



## Test Report

Product Name : Bluetooth 4.0 USB Dongle

Model No. : USB-BT400

FCC ID. : MSQ-USBBT400

Applicant : ASUSTeK COMPUTER INC.

Address : 4F, No. 150, LI-TE RD., PEITOU, TAIPEI, TAIWAN R.O.C.

Date of Receipt : 2012/09/20

Issued Date : 2012/10/16

Report No. : 129393R-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 : 2012/10/16

Report No. : 129393R-RFUSP43V01



Product Name : Bluetooth 4.0 USB Dongle  
 Applicant : ASUSTeK COMPUTER INC.  
 Address : 4F, No. 150, LI-TE RD., PEITOU, TAIPEI, TAIWAN R.O.C.  
 Manufacturer : KunShan CC&C Technologies Co. Ltd.  
 Model No. : USB-BT400  
 FCC ID. : MSQ-USBBT400  
 EUT Voltage : DC 5V (Power by PC)  
 Trade Name : ASUS  
 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:

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## 1. General Information

### 1.1. EUT Description

Product Name	Bluetooth 4.0 USB Dongle
Trade Name	ASUS
Model No.	USB-BT400
Frequency Range	2402~2480MHz
Channel Number	79
Type of Modulation	GFSK, $\pi/4$ -DQPSK, 8DPSK
Data Rate	1, 2, 3Mbps
Channel Control	Auto
Antenna Type	PCB antenna
Antenna Gain	0.6dBi

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 4.0 USB Dongle 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, 8PSK). 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. The function of the Bluetooth Low Energy was measured and made a test report of the report number: 129393R-RFUSP42V01.
7. 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 129393R-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

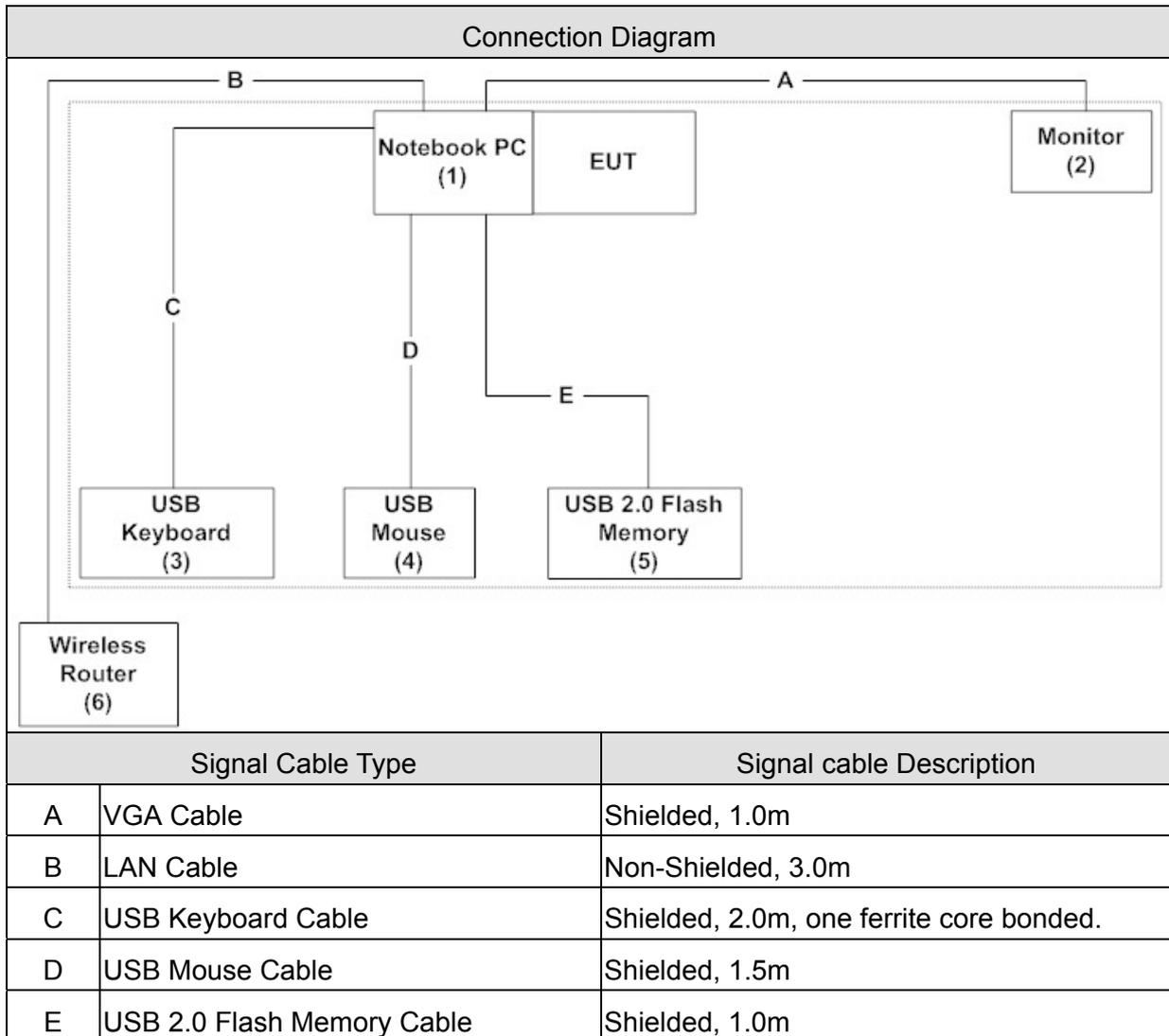
Emission	Mode
Conducted Emission	Yes
Peak Power Output	Yes
Radiated Emission	Yes
RF antenna conducted test	Yes
Band Edge	Yes
Number of hopping Frequency	Yes
Carrier Frequency Separation	Yes
Occupied Bandwidth	Yes
Dwell Time	Yes

#### 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
2	Monitor	DELL	U2410f	CN-0J257M-72872-0CN-0AHL	DoC	Non-Shielded, 1.8m
3	USB Keyboard	DELL	SK-8115	1437	DoC	--
4	USB Mouse	Logitech	M-UV83	LZE35150307	DoC	--
5	USB 2.0 Flash Memory	Apacer	AH223	N/A	DoC	--
6	Wireless Router	ASUS	RT-N10	92IEG0123503	DoC	Non-Shielded, 1.5m

**1.5. Configuration of tested System**



**1.6. EUT Exercise Software**

1	Setup the EUT as shown in Section 1.5
2	Execute the Bluetool_MI_1.4.3.0 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 15.207 Conducted Emission	15 - 35	23
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
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. Conducted Emission**

**2.1. Test Equipment**

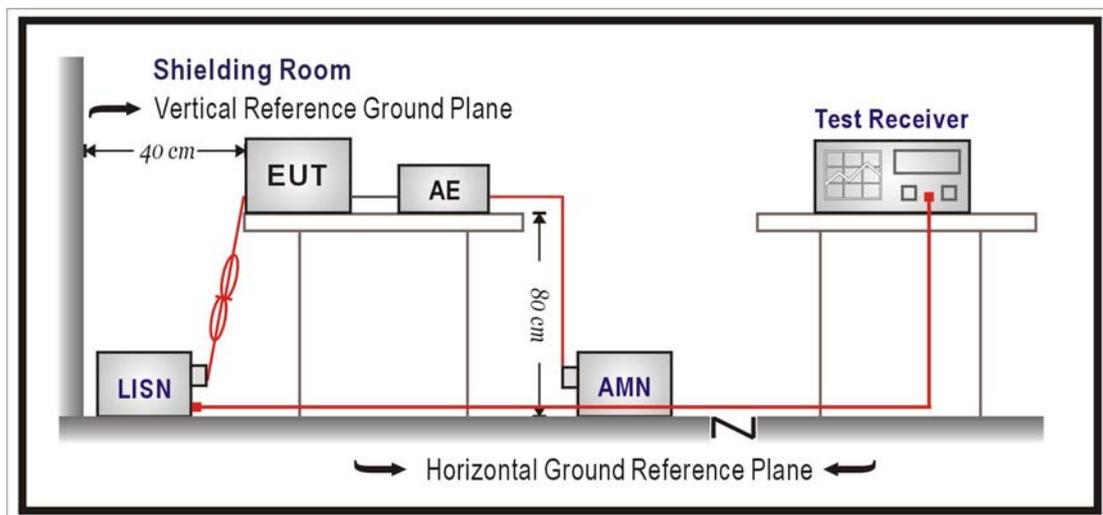
The following test equipments are used during the test:

Conducted Emission / SR3

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
LISN	R&S	ENV216	100096	2013/08/12
LISN	R&S	ESH3-Z5	836679/022	2013/02/06
Test Receiver	R&S	ESCS 30	825442/017	2013/01/01

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

**2.2. Test Setup**



**2.3. Limits**

<b>FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)</b>		
Frequency MHz	QP	AV
0.15 - 0.50	66-56	56-46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

**2.4. Test Procedure**

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2009 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

**2.5. Test Specification**

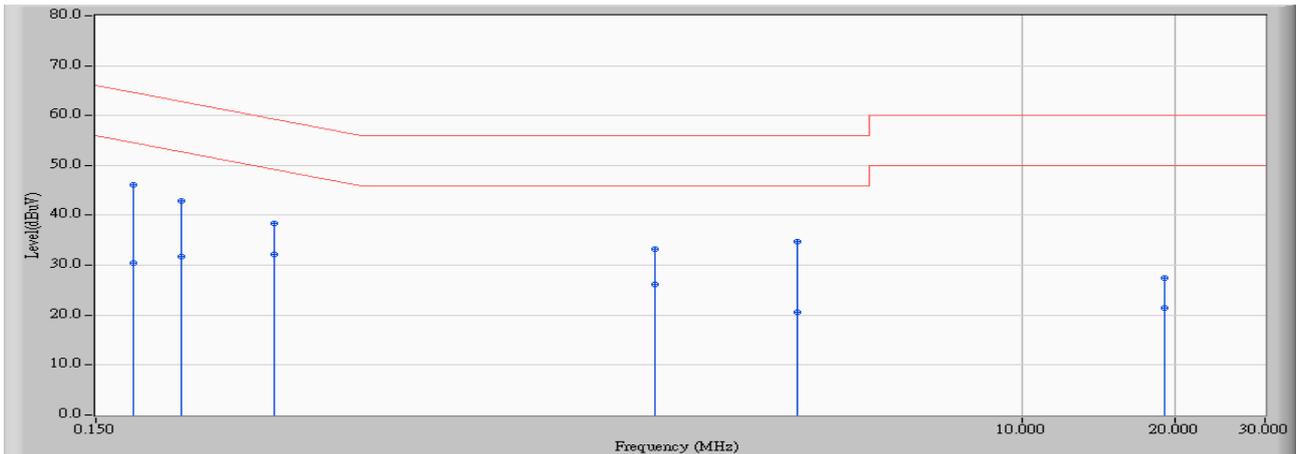
According to FCC Part 15 Subpart C Paragraph 15.207: 2011

**2.6. Uncertainty**

The measurement uncertainty is defined as  $\pm 2.26$  dB.

2.7. Test Result

Site : SR3	Time : 2012/10/04 - 21:06
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR3_LISN(16A)-1_0907 - Line1	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	Note : Mode 1: Transmit_3DH5_2441MHz

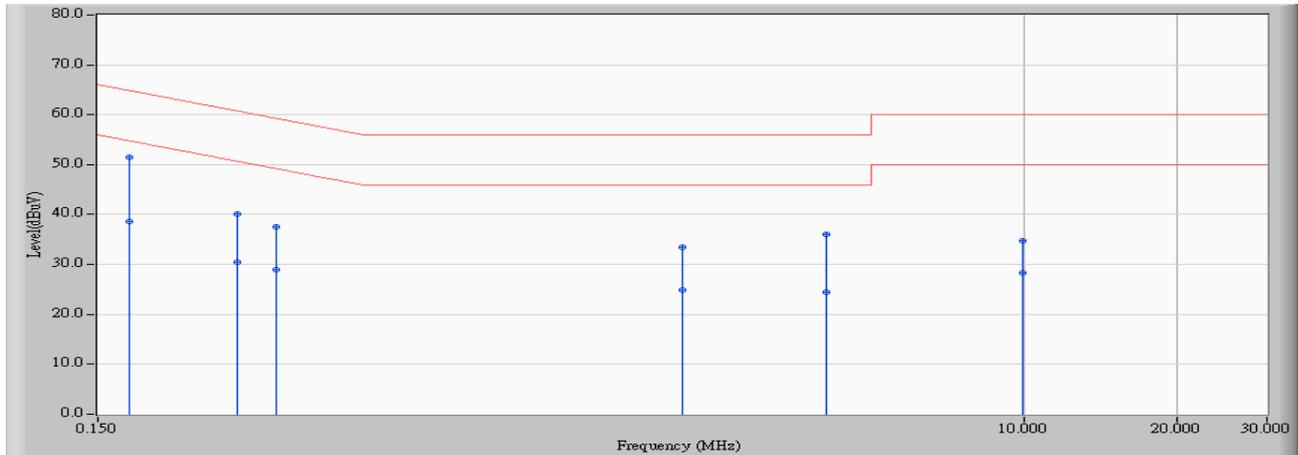


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	0.177	9.656	36.370	46.026	-18.583	64.609	QUASPEAK
2	0.177	9.656	20.750	30.406	-24.203	54.609	AVERAGE
3	0.220	9.660	33.230	42.890	-19.917	62.807	QUASPEAK
4	0.220	9.660	22.110	31.770	-21.037	52.807	AVERAGE
5	0.338	9.677	28.650	38.327	-20.938	59.265	QUASPEAK
6	* 0.338	9.677	22.450	32.127	-17.138	49.265	AVERAGE
7	1.896	9.914	23.430	33.344	-22.656	56.000	QUASPEAK
8	1.896	9.914	16.230	26.144	-19.856	46.000	AVERAGE
9	3.611	9.997	24.720	34.717	-21.283	56.000	QUASPEAK
10	3.611	9.997	10.650	20.647	-25.353	46.000	AVERAGE
11	18.994	10.292	17.250	27.542	-32.458	60.000	QUASPEAK
12	18.994	10.292	11.060	21.352	-28.648	50.000	AVERAGE

Note:

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

Site : SR3	Time : 2012/10/04 - 21:09
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR3_LISN(16A)-1_0907 - Line2	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	Note : Mode 1: Transmit_3DH5_2441MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.173	9.666	41.840	51.506	-13.288	64.794	QUASIPeAK
2		0.173	9.666	28.870	38.536	-16.258	54.794	AVERAGE
3		0.283	9.679	30.360	40.039	-20.694	60.733	QUASIPeAK
4		0.283	9.679	20.850	30.529	-20.204	50.733	AVERAGE
5		0.338	9.687	27.800	37.487	-21.778	59.265	QUASIPeAK
6		0.338	9.687	19.310	28.997	-20.268	49.265	AVERAGE
7		2.123	9.936	23.420	33.356	-22.644	56.000	QUASIPeAK
8		2.123	9.936	14.880	24.816	-21.184	46.000	AVERAGE
9		4.060	10.037	25.920	35.956	-20.044	56.000	QUASIPeAK
10		4.060	10.037	14.440	24.476	-21.524	46.000	AVERAGE
11		9.884	10.187	24.490	34.678	-25.322	60.000	QUASIPeAK
12		9.884	10.187	18.130	28.318	-21.682	50.000	AVERAGE

**Note:**

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

**3. Peak Power Output**

**3.1. Test Equipment**

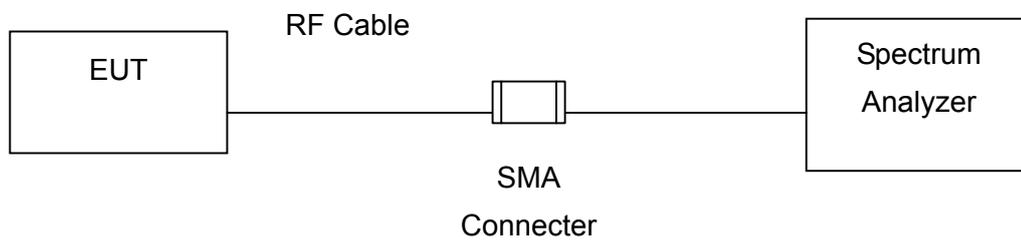
The following test equipment is used during the test:

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.

**3.2. Test Setup**



**3.3. 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

**3.4. 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.

**3.5. Test Specification**

According to FCC Part 15 Subpart C Paragraph 15.247: 2011

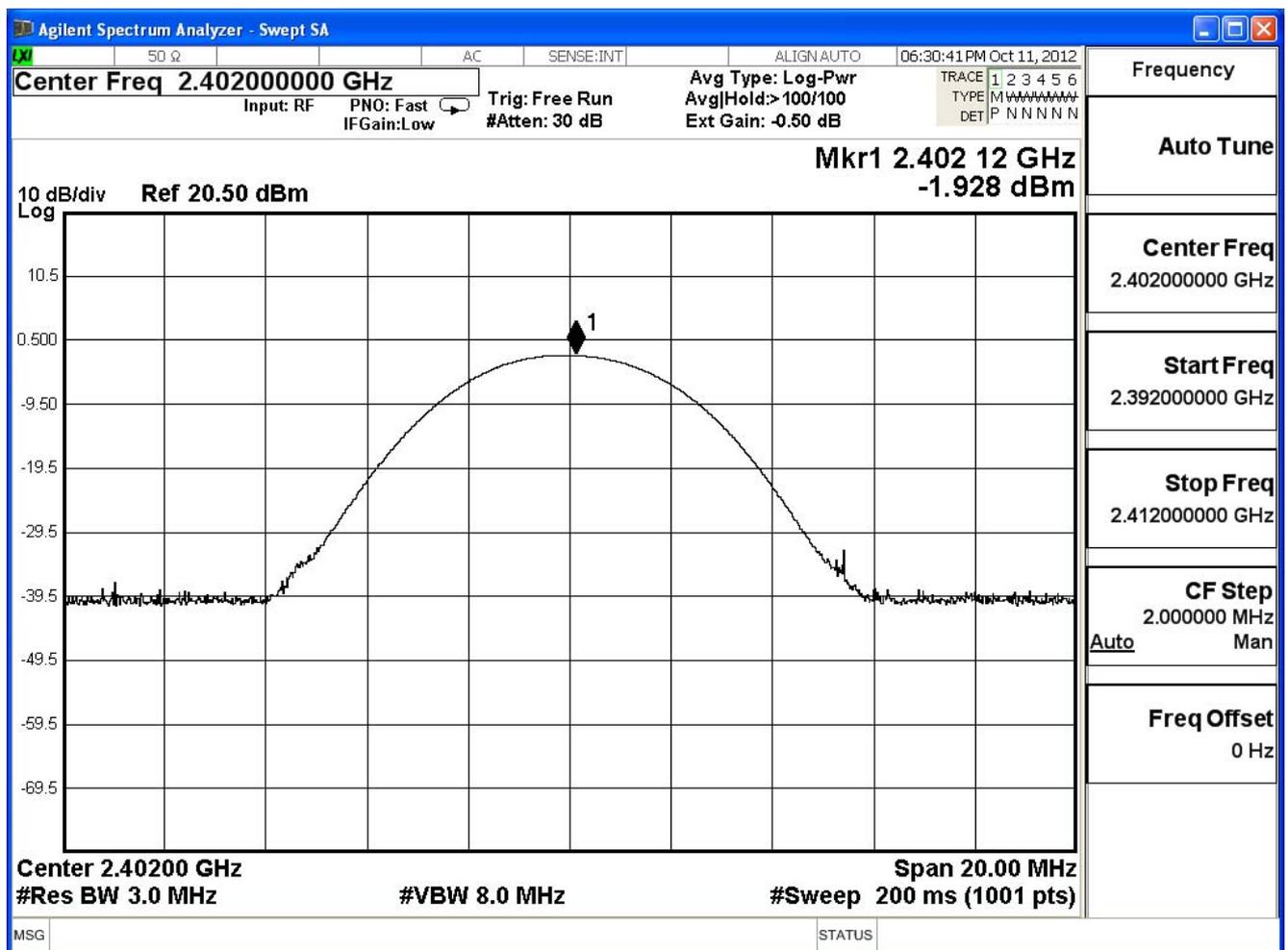
3.6. Test Result

Product	Bluetooth 4.0 USB Dongle		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

GFSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	-1.928	1Watt= 30 dBm	Pass

Channel 00

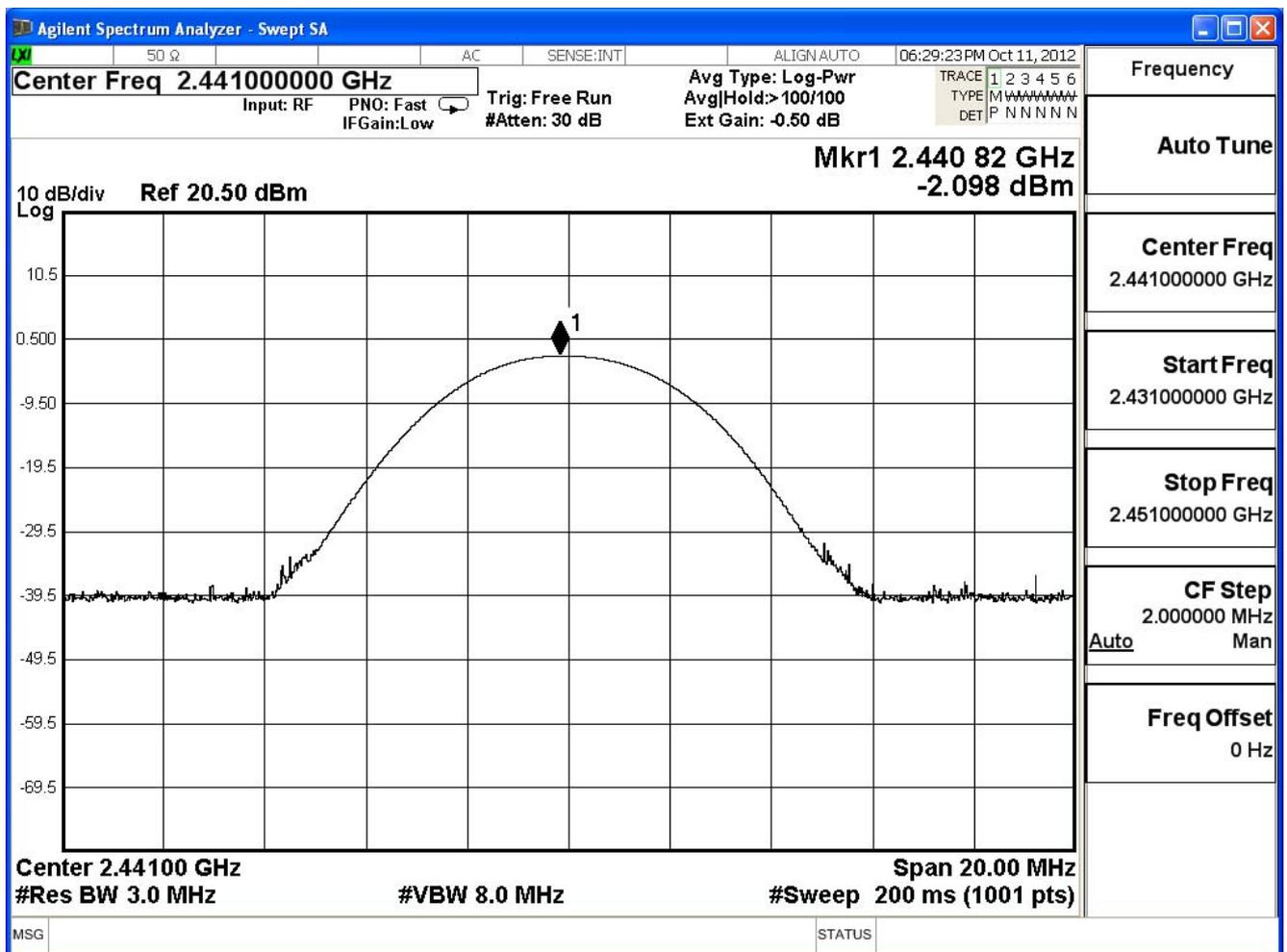


Product	Bluetooth 4.0 USB Dongle		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

## GFSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
39	2441	-2.098	1Watt= 30 dBm	Pass

### Channel 39

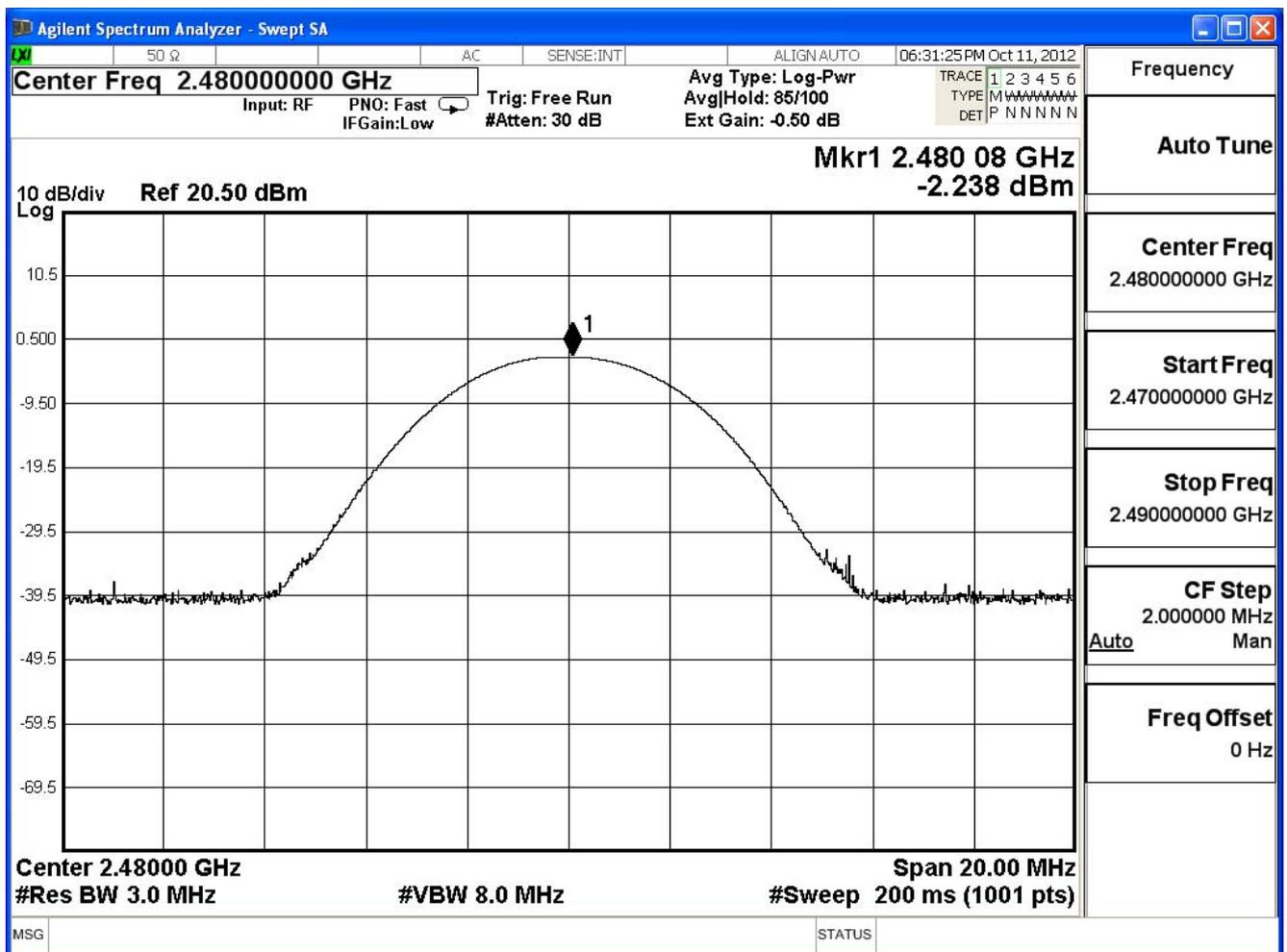


Product	Bluetooth 4.0 USB Dongle		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

## GFSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
78	2480	-2.238	1Watt= 30 dBm	Pass

### Channel 78

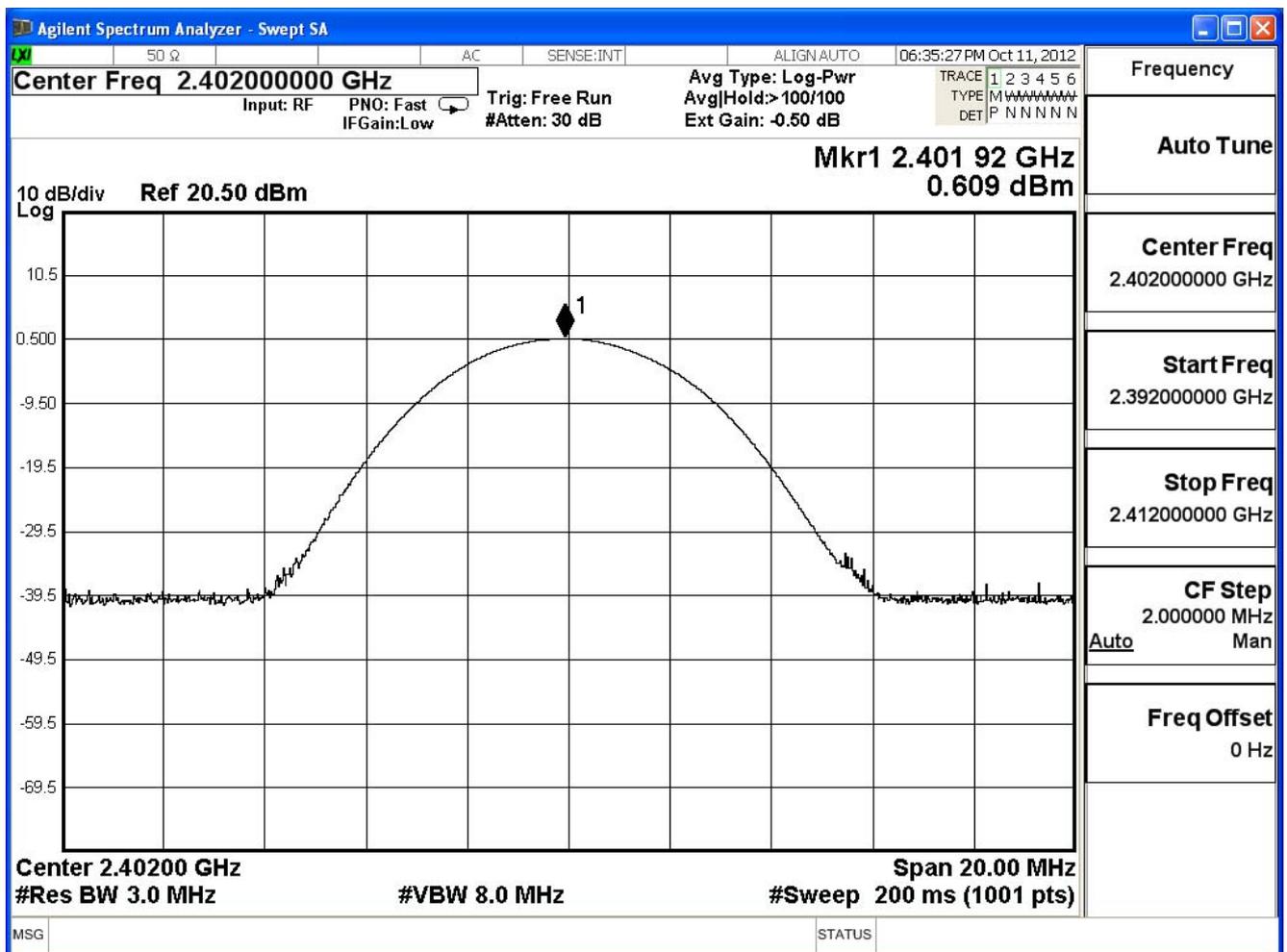


Product	Bluetooth 4.0 USB Dongle		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

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

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	0.609	1Watt= 30 dBm	Pass

**Channel 00**

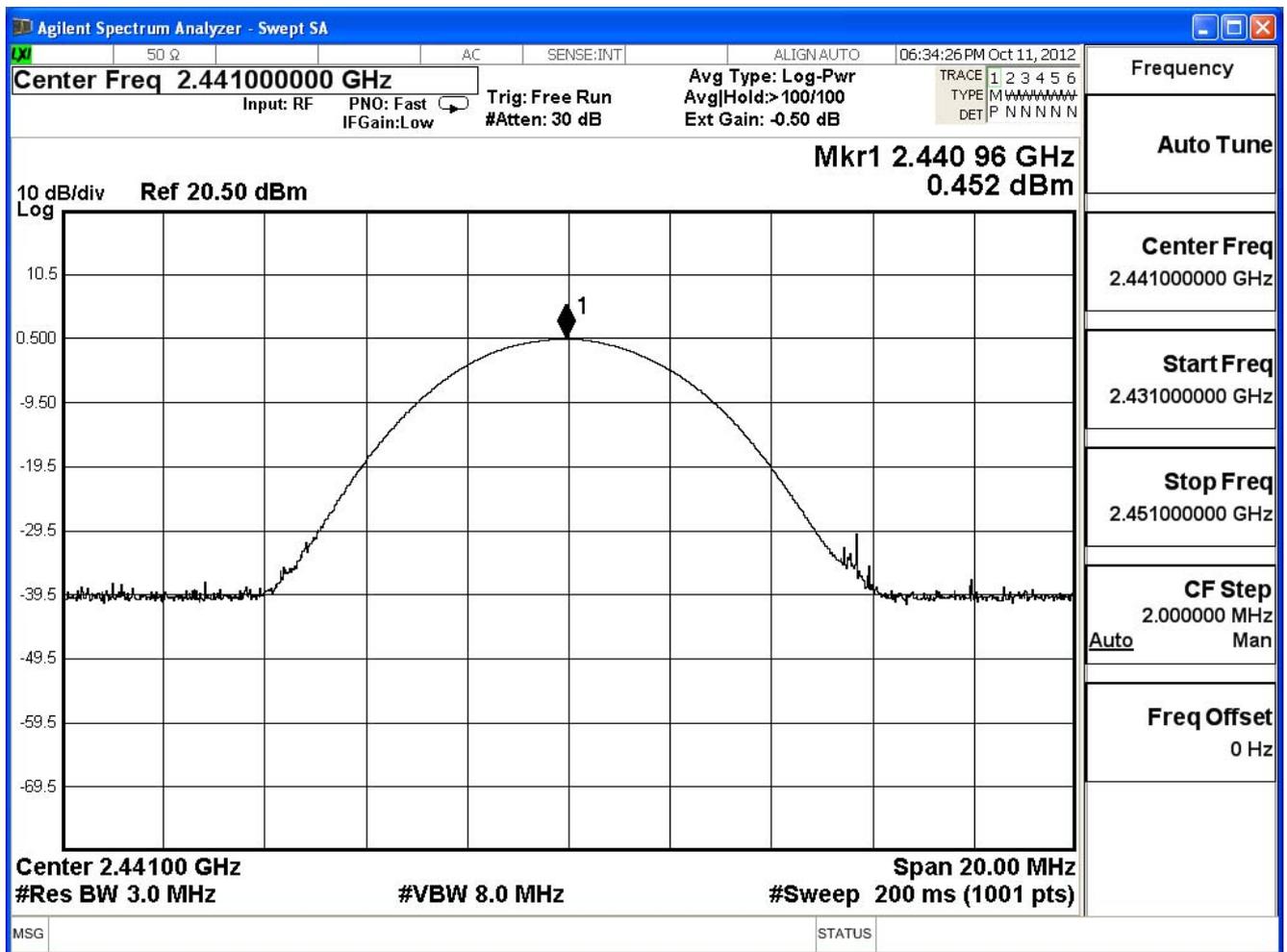


Product	Bluetooth 4.0 USB Dongle		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

### $\pi/4$ -DQPSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
39	2441	0.452	1Watt= 30 dBm	Pass

### Channel 39

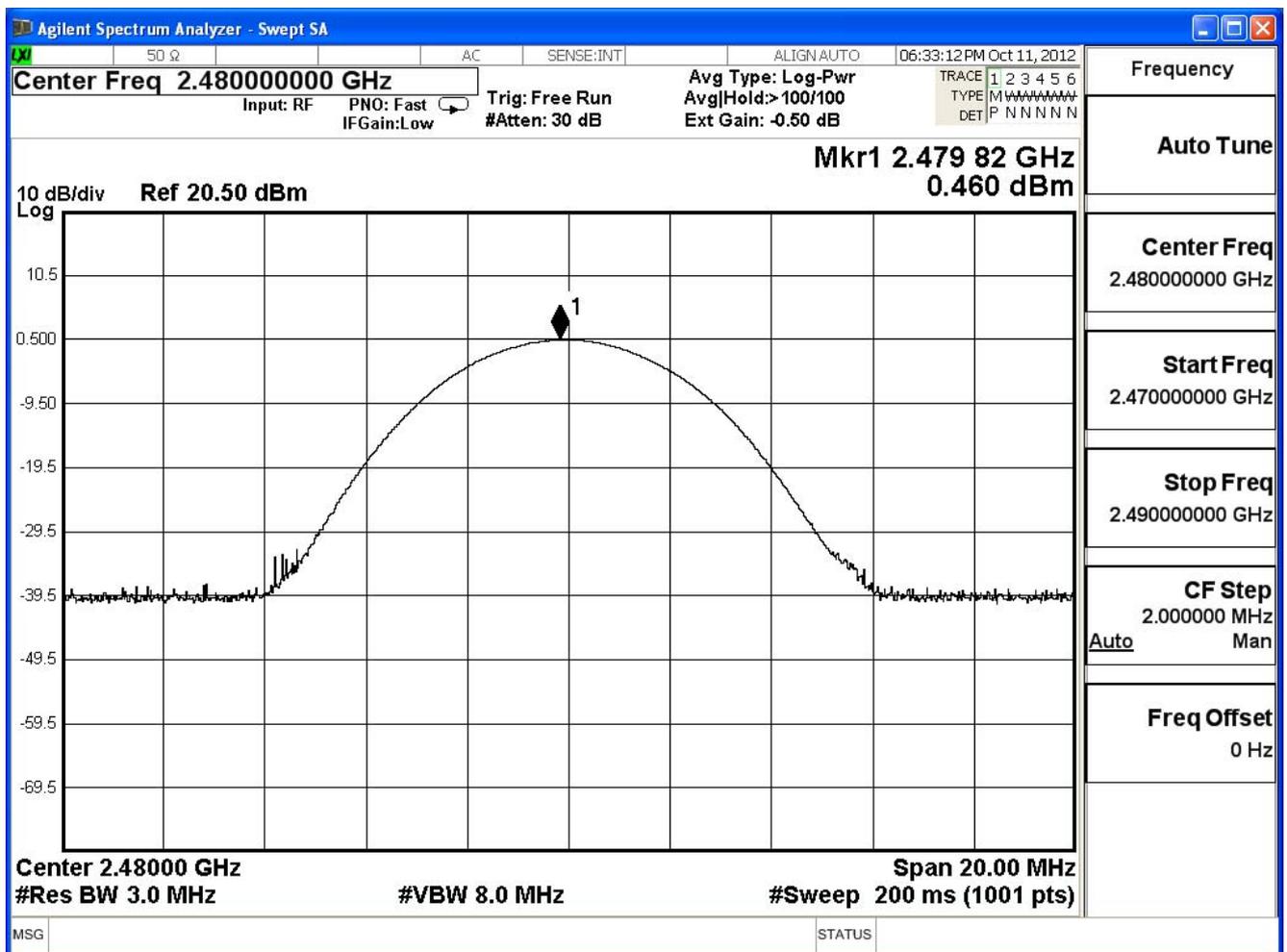


Product	Bluetooth 4.0 USB Dongle		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

### $\pi/4$ -DQPSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
78	2480	0.460	1Watt= 30 dBm	Pass

### Channel 78

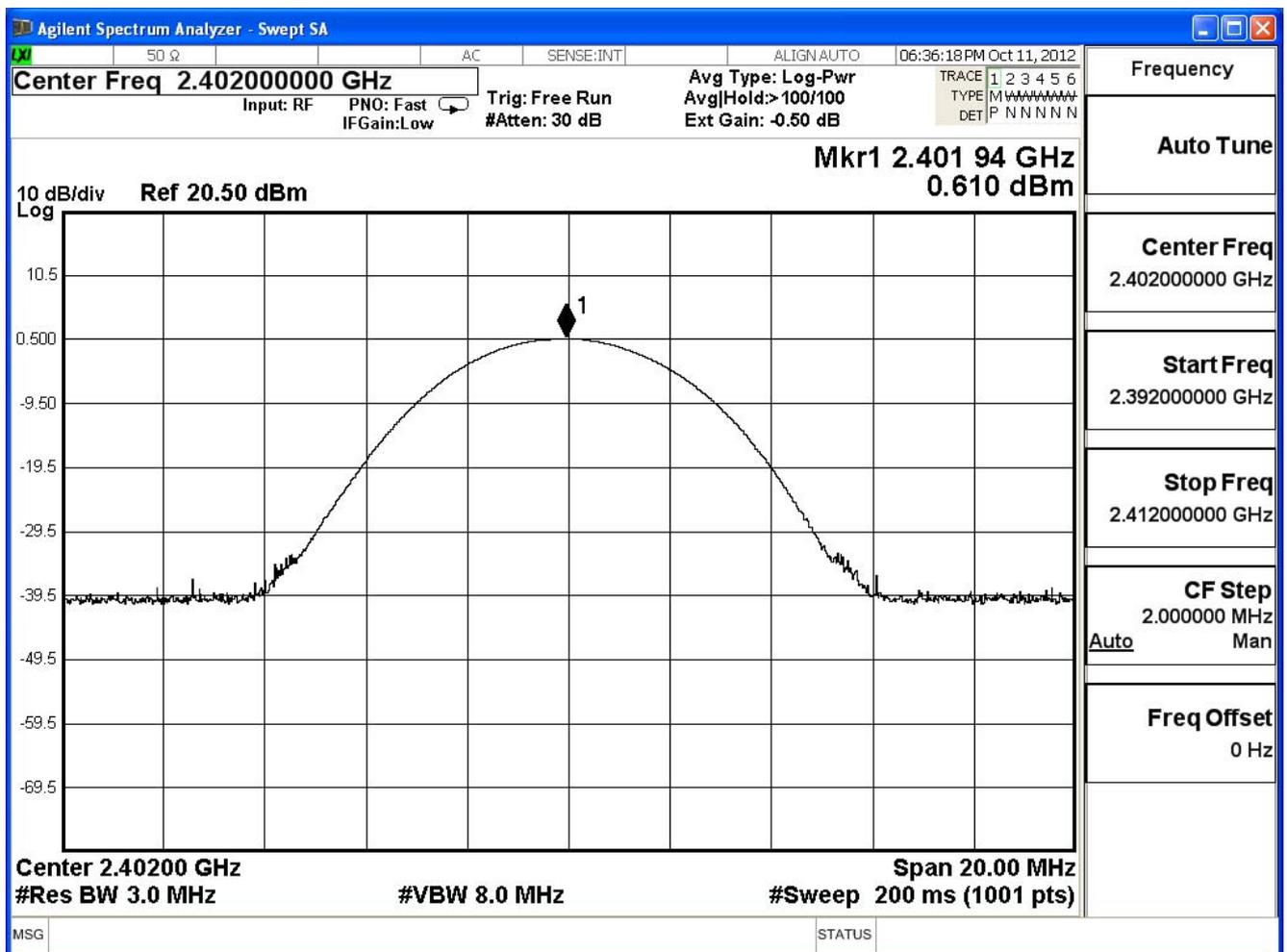


Product	Bluetooth 4.0 USB Dongle		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

### 8-DPSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	0.610	1Watt= 30 dBm	Pass

### Channel 00

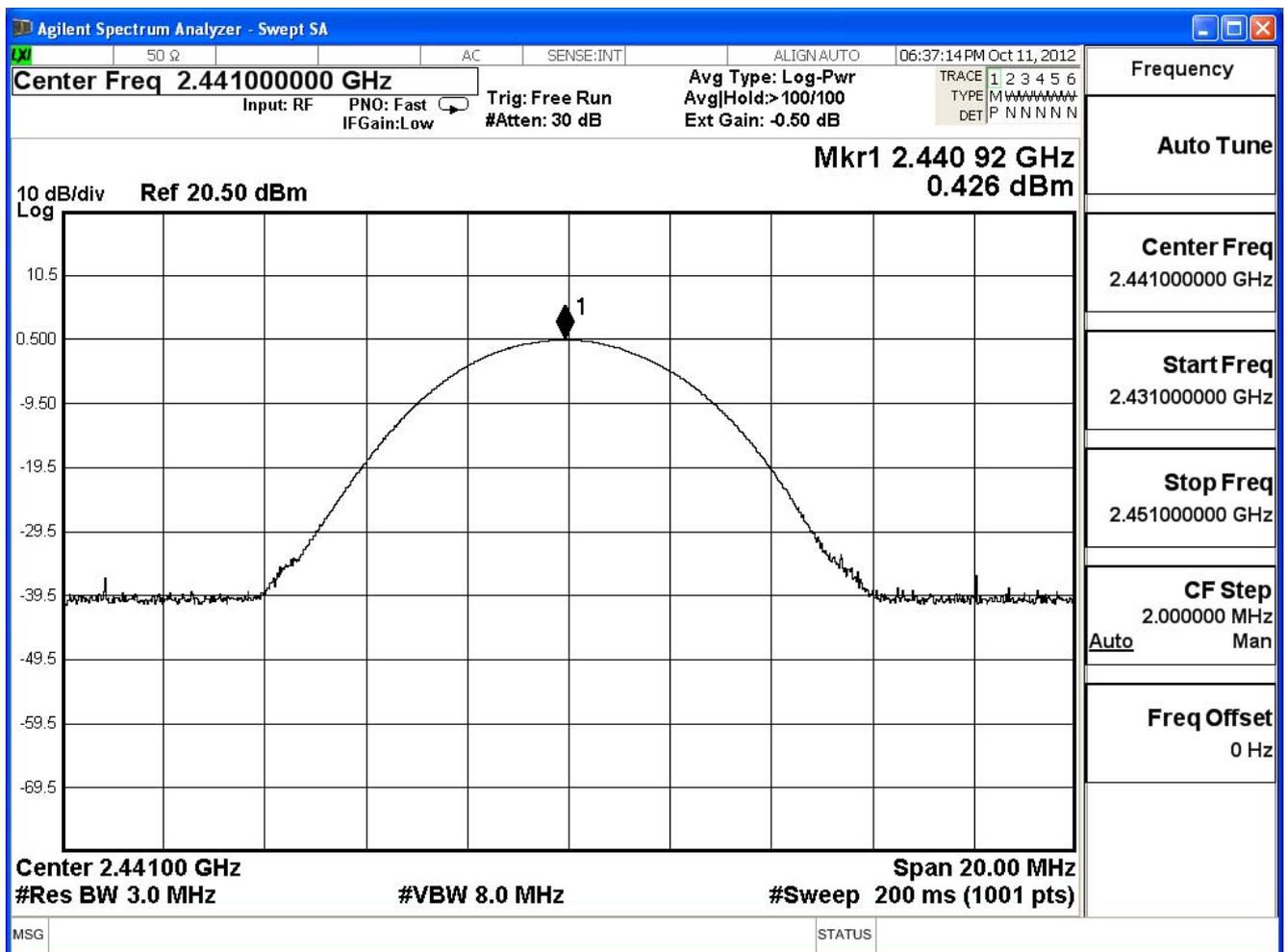


Product	Bluetooth 4.0 USB Dongle		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

## 8-DPSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
39	2441	0.426	1Watt= 30 dBm	Pass

### Channel 39

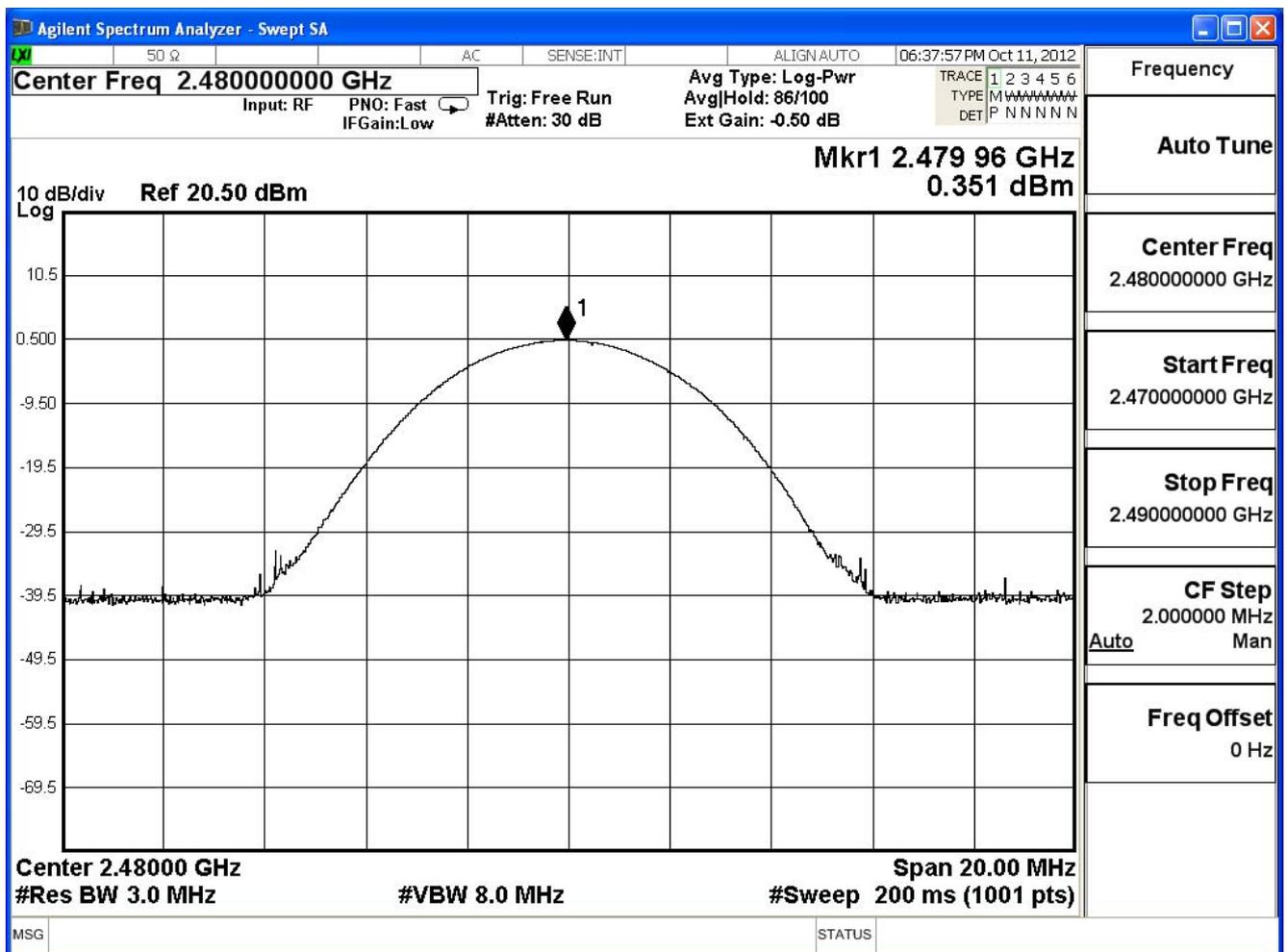


Product	Bluetooth 4.0 USB Dongle		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

## 8-DPSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
78	2480	0.351	1Watt= 30 dBm	Pass

### Channel 78



4. Radiated Emission

4.1. Test Equipment

The following test equipments are used during the test:

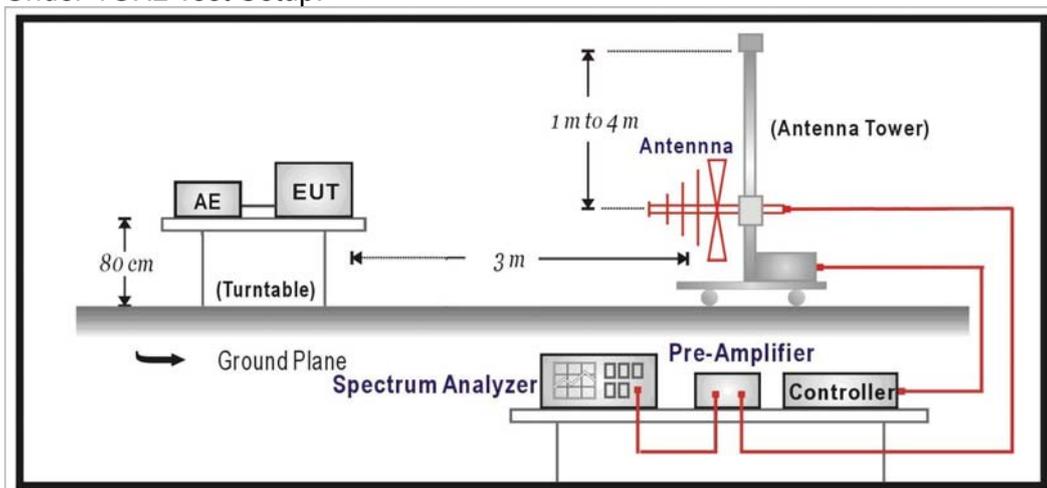
Radiated Emission / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Bilog Antenna	SCHAFFNER	CBL6112B	2895	2013/08/14
Double Ridged Guide Horn Antenna	Schwarzback	BBHA 9120D	743	2013/02/02
Pre-Amplifier	MITEQ	AMF-4D-005180-24-10P	888003	2012/12/05
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

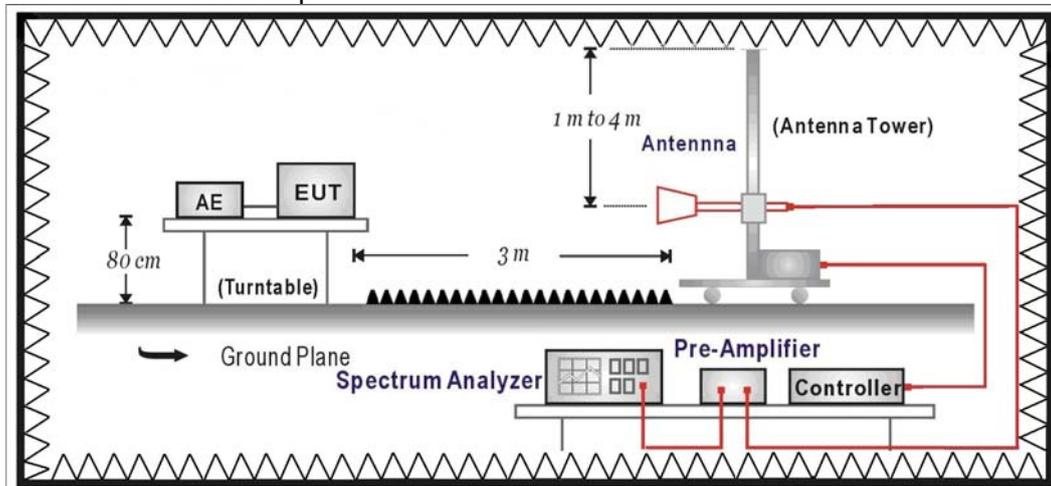
Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



**4.3. 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.

**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.

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.

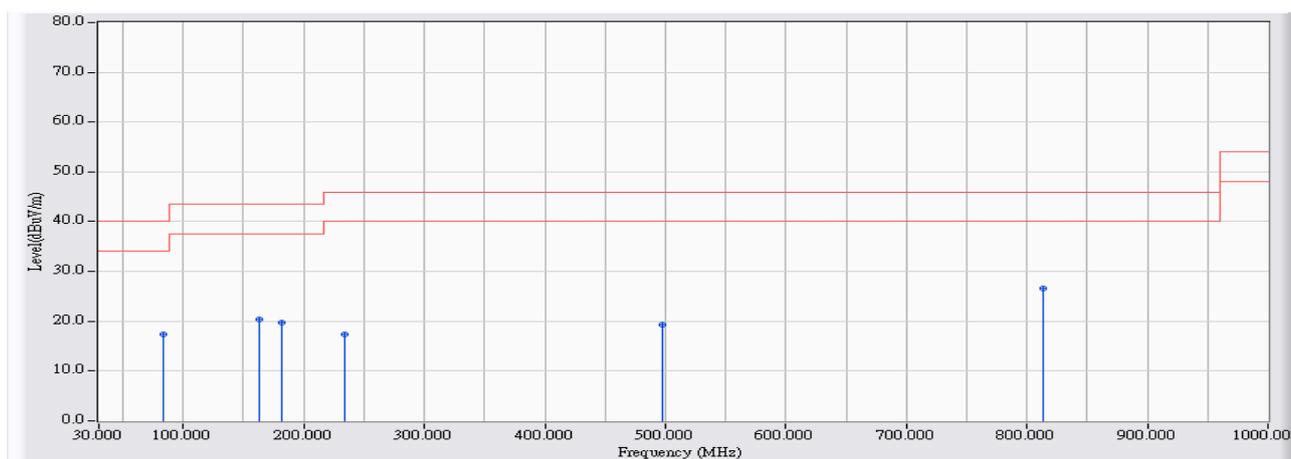
**4.5. Test Specification**

According to FCC Part 15 Subpart C Paragraph 15.247: 2011

### 4.6. Test Result

#### 30MHz-1GHz Spurious

Site : CB1	Time : 2012/10/04 - 13:48
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB1_FCC_EFS_30-1G-1_0901 - HORIZONTAL	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	Note : Mode 1: Transmit_3DH5_2441MHz

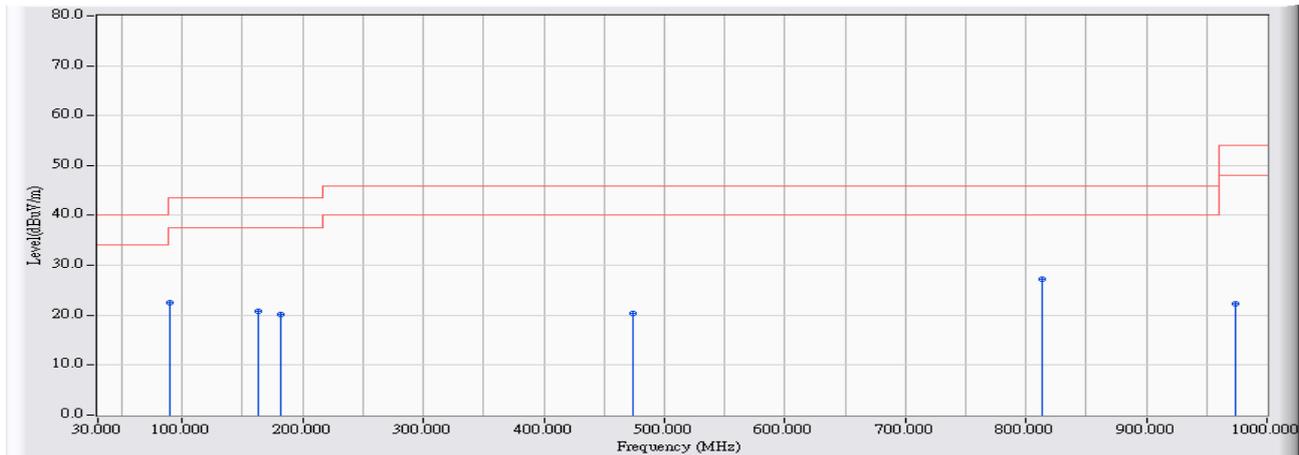


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	83.350	-16.070	33.442	17.372	-22.628	40.000	QUASPEAK
2	162.567	-13.671	33.968	20.296	-23.204	43.500	QUASPEAK
3	181.967	-14.428	34.196	19.769	-23.731	43.500	QUASPEAK
4	233.700	-12.061	29.452	17.391	-28.609	46.000	QUASPEAK
5	497.217	-5.259	24.583	19.324	-26.676	46.000	QUASPEAK
6	* 814.083	-2.356	28.857	26.501	-19.499	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 : 2012/10/04 - 13:49
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB1_FCC_EFS_30-1G-1_0901 - VERTICAL	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	Note : Mode 1: Transmit_3DH5_2441MHz



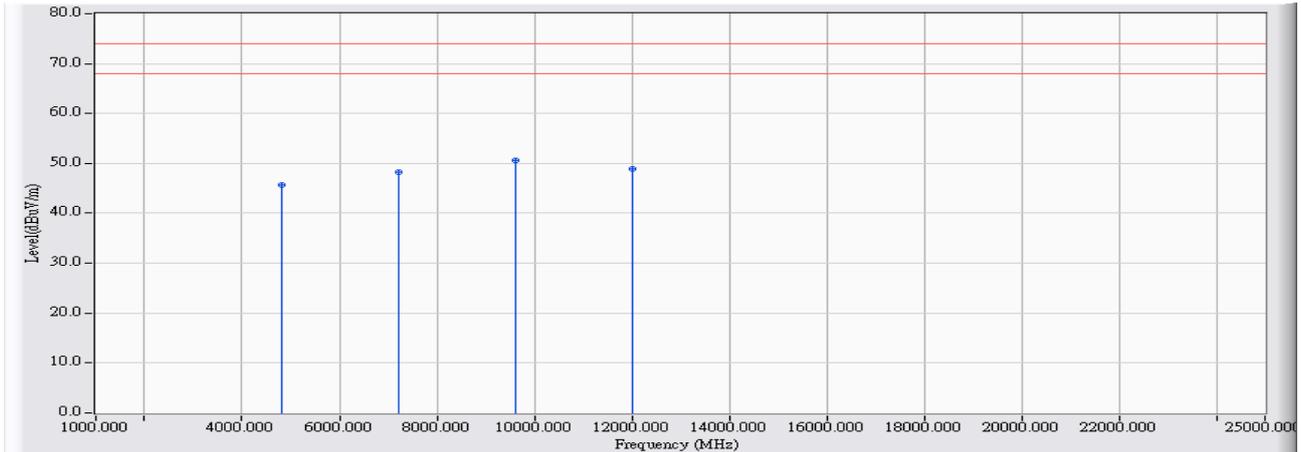
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	89.817	-15.187	37.704	22.517	-20.983	43.500	QUASPEAK
2	162.567	-13.671	34.531	20.859	-22.641	43.500	QUASPEAK
3	181.967	-14.428	34.545	20.118	-23.382	43.500	QUASPEAK
4	474.583	-5.737	26.120	20.383	-25.617	46.000	QUASPEAK
5	* 814.083	-2.356	29.550	27.194	-18.806	46.000	QUASPEAK
6	974.133	-1.003	23.319	22.317	-31.683	54.000	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

**Harmonic & Spurious:**

Site : CB1	Time : 2012/10/04 - 14:55
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	Note : Mode 1: Transmit_3DH5_2402MHz

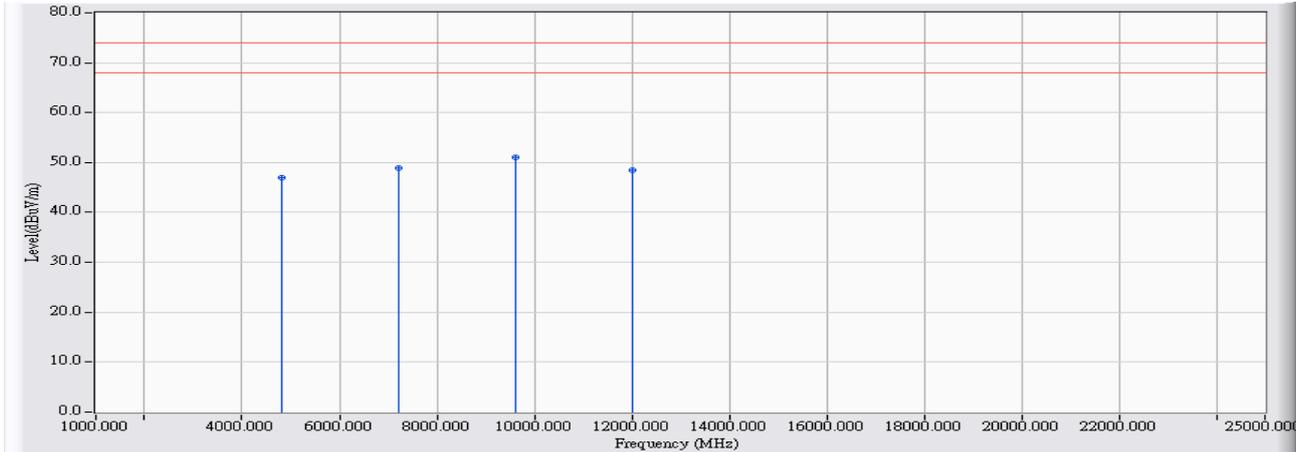


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	4804.030	2.064	43.660	45.724	-28.276	74.000	PEAK
2	7205.740	8.724	39.620	48.343	-25.657	74.000	PEAK
3	* 9607.810	10.637	39.880	50.517	-23.483	74.000	PEAK
4	12009.670	10.250	38.560	48.809	-25.191	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 : 2012/10/04 - 15:02
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	Note : Mode 1: Transmit_3DH5_2402MHz

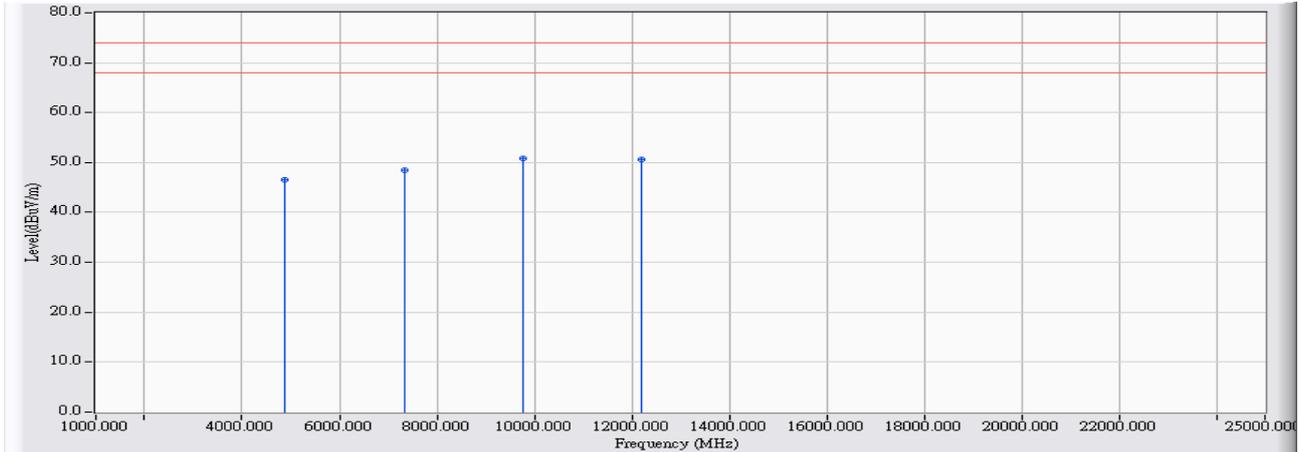


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	4803.990	2.064	44.890	46.954	-27.046	74.000	PEAK
2	7206.290	8.725	40.080	48.805	-25.195	74.000	PEAK
3	* 9608.000	10.637	40.470	51.107	-22.893	74.000	PEAK
4	12010.200	10.253	38.220	48.474	-25.526	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 : 2012/10/04 - 15:09
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	Note : Mode 1: Transmit_3DH5_2441MHz

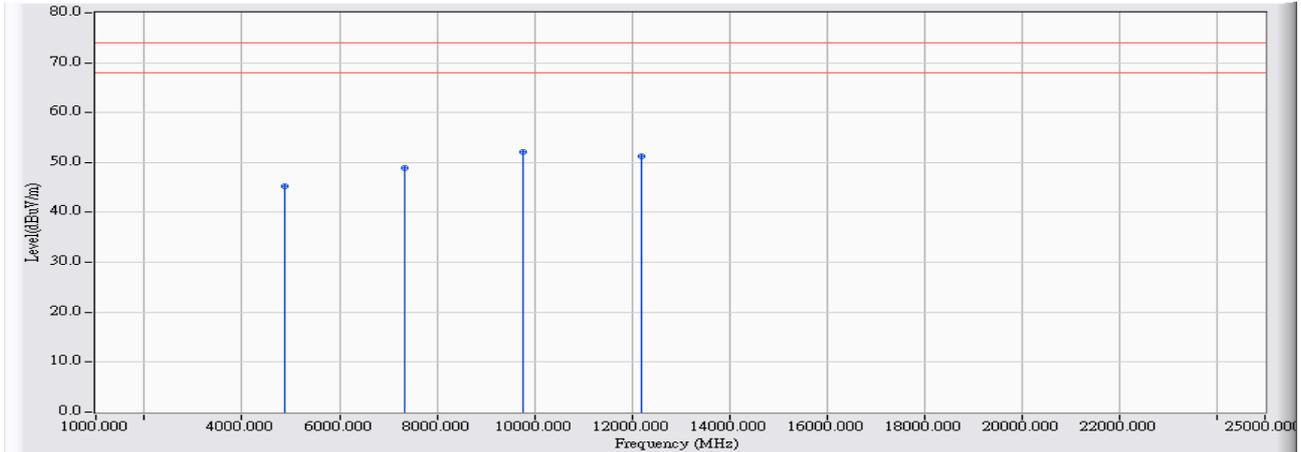


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	4882.030	2.532	43.910	46.442	-27.558	74.000	PEAK
2	7323.100	8.998	39.510	48.508	-25.492	74.000	PEAK
3	* 9763.580	10.936	39.990	50.925	-23.075	74.000	PEAK
4	12204.900	11.823	38.900	50.723	-23.277	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 : 2012/10/04 - 15:16
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	Note : Mode 1: Transmit_3DH5_2441MHz

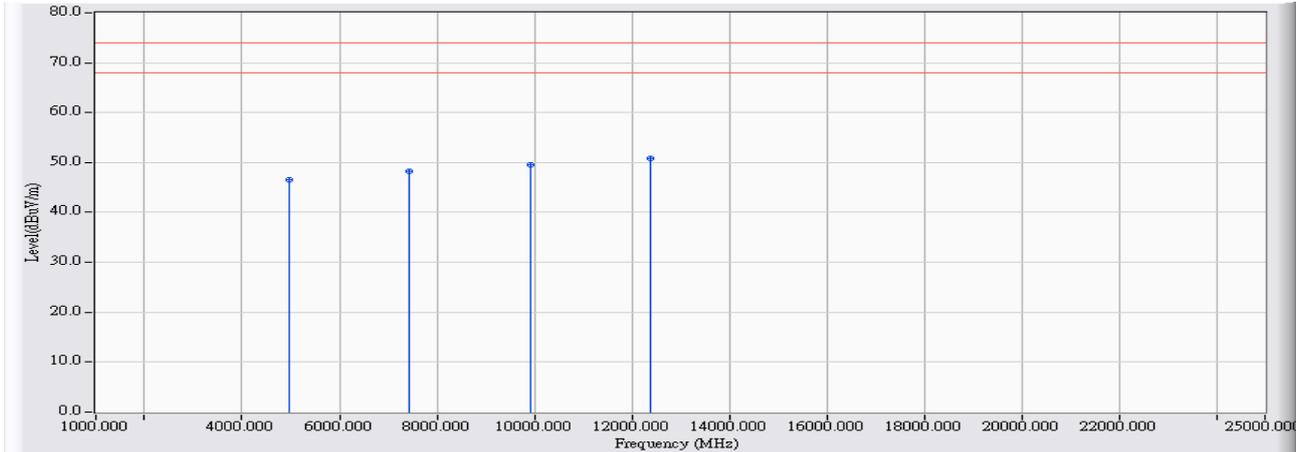


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	4881.900	2.532	42.740	45.271	-28.729	74.000	PEAK
2	7323.150	8.998	39.960	48.958	-25.042	74.000	PEAK
3	* 9763.960	10.935	41.140	52.076	-21.924	74.000	PEAK
4	12205.160	11.825	39.360	51.185	-22.815	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 : 2012/10/04 - 15:22
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	Note : Mode 1: Transmit_3DH5_2480MHz

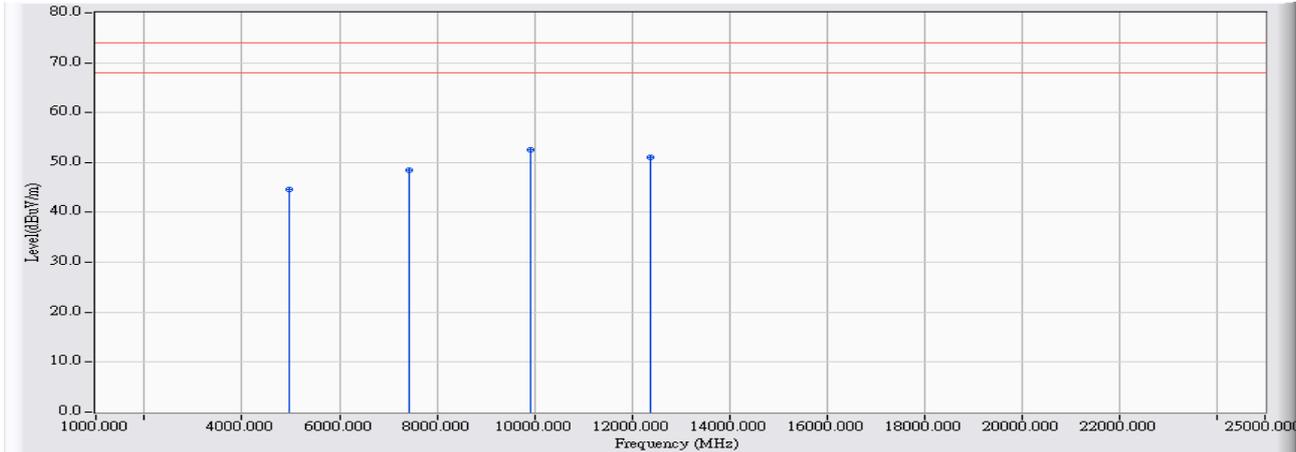


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	4959.480	2.916	43.550	46.466	-27.534	74.000	PEAK
2	7439.980	9.444	38.870	48.313	-25.687	74.000	PEAK
3	9920.030	11.262	38.250	49.513	-24.487	74.000	PEAK
4	* 12399.670	13.154	37.730	50.883	-23.117	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 : 2012/10/04 - 15:31
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	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	4960.000	2.918	41.800	44.718	-29.282	74.000	PEAK
2	7439.820	9.444	38.940	48.383	-25.617	74.000	PEAK
3	* 9919.640	11.261	41.350	52.612	-21.388	74.000	PEAK
4	12399.840	13.154	37.910	51.064	-22.936	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.

**5. RF antenna conducted test**

**5.1. Test Equipment**

The following test equipment is used during the test:

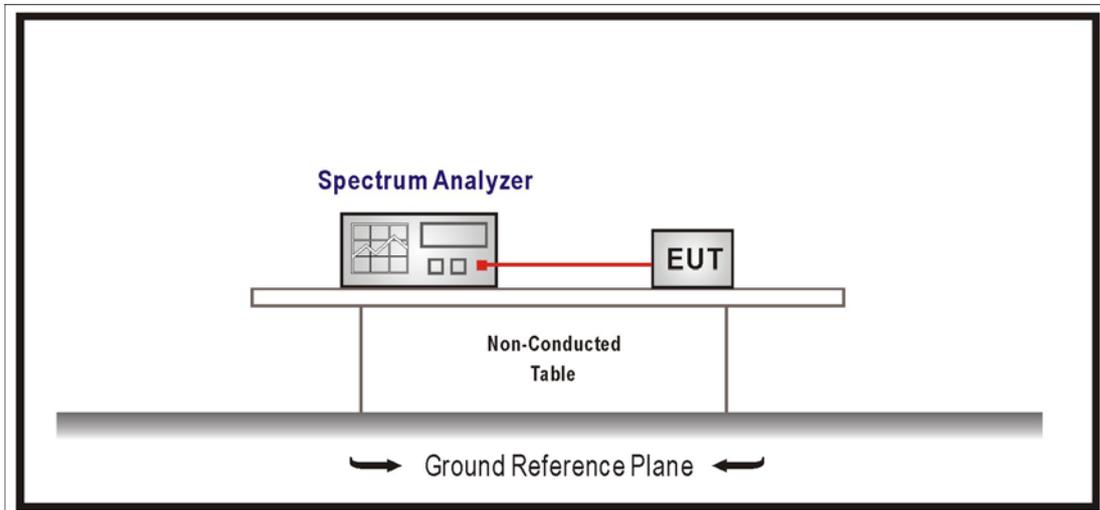
RF antenna conducted test / SR7

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.

**5.2. Test Setup**

RF Conducted Measurement:



### **5.3. 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)).

### **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

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

### **5.5. Test Specification**

According to FCC Part 15 Subpart C Paragraph 15.247: 2011

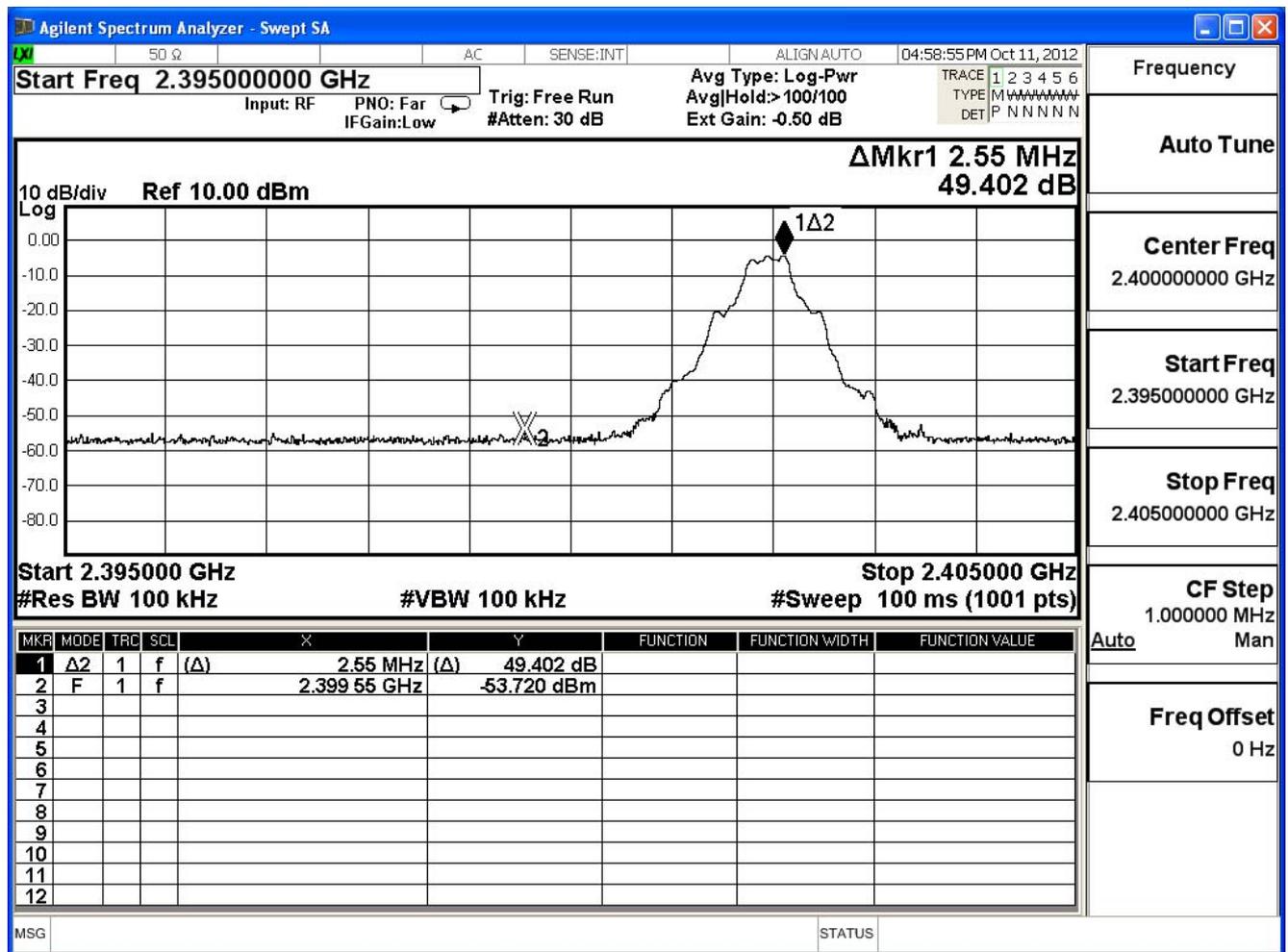
5.6. Test Result

Product	Bluetooth 4.0 USB Dongle		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

GFSK

Channel No.	Frequency (MHz)	Measurement Level (dBc)	Required Limit (dBc)	Result
00	2402	49.402	≥ 20	Pass

Channel 00

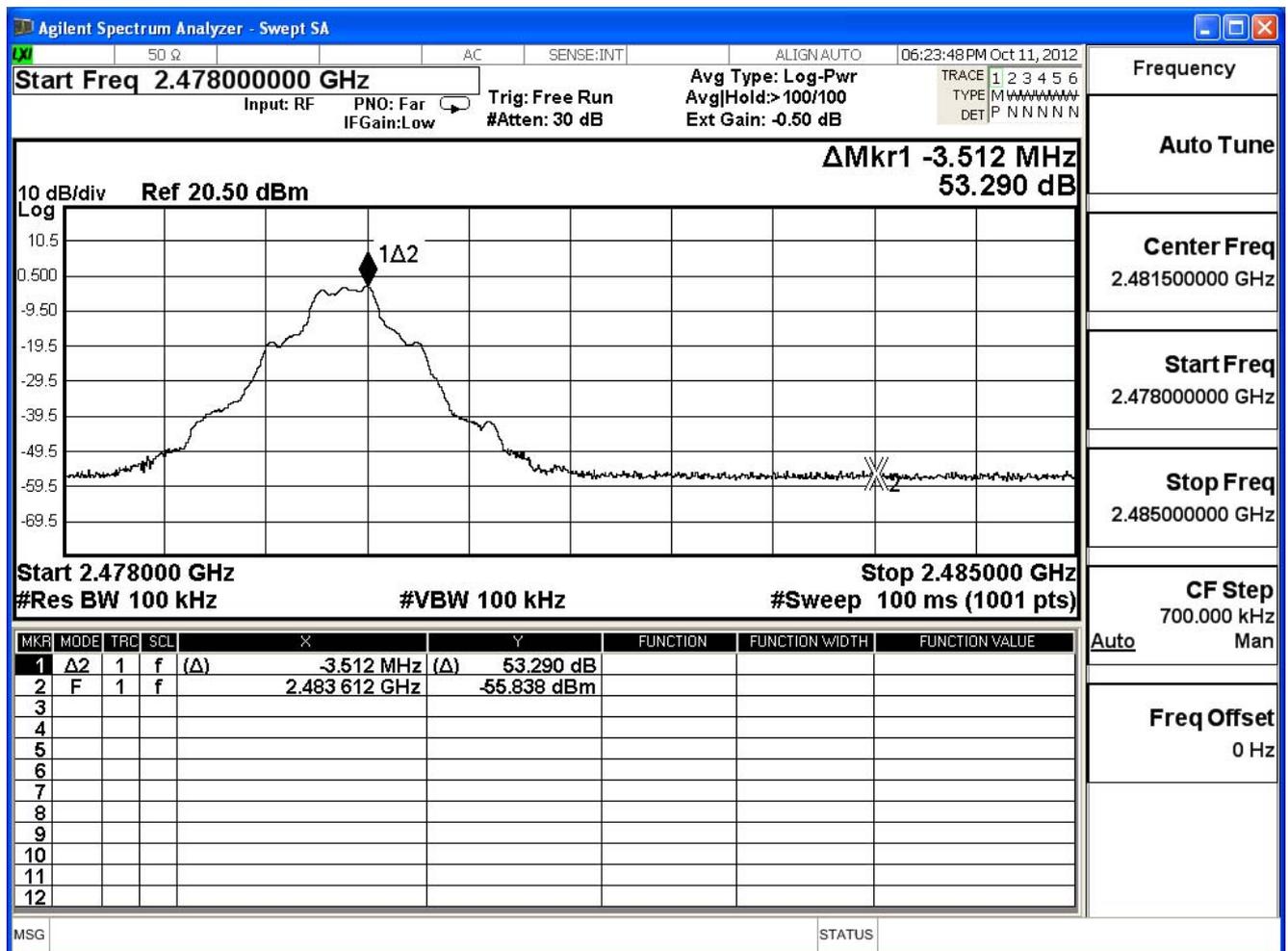


Product	Bluetooth 4.0 USB Dongle		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

### GFSK

Channel No.	Frequency (MHz)	Measurement Level (dBc)	Required Limit (dBc)	Result
79	2480	53.290	≥ 20	Pass

### Channel 78

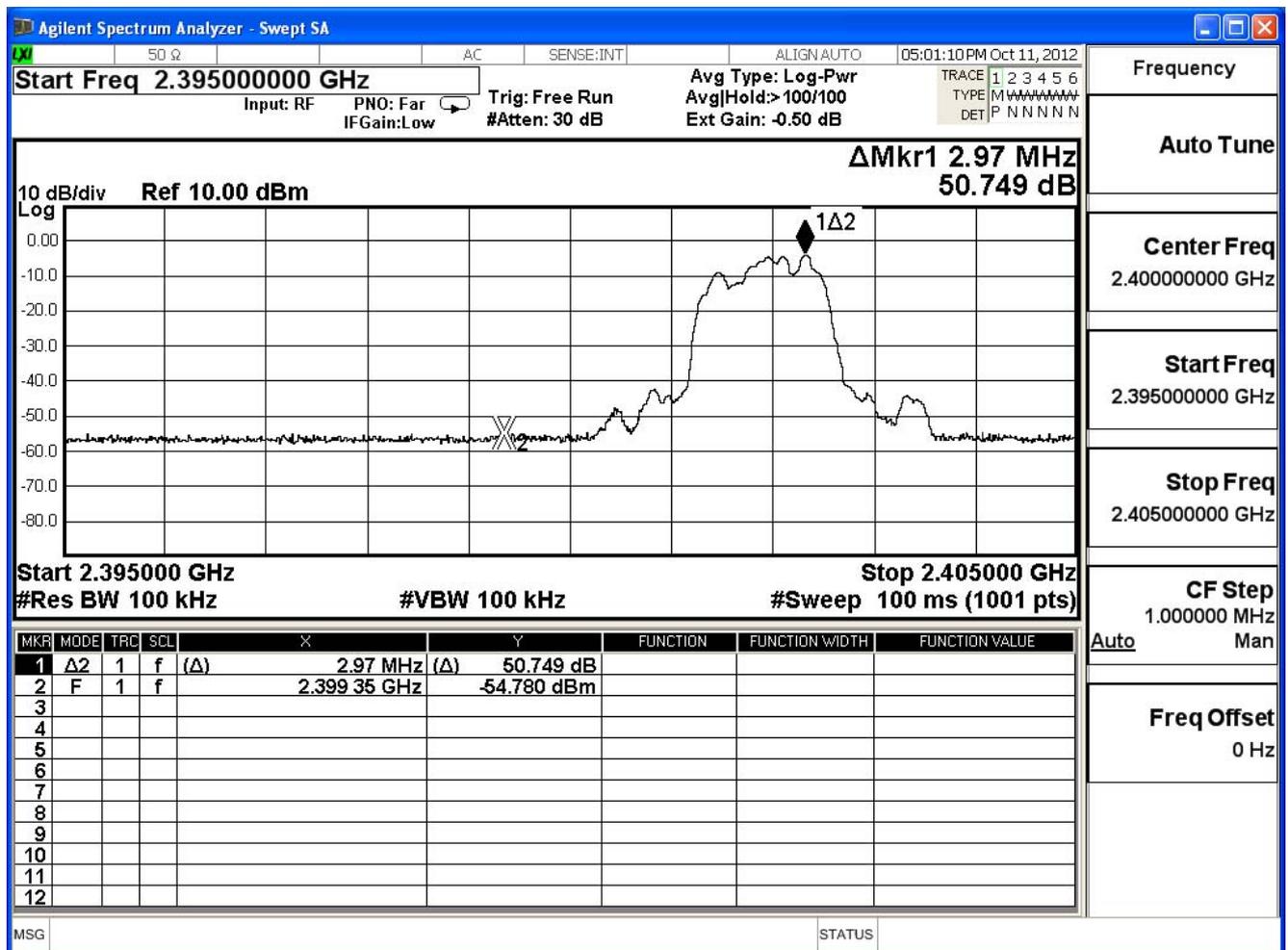


Product	Bluetooth 4.0 USB Dongle		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

### $\pi/4$ -DQPSK

Channel No.	Frequency (MHz)	Measurement Level (dBc)	Required Limit (dBc)	Result
00	2402	50.749	$\geq 20$	Pass

### Channel 00

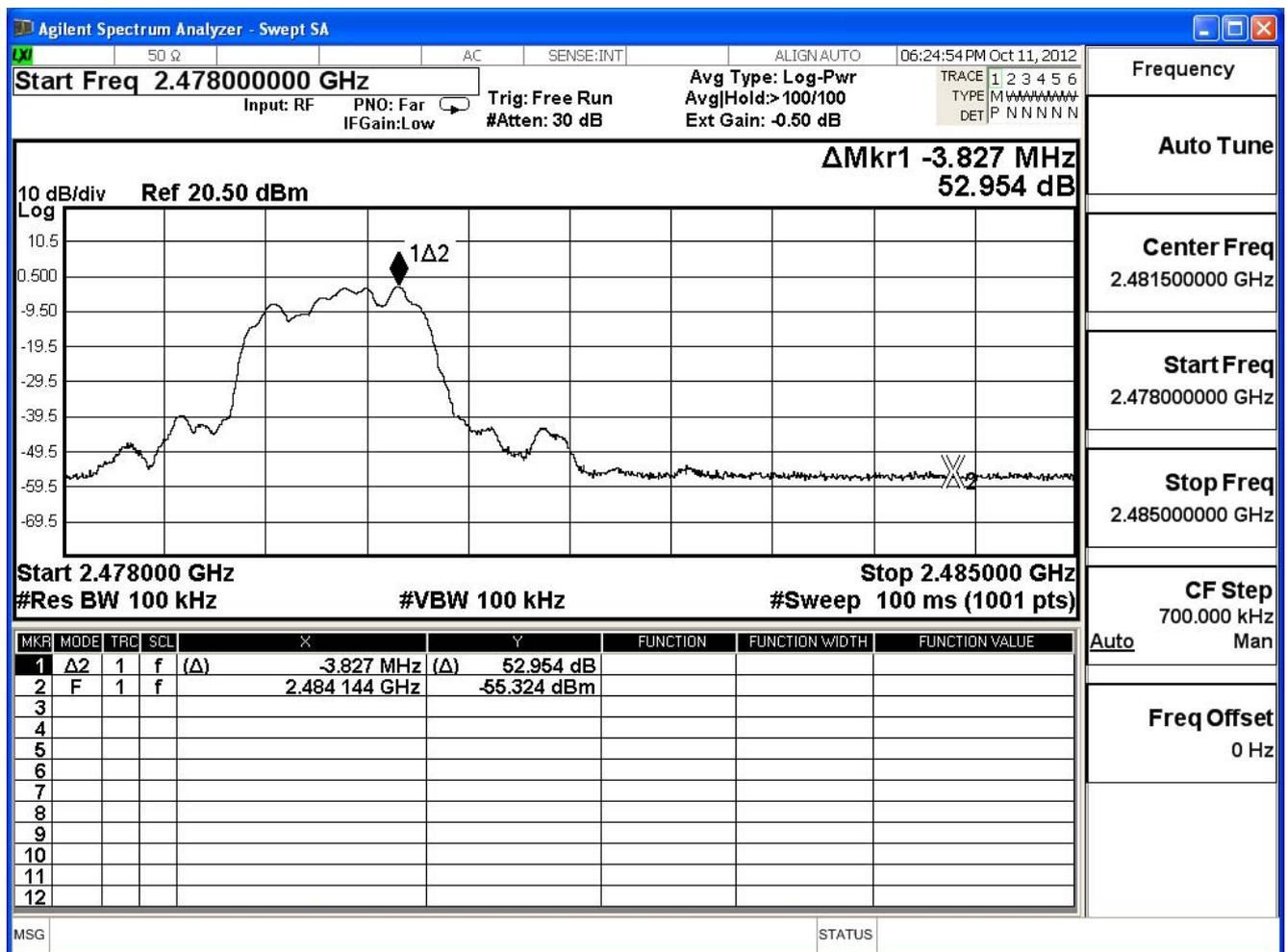


Product	Bluetooth 4.0 USB Dongle		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

## $\pi/4$ -DQPSK

Channel No.	Frequency (MHz)	Measurement Level (dBc)	Required Limit (dBc)	Result
79	2480	52.954	$\geq 20$	Pass

### Channel 78

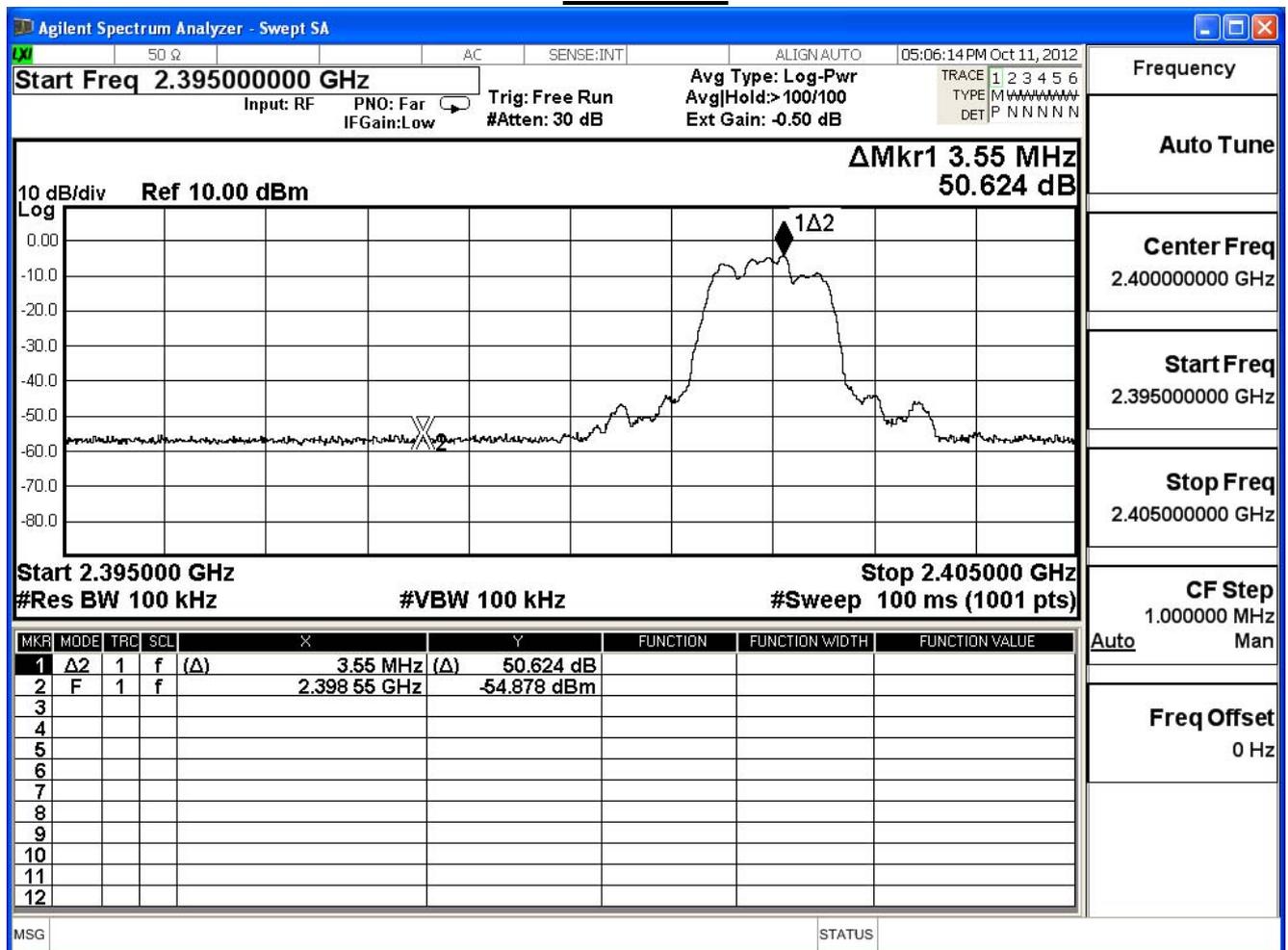


Product	Bluetooth 4.0 USB Dongle		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

## 8-DPSK

Channel No.	Frequency (MHz)	Measurement Level (dBc)	Required Limit (dBc)	Result
00	2402	50.624	≥ 20	Pass

### Channel 78

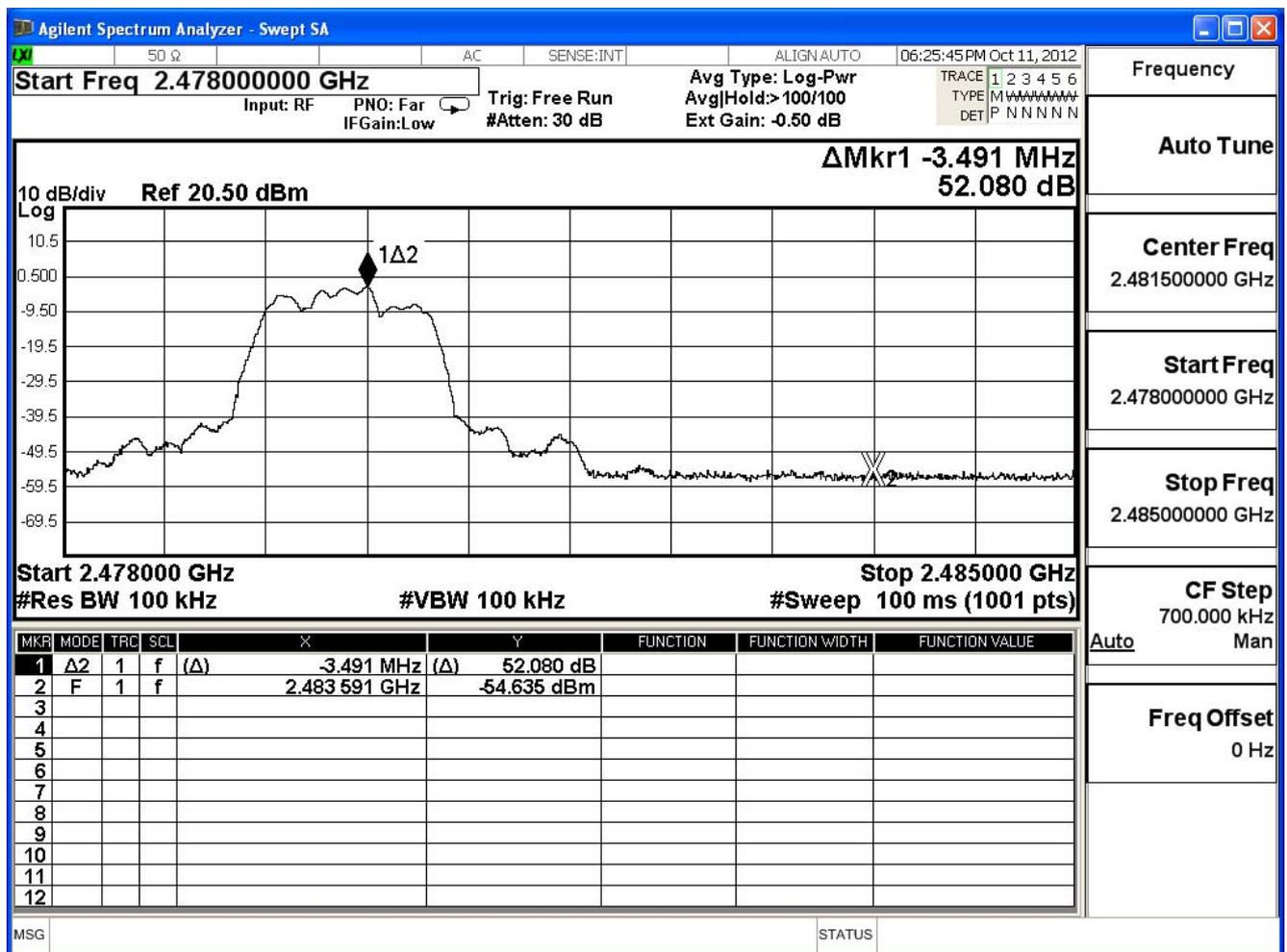


Product	Bluetooth 4.0 USB Dongle		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

## 8-DPSK

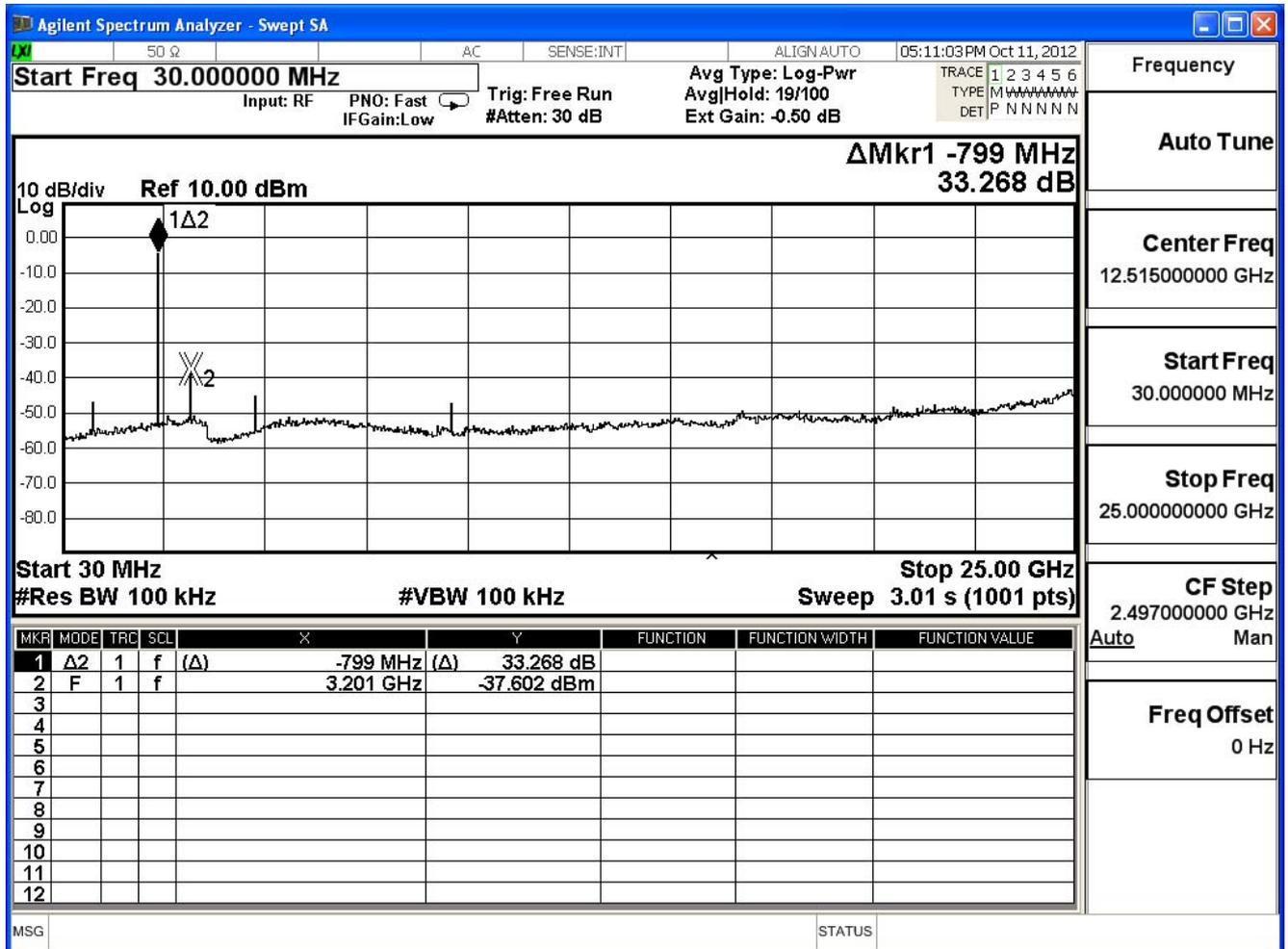
Channel No.	Frequency (MHz)	Measurement Level (dBc)	Required Limit (dBc)	Result
79	2480	52.080	≥ 20	Pass

### Channel 78



Product	Bluetooth 4.0 USB Dongle		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

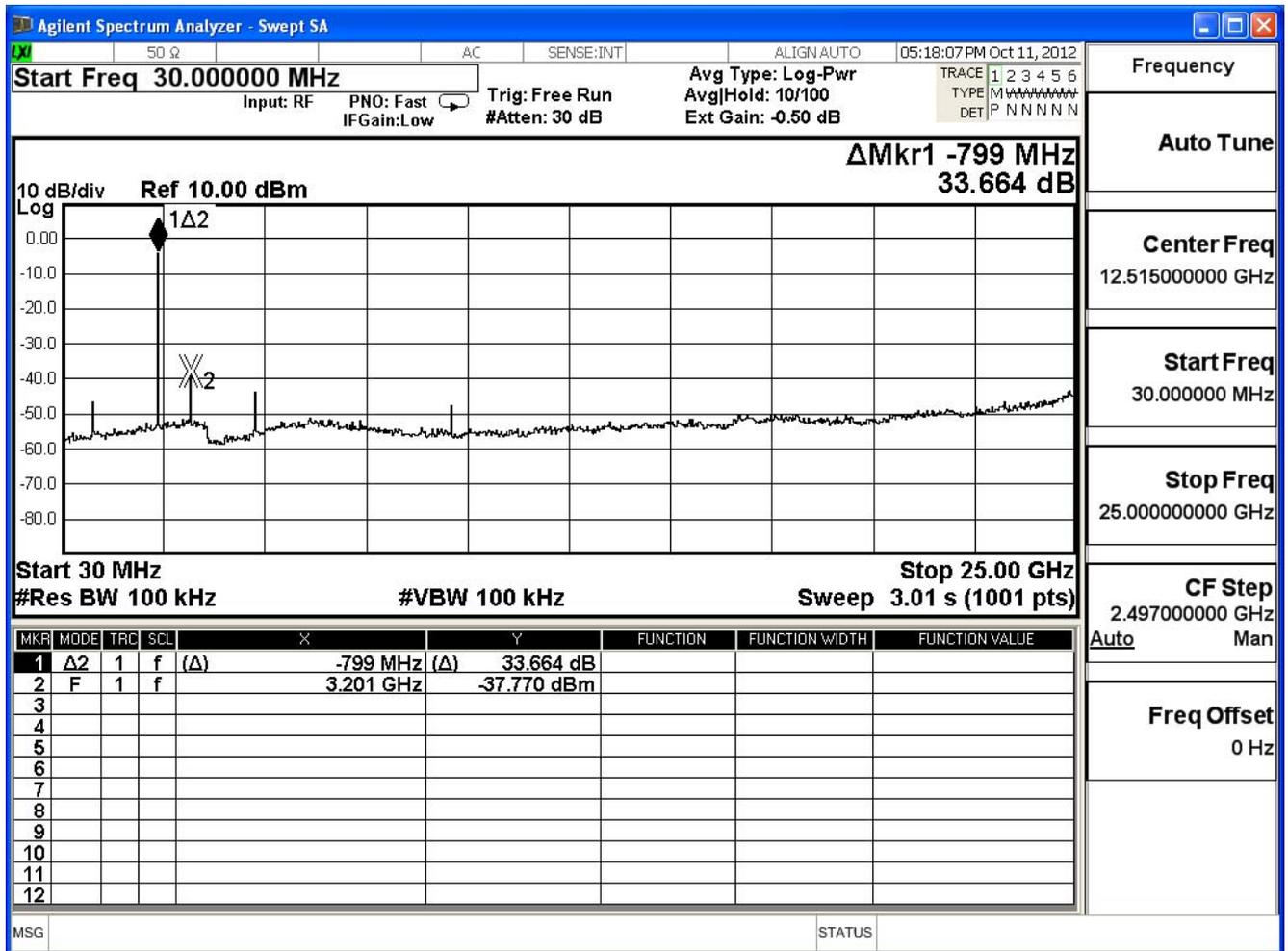
### Channel 00 (30MHz-25GHz)- GFSK





Product	Bluetooth 4.0 USB Dongle		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

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

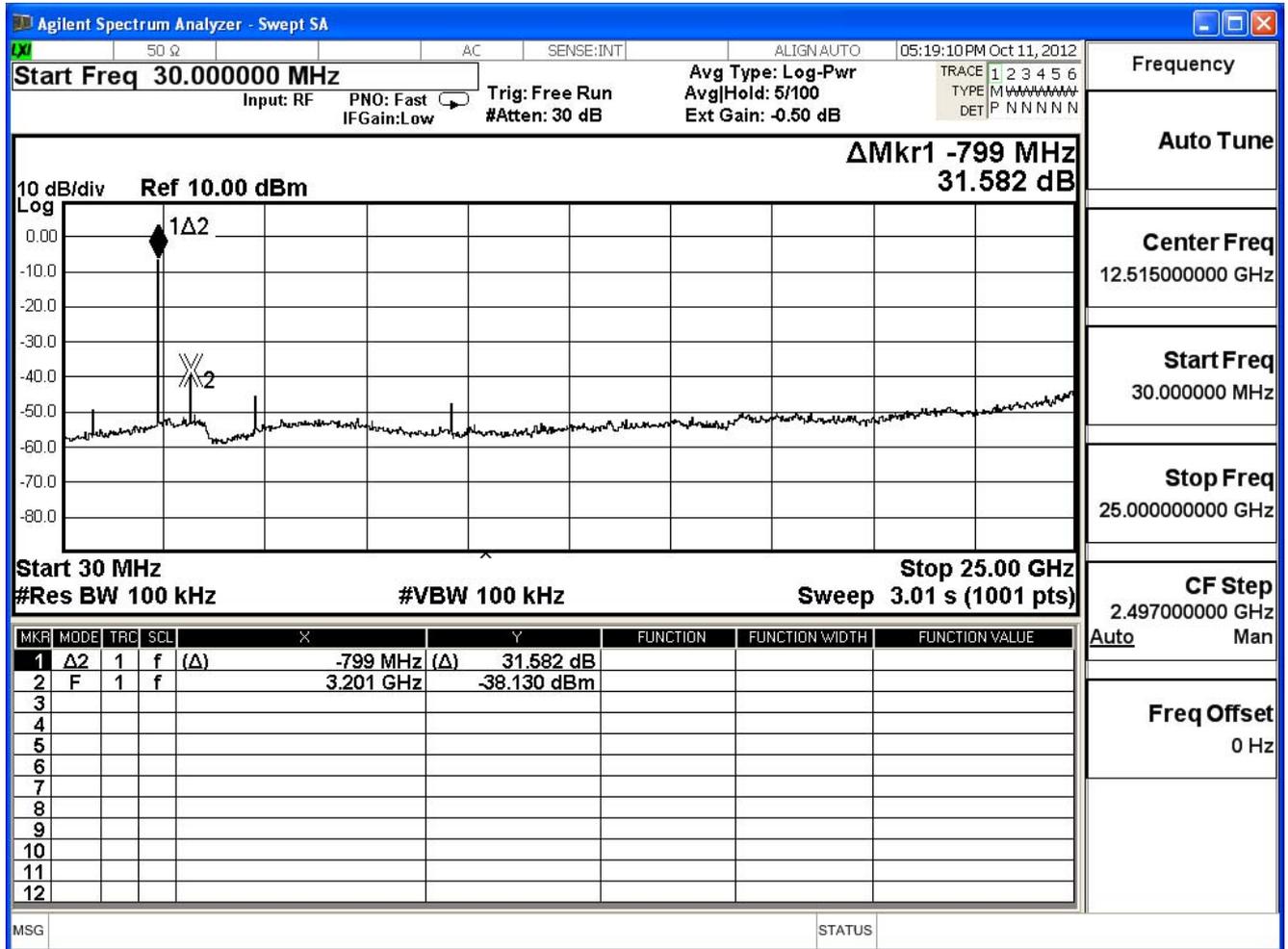


Frequency
Auto Tune
Center Freq 12.515000000 GHz
Start Freq 30.000000 MHz
Stop Freq 25.000000000 GHz
CF Step 2.497000000 GHz
Auto Man
Freq Offset 0 Hz

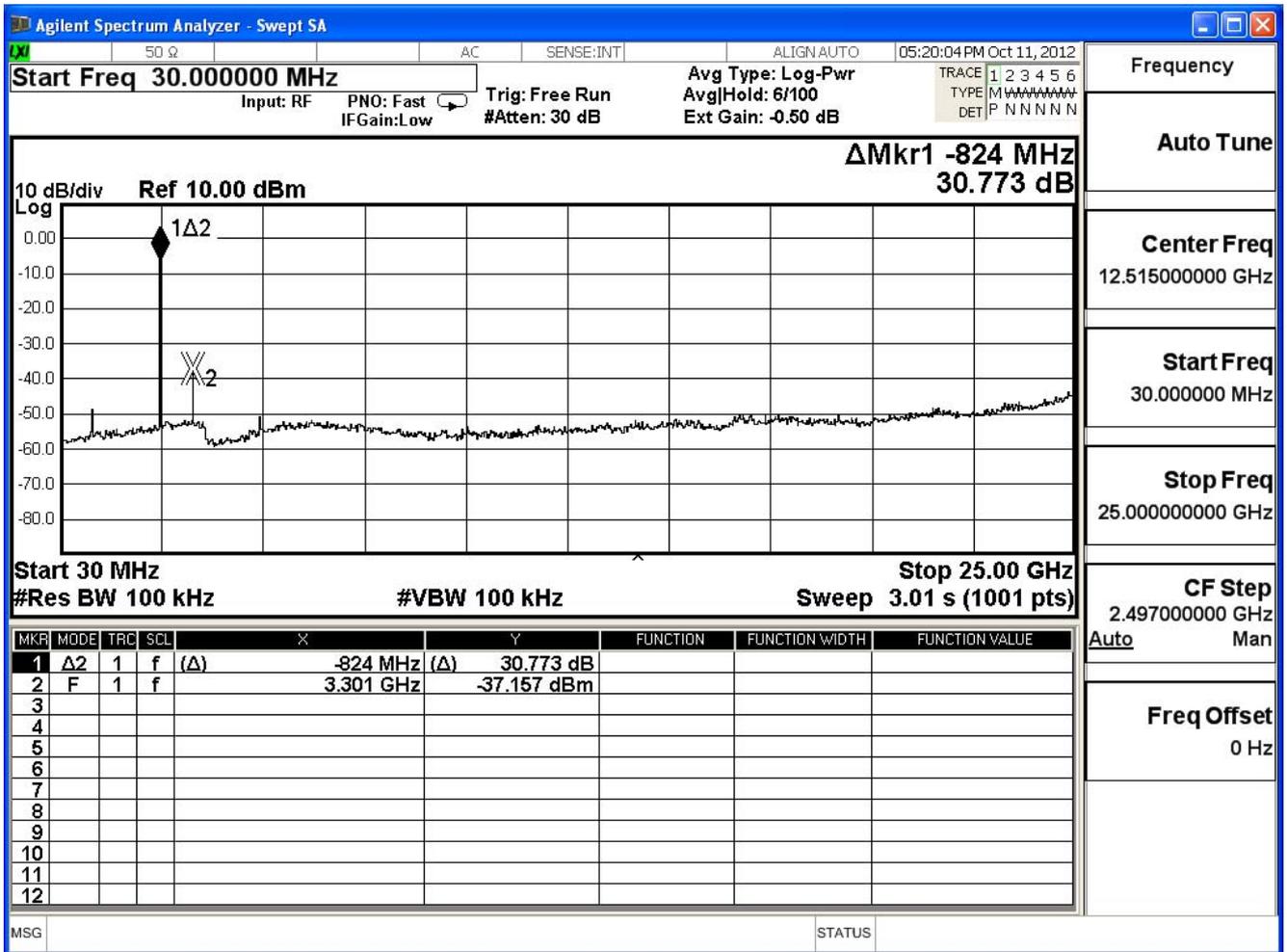


Product	Bluetooth 4.0 USB Dongle		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2012/10/11	Test Site	SR7

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



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



Frequency
Auto Tune
Center Freq 12.515000000 GHz
Start Freq 30.000000 MHz
Stop Freq 25.000000000 GHz
CF Step 2.497000000 GHz Auto Man
Freq Offset 0 Hz

**6. Band Edge**

**6.1. Test Equipment**

The following test equipments are used during the test:

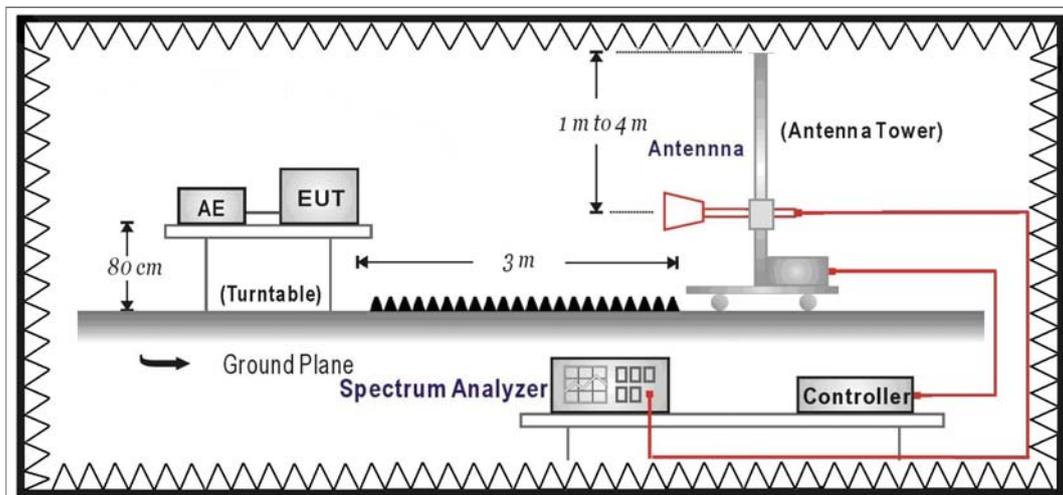
Band Edge / CB1

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.

**6.2. Test Setup**

RF Radiated Measurement:



**6.3. 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.

**6.4. 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.

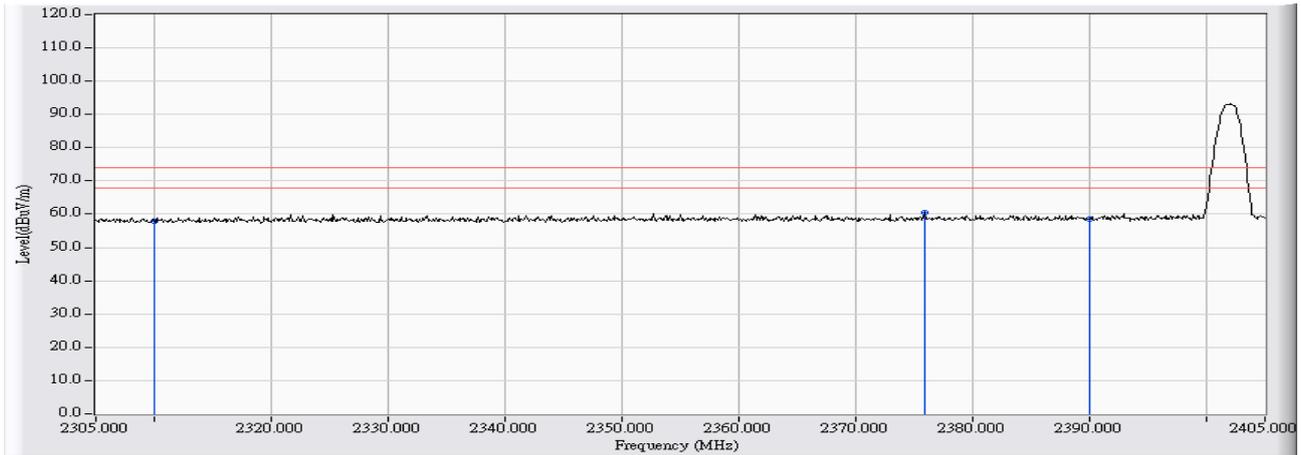
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2009 on radiated measurement.

**6.5. Test Specification**

According to FCC Part 15 Subpart C Paragraph 15.247: 2011

6.6. Test Result

Site : CB1	Time : 2012/10/02 - 15:46
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	Note : Mode 1: Transmit_3DH5_2402MHz

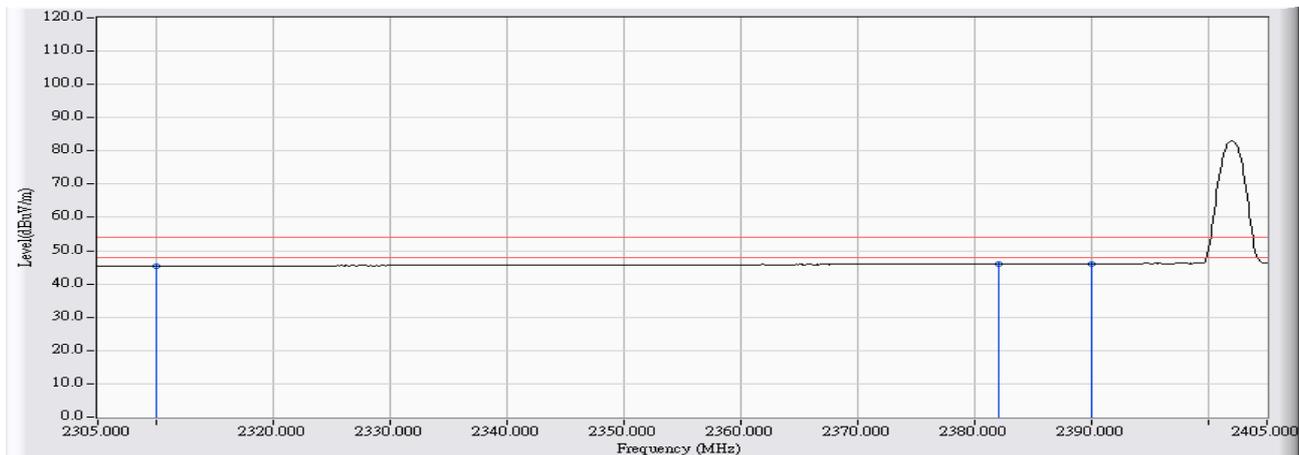


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	28.462	29.350	57.812	-16.188	74.000	PEAK
2	* 2375.900	28.727	31.716	60.443	-13.557	74.000	PEAK
3	2390.000	28.783	29.641	58.424	-15.576	74.000	PEAK

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 : 2012/10/02 - 15:49
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	Note : Mode 1: Transmit_3DH5_2402MHz

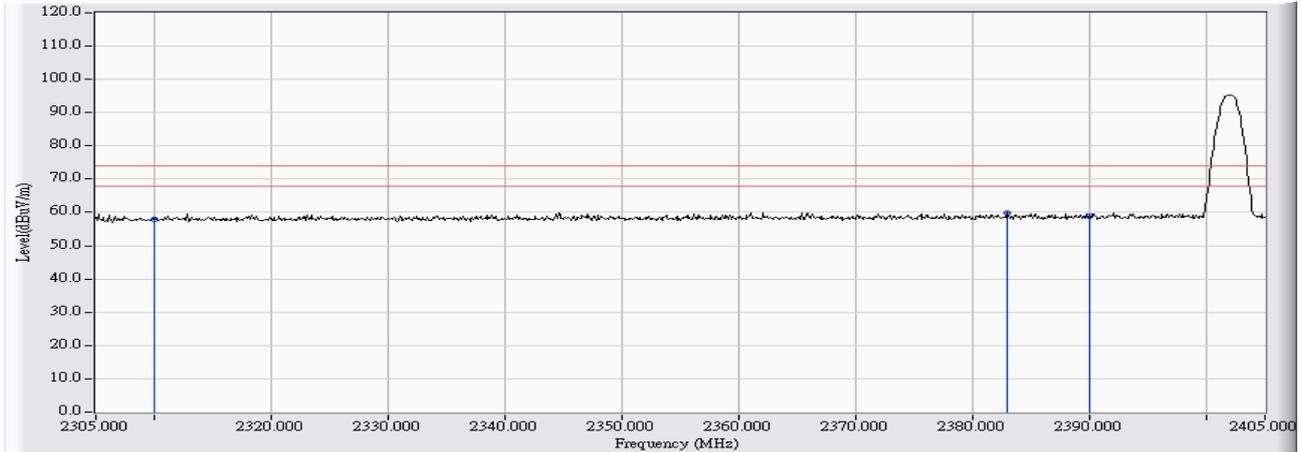


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	28.462	16.938	45.400	-8.600	54.000	AVERAGE
2	* 2382.000	28.751	17.360	46.111	-7.889	54.000	AVERAGE
3	2390.000	28.783	17.306	46.089	-7.911	54.000	AVERAGE

**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 : 2012/10/02 - 15:52
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	Note : Mode 1: Transmit_3DH5_2402MHz

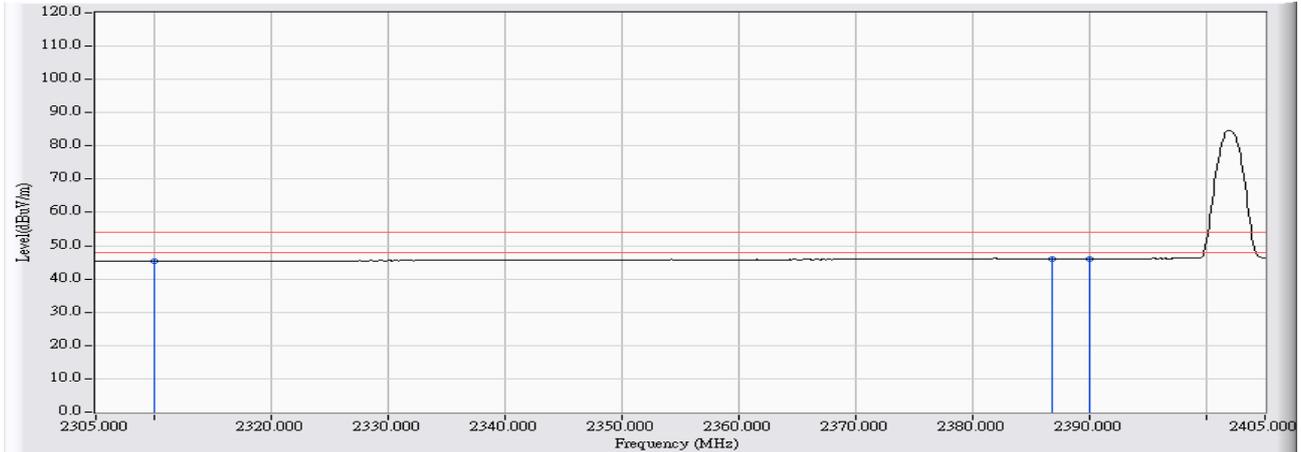


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	28.462	29.438	57.900	-16.100	74.000	PEAK
2	* 2382.900	28.755	31.011	59.766	-14.234	74.000	PEAK
3	2390.000	28.783	29.975	58.758	-15.242	74.000	PEAK

**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 : 2012/10/02 - 15:53
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	Note : Mode 1: Transmit_3DH5_2402MHz

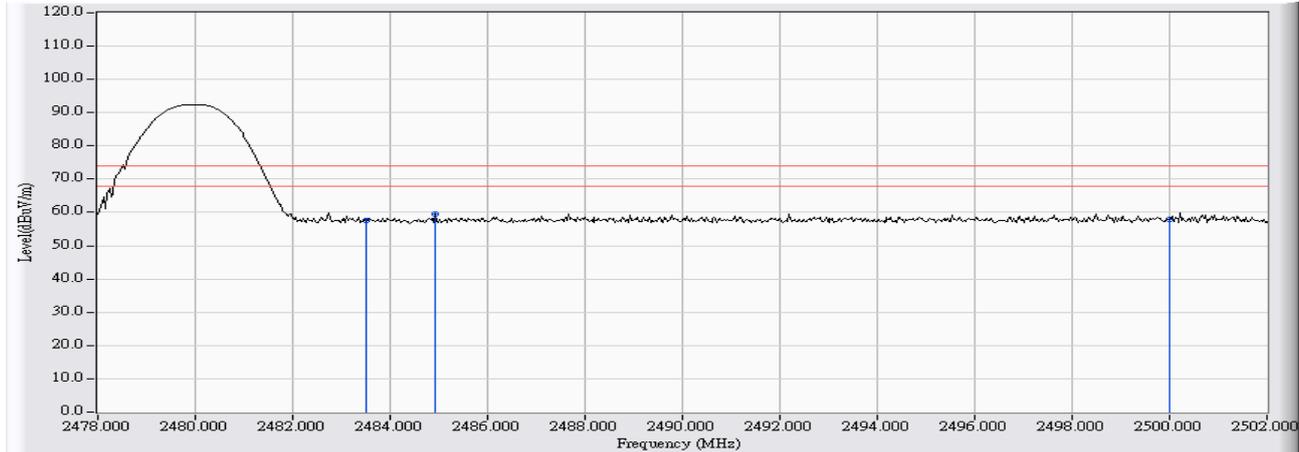


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2310.000	28.462	16.921	45.383	-8.617	54.000	AVERAGE
2	2386.800	28.770	17.286	46.057	-7.943	54.000	AVERAGE
3	* 2390.000	28.783	17.312	46.095	-7.905	54.000	AVERAGE

**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 : 2012/10/02 - 16:27
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	Note : Mode 1: Transmit_3DH5_2480MHz

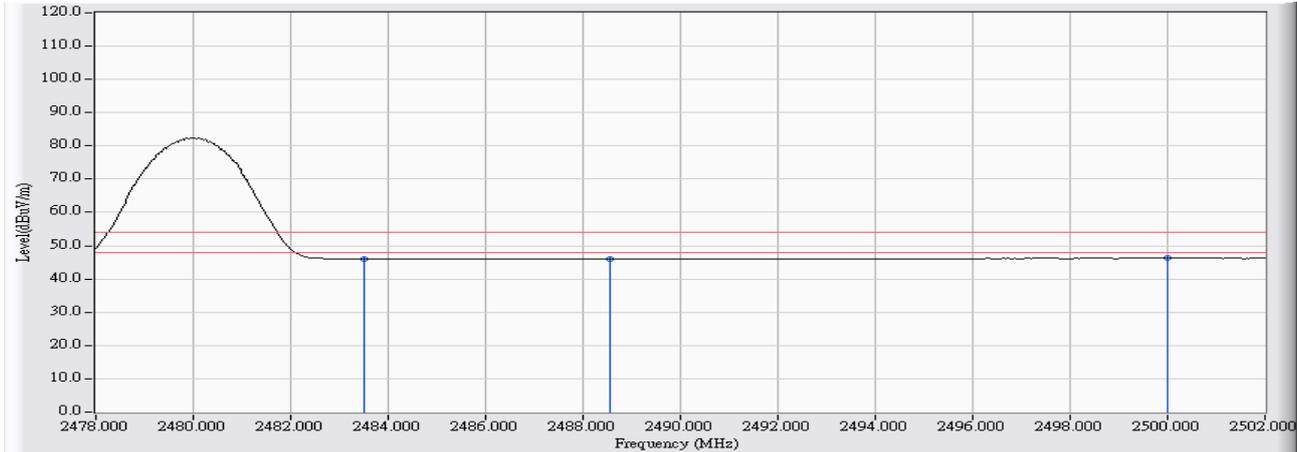


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2483.500	28.936	28.736	57.672	-16.328	74.000	PEAK
2	* 2484.930	28.937	30.442	59.379	-14.621	74.000	PEAK
3	2500.000	28.951	29.110	58.061	-15.939	74.000	PEAK

**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 : 2012/10/02 - 16:27
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - HORIZONTAL	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	Note : Mode 1: Transmit_3DH5_2480MHz

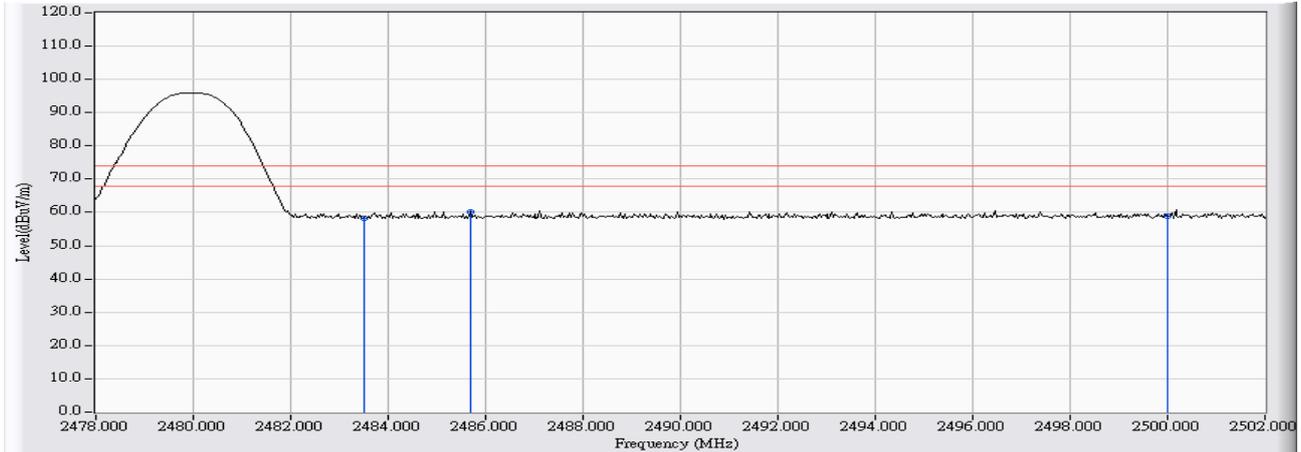


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2483.500	28.936	17.116	46.052	-7.948	54.000	AVERAGE
2	2488.560	28.941	17.162	46.102	-7.898	54.000	AVERAGE
3	* 2500.000	28.951	17.290	46.241	-7.759	54.000	AVERAGE

**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 : 2012/10/02 - 16:31
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	Note : Mode 1: Transmit_3DH5_2480MHz

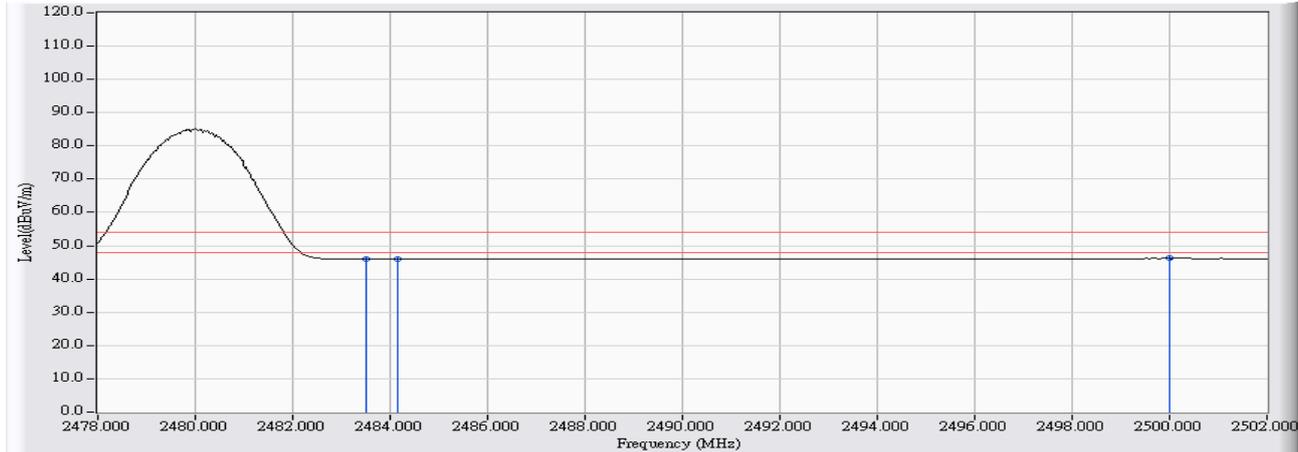


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2483.500	28.936	29.412	58.348	-15.652	74.000	PEAK
2	* 2485.680	28.938	31.349	60.287	-13.713	74.000	PEAK
3	2500.000	28.951	29.861	58.812	-15.188	74.000	PEAK

**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 : 2012/10/02 - 16:33
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G-1_0901 - VERTICAL	Power : DC 5V (Power by PC)
EUT : Bluetooth 4.0 USB Dongle	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	2483.500	28.936	17.018	45.954	-8.046	54.000	AVERAGE
2	2484.150	28.937	17.000	45.936	-8.064	54.000	AVERAGE
3	* 2500.000	28.951	17.229	46.180	-7.820	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.

**7. Number of hopping frequency**

**7.1. 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.

**7.2. Test Setup**

