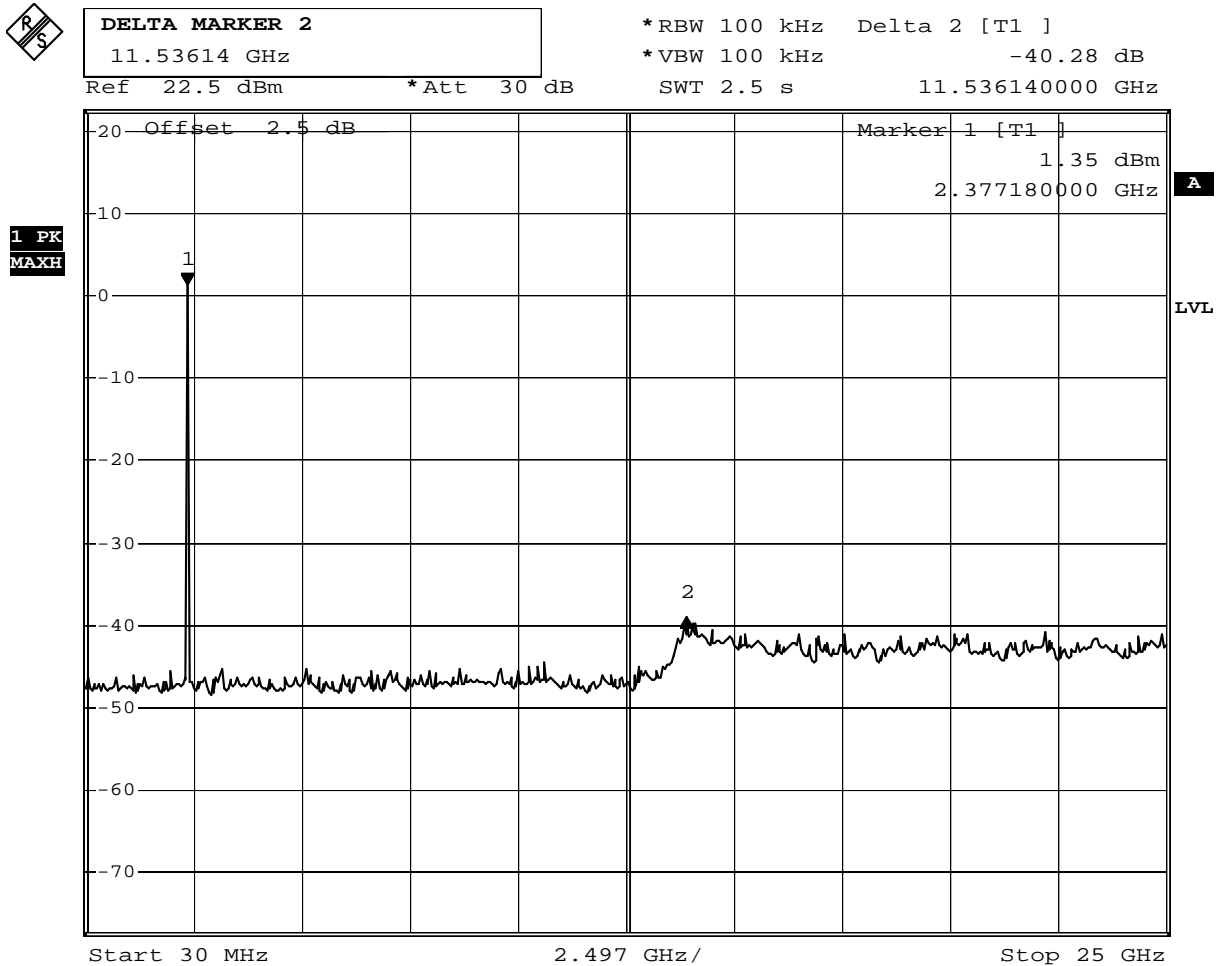
### Channel 78



Comment: A:\2  
 Date: 23.NOV.2012 15:14:48

Product	BLUETOOTH Watch		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

### Channel 00 (30MHz-25GHz)- GFSK



Comment: A:\2  
 Date: 23.NOV.2012 15:28:19



## Channel 78 (30MHz~25GHz)- GFSK

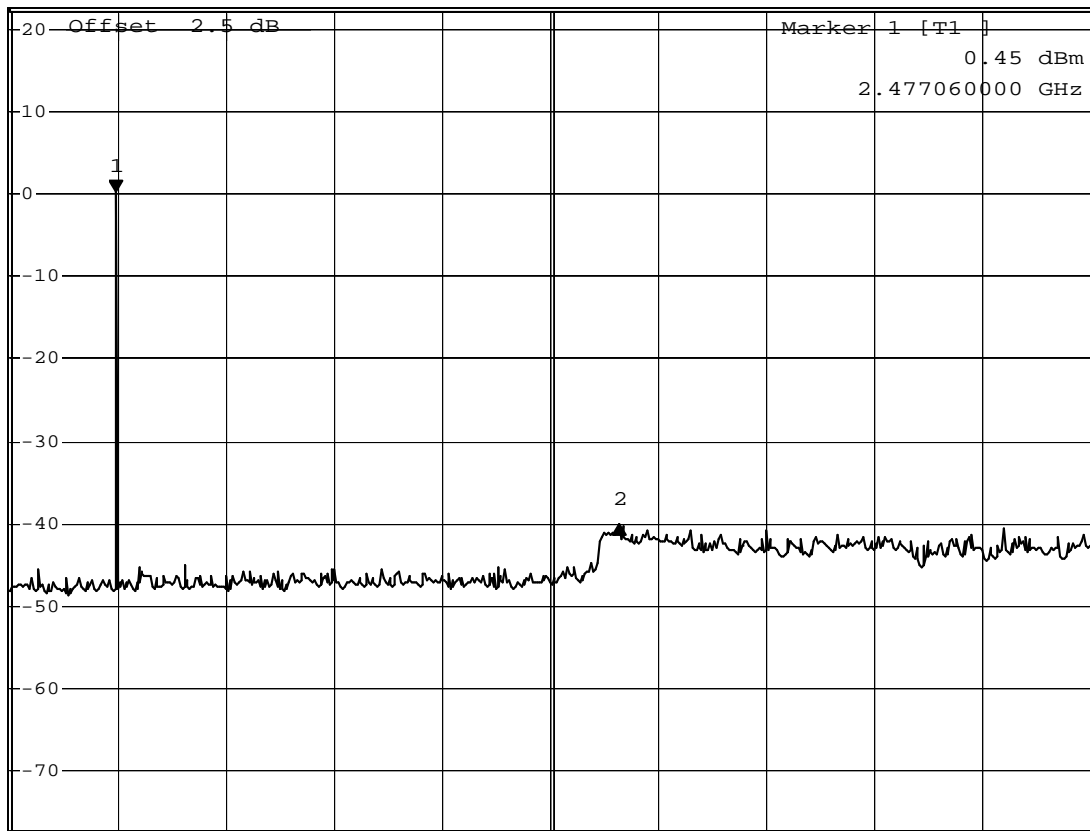


**DELTA MARKER 2**  
11.63602 GHz

\*RBW 100 kHz Delta 2 [T1 ]  
\*VBW 100 kHz -40.49 dB  
SWT 2.5 s 11.636020000 GHz

Ref 22.5 dBm \*Att 30 dB

1 PK  
MAXH



Start 30 MHz 2.497 GHz/ Stop 25 GHz

Comment: A:\2

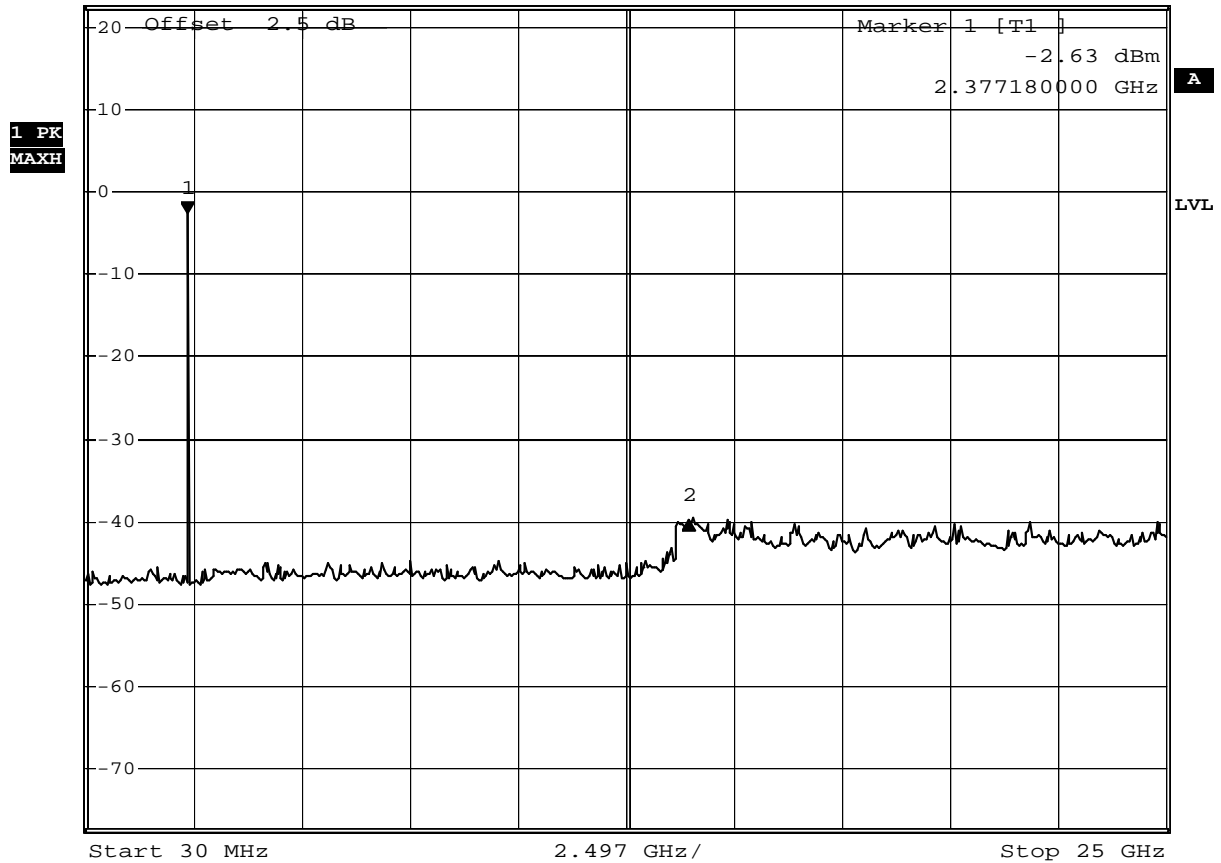
Date: 23.NOV.2012 15:27:40

Product	BLUETOOTH Watch		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

### Channel 00 (30MHz-25GHz)- $\pi/4$ -DQPSK



**DELTA MARKER 2**  
 11.58608 GHz  
 Ref 22.5 dBm \*Att 30 dB \*RBW 100 kHz Delta 2 [T1 ]  
 \*VBW 100 kHz -37.31 dB  
 SWT 2.5 s 11.586080000 GHz



Comment: A:\2  
 Date: 23.NOV.2012 15:27:06

Channel 78 (30MHz~25GHz)-  $\pi/4$ -DQPSK

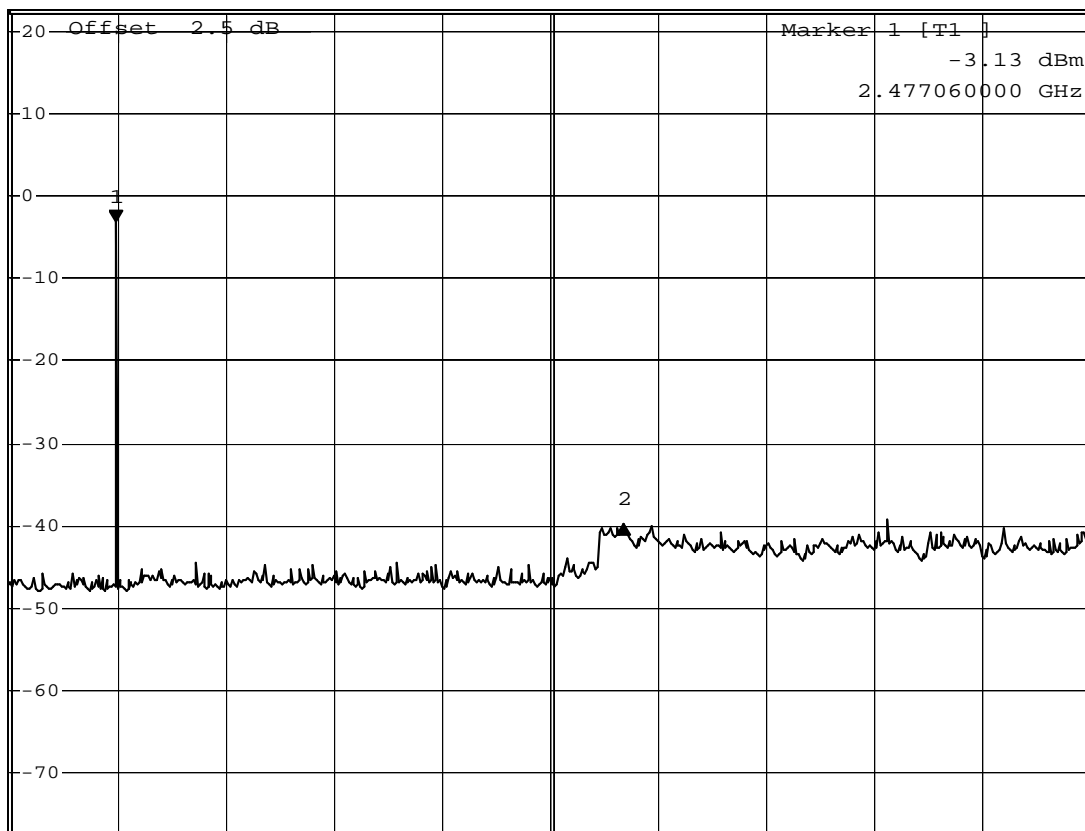


**DELTA MARKER 2**  
11.7359 GHz

\*RBW 100 kHz Delta 2 [T1 ]  
\*VBW 100 kHz -36.62 dB  
SWT 2.5 s 11.735900000 GHz

Ref 22.5 dBm \*Att 30 dB

1 PK  
MAXH



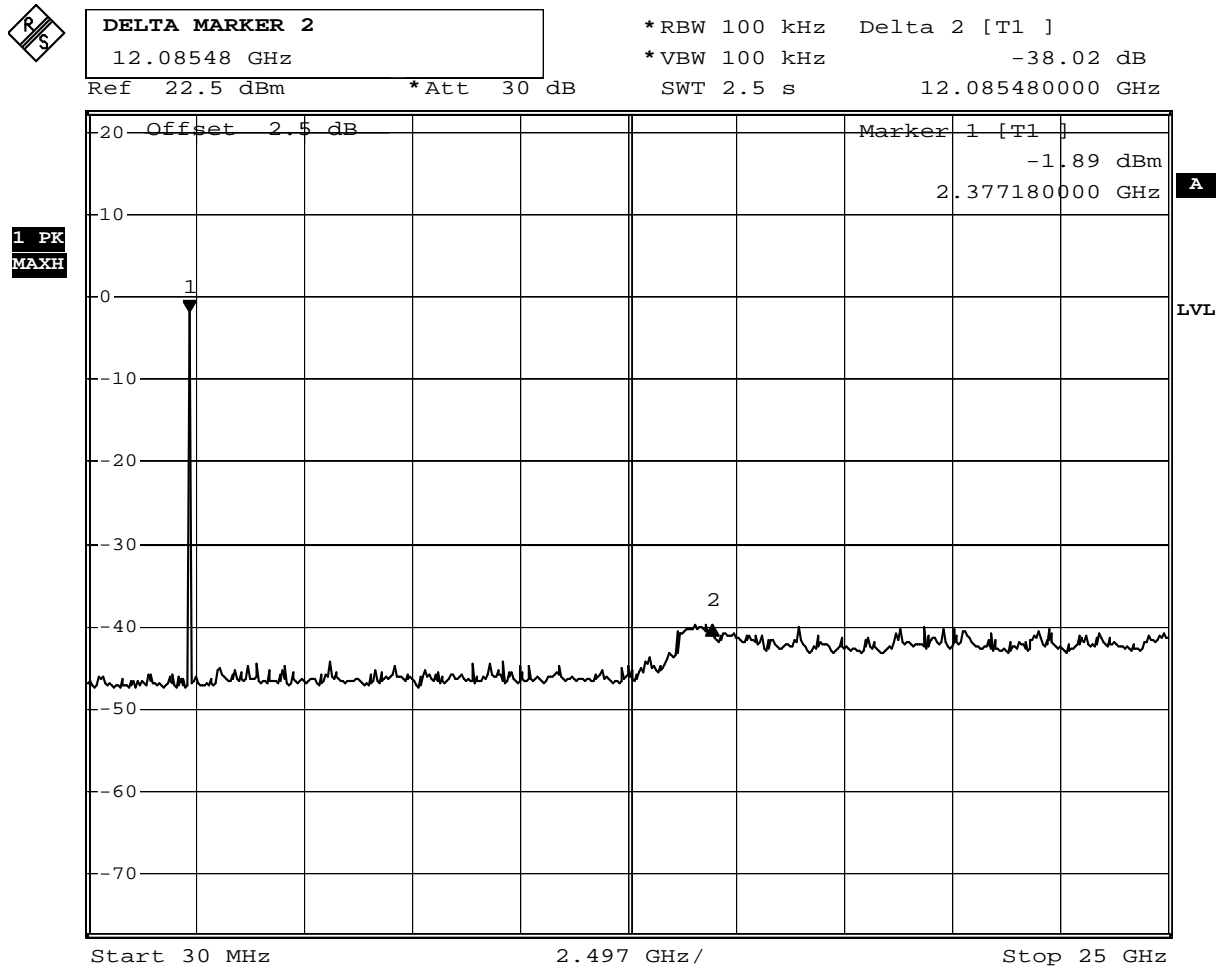
Start 30 MHz 2.497 GHz/ Stop 25 GHz

Comment: A:\2

Date: 23.NOV.2012 15:25:53

Product	BLUETOOTH Watch		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

### Channel 00 (30MHz-25GHz)- 8-DPSK



Comment: A:\2  
 Date: 23.NOV.2012 15:20:31

Channel 78 (30MHz~25GHz)- 8-DPSK

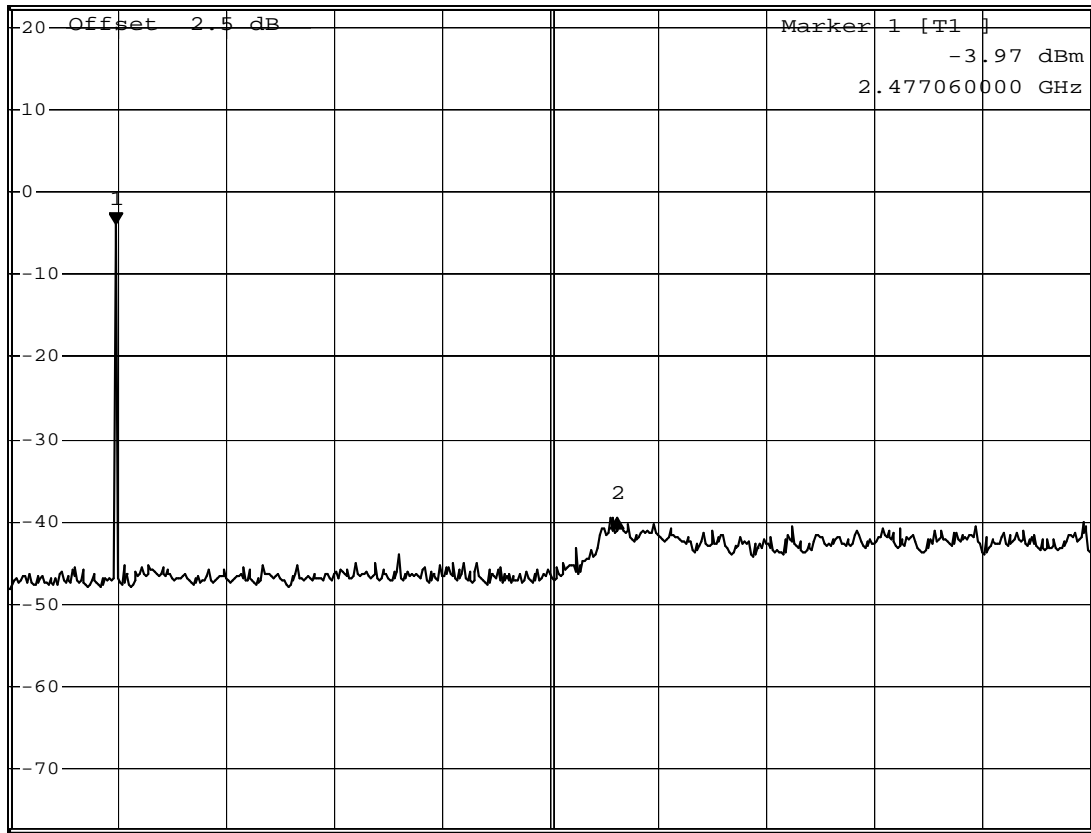


**DELTA MARKER 2**  
11.58608 GHz

\*RBW 100 kHz Delta 2 [T1 ]  
\*VBW 100 kHz -35.64 dB  
SWT 2.5 s 11.586080000 GHz

Ref 22.5 dBm \*Att 30 dB

1 PK  
MAXH



A

LVL

Start 30 MHz 2.497 GHz/ Stop 25 GHz

Comment: A:\2  
Date: 23.NOV.2012 15:21:38

5. Band Edge

5.1. Test Equipment

The following test equipments are used during the test:

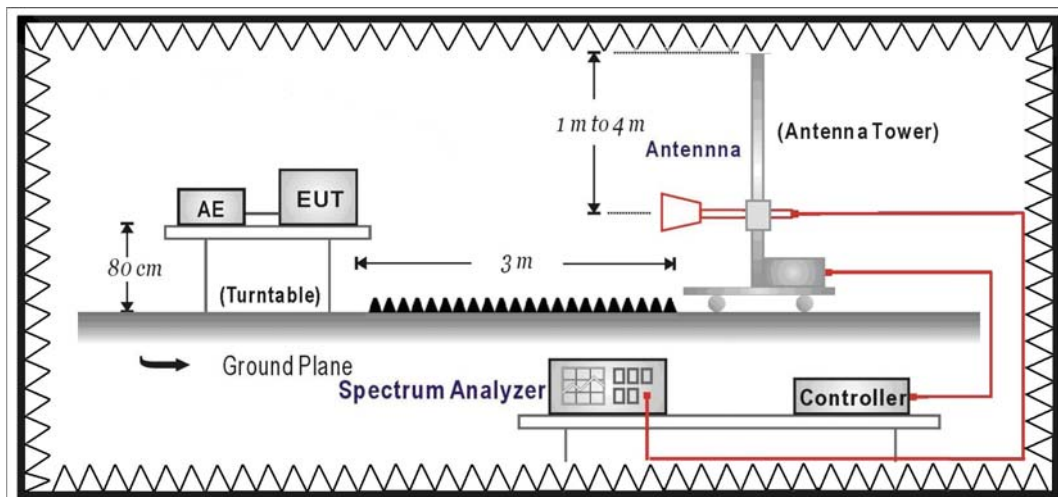
Band Edge / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Double Ridged Guide Horn Antenna	Schwarzback	BBHA 9120D	743	2013/02/02
Spectrum Analyzer	Agilent	E4440A	MY46187335	2013/02/07
Coaxial Cable	Huber+Suhner AG	Sucoflex 102	25623/2	2013/03/04

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

5.2. Test Setup

RF Radiated Measurement:



**5.3. Limits**

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

**5.4. Test Procedure**

The EUT was setup according to ANSI C63.4, 2009 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

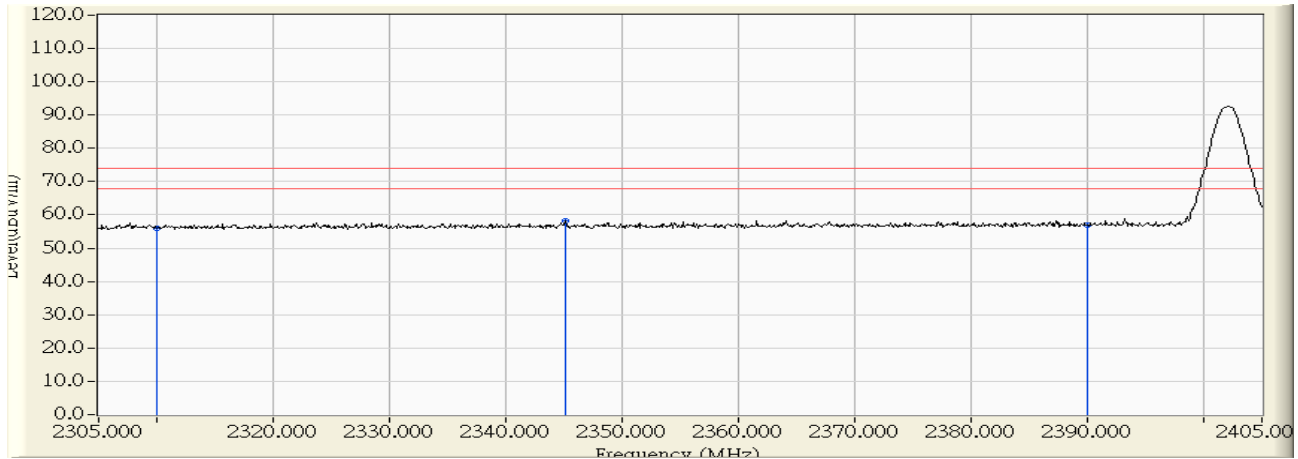
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2009 on radiated measurement.

**5.5. Test Specification**

According to FCC Part 15 Subpart C Paragraph 15.247: 2011

5.6. Test Result

Site : CB1	Time : 2012/11/30 - 19:19
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2402MHz_X



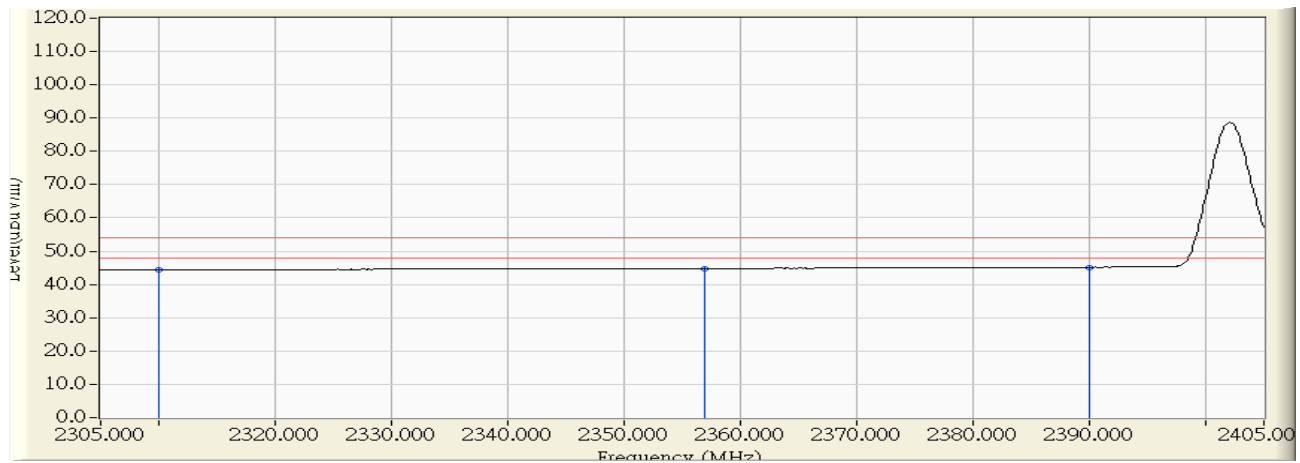
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	29.779	26.197	55.976	-18.024	74.000	PEAK
2	* 2345.100	30.130	28.185	58.314	-15.686	74.000	PEAK
3	2390.000	30.578	26.237	56.815	-17.185	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



Site : CB1	Time : 2012/11/30 - 19:20
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2402MHz_X

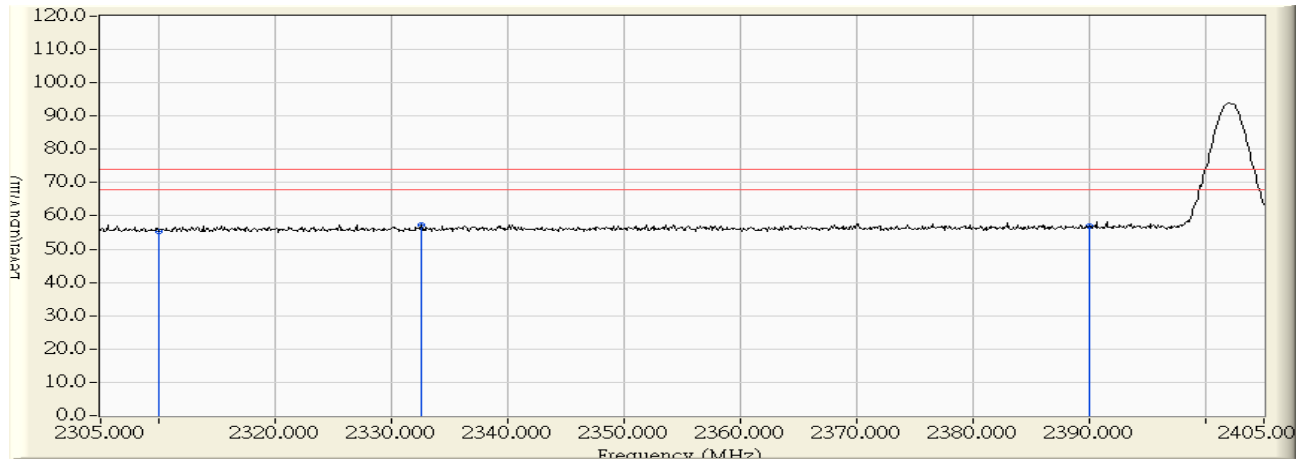


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	29.779	14.645	44.424	-9.576	54.000	AVERAGE
2	2356.900	30.247	14.542	44.789	-9.211	54.000	AVERAGE
3	* 2390.000	30.578	14.606	45.184	-8.816	54.000	AVERAGE

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2012/11/30 - 19:23
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2402MHz_X

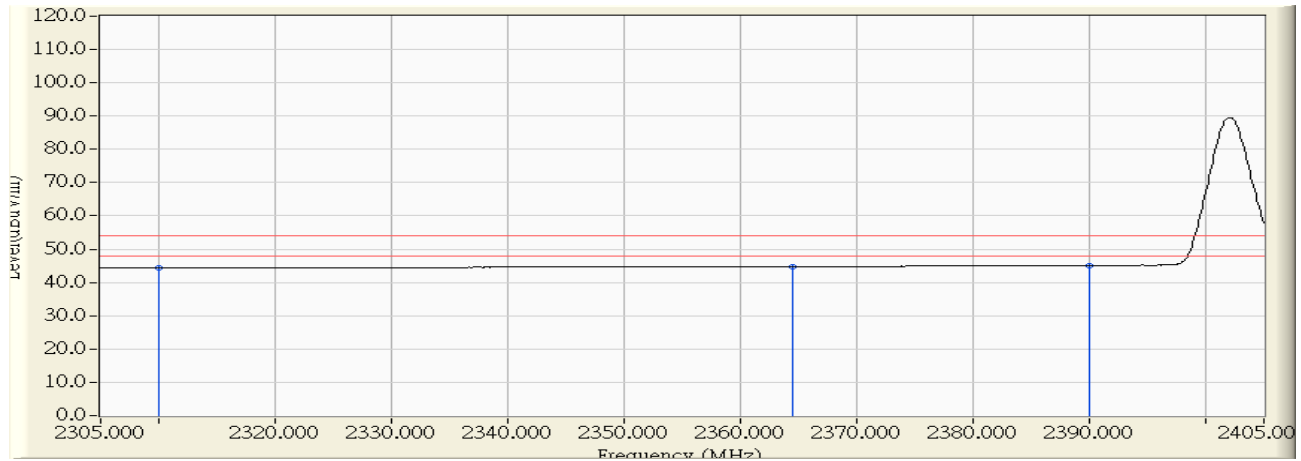


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	29.779	25.497	55.276	-18.724	74.000	PEAK
2	* 2332.600	30.005	27.325	57.330	-16.670	74.000	PEAK
3	2390.000	30.578	26.517	57.095	-16.905	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2012/11/30 - 19:24
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2402MHz_X

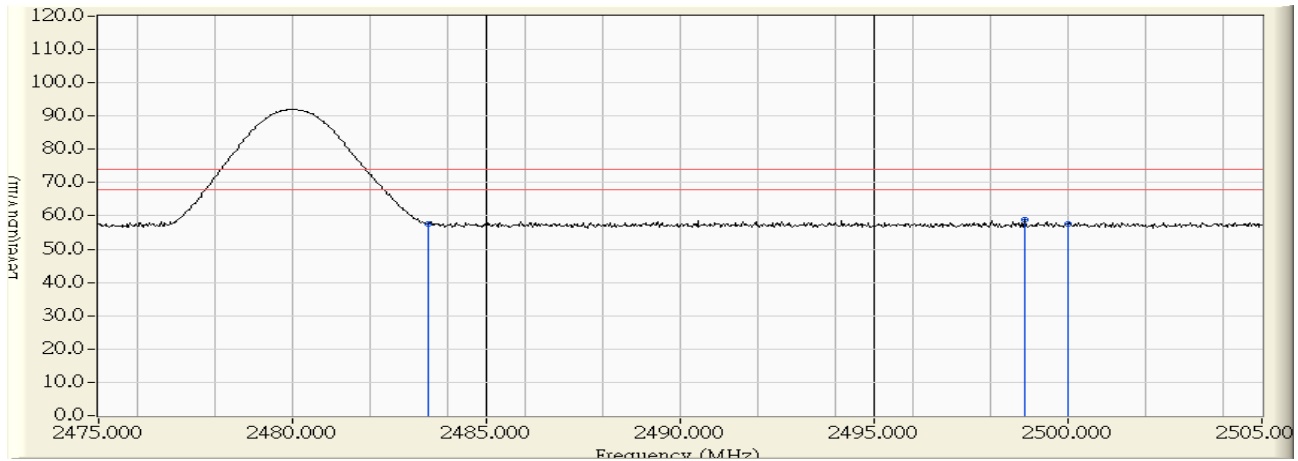


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	29.779	14.555	44.334	-9.666	54.000	AVERAGE
2	2364.500	30.323	14.449	44.772	-9.228	54.000	AVERAGE
3	* 2390.000	30.578	14.528	45.106	-8.894	54.000	AVERAGE

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2012/11/30 - 19:49
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2480MHz_X

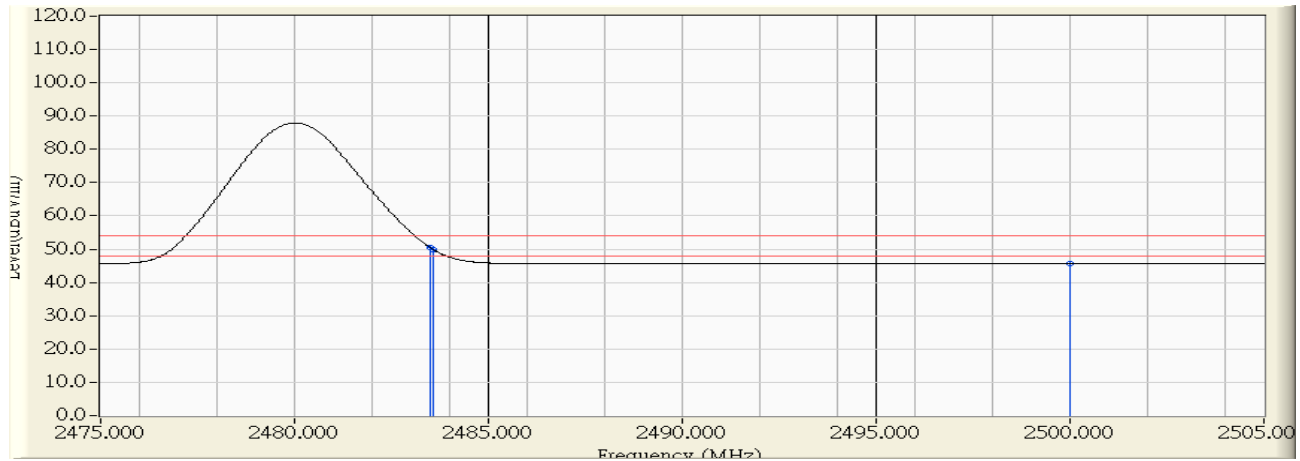


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2483.500	31.512	26.213	57.725	-16.275	74.000	PEAK
2	* 2498.880	31.638	27.393	59.031	-14.969	74.000	PEAK
3	2500.000	31.638	25.900	57.539	-16.461	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2012/11/30 - 19:49
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2480MHz_X

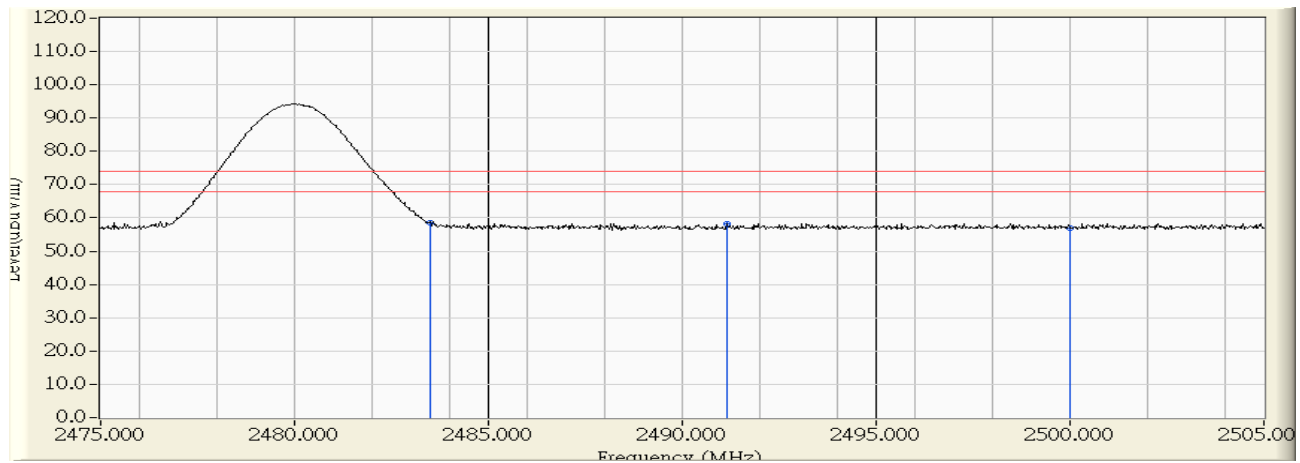


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	31.512	18.929	50.441	-3.559	54.000	AVERAGE
2		2483.580	31.513	18.327	49.840	-4.160	54.000	AVERAGE
3		2500.000	31.638	14.014	45.653	-8.347	54.000	AVERAGE

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2012/11/30 - 19:53
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2480MHz_X

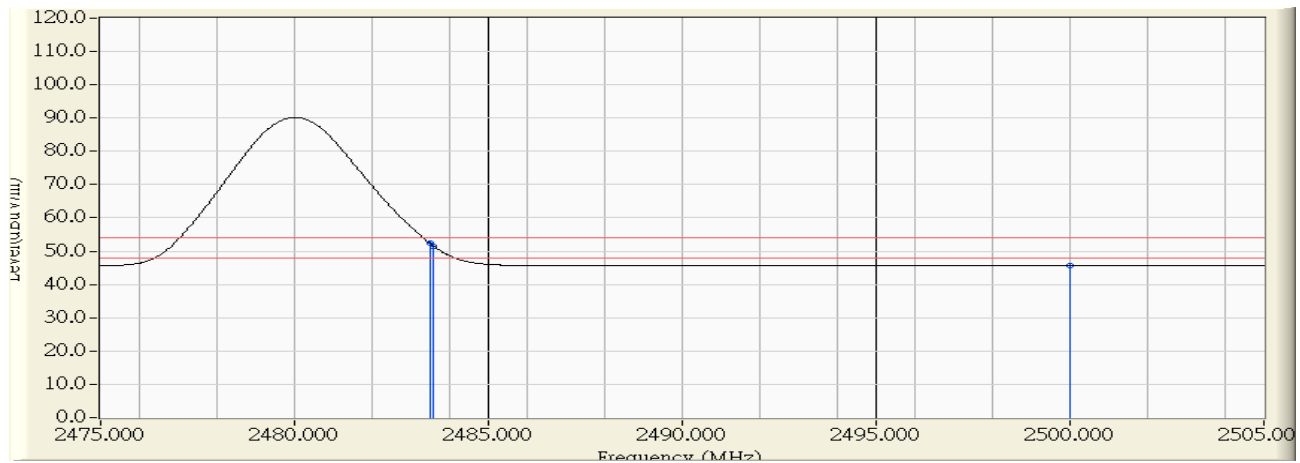


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	31.512	27.069	58.581	-15.419	74.000	PEAK
2		2491.140	31.588	26.772	58.360	-15.640	74.000	PEAK
3		2500.000	31.638	25.266	56.905	-17.095	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2012/11/30 - 19:53
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2480MHz_X

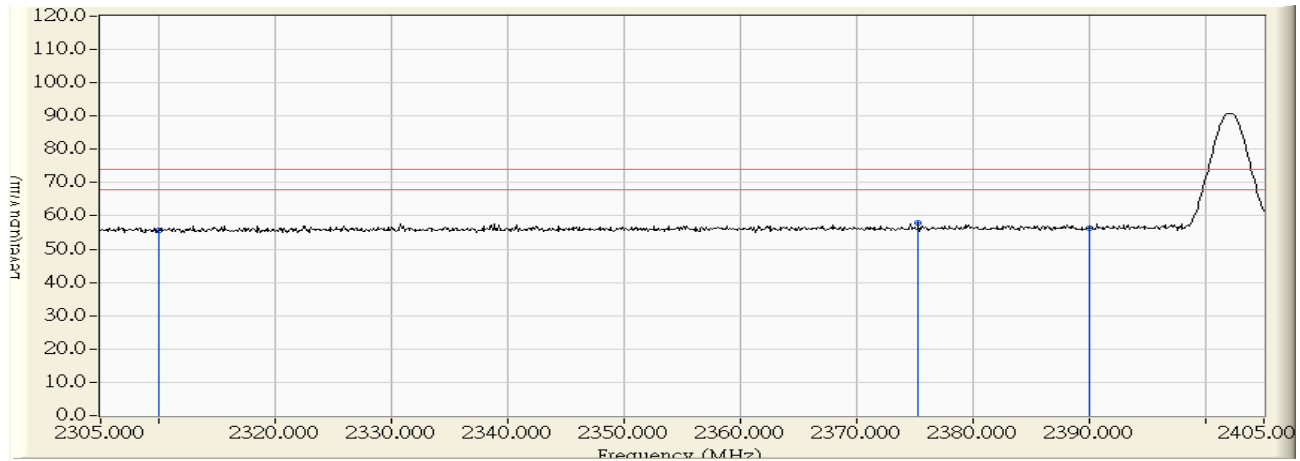


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	31.512	20.769	52.281	-1.719	54.000	AVERAGE
2		2483.580	31.513	20.073	51.586	-2.414	54.000	AVERAGE
3		2500.000	31.638	13.968	45.607	-8.393	54.000	AVERAGE

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2012/11/30 - 19:29
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2402MHz_Y



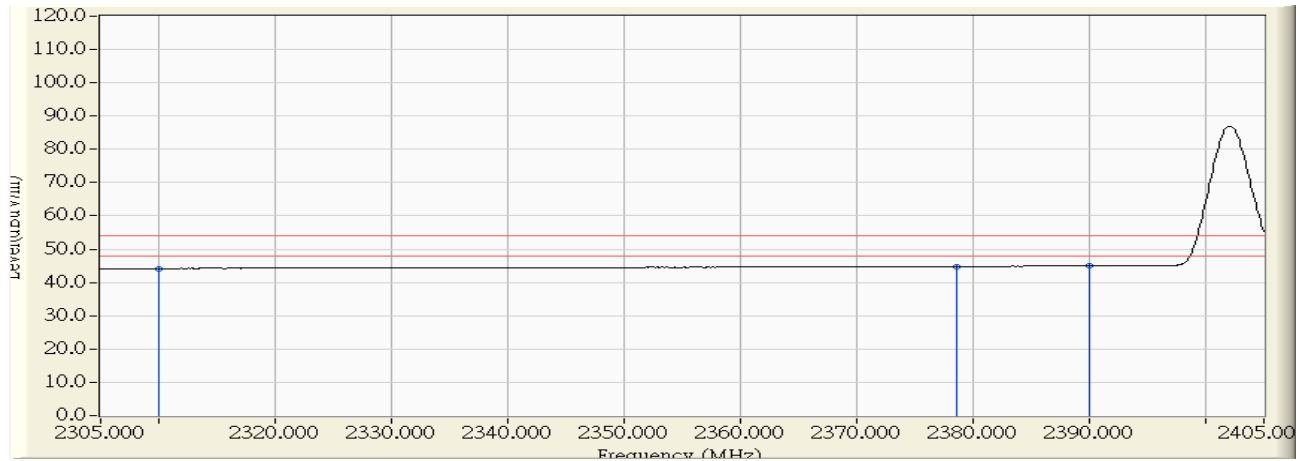
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	29.779	25.777	55.556	-18.444	74.000	PEAK
2	* 2375.300	30.431	27.430	57.861	-16.139	74.000	PEAK
3	2390.000	30.578	25.730	56.308	-17.692	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



Site : CB1	Time : 2012/11/30 - 19:29
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2402MHz_Y

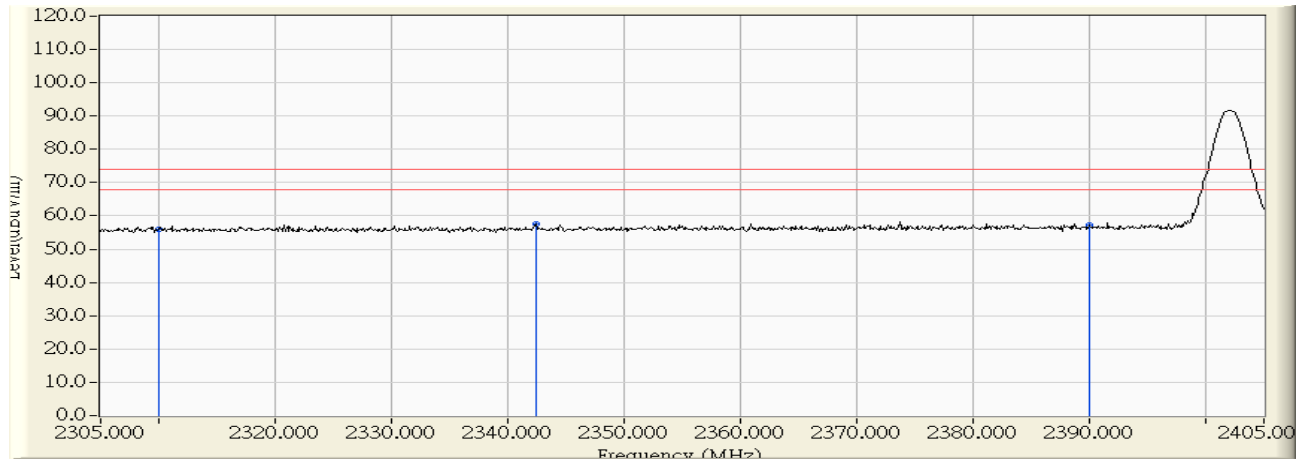


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	29.779	14.424	44.203	-9.797	54.000	AVERAGE
2	2378.600	30.464	14.335	44.799	-9.201	54.000	AVERAGE
3	* 2390.000	30.578	14.387	44.965	-9.035	54.000	AVERAGE

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2012/11/30 - 19:33
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2402MHz_Y

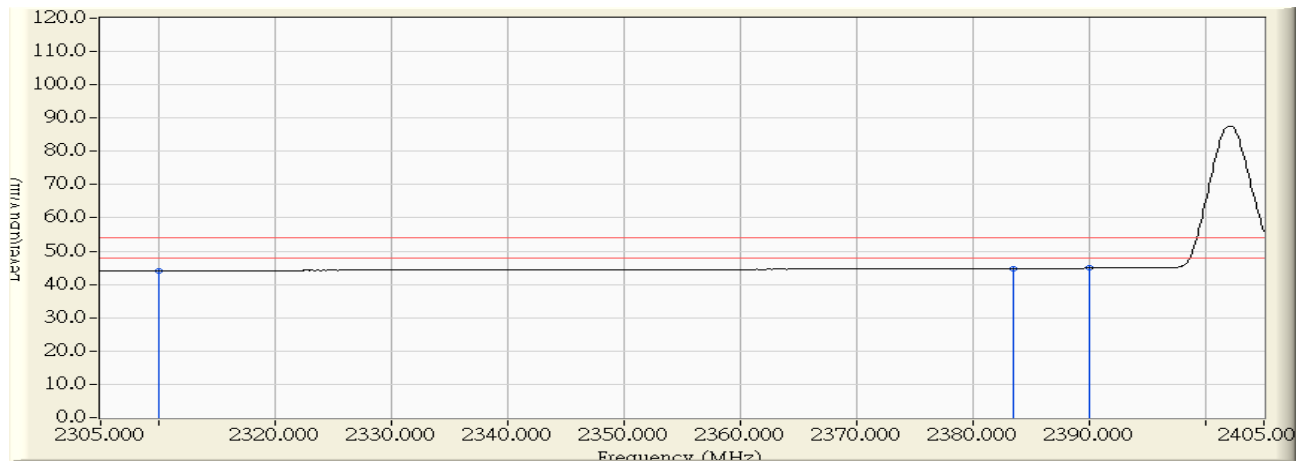


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	29.779	26.047	55.826	-18.174	74.000	PEAK
2	* 2342.400	30.102	27.332	57.435	-16.565	74.000	PEAK
3	2390.000	30.578	26.731	57.309	-16.691	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2012/11/30 - 19:33
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2402MHz_Y

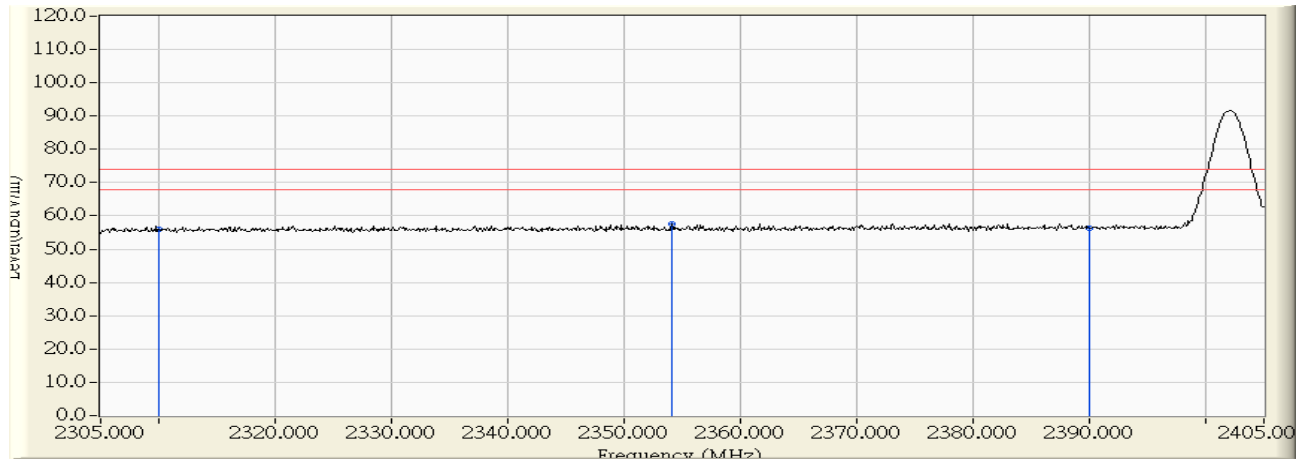


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	29.779	14.335	44.114	-9.886	54.000	AVERAGE
2	2383.400	30.512	14.298	44.810	-9.190	54.000	AVERAGE
3	* 2390.000	30.578	14.314	44.892	-9.108	54.000	AVERAGE

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2012/11/30 - 19:39
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2402MHz_Z

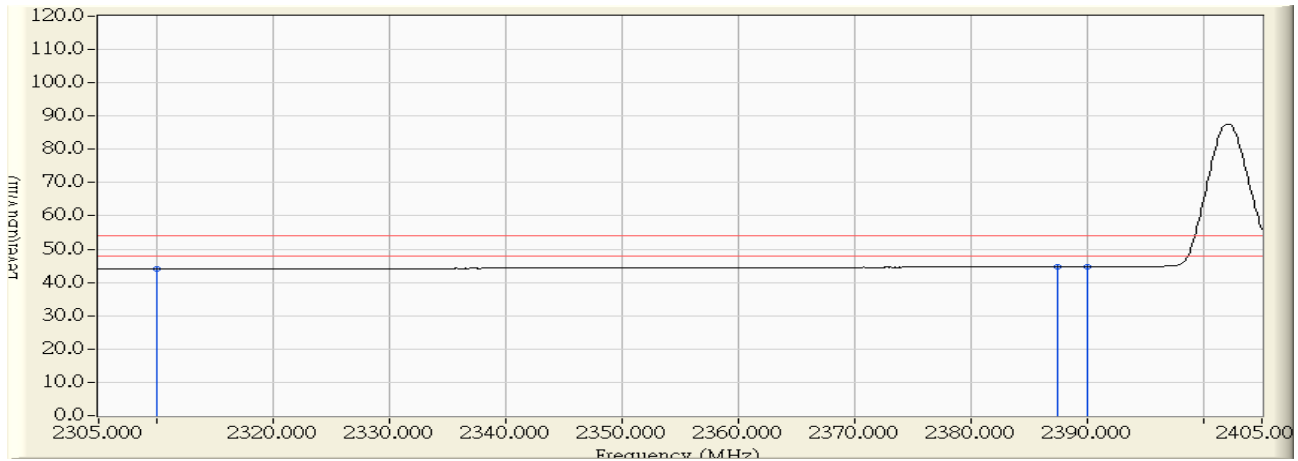


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	29.779	26.066	55.845	-18.155	74.000	PEAK
2	* 2354.100	30.220	27.279	57.498	-16.502	74.000	PEAK
3	2390.000	30.578	25.849	56.427	-17.573	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2012/11/30 - 19:40
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2402MHz_Z

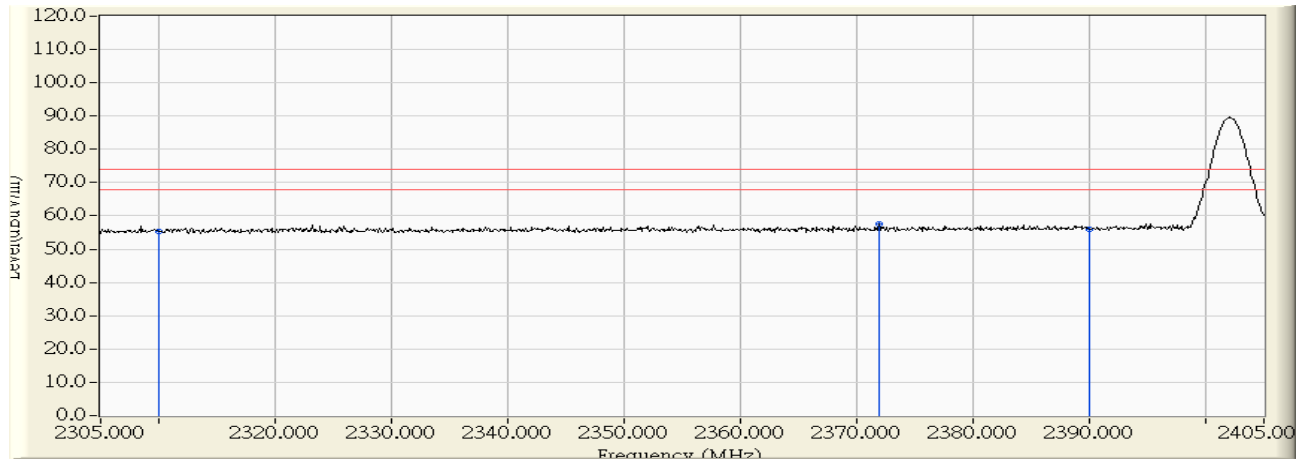


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	29.779	14.239	44.018	-9.982	54.000	AVERAGE
2	2387.400	30.552	14.201	44.753	-9.247	54.000	AVERAGE
3	* 2390.000	30.578	14.184	44.762	-9.238	54.000	AVERAGE

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2012/11/30 - 19:43
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2402MHz_Z

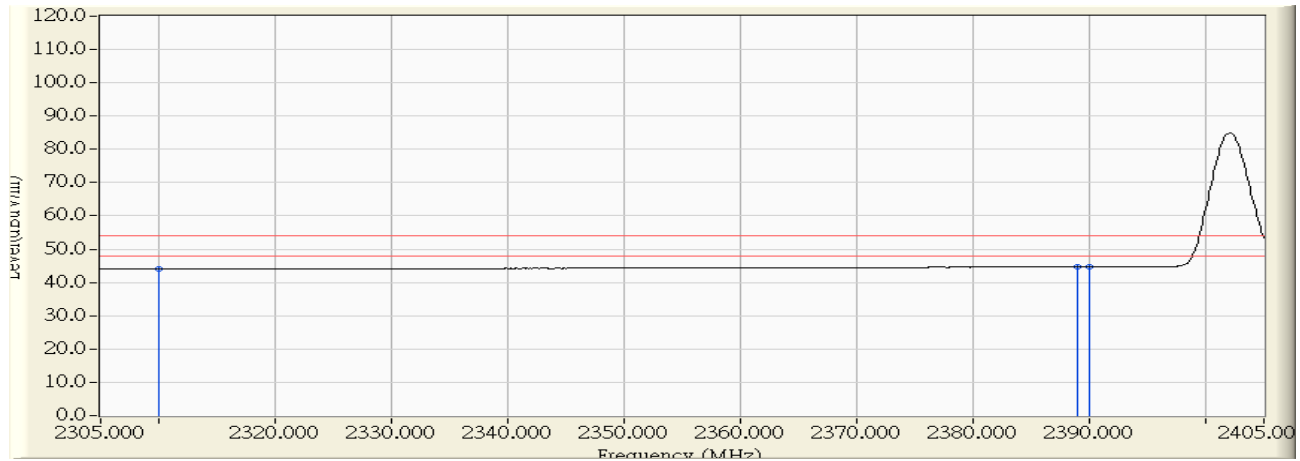


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	29.779	25.626	55.405	-18.595	74.000	PEAK
2	* 2371.900	30.397	27.052	57.449	-16.551	74.000	PEAK
3	2390.000	30.578	25.497	56.075	-17.925	74.000	PEAK

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB1	Time : 2012/11/30 - 19:44
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 3.7V (Power by PC)
EUT : BLUETOOTH Watch	Note : Mode 1: Transmit_3DH5_2402MHz_Z



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	29.779	14.206	43.985	-10.015	54.000	AVERAGE
2	2389.000	30.568	14.131	44.699	-9.301	54.000	AVERAGE
3	* 2390.000	30.578	14.151	44.729	-9.271	54.000	AVERAGE

**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

**6. Number of hopping frequency**

**6.1. Test Equipment**

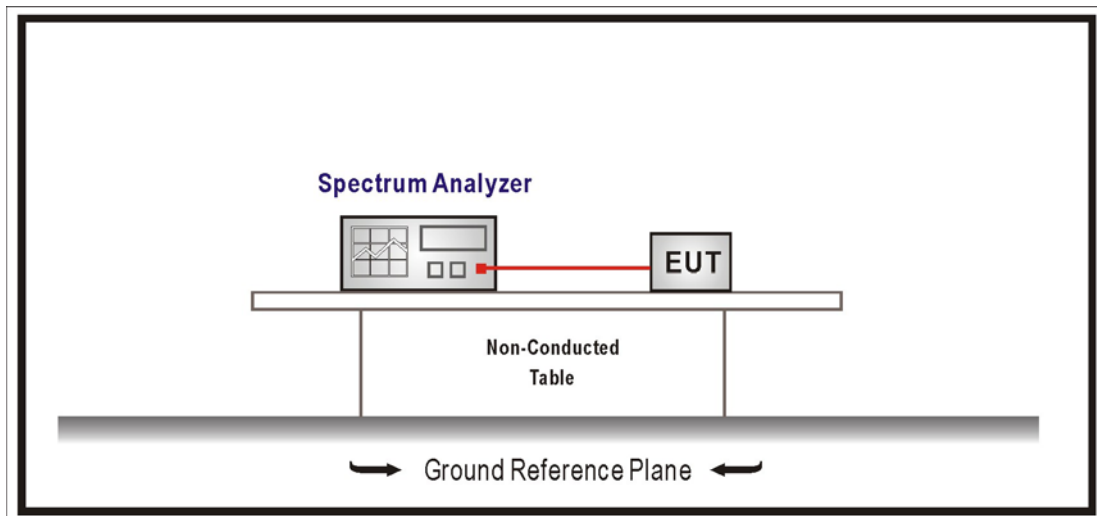
The following test equipment is used during the test:

Number of hopping frequency / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2013/02/19

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

**6.2. Test Setup**





**6.3. Limits**

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

For frequency hopping systems operating in the 2400-2483.5 MHz bands, which use fewer than 75 hopping frequencies, may employ intelligent hopping techniques to avoid interference to other transmissions. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 non-overlapping channels are used.

For frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies.

**6.4. Test Procedures**

The EUT was setup according to ANSI C63.4, 2009 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements

Span = the frequency band of operation

RBW  $\geq$  1% of the span , VBW  $\geq$  RBW

Sweep = auto, Detector function = peak, Trace = max hold

**6.5. Test Specification**

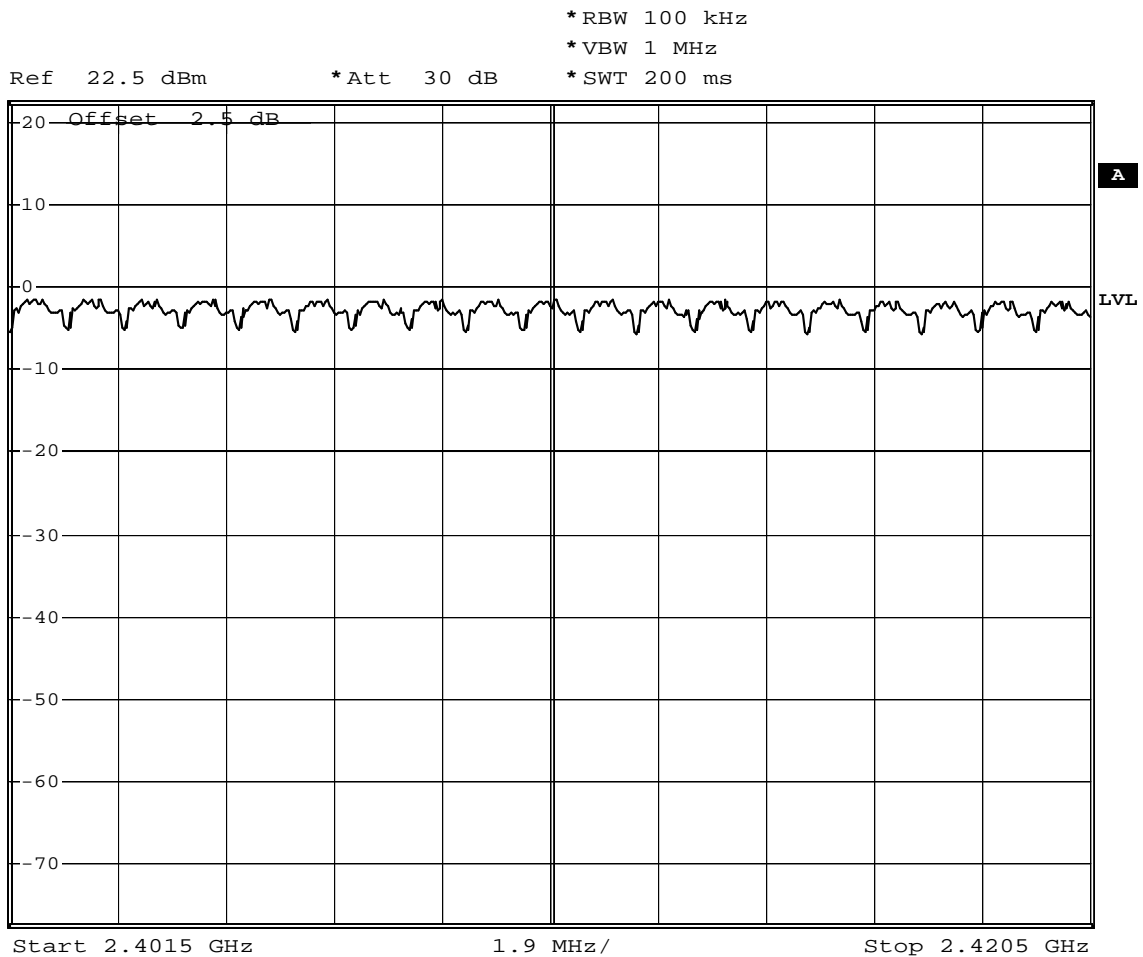
According to FCC Part 15 Subpart C Paragraph 15.247: 2011

6.6. Test Result

Product	BLUETOOTH Watch		
Test Item	Number of hopping frequency		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

Frequency Range (MHz)	Measure Level (Channels)	Limit (Channels)	Result
2402 ~ 2480	79	>75	Pass

**2401.5-2420.5MHz**



Comment: A:\2  
 Date: 23.NOV.2012 17:11:22

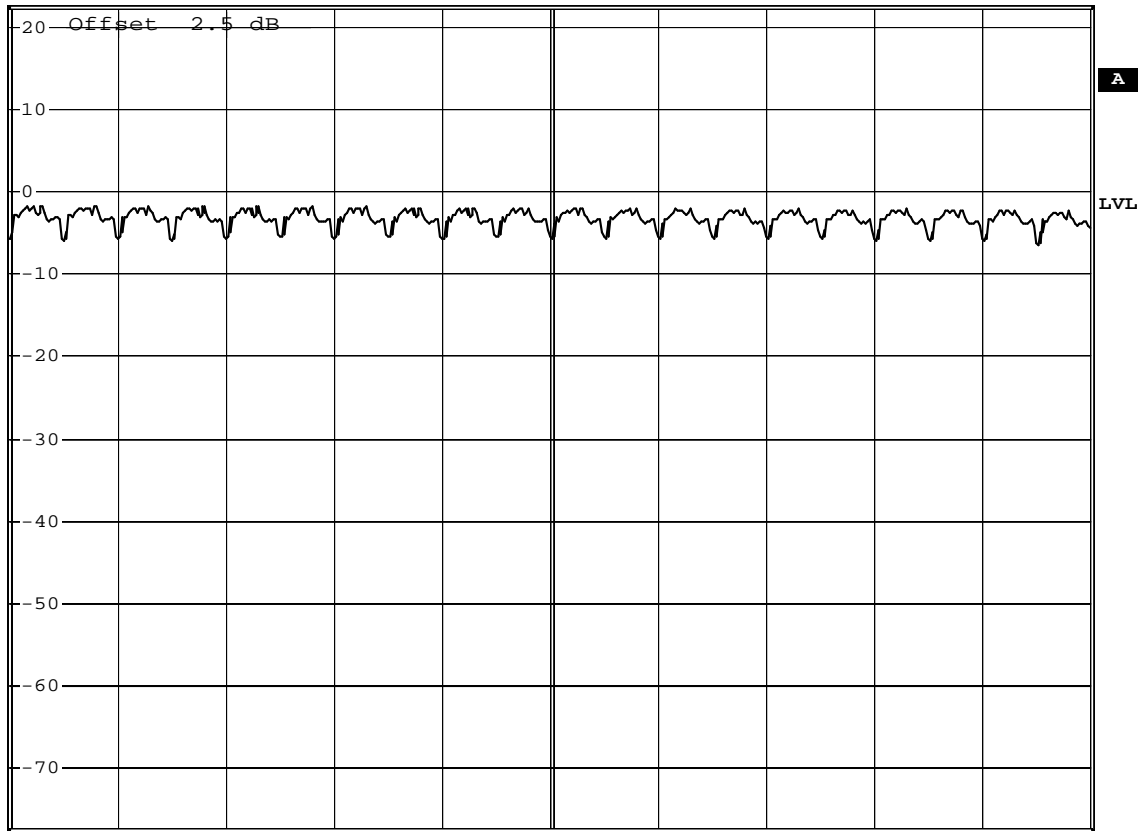
**2420.5-2440.5MHz**



\*RBW 100 kHz  
\*VBW 1 MHz  
\*SWT 200 ms

Ref 22.5 dBm      \*Att 30 dB

1 PK  
VIEW



Start 2.4205 GHz      2 MHz/      Stop 2.4405 GHz

Comment: A:\2

Date: 23.NOV.2012 17:14:53

**2440.5-2460.5MHz**

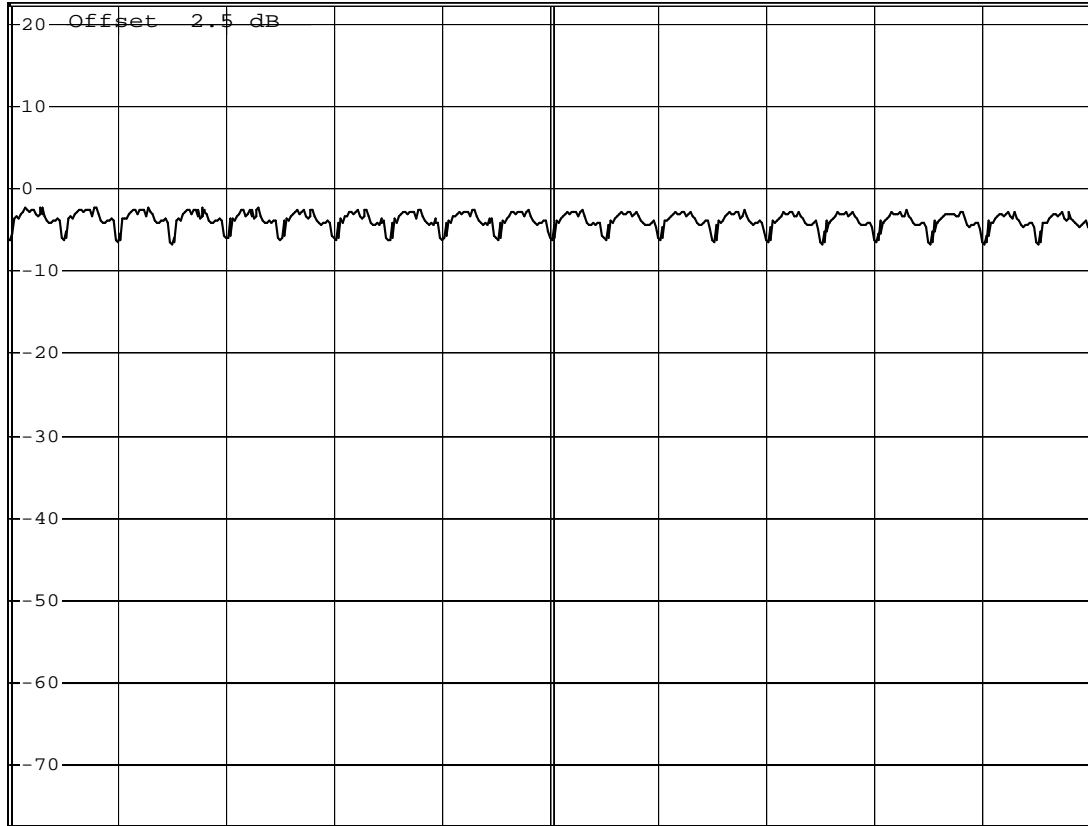


\*RBW 100 kHz  
\*VBW 1 MHz  
\*SWT 200 ms

Ref 22.5 dBm

\*Att 30 dB

1 PK  
VIEW



Start 2.4405 GHz

2 MHz/

Stop 2.4605 GHz

Comment: A:\2

Date: 23.NOV.2012 17:18:10

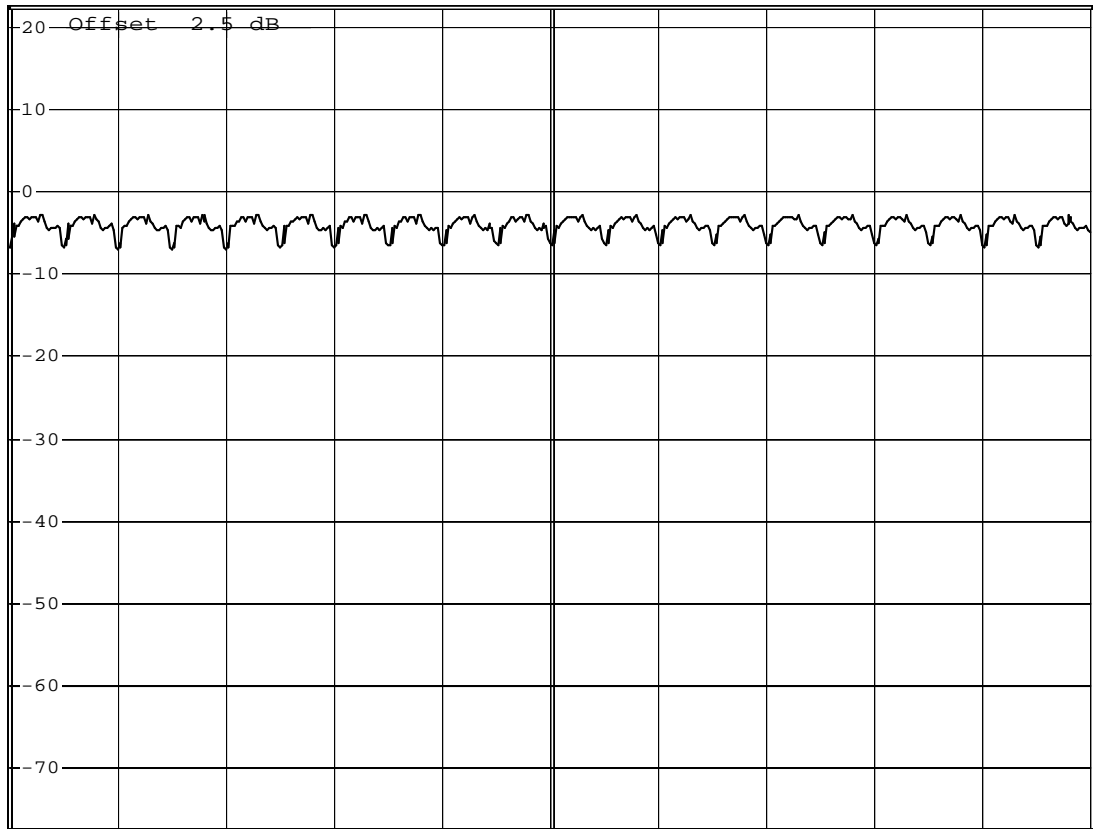
**2460.5-2480.5MHz**



\*RBW 100 kHz  
\*VBW 1 MHz  
\*SWT 200 ms

Ref 22.5 dBm      \*Att 30 dB

1 PK  
VIEW



Start 2.4605 GHz      2 MHz/      Stop 2.4805 GHz

Comment: A:\2

Date: 23.NOV.2012 17:22:43

**7. Carrier Frequency Separation**

**7.1. Test Equipment**

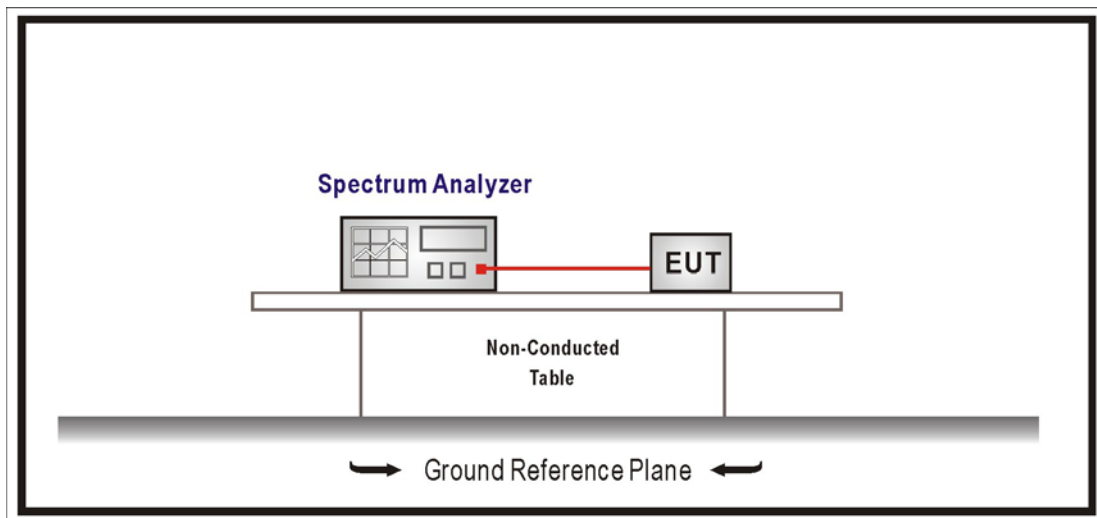
The following test equipment is used during the test:

Carrier Frequency Separation / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2013/02/19

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

**7.2. Test Setup**



**7.3. Limits**

For frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.

**7.4. Test Procedures**

The EUT was setup according to ANSI C63.4, 2009 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements

Span = wide enough to capture the peaks of two adjacent channels

Resolution Bandwidth (RBW)  $\geq$  1% of the span, VBW  $\geq$  RBW

Sweep = auto, Detector function = peak, Trace = max hold

**7.5. Test Specification**

According to FCC Part 15 Subpart C Paragraph 15.247: 2011

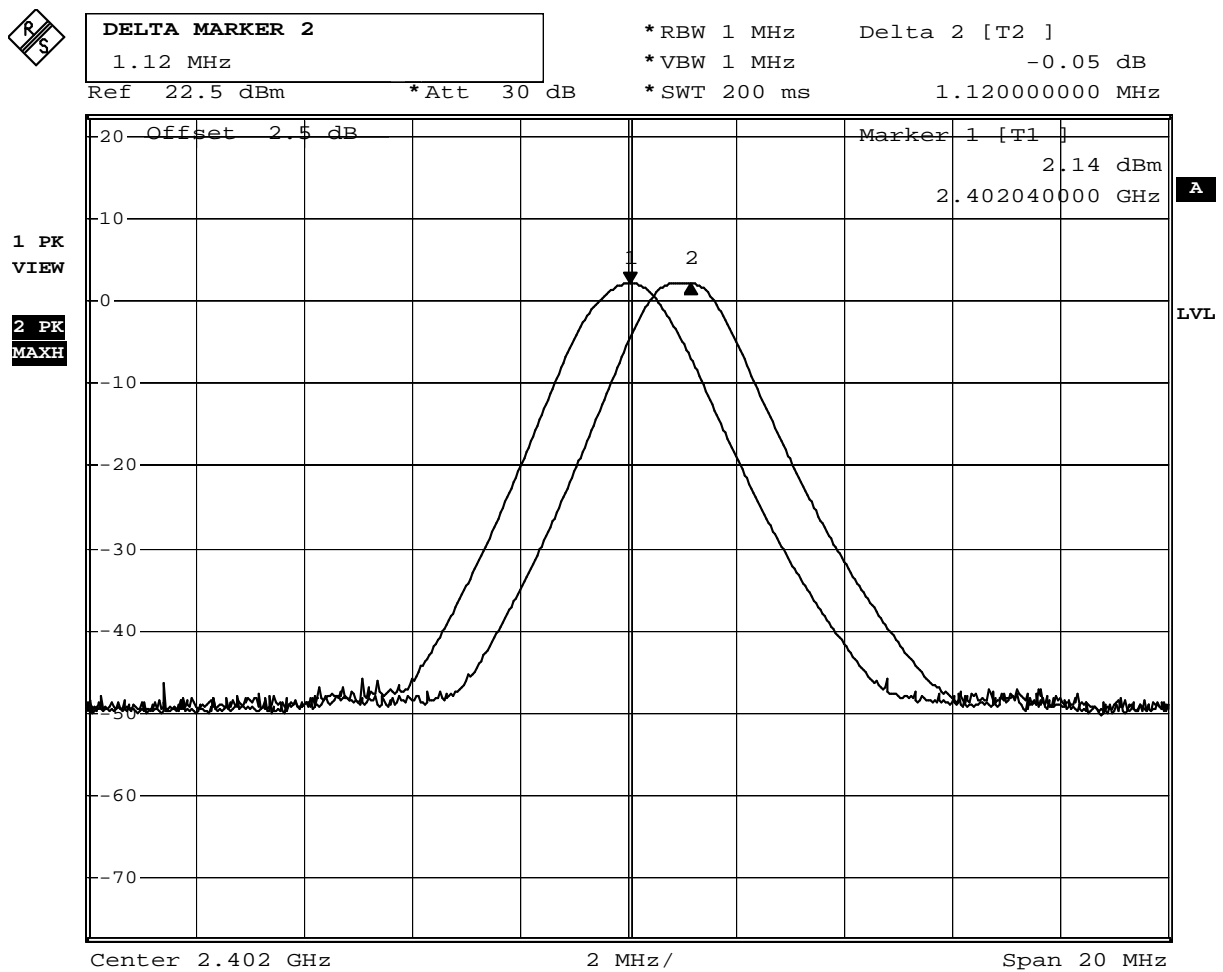
## 7.6. Test Result

Product	BLUETOOTH Watch		
Test Item	Carrier Frequency Separation		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

### GFSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	1.120	$\geq 0.739$	Pass

### Channel 00



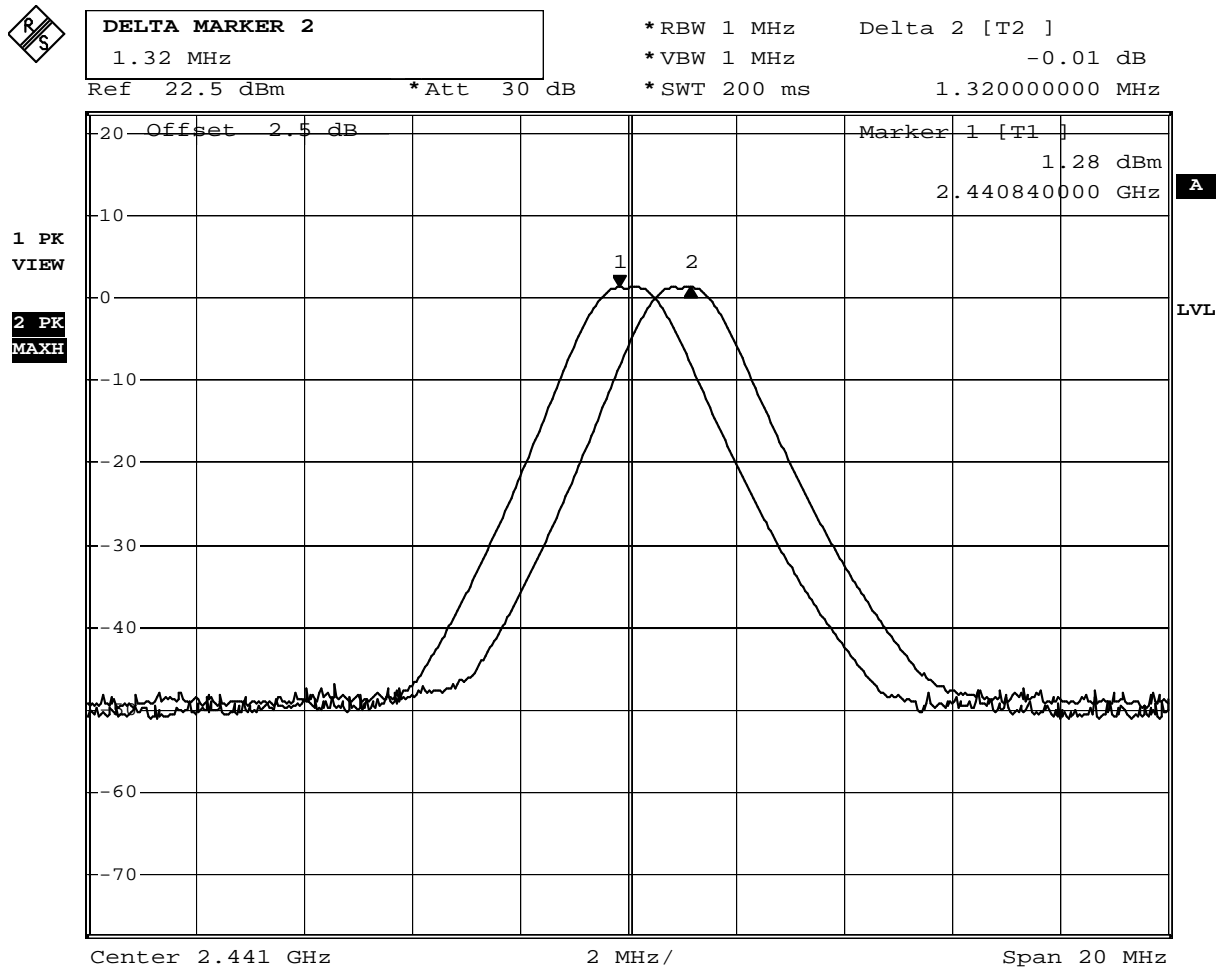
Comment: A:\2  
 Date: 23.NOV.2012 16:22:56

Product	BLUETOOTH Watch		
Test Item	Carrier Frequency Separation		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

**GFSK**

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
39	2441	1.320	≥0.745	Pass

**Channel 39**



Comment: A:\2  
Date: 23.NOV.2012 16:43:58

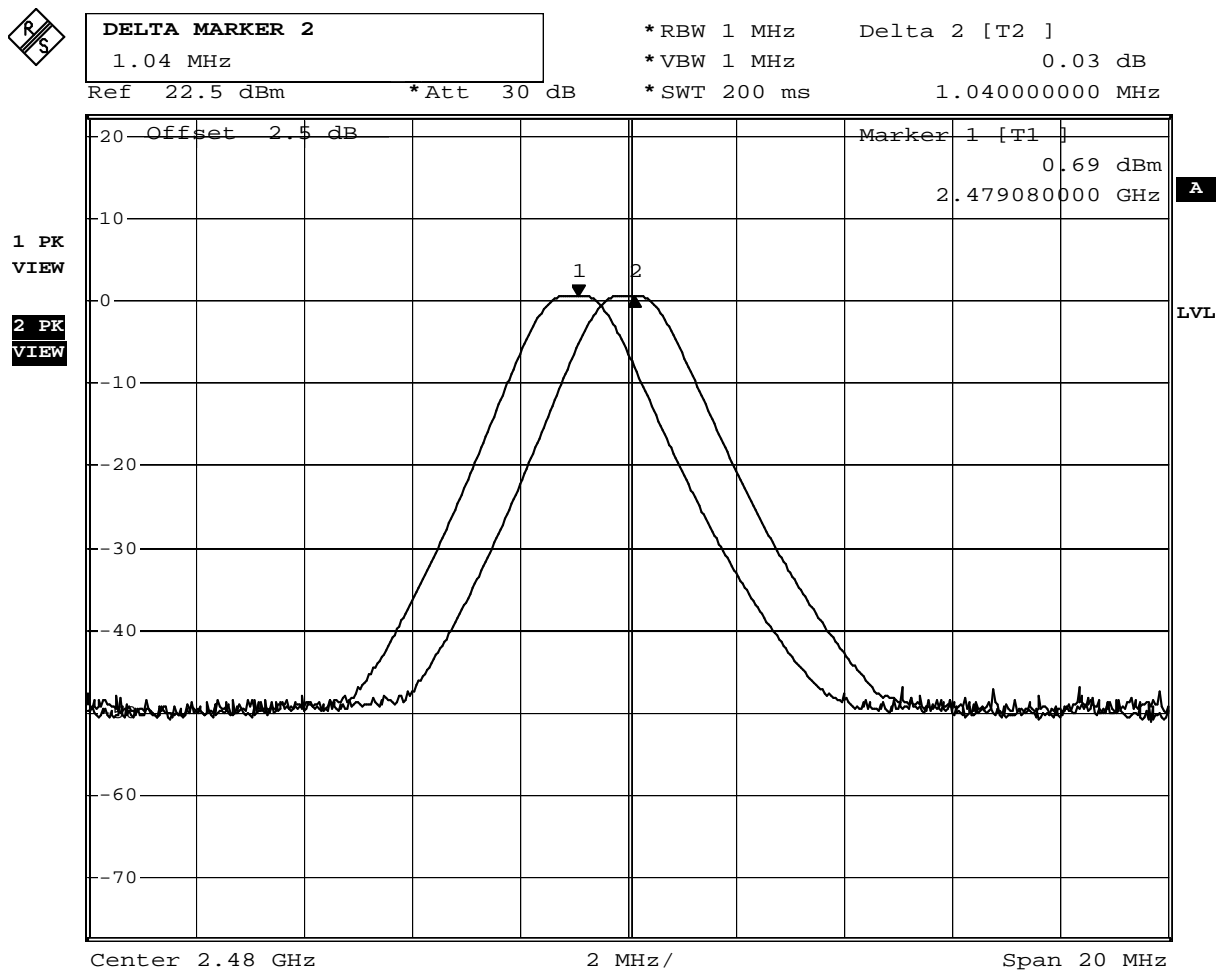


Product	BLUETOOTH Watch		
Test Item	Carrier Frequency Separation		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

**GFSK**

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
78	2480	1.040	≥0.732	Pass

**Channel 78**



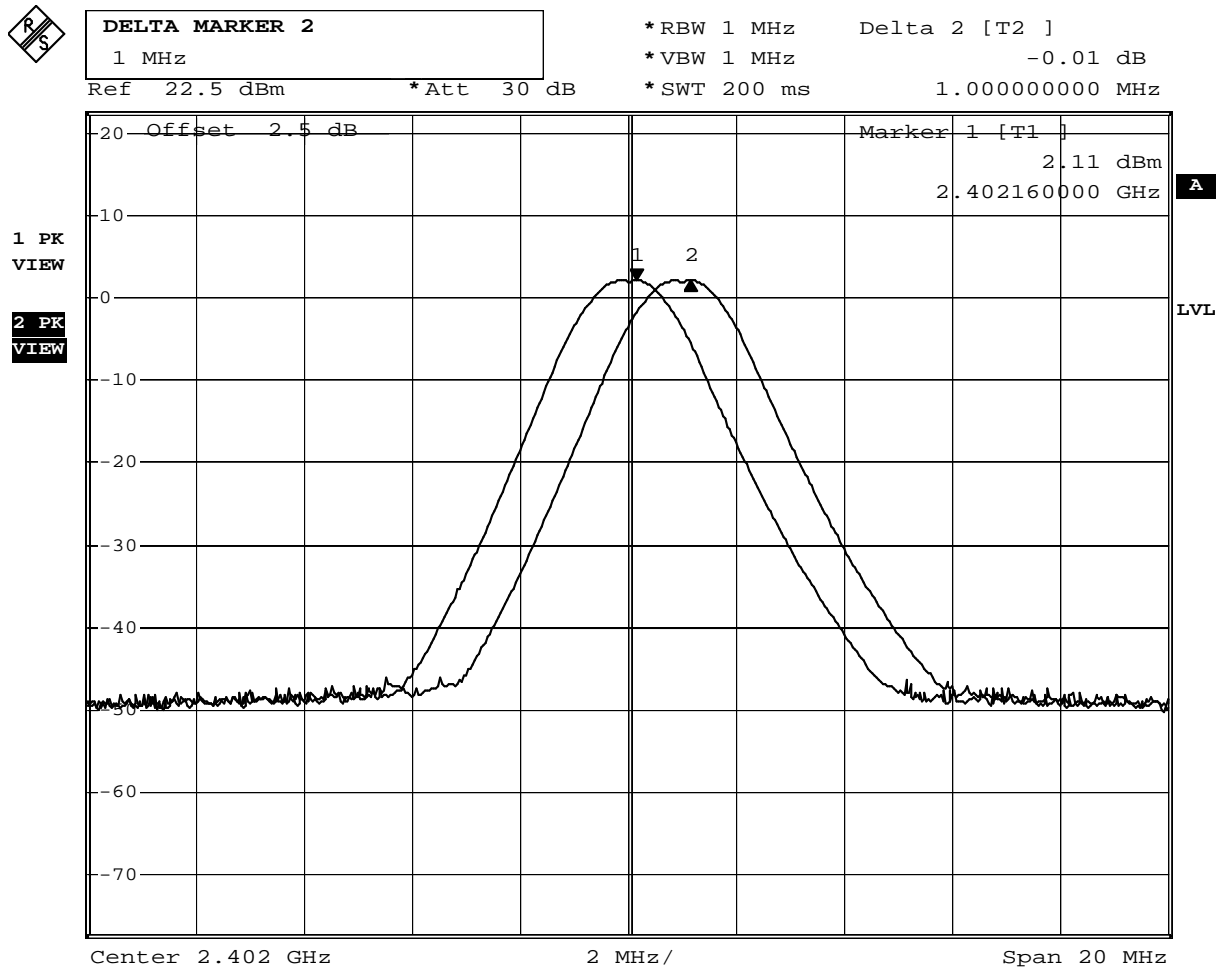
Comment: A:\2  
Date: 23.NOV.2012 16:35:24

Product	BLUETOOTH Watch		
Test Item	Carrier Frequency Separation		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

### $\pi/4$ -DQPSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	1.000	$\geq 0.963$	Pass

### Channel 00



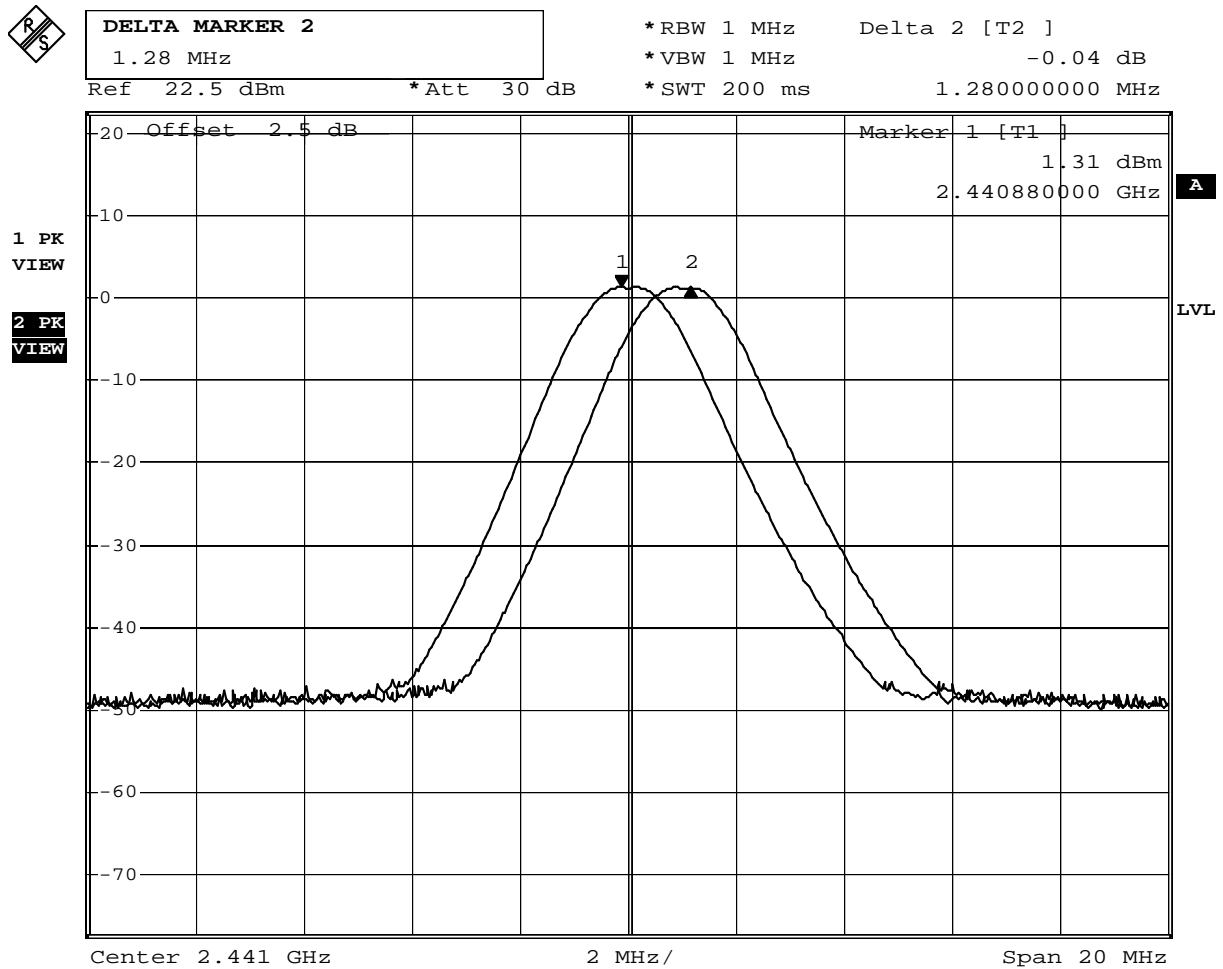
Comment: A:\2  
Date: 23.NOV.2012 16:24:31

Product	BLUETOOTH Watch		
Test Item	Carrier Frequency Separation		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

### $\pi/4$ -DQPSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
39	2441	1.280	$\geq 0.957$	Pass

### Channel 39



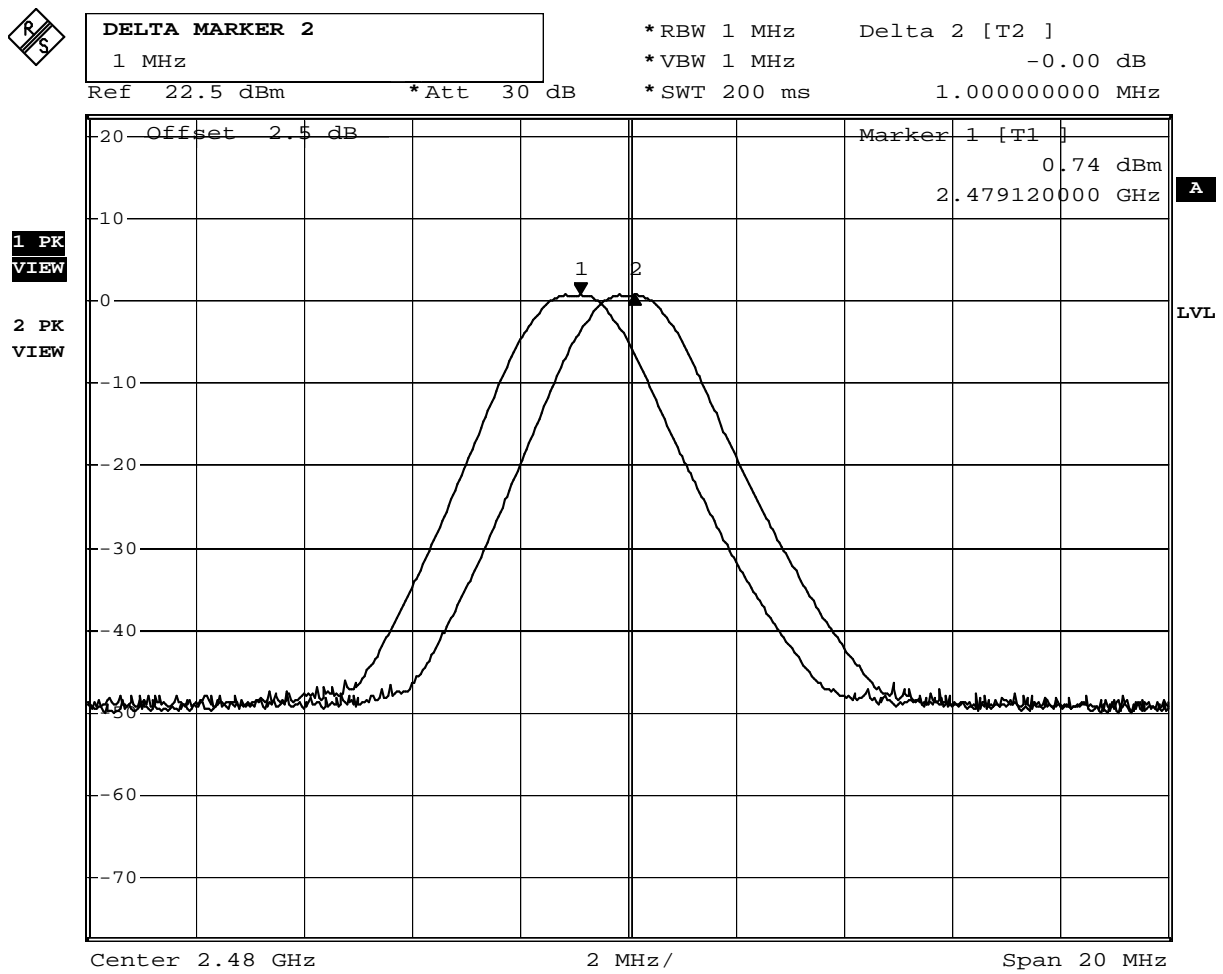
Comment: A:\2  
Date: 23.NOV.2012 16:32:39

Product	BLUETOOTH Watch		
Test Item	Carrier Frequency Separation		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

**$\pi/4$ -DQPSK**

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
78	2480	1.000	$\geq 0.963$	Pass

**Channel 78**



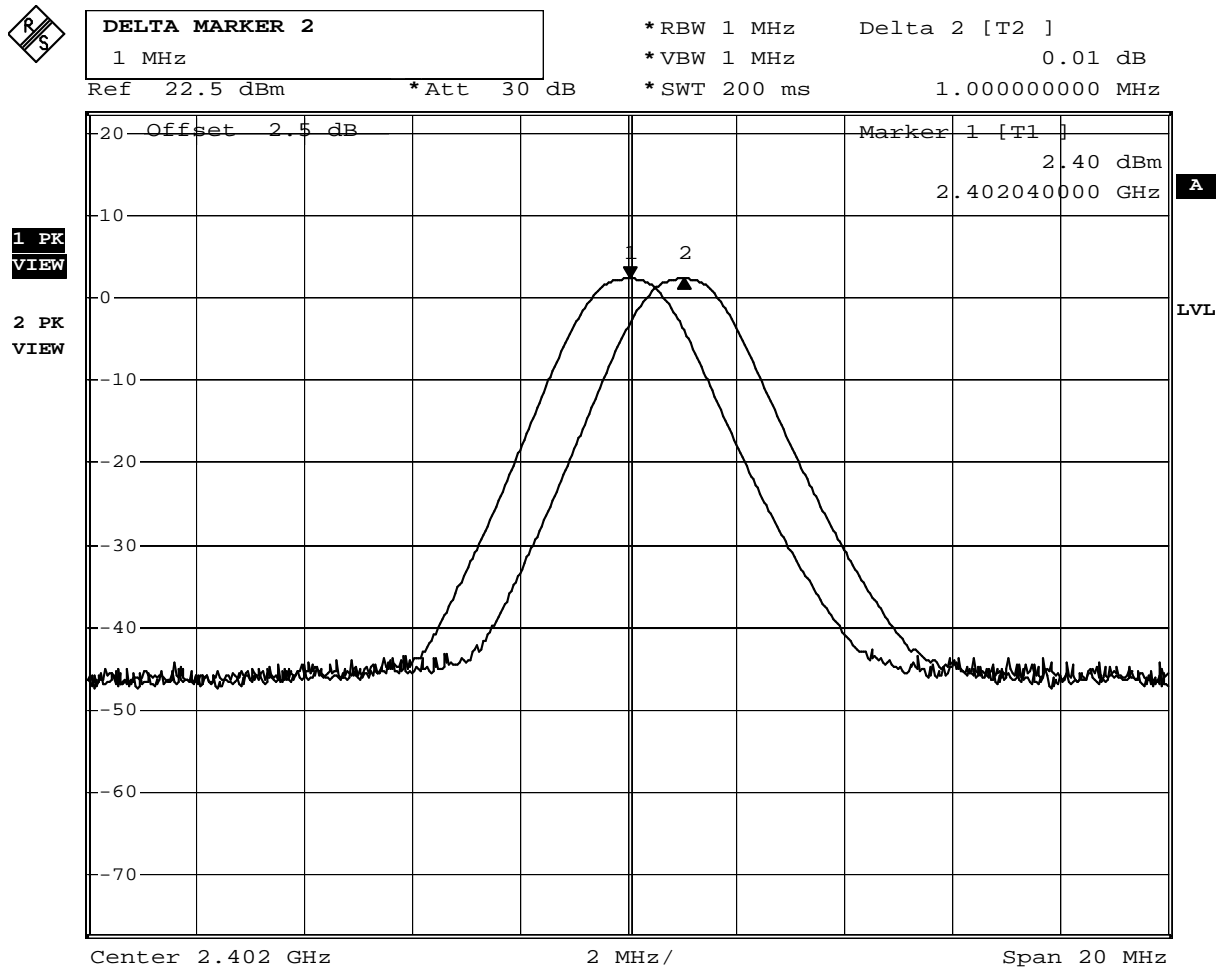
Comment: A:\2  
 Date: 23.NOV.2012 16:38:16

Product	BLUETOOTH Watch		
Test Item	Carrier Frequency Separation		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

### 8-DPSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	1.000	$\geq 0.963$	Pass

### Channel 00



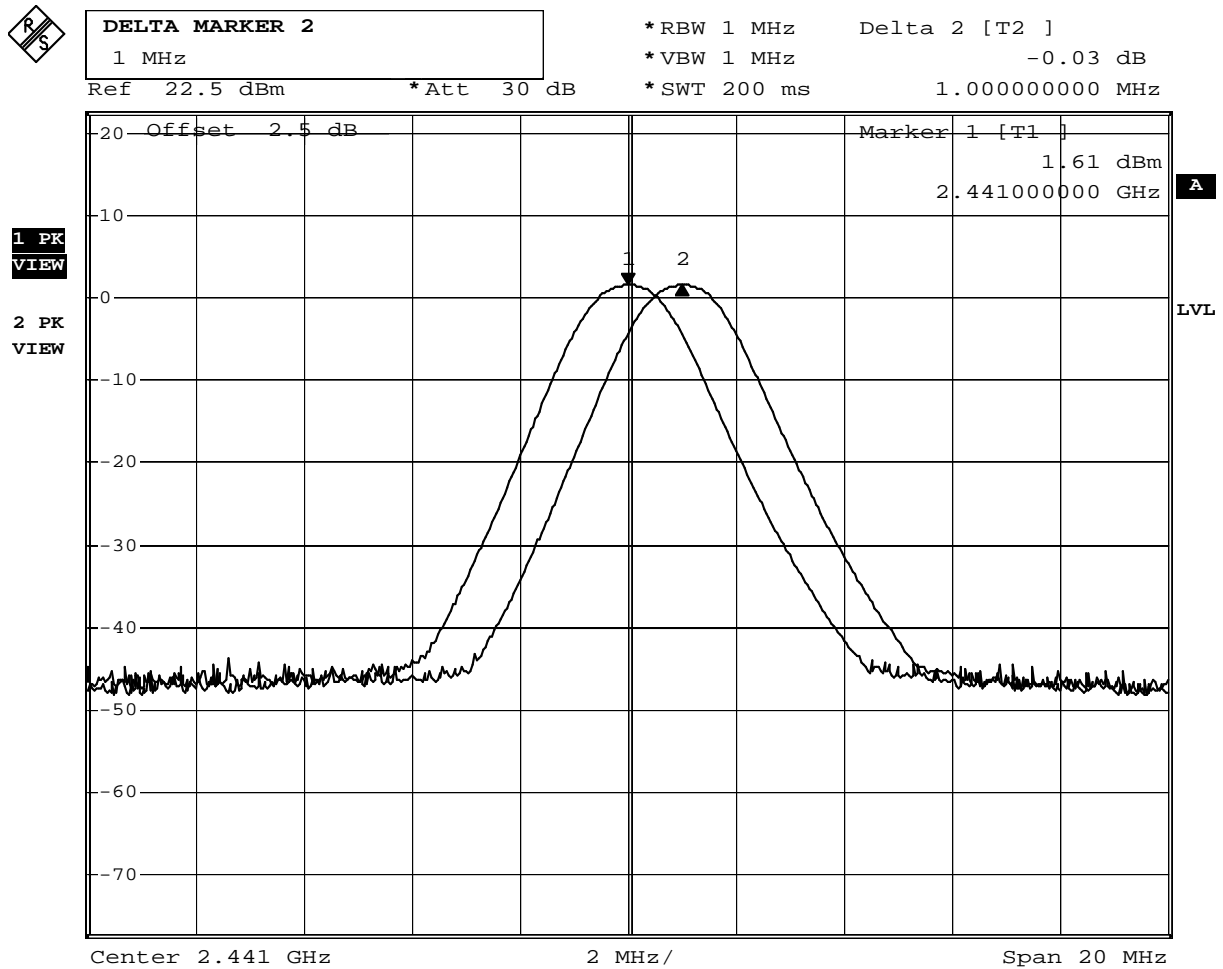
Comment: A:\2  
 Date: 23.NOV.2012 16:26:40

Product	BLUETOOTH Watch		
Test Item	Carrier Frequency Separation		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

## 8-DPSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
39	2441	1.000	$\geq 0.963$	Pass

### Channel 39



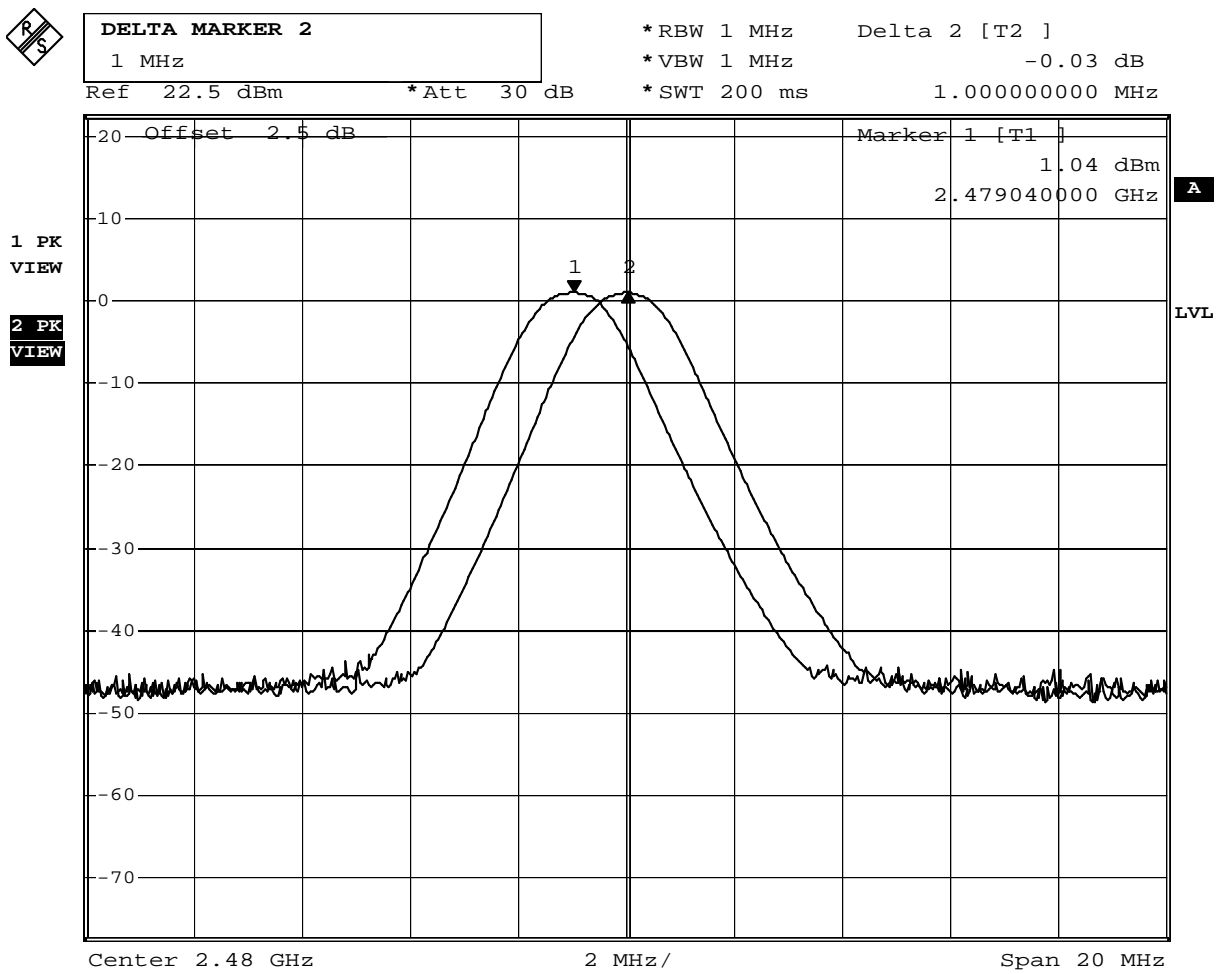
Comment: A:\2  
 Date: 23.NOV.2012 16:34:16

Product	BLUETOOTH Watch		
Test Item	Carrier Frequency Separation		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

### 8-DPSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
78	2480	1.000	$\geq 0.963$	Pass

### Channel 78



Comment: A:\2  
 Date: 23.NOV.2012 16:41:44

**8. Occupied Bandwidth**

**8.1. Test Equipment**

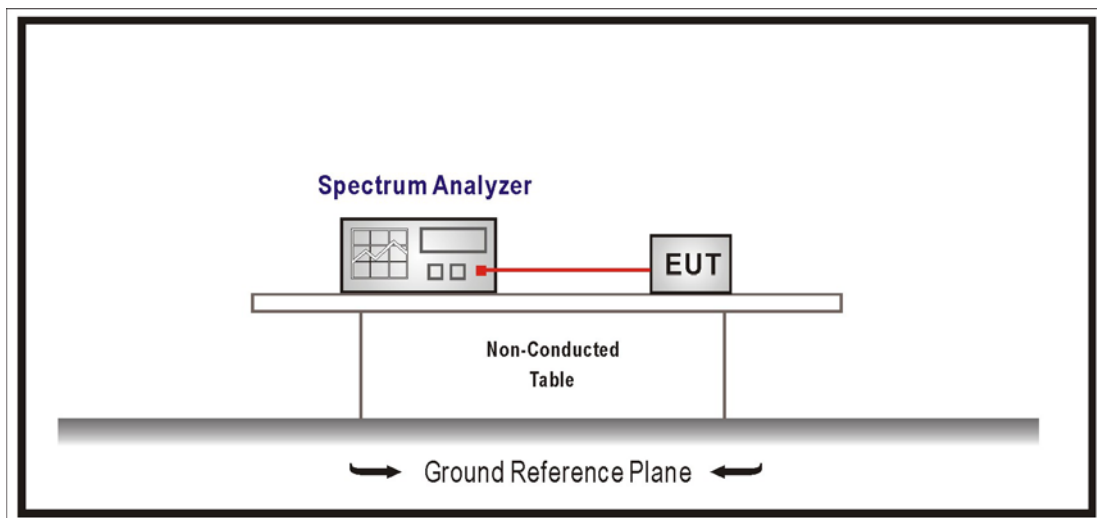
The following test equipment is used during the test:

Occupied Bandwidth / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2013/02/19

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

**8.2. Test Setup**





### 8.3. Limits

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

For frequency hopping systems operating in the 5725-5850 MHz bands. The maximum 20 dB bandwidth of the hopping channel is 1 MHz.

For frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

### 8.4. Test Procedures

The EUT was setup according to ANSI C63.4, 2009 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements

Use the following spectrum analyzer settings:

Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel

RBW  $\geq$  1% of the 20 dB bandwidth, VBW  $\geq$  RBW

Sweep = auto, Detector function = peak, Trace = max hold

The EUT should be transmitting at its maximum data rate.

### 8.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2011

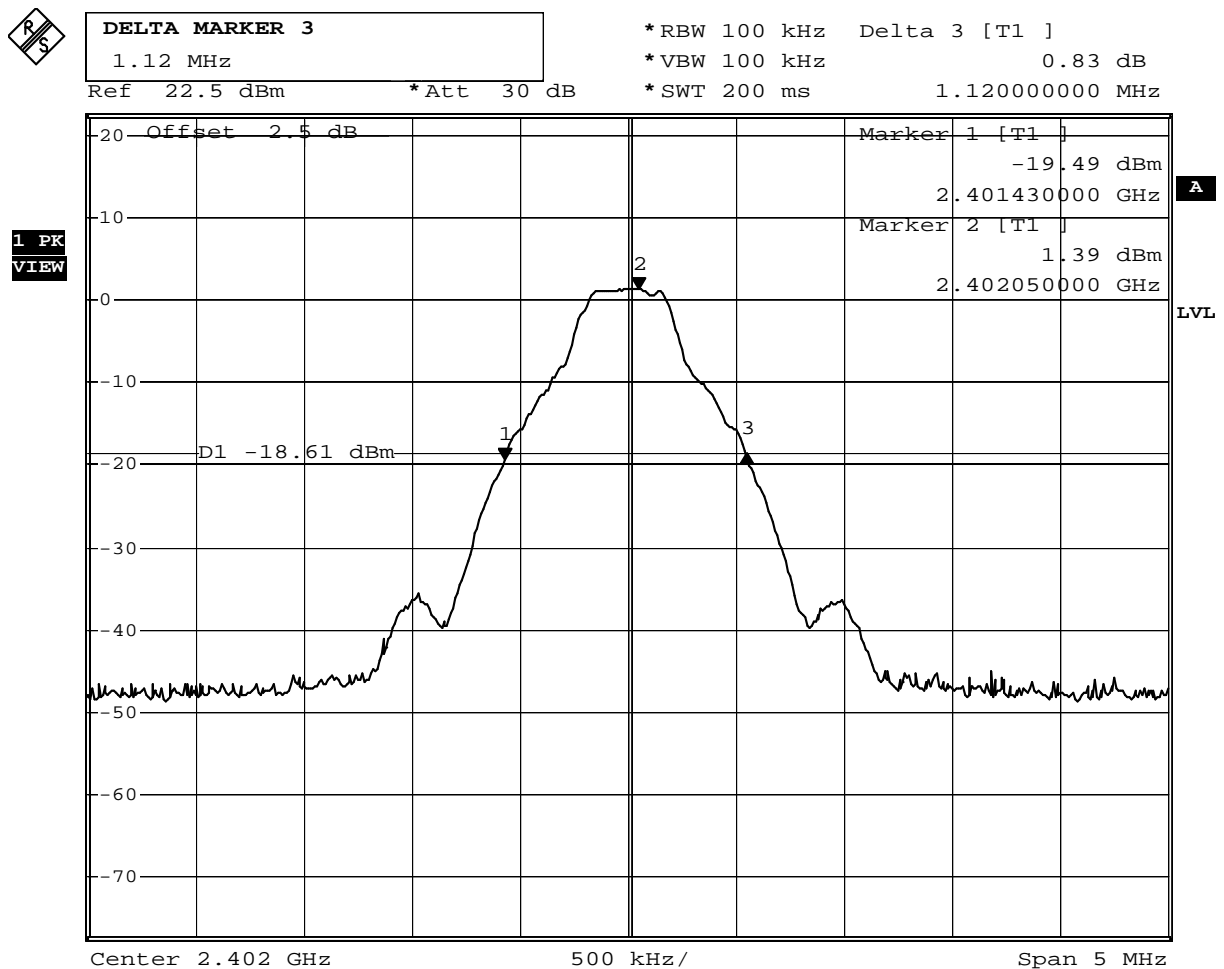
8.6. Test Result

Product	BLUETOOTH Watch		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

GFSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	1.12	--	Pass

**Channel 00**



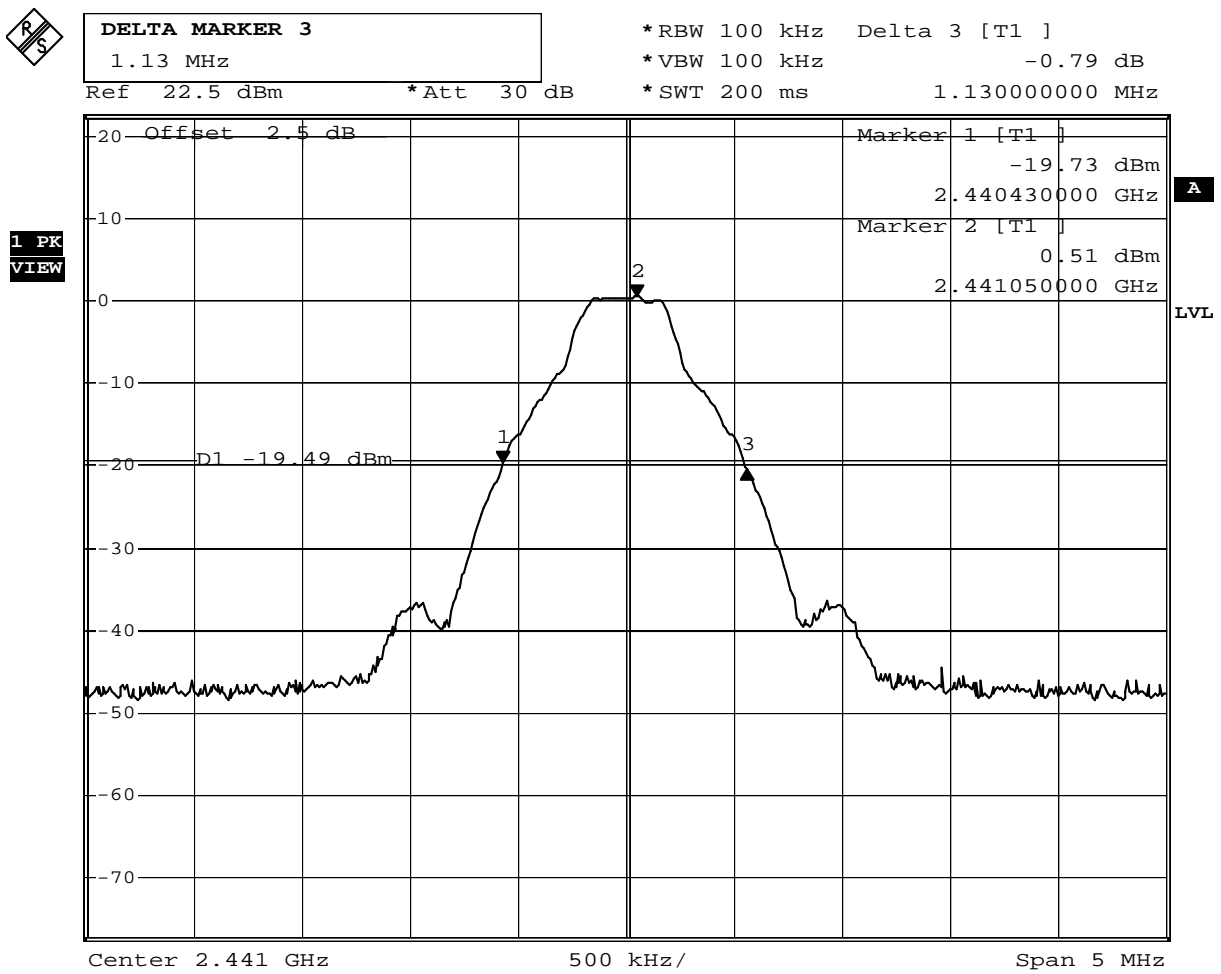
Comment : A:\2  
Date : 23.NOV.2012 15:47:38

Product	BLUETOOTH Watch		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

## GFSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
39	2441	1.13	--	Pass

### Channel 39



Comment: A:\2

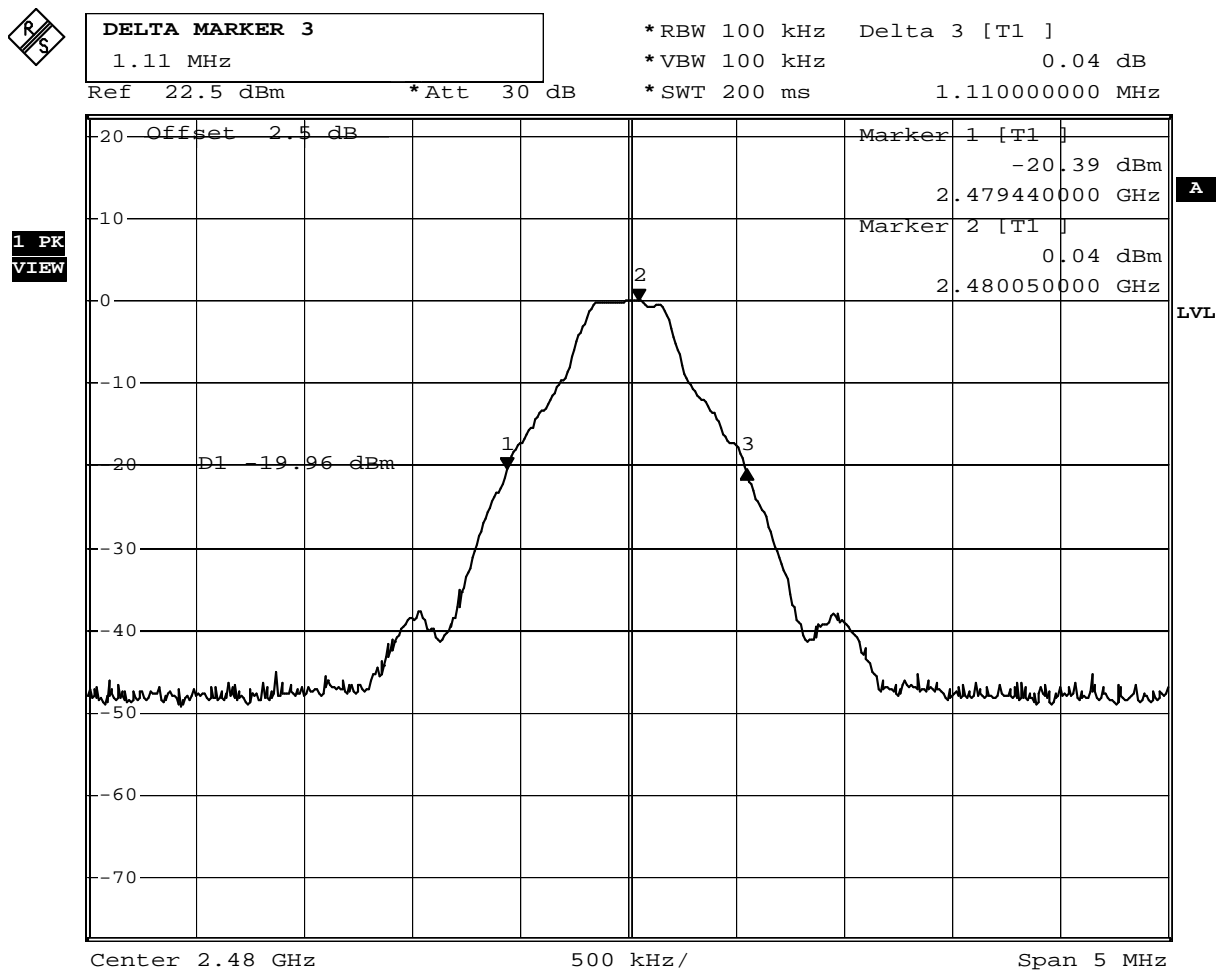
Date: 23.NOV.2012 15:49:13

Product	BLUETOOTH Watch		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

## GFSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
78	2480	1.11	--	Pass

### Channel 78



Comment: A:\2

Date: 23.NOV.2012 15:55:25

Product	BLUETOOTH Watch		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

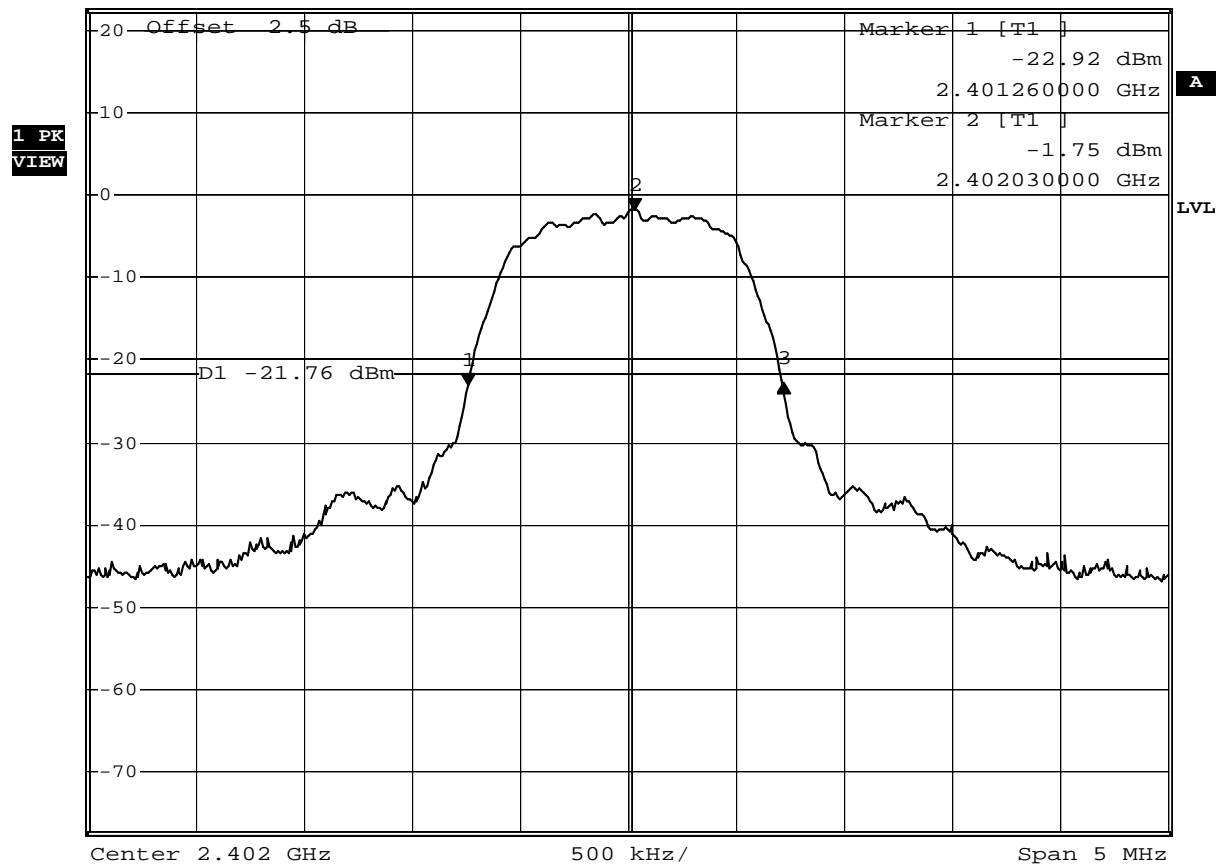
## $\pi/4$ -DQPSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	1.46	--	Pass

### Channel 00



\*RBW 100 kHz Delta 3 [T1 ]  
 \*VBW 100 kHz 0.18 dB  
 Ref 22.5 dBm \*Att 30 dB \*SWT 200 ms 1.46000000 MHz



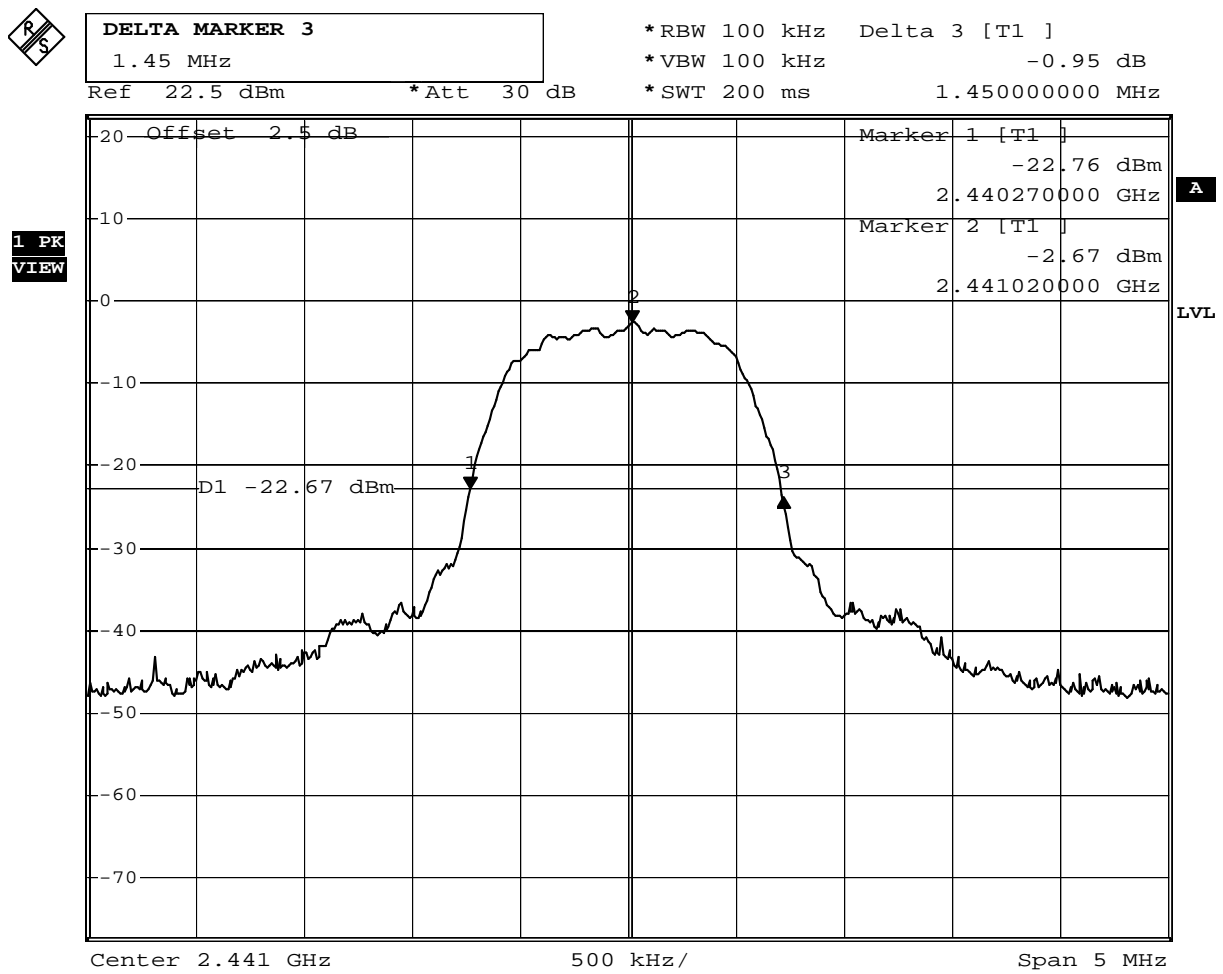
Comment: A:\2  
 Date: 23.NOV.2012 15:44:29

Product	BLUETOOTH Watch		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

### $\pi/4$ -DQPSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
39	2441	1.45	--	Pass

### Channel 39



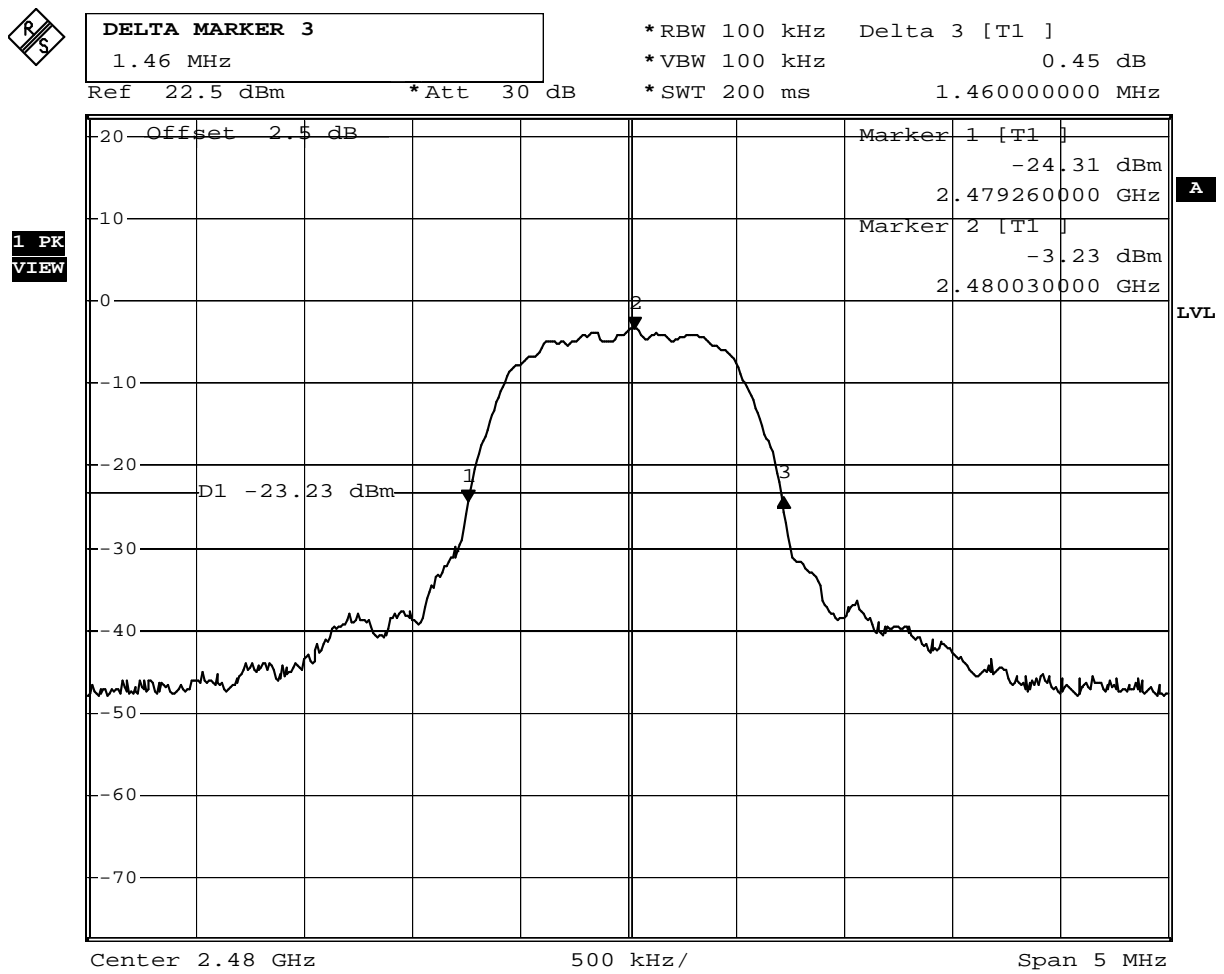
Comment: A:\2  
 Date: 23.NOV.2012 15:50:26

Product	BLUETOOTH Watch		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

### $\pi/4$ -DQPSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
78	2480	1.46	--	Pass

### Channel 78



Comment: A:\2  
 Date: 23.NOV.2012 15:54:29

Product	BLUETOOTH Watch		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

## 8-DPSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	1.46	--	Pass

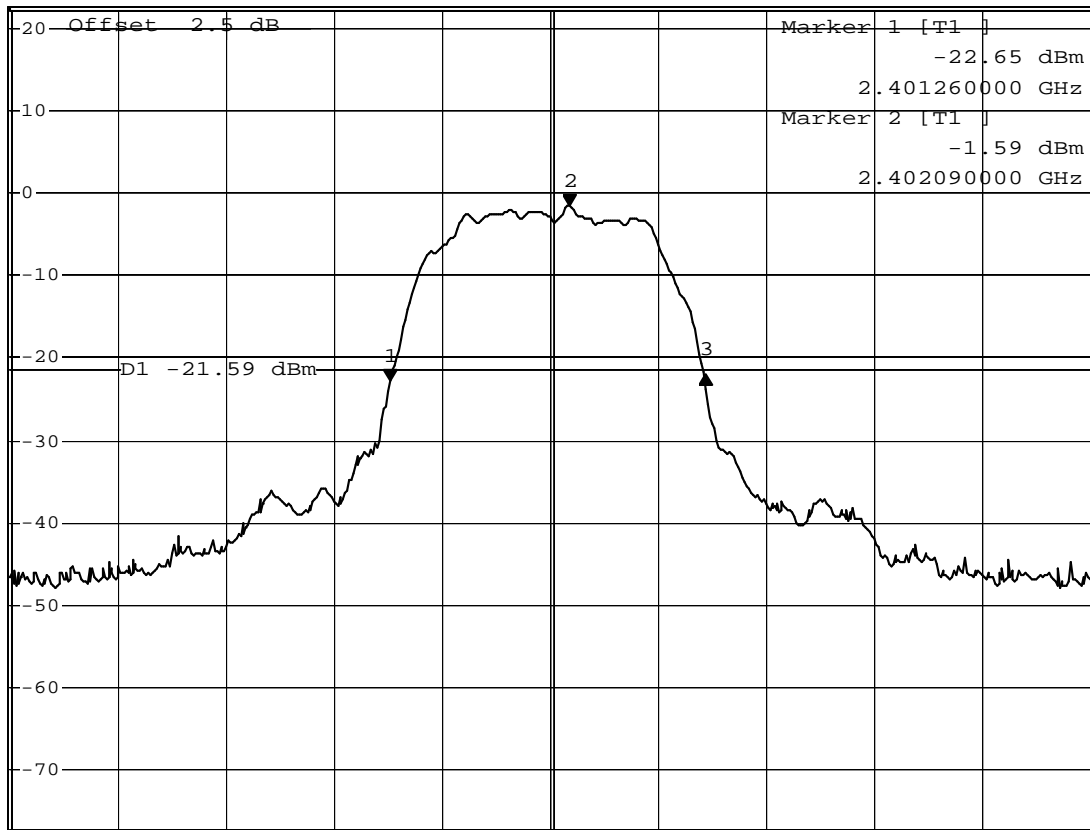
### Channel 00



**DELTA MARKER 3**  
1.46 MHz

\*RBW 100 kHz Delta 3 [T1 ]  
\*VBW 100 kHz 0.59 dB  
\*SWT 200 ms 1.46000000 MHz  
Ref 22.5 dBm \*Att 30 dB

1 PK  
VIEW



Center 2.402 GHz 500 kHz/ Span 5 MHz

Comment: A:\2  
Date: 23.NOV.2012 15:45:53



Product	BLUETOOTH Watch		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

## 8-DPSK

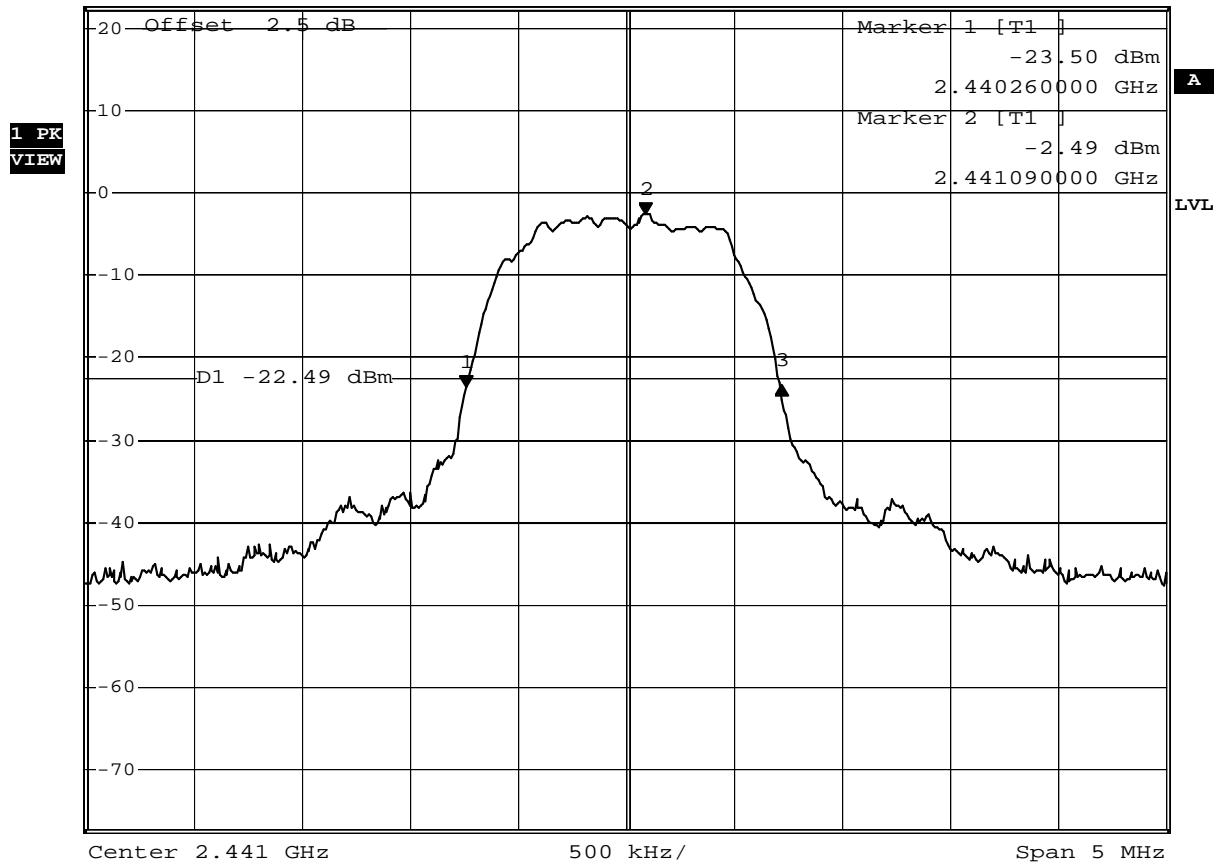
Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
39	2441	1.46	--	Pass

### Channel 39



**DELTA MARKER 3**  
 1.46 MHz  
 Ref 22.5 dBm \*Att 30 dB

\*RBW 100 kHz Delta 3 [T1 ]  
 \*VBW 100 kHz 0.20 dB  
 \*SWT 200 ms 1.46000000 MHz



Comment: A:\2  
 Date: 23.NOV.2012 15:51:51

Product	BLUETOOTH Watch		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2012/11/30	Test Site	SR7

## 8-DPSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
78	2480	1.46	--	Pass

### Channel 78

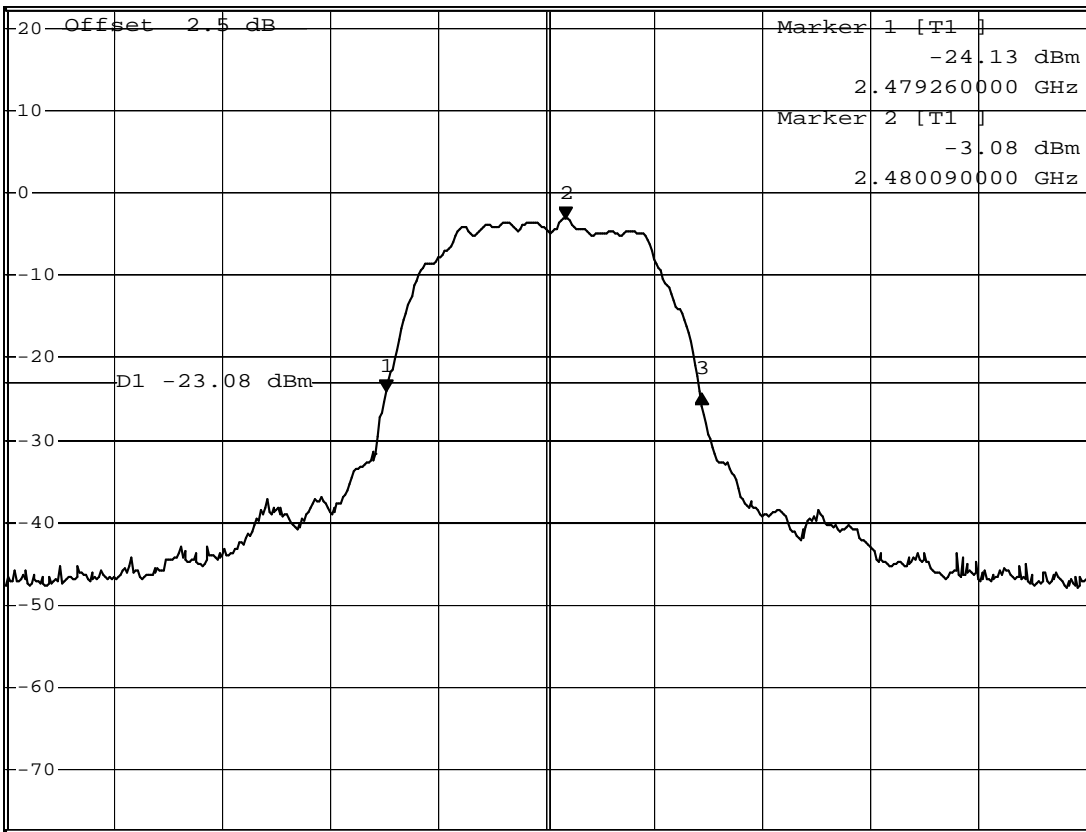


**DELTA MARKER 3**  
1.46 MHz

\*RBW 100 kHz Delta 3 [T1 ]  
\*VBW 100 kHz -0.13 dB  
\*SWT 200 ms 1.460000000 MHz

Ref 22.5 dBm \*Att 30 dB

1 PK  
VIEW



Center 2.48 GHz 500 kHz/ Span 5 MHz

Comment: A:\2

Date: 23.NOV.2012 15:53:36

**9. Dwell Time**

**9.1. Test Equipment**

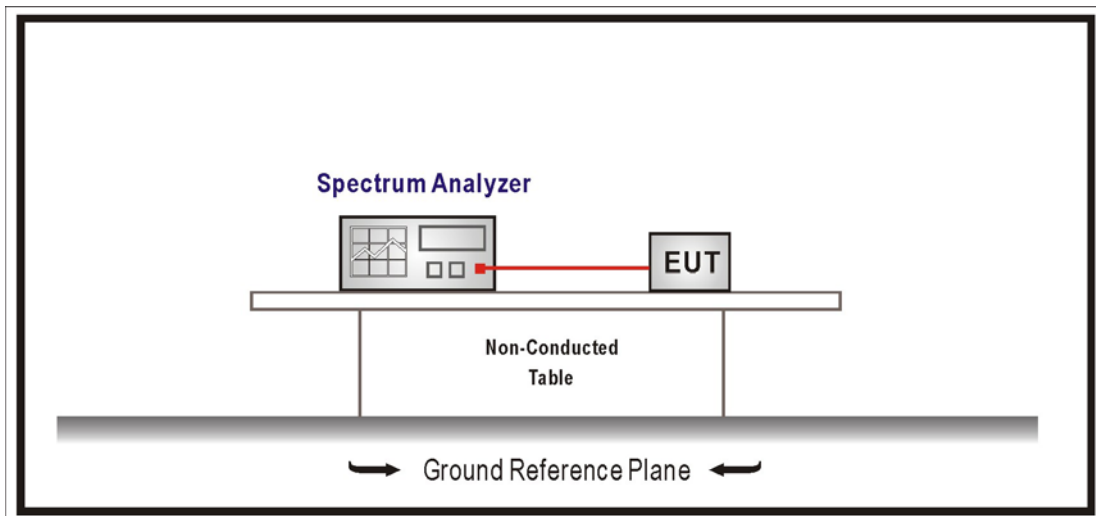
The following test equipment is used during the test:

Dwell Time / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2013/02/19

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

**9.2. Test Setup**



**9.3. Limits**

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. For frequency hopping systems operating in the 2400-2483.5 MHz bands. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. For frequency hopping systems operating in the 5725-5850 MHz bands. The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 30 second period.

**9.4. Test Procedures**

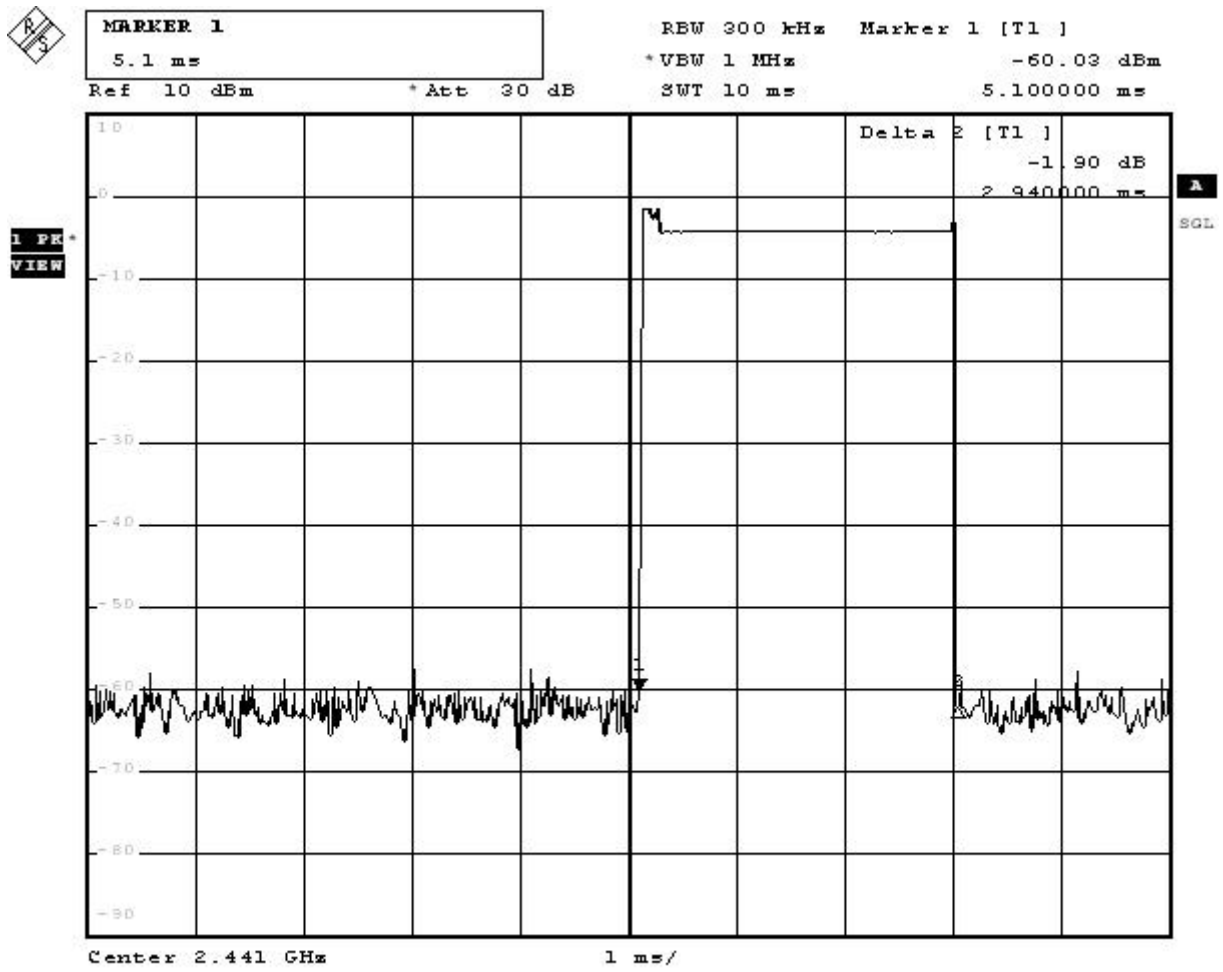
The EUT was setup according to ANSI C63.4, 2009 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements  
 Span = zero span, centered on a hopping channel  
 RBW = 1 MHz, VBW ≥ RBW  
 Sweep = as necessary to capture the entire dwell time per hopping channel  
 Detector function = peak, Trace = max hold

**9.5. Test Specification**

According to FCC Part 15 Subpart C Paragraph 15.247: 2011



**Hop rate-2441MHz**



Date: 23.NOV.2012 13:53:56

Note: Dwell time = time slot length \* hop rate / number of hopping channels \* period